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Introduction

“But what about research? What research do you have to back up your claims.”

Jack Ettinger, M.D., Chief of Roentgenology, Thomas Jefferson Hospital (Philadelphia) to Tedd Koren, D.C. during a radio debate

It was my first debate with an M.D. – on radio no less! I was scared. He knew a lot about chiropractic, having studied it for decades; I was three months out of school. As he asked his question “But what about research? What research do you have to back up your claims,” a thought came to me: “Chiropractic has been built on nearly a hundred years of clinical successes; case studies which include patients who were given up as hopeless or incurable by medical physicians, only to return to health under chiropractic care. These successes have made chiropractic the largest non-medical healing art in the world with over 20 million Americans a year visiting their doctors of chiropractic. People are getting better. Isn’t that what’s really important?”

What really matters is, “Are people getting better?” If the answer is “Yes,” everything else pales before it.

The studio phones lit up as chiropractic patient after patient called in telling their results – one success story after another. Bless their souls! It was a welcome respite.

I waited for the M.D. to tell all the satisfied patients that they were all conned, crazy or stupid. Interestingly, he kept quiet.

Please don’t misunderstand me, I’ve got nothing against laboratory, in vivo, in vitro, prospective, retrospective, randomized controlled clinical trials etc. but we shouldn’t forget that the only research that really matters is going on every day in chiropractors’ offices across the country and around the world: getting that individual who is in our office free of subluxations so they may reach a more complete level of wholeness. That is often called clinical observation and case study.

Clinical observation and case study are valid scientific research. In fact, all successful health care is ultimately based on observation of what works in the clinical setting: chiropractic, homeopathy, osteopathy, and even allopathic medicine is ultimately judged on results.

Towards that end, chiropractors have millions of great case histories to show that chiropractic works. There’s just one problem – where are they?

Where are the success stories on which the profession was built? Where are the stories of all those patients who saved chiropractic from extinction? What do we have to show for our century of health care success? Mostly forgotten memories. Why? Because chiropractors are not publishing their miracles.

What good is a case history if it is not written up for publication? Apart from the happy patient, the beaming doctor, and the grateful family, no one else knows what happened or can learn from the experience. It is a lost opportunity.

Whatcha got on diabetes?

Shortly after my radio debate, a patient brought a friend in during a visit. “I’ve got diabetes, can you help me?”

I started telling her about the nervous system and spinal column, about the vertebral subluxation complex but she cut me short. “No, I want to see research. What’s been published in the journals on diabetes?”

I had nothing. She wouldn’t get under care. Was anything out there? I started searching. I discovered that there *was* excellent spinal research out there, only much of it was by osteopaths, M.D.s, physical therapists, Ph.D.s and a few D.C.sx, but pitifully few!

Thankfully, things are now changing. The research chiropractors are doing today dwarfs what was available when I started collecting information in the late 1970s. That is important because osteopathic or medical manipulations are generally not as specific as chiropractic adjustments.

It must be noted that randomized, large scale, controlled clinical trial, double-blind studies are designed for pharmaceuticals, and are not generally useful for evaluating other kinds of therapeutic interventions. Further, the limitations of the randomized controlled clinical trial (RCCT or CCT) are becoming more and more obvious and its usefulness as a reliable tool is increasingly questioned, even for pharmaceutical testing. (An excellent book on the subject is **The Controlled Clinical Trial, An Analysis** by Harris L. Coulter, Ph.D. published by The Center for Empirical Medicine, Washington, D.C. and available from Koren Publications, Inc.).

The book you hold is a natural outgrowth of my search for articles relating the spine/nervous system complex to health and disease. It is still growing. We will be undoubtedly add more material, organize it differently and include more discussions in order to open our eyes to the potential of inner healing.

Tedd Koren, D.C.
Gwynedd Valley, Pennsylvania, Winter 2000.

Is Chiropractic A Treatment For Disease?

With all the diseases and conditions relative to spinal care mentioned in this book the reader might assume that chiropractic is in fact a treatment for specific diseases. That is not the case, chiropractic is not a treatment for disease. The goal of chiropractic care is to free patients from the vertebral subluxation complex, a serious interference to life and health. Releasing the subluxation complex permits the body to work more efficiently. Research studies are increasingly revealing that correction of “subluxations” has a beneficial effect on many levels of one’s health.

All people who are expressing systems or not need subluxation correction to maximize their ability to heal and life expression. It may make all the difference in the world.

The somato-visceral effects of the vertebral subluxation complex are extremely individual. An upper cervical subluxation can appear to contribute to or cause suboccipital headaches in one patient, a severe speech disorder in another, blindness, asthma, low-back pain, sinus trouble, constipation, or any of hundreds of body malfunctions in others. On the other hand, in others an upper cervical dysfunction might appear to produce mild or no observable symptoms. However, that does not minimize the potential harm an “asymptomatic” subluxation may cause. It can be a dangerous thing and needs correction so that body malfunction will not continue.

A note about terminology: For purposes of simplification, we will consider the osteopathic “lesion” and the chiropractic “vertebral subluxation complex” as synonymous. Some people avoid the term chiropractic adjustment and instead prefer to use the term manipulation, spinal manipulative therapy (SMT), chiropractic treatment, or some other term in explaining their work. We feel the terms chiropractic adjustment and chiropractic care would better explain the procedures used since the specific chiropractic approach is not a general manipulation nor is it a treatment for disease (though some have postulated that it may be referred to as a treatment for subluxations).

Presently one of the major limitations of “chiropractic” research is that there is no inter-technique exploration. Would another adjusting technique be more effective? Less effective? More traumatic? Less traumatic? Would the spine have held its adjustment better with another technique? How proficient were the doctors? Unfortunately, research along those lines, though badly needed, is scant. Too much chiropractic research operates within the medical paradigm (diagnosis and treatment of diseases).

Before going further I have one plea: Please start writing down your case studies. Let the world know the power of the chiropractic spinal adjustment! If you don’t, who will? If 1% of doctors of chiropractic would write up their “miracle” cases for others to read there would be enough case studies to fill a hundred journals a month!

Chiropractic And Musculoskeletal Conditions

The Insurance Game: Distortion Of Reality

Why has chiropractic become so identified with musculoskeletal conditions? Why not with organic or visceral problems?

One answer: insurance codes. In **The range of non-musculoskeletal conditions seen in a chiropractic teaching hospital: A retrospective study** by G. Wiik in *Chiropractic Technique* 1994; 6: 44-48. (Address reprint requests to Geir Wiik, D.C. Maridalsveien 229A, N-0467, Oslo, Norway), the billing history of 754 patient records were examined and 100 of the patients had a non-musculoskeletal diagnosis. However, when the patient files were checked, 296 patients had non-musculoskeletal complaints. These non-musculoskeletal conditions included otitis media, sinusitis, fatigue, migraine, allergy, bed-wetting, asthma, dizziness, and constipation.

Dr. Wiik believes that since insurance companies generally do not pay for non-musculoskeletal conditions chiropractors tend to write down whatever musculoskeletal condition the patient had so there will be no problem in reimbursement.

Similar findings were brought to light in a study by Nyiendo and Olsen (*JMPT*, 1988; 11(2): 78-84). They found that pediatric patients at Western States Chiropractic College public clinic commonly had ordinary complaints of ear infection, sinus problems, allergy, bed-wetting, respiratory problems, and gastro-intestinal problems. Complete or substantial improvement had been noted in 61.6% of pediatric patients of their chief complaint, 60.6% received “maximum” level of improvement while only 56.7% of adult patients received “maximum” level of improvement.

That is all quite understandable, however there is one problem that arises as described by Drs. Weber and Masarsky, editors of the Neurological Fitness newsletter:

Unfortunately, review of insurance statistics is a favorite research technique in assessing chiropractic practice characteristics. Dr. Wiik suggests that chiropractors should start diagnosing the non-musculoskeletal conditions that patients present.

Weber and Masarsky add:

An alternative is to clearly define the nature of the vertebral subluxation complex as the clinical entity that straddles the somatovisceral interface. Yes, we correct a musculoskeletal condition – a musculoskeletal condition with whole-body consequences.

Cost-Benefit of Chiropractic

“...Despite economic disincentives for use of chiropractic services, chiropractic has met the market test of consumer choice and preference.”

Manga Report, 1993.

“By every test of cost and effectiveness, the general weight of evidence shows chiropractic to provide important therapeutic benefits. Additionally, these benefits are achieved with apparently minimal, even negligible, impacts on the costs of health insurance.”

Schifrin, LG. 1992. *Mandated health insurance coverage for chiropractic treatment: an economic arrangement with implications for the Commonwealth of Virginia.*

“Payments to chiropractors represent only 1.8% of total payment and ‘as a result would account for very little of the nation’s (U.S.) rapid growth rates of health care spending.”

J Am Health Policy 1992; 2:39-45.

“...The wide gap in the overall cost experience between chiropractic and medical patients cannot easily be dismissed even by skeptics of the chiropractic profession.”

JMPT 1993;16:291-9.

Efficacy and Risks of Chiropractic Manipulation: What Does the Evidence Suggest?

Ian Coulter, Ph.D. *The Int’l Journal Integrative Medicine*, volume 1, number 2, The Journal Integrative Medicine, volume 1, number 2, March/April 1999 pp.61-66.

Cost-benefit calculations also take in the cost of the risk of a procedure. In this article is a discussion of the Rand data in this area.

In the article is stated that over 90% of the manipulation in the United States is performed by chiropractors. The risk of complication with cervical adjusting is 6.39 per 10 million cervical adjustments and for lumbar adjustments, the risks are 1 in 100 million.

The risks of cervical spine surgeries is 15.6 per 1,000 and for use of NSAIDs is 3.2 per 1000. Put in another way, the risk of complication is 6.39 per 10 million cervical adjustments versus 156,000 per 10 million cervical spine surgeries.

This makes the likelihood of complication with surgery 24,413 times greater than a complication from a cervical spine adjustment.

From the paper: “The research now, however, should go beyond simply the question of whether chiropractic, or any manipulation, has efficacy for acute low-back pain and neck pain to a consideration of what type of manipulation for what type of patient for what type of condition and provided by what type of provider.”

Acknowledgement

To the late Larry Webster, D.C. former President of the International Chiropractic Pediatric Association, the “Grandfather” of Pediatric Chiropractic care.

Dr. Webster has popularized pediatric adjusting and brought the benefits of chiropractic care to millions of infants and children.

And to Arno Burnier, DC, Donald Epstein DC, Richard Pistolese, DC and Scott Walker, DC - clinicians and researchers who understand that the ultimate test of a healing art is ‘do the patients benefit?’

Interested in obtaining copies of the papers and articles cited in this book?

If you are interested in obtaining copies of the papers and articles mentioned herein, you can obtain them through any chiropractic or medical library or you can do on-line searches using Medline, grateful med, CHIROLARS and other such programs. I have found the David D. Palmer Health Sciences Library, Palmer College of Chiropractic very helpful. You can call them at: 800-722-2586 or (319) 884-5140 or reach them on-line at paris_j@palmer.edu

Spinal Care and its Effects on Human Physiology in Sickness and in Health

Allergies, Sinus Trouble

Orbital sinusitis. From the files of Richard McCarthy, D.C. *ICPA Newsletter July/August 1997.*

A four year old boy with headaches, vomiting, nasal drip and decreased appetite was being treated with large doses of antibiotics. Past history revealed a fall on his head at the age two from a height of 4 feet.

Chiropractic analysis revealed a left cervical rotation with retrolisthesis and rotation of C2. He was seen 2 times per week for six months. The results were excellent. No more headaches, vomiting or nasal drip. In addition, his attitude and appetite dramatically improved.

Chiropractic adjustment in the management of visceral conditions: a critical appraisal.

Jamison JR, McEwen AP, Thomas SJ. *JMPT*, 1992; 15:171-180.

This was a survey of chiropractors in Australia. More than 50% of the chiropractors stated that asthma responds to chiropractic adjustments; more than 25% felt that chiropractic adjustments could benefit patients with dysmenorrhea, indigestion, constipation, migraine and sinusitis.

Diagnosis and treatment of TMJ, head, neck and asthmatic symptoms in children.

Gillespie BR, Barnes JF, *J of Craniomandibular Practice*. Oct. 1990, Vol 8, No. 4.

From the abstract: "Pathologic strain patterns in the soft tissues can be a primary cause of headaches, neckaches, throat infections, ear infections, sinus congestion, and asthma."

Characteristics of 217 children attending a chiropractic college teaching clinic.

Nyiendo J. Olsen E. *JMPT*, 1988; 11(2):78084.

The authors found that pediatric patients at Western States Chiropractic College public clinic commonly had ordinary complaints of ear-infection, sinus problems, allergy, bedwetting, respiratory problems, and gastro-intestinal problems. Complete or substantial improvement had been noted in 61.6% of pediatric patients of their chief complaint, 60.6% received "maximum" level of improvement while only 56.7% of adult patients received "maximum" level of improvement.

A comparative study of the health status of children raised under the health care models of chiropractic and allopathic medicine. Van Breda, WM and JM *Journal of Chiropractic Research* Summer 1989. Chiropractic under chiropractic had less use of medications, including antibiotics.

Structural normalization in infants and children with particular reference to disturbances of the CNS. Woods RH *JAOA*, May 1973,72:P.903-908.
Post-traumatic epilepsy, allergic problems, and dizziness have been relieved by cranial manipulation.

References from Koren Publications' brochure: Help For Allergy Sufferers

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- Science News, July 18, 1992 (142,3:46).
- Levinson, A.I., et al. Evaluation of the Adverse Effects of Long-Term Hyposensitization. *Journal of Allergy and Clinical Immunology*, August 1978.
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- Pero R. Medical Researcher Excited By CBSRF Project Results. *Chiropractic Journal*, 8/89 p. 32.
- Donsback, K.W. *Allergies* Huntington Beach, CA.: Int'l. Inst. Natural Health Sciences, 1980, pp.8-9.

Anorexia Nervosa

The side-effects of the chiropractic adjustment. Arno Burnier, D.C. *Chiropractic Pediatrics* Vol. 1 No. 4 May 1995.

This is a case history of A.S. a 23 years old female diagnosed with anorexia.

Chiropractic result: Complete resolution following the first adjustment. Follow-up two years later. Problem never returned.

Presenting Vertebral Subluxation: Occiput/C1 with atlas ASLP, C5/C6 P1. Original adjustment: Meningeal contact on occiput ridge medially close to the EOP for 60 seconds, double notch contact on the sacrum for 20 seconds, axis spinous contact for 20 seconds. Structural manual adjustment of Atlas in extension and rotation, C5/C6 in extension in supine position.

Arnold-Chiari Malformation

Effects of upper cervical subluxation concomitant with a mild Arnold-Chiari malformation: a case study. Smith, JL. *Chiropractic Research Journal*, Vol. 1V, No.2, Fall 1997.

Note: Arnold-Chiari (A-C) malformation is a variable congenital defect of the brainstem originally described in 1894.

From the abstract: A 39 year old woman had complaints of intermittent bouts of fatigue, dizziness, facial numbness, ataxia, headaches, difficulty speaking, and diffuse arthralgias during the last two years. She had already undergone extensive medical testing which revealed a mild Arnold-Chiara Type 1 malformation. Upon further investigation, it was decided that the A-C malformation was an incidental finding, unrelated to her symptoms. Medical, no solution or explanation of her symptoms could be found.

Using the Grostic method of upper cervical analysis, we measured an occipito-atlanto-axial subluxation.

We managed the patient using Grostic procedure of hand adjusting for the upper cervical region. Following the first and subsequent upper cervical adjustments, she experienced significant relief of her symptoms. She has not felt the need to seek medical intervention since beginning chiropractic care.

The patient had an array of diffuse symptoms, most of which could be explained neurologically by the effects of an upper cervical subluxation. Because she had the Arnold-Chiari malformation all her life, it was considered an incidental finding, so the onset of her symptoms during the past two years was difficult to medically understand.

Arthritis/Reversal of Arthritis

Disc regeneration: reversibility is possible in spinal osteoarthritis. Ressel, OJ. *ICA Review* March/April 1989 pp. 39 -61.

From the abstract: “Historically, osteoarthritis has been regarded as a common slowly progressive disorder seen most often in the elderly that affects the weight bearing joints, the peripheral and axial articulations, and the spine...clinically, osteoarthritis has been universally accepted as an integral consequence of aging. The condition is considered to be the product of various pathobiomechanical alterations in joint function, a “wear and tear” sequela. It is only in the past few years that increased knowledge about the histopathology, biomechanics, biochemistry, and metabolic properties of normal and osteoarthritic tissue structures has given clinicians any hope of being able to deal with osteoarthritis. When patient care is related to the pathology, pathophysiology, and the kinesiopathology of this condition, arrest and even reversal is possible.”

Osteoarthritis, chiropractic, and nutrition: osteoarthritis considered as a natural part of a three stage subluxation complex: its reversibility: its relevance and treatability by chiropractic and nutritional correlates. Berkson DL *Med Hypotheses* Dec 1991; 36(4):356-67

Author's Abstract: It is proposed that chiropractic and nutritional treatment contribute to the amelioration and perhaps reversal of osteoarthritis (OA). It is further proposed that the chiropractic manipulative thrust, is in effect, treating dysfunctional bio-mechanics of joints, affecting positive cartilaginous change. The pathophysiology and multi-factorial causes of OA are reviewed. New interpretations of the literature surrounding OA are discussed which offer arguments for OA's treatment and reversal through chiropractic manipulation and nutritional support. Presented is a new model of the chiropractic concept of subluxation (abnormal joint complex resulting in fixation or decrease in normal range of motion) and the chiropractic manipulative thrust. The associated histologic correlates are also discussed. A review of the literature of anti-inflammatory and muscle/joint complex supportive nutrients appropriate for OA is presented. Finally, a complete treatment protocol for OA is summarized.

The reversibility of osteoarthritis. Bland, JH. *American Journal of Medicine*, 75:16-26, 1983.

Osteoarthritis: a review of the cell biology involved and evidence for reversibility. Bland, JH, Cooper SM, and *SEM Arthritis Rheum* 14 (2): 106-133, 1984.

Experimental models of osteoarthritis: the role of immobilization. Videman T. *Clinical Biomechanics*, 1987; 2:223-229.

From the author's abstract: "Evidence is reviewed from animal experiments supporting the hypothesis that immobilization, for whatever reason, is one of the pathogenetic factors in musculoskeletal degeneration. It shows beyond reasonable doubt that immobilization is not only a cause of osteoarthritis but that it delays the healing process." Osteoarthritic changes were observed after only a few weeks of immobilization

The chiropractic medical management of hyperuricemia and gouty arthritis. Hicks L. *American Chiropractor* 1991; 13:12-15.

Rheumatoid arthritis, a case report. Nelson W. *Chiropractic Technique* 1990; 2:17-19.

Atlanto-axial subluxation and upward translocation of the odontoid in rheumatoid arthritis. Rana NA, Hancock DO, Taylor AR, Hill AGS, *Am J Bone Joint Surg* 55A: 1304, 1973.

Research has shown that most patients with rheumatoid arthritis have severe spinal misalignments.

Brain stem compression in rheumatoid arthritis. Mayer, JW et al *JAMA* Nov.1, 1976-Vol.236, No.18.

"Involvement of the cervical spine, particularly the atlanto-axial (C-1 to C-2) area, by rheumatoid arthritis (RA) may result in serious complications, including quadraparesis, vertebral artery insufficiency and even death. Pathologic conditions of the cervical spine are common in RA and may occur in as many as 86% of patients with this disease." The incidence of roentgenographic evidence of serious C-1 to C-2 subluxations has been reported as high as 25%."

Incidence and prognosis of the coxarthrosis. Danielsson LG. *Acta Orthop Scand (Suppl)* 66; 1-114, 1964. Reversal of osteoarthritis is shown possible.

A 5-year follow-up of 50 cases of idiopathic osteoarthritis of the hip. Seifert M, et al. *Ann Rheum Dis* 28:325, 1969. Spontaneous reversal of osteoarthritis is noted.

Spontaneous recovery of the hip joint in degenerative joint disease. Perry GH et al. *An Rheum Dis* 31:440-448, 1972

Restoration of the femoral head after collapse in OA. Storey et al. *Ann Rheum Dis* 30:406-412, 1971

OA of the hip: a study of the nature and evolution of the disease. Harrison MHM et al *J Bone Joint Surg* 35B: 598-626, 1953

References from Koren Publications' brochure: Arthritis, "Rheumatism" and Chiropractic

Lederer J. Arthritis: The mind-body connection. Mind-body health digest. Pub. By the Institute for the Advancement of Health. Vol. 2 No. 4.

Pathologic Basis of Disease, Stanley L. Robbins, M.D. Published by W. B. Saunders Co. Philadelphia.

Ligament and Tendon Relaxation Treated by Prolotherapy by George Hackett, MD 1958.

Nathan H. Osteophytes of the spine compressing the sympathetic trunk and splanchnic nerves in the thorax. *Spine*, 1987; 12:527-532.

Ressel, *Disc Regeneration: Reversibility is Possible in Spinal Osteoarthritis*. Int'l. Review of Chiropractic, March/April 1989 pp. 39-61.

Journal of the American Medical Association, July 12, 1984. "Up to 40% of those vaccinated with rubella suffered joint pain arthralgia, with less than 2% going on to develop arthritis".

The People's Doctor Newsletter by Robert Mendelsohn, M.D., Published Monthly. Vol. 8, No. 12, P.O. Box 982, Evanston, Illinois, 60204.

"A Chiropractic Story Silently Told In A Medical Museum" by Blaire, D.C. of Lubbock, Texas, 1975.

Goldberg, P. Questions and answers about arthritis and rheumatism. *Today's Ctic* July/August 1995.

Newsweek: March 20, 1989, pp. 65-66.

The People's Doctor Newsletter by Robert Mendelsohn, M.D. Published Monthly. Vol. 6, No. 9. P.O. Box 982, Evanston, Illinois, 60204.

Rana NA, Hancock DO, Taylor AR, Hill AGS: *Atlanto-axial subluxation and upward translocation of the odontoid in rheumatoid arthritis*. *Am J Bone Joint Surg* 55A: 1304, 1973.

Mayer, JW et al Brain stem compression in rheumatoid arthritis. *JAMA* Nov.1, 1976-Vol.236, No.18.

Chiropractic Management of Degenerative Joint Disease of the Spine. Shell, R.C. Journal of the National College of Chiropractic, 1970.

'Orthopaedic Medicine-A New Approach to Vertebral Manipulations' Maigne R., Charles C. Thomas, Springfield, Illinois (1972).

Mennell, J. McM., M.D. "Back Pain-Diagnosis and Treatment using Manipulative Techniques". Little Brown, Boston 1960, p. 27.

Zusman MA "A Theoretical Basis for the Short-term Relief of Some Types of Spinal Pain With Manipulative Therapy". *Manual Medicine*, 1987; 3:54-56.

Asthma

In the United States asthma is now epidemic. This once rare disease causes more time to be lost from school than any other pediatric disorder.

There are possibly millions of asthmatic children who are destined to a life dependent upon medication; these children may never have the chance to see if chiropractic spinal adjustments can help their asthma and provide them with a better quality of life.

Peter Fysh, D.C. San Jose, California. Dynamic Chiropractic. Sept. 25, 1995. p.16.

An impairment rating analysis of asthmatic children under chiropractic care. Graham, RL and Pistolesse RA. *Journal of Vertebral Subluxation Research*, Vol. 1, No. 4, 1997. Eighty one children under chiropractic care took part in this self-reported asthma related impairment study. The children were assessed before and two months after chiropractic care using an asthma impairment questionnaire.

Significantly lower impairment rating scores (improvement) were reported for 90.1% of subjects 60 days after chiropractic care in comparison to their pre-chiropractic scores. In addition, 30.9% of the children voluntarily decreased their dosage of medication by an average of 66.5% while under chiropractic care.

Twenty four of the patients who reported asthma attacks 30-days prior to the study had significantly decreased attacks by an average of 44.9%.

Six different chiropractic techniques were used by the different chiropractors who participated in this study.

Case study: eight year old female with chronic asthma. Peet JB. *Chiropractic Pediatrics*, 1997; 3(2) 9-12.

The patient had been diagnosed with asthma three years prior to presentation. Beclovent™ and Albyterol™ were used one to three times per day.

After eight chiropractic adjustments over a period of 2 ½ weeks, the mother stated that the child had not used her inhaler for two days, her wheezing had ceased and she could run without gasping.

At the time of the publication of this article, the child has been free of asthmatic attacks for four months without medication.

Asthma in the Pediatric Patient. Fysh, P. Dynamic Chiropractic Sept. 25, 1995. P. 16.

Case history of Benny, 3 years old who had suffered from bronchial asthma since infancy. On increasing doses of medication, attacks occurred several times a week. Subluxation at C1 and T3-4. Anterior saucerizing of the spine in the mid-scapular region first described by Pottinger in 1910. After one month of care Benny's asthma resolved. According to the author, "Benny's case is not an unusual one."

Chiropractic response in the pediatric patient with asthma: a pilot study. Peet, JB. Marko SK, Piekarczyk W. *Chiropractic Pediatrics* Vol. 1, No. 4, May 1995, pp. 9-13.

From the abstract:

This paper reviews the correlation between reducing/correcting vertebral subluxations in the asthmatic pediatric patient utilizing Chiropractic Biophysics Technique (CBP) and symptomology generally associated with this condition. A further objective will be to determine what areas of vertebral subluxation, if any, are commonly seen in this group. The children used for this study had never received any chiropractic care or manipulative care prior to participation in this study. Seven of the eight patients who completed the study were able to reduce/discontinue medication. All participants showed measurable improvement on radiographs, which correlated with an improvement in asthma symptoms in seven of the eight cases.

This paper also includes an interesting discussion on the innervation of the lungs and its relationship to the vertebral subluxation complex.

Treatment protocols for the chiropractic care of common pediatric conditions: otitis media and asthma. Vallone S and Fallon JM *Journal of Clinical Chiropractic Pediatrics* Vol 2, No.1 1997. P. 113-115

This paper's purpose presents the results of a survey of chiropractors enrolled in the first year of a three year postgraduate course in chiropractic pediatrics. The survey sought to establish if consensus existed with respect to the modalities these doctors used to treat two of the most common childhood disorders seen by chiropractors: otitis media and asthma. Thirty-three doctors of chiropractic participated in the survey. "Of the primary therapeutic modalities employed by the chiropractor, spinal adjusting was the most commonly used for both asthma and otitis media. Certain areas of the spine were addressed most frequently for each of the two conditions.

Chronic asthma: The side-effects of the chiropractic adjustment. **Arno Burnier, D.C.** *Chiropractic Pediatrics* Vol. 1 No. 4 May 1995.

Case #1: J.P., 11-year-old male,

Medical diagnosis: Chronic asthma .

Medication: Theolair, Alupent

Chiropractic results: Off asthma medication after first visit. Child is now a multidiscipline athlete with aspirations to become an Olympic athlete. Six years later, the child is still free of asthma and medication.

Presenting Vertebral Subluxation: Occiput/C1 with an Atlas ASR.

Original Adjustments: Structural manual adjustment of Atlas.

Case #2: F.H., 9 year old male.

Medical diagnosis: Chronic asthma.

Medication: Nasalcron

Chiropractic result: Off his medication at onset of care. Clear of symptoms since first adjustment eight years prior.

Presenting vertebral subluxation: CO/C1 with atlas ASRP.

Original Adjustment: Atlas in lateral flexion and rotation supine.

Chiropractic care in the treatment of asthma. Killinger LZ. *Palmer Research Journal* 1995; 2(3):74-7.

This is the case report of an 18 year old subject with a two year history of asthma and monitored for a five year period. The subject received Palmer Upper cervical Specific technique adjustments.

The result was marked improvement in the subject's health status. The greatest improvements were reported in the weeks following the chiropractic adjustments. This was an unusual case because trauma to the cervical vertebrae coincided with the occurrence of asthma and spinal care was directed to the traumatized segments.

The asthmatic patient. Cessna R. *American Chiropractor* April 1989;48-50. Discusses chiropractic success with asthmatics.

Asthma in a chiropractic clinic: a pilot study. Jamison JR, Leskovec K, Lepore S, Hannan P. *J Aust Chiropractic Association* 1986; 16(4): 137-43.

Treatment of visceral disorders by manipulative therapy. Miller WD. In: Goldstein M, Ed. *The Research Status of Spinal Manipulative Therapy*. Bethesda: Dept. HEW. 1975:295-301.

Patients with chronic obstructive pulmonary disease were treated with osteopathic manipulation. 92% of the patients stated they were able to walk greater distances, had fewer colds, experienced less coughing, and had less dyspnea than before treatment. 95% of patients with bronchial asthma said they benefited from chiropractic care. Peak flow rate and vital capacity increased after the third treatment.

Chiropractic response in the pediatric patient with asthma: a pilot study. Peet JB, Marko SK, Piekarczyk. *Chiropractic Pediatrics* 1995; 1(4)9-12.

Chronic asthma and chiropractic spinal manipulation - a randomized clinical trial Nielsen NH, Bronfort G, Bendix T et al *Clinical and Experimental Allergy* 1995 Jan; 25 (1):80-88.

This blinded, randomized study of 31 patients aged 18-44 who were all on bronchodilators and/or inhaled steroids was conducted at the National University Hospital's Out-patient Clinic in Copenhagen, Denmark. They received either sham or real manipulations. Interestingly, non-specific bronchial hyperreactivity (n-BR) improved by 36% and patient rated asthma severity decreased by 34% in both groups. From the abstract: "The results do not support the hypothesis that chiropractic spinal manipulative therapy is superior to sham spinal manipulation in the management of pharmaceutically controlled chronic asthma in adults when administered twice weekly for 4 weeks."

Dr. Koren's comment: These conclusions appear at variance with over a hundred years of clinical observation of chiropractic's effectiveness with asthmatics. Upon study of the paper, we notice a number of weakness: subjects were all adults on medication for years. Medication was continued during the course of spinal adjustment. A total of 8 adjustments (2x week) were performed. So this paper shows that adult asthma sufferers, who are full of

meds get as much relief as sham adjustments after 8 “manipulations.” Perhaps the sham manipulation was more manipulation than sham? Perhaps the technique used was defective or not specific enough for asthmatic sufferers? Further, many asthmatic sufferers in the real world discontinue or decrease their medications under chiropractic care. In this hospital study that was not permitted as part of the protocol.

This research was poorly designed and not worthy of the term chiropractic research.

Chiropractic treatment of asthma – a controlled clinical trial. Bronfort G, Nielsen N, Bendix T, Madsen F, Weeks B. Proceedings of the 1989 International Conference on Spinal Manipulation. Washington, DC. Published by FCER Arlington, VA.

Case history of asthmatic child. Matthews, NC. Et al. A four year old female patient reported to the office . *International Chiropractic Pediatric Association Newsletter.* July 1996.

“Since birth she had problems with her respiratory system...clinical diagnosis of asthma. She had shortness of breath, hard and labored breathing, inability to run from shortness of breath...had become reliant on antibiotics for constant respiratory infections...had taken lots of steroidal drugs. This ‘conventional’ drug therapy had not prevented her from spending every Christmas in the hospital on a breathing machine.

“A complete chiropractic examination revealed vertebral subluxation of the atlas right, sixth cervical posterior, and right posterior sacrum. Specific chiropractic adjustment were given...patient responded to the care immediately and was able to suspend using the drugs within two weeks. Within two months, she was able to play with her friends with no symptomatology. Her 5th Christmas was the first at home in her life...I wonder if her asthma should have been diagnosed as SUBLUXATION. What would have happened to her if over the last two years she had been on steroids rather than chiropractic care?”

A comparison of active and simulated chiropractic manipulation as adjunctive treatment for childhood asthma. *NEJM*1998; 339:1013-1020 Balon J, Aker PD, Crowther ER, et al.

Management of pediatric asthma and enuresis with probable traumatic etiology.

Bachman TR, Lantz CA *Proceedings of the National Conference on Chiropractic and Pediatrics (ICA)*, 1991: 14-22.

A 34-month-old boy with asthma and enuresis had not responded to medical care. More than 20 emergency hospital visits had taken place for the asthma attacks during a 12 month history. Three chiropractic adjustments were administered over an 11 day period and the asthma symptoms and enuresis ceased for more than 8 weeks. The asthma and enuresis reoccurred following a minor fall from a step ladder but disappeared after adjustments. After a two year follow-up, the mother reports no reoccurrence of the asthma or the enuresis.

Mechanisms and Chiropractic Management of Bronchial Asthma. Monti R. *Digest of Chiropractic Economics* Sep-Oct 1991;48-51. Describes the pathophysiology of asthma and the author’s chiropractic results.

Asthma and chiropractic. Garde R. *Chiropractic Pediatrics*. Vol 1 No.3 Dec, 1994.

From the abstract: Case review of a 6-year-old boy who has had asthma since 1991 and his condition since chiropractic intervention. Child was prescribed aerosol inhalers (Beclort and Vertolin) using them every day, up to three times a day. Adjustments were delivered to the cervical, thoracic and lumbar areas. Significant progress. Could run during soccer games and “almost never used his inhaler.” Slept more soundly. “Hardly ever had bouts with mucous clogged nasal passages.” Nasal inhalant use stopped.

Chiropractic and visceral disease: a brief survey. Wiles R, Daikow P. *J Calif Chiro Assoc*, 16(4): 137-143, 1986.

A survey of 17 D.C.s of whom 15 had cared for asthmatics. Areas of the spine adjusted C0-C2 47%, C3-C7 33%, T1-T6 80%, T7-T12 40%, Lumbar 7%, Sacro-iliac 13%,.

Asthma in a chiropractic clinic: a pilot study. Jamison J et al *J Aust Chiro Assoc.*, 16(4):137-143, 1986.

In this study of 15 patients under chiropractic care, six patients reduced their medications and one stopped them entirely. All patients reported satisfaction with their chiropractic care. However the lead author, Dr. Jamison concluded that respiratory function appeared to be unaffected by chiropractic adjustments.

Prognostic factors in bronchial asthma in chiropractic practice. Nilssen N. Christiansen B. *J Aust Chiro Assoc* 1988;18:85-7.

In this study of 79 subjects, those most likely to report the best benefit had less severe asthma, were younger and responded within one month (and had an average of five adjustments in one month).

Case history: an eight year old asthmatic patient. Cohen E. *Today's Chiropractic*. Jan-Feb 1988, p.81.

Improvement in care of an 8 year old asthmatic who developed the condition at age two and successful response after chiropractic care.

A holistic approach to the treatment of bronchial asthma in a chiropractic practice.

Lines DA. *Chiropractic J of Australia* 1993;23(1):4-8.

Chiropractic care of two children and one adult (two-year-old, five-year-old and thirty-year old) with asthma. Thoracic adjusting was used in two cases and lumbar adjusting was used in two cases. The patients remained asthma free six months to two years at the writing of the paper. The author's remarks are well stated: “With counting evidence that current medical bronchodilator and inhaled steroid intervention may be contributing to the rising mortality, the conservative, holistic, chiropractic approach presented here may well provide (a)...more effective alternative intervention to present allopathic (medical) therapy....It appears that the currently accepted allopathic (medical) management regimes still remain consensus-based rather than having been founded on actual clinical trials.”

A wholistic approach to the treatment of bronchial asthma in a chiropractic practice.

Lines DH. *Chiro J Aust* 1993;23:4-8.

Prognostic factors in bronchial asthma in chiropractic practice. Nilsson N, Christiansen B. *J of Australian Chiropractors' Assoc*, 1988;18:85-87.

In this study of 79 subjects, improvement was reported on average after five adjustments, after one month of care. Younger asthmatic sufferers usually had a better response than older subjects to spinal adjustments.

A comparative study of the health status of children raised under the health care models of chiropractic and allopathic medicine. Van Breda, Wendy M. and Juan M. *Journal of Chiropractic Research* Summer 1989.

Children of chiropractors had a smaller incidence of asthma than pediatricians' children (3.5% for DC children vs. 5% for children of MDs).

Manipulative therapy an alternative treatment for asthma: a literature review. Dennis D, Golden D, *JMPT*, Vol. 8 No.2 July 1992.

From the abstract: "Subjective studies show that manipulation of the spine relieves the patients' symptoms. However, objective findings have yet to be compiled using respiratory indices."

Alternative medical approaches to the treatment of asthma. *Altern Compel Ther* Gamble A. 1995;1:92-97.

Diagnosis and treatment of TMJ, head, neck and asthmatic symptoms in children.

Gillespie BR, Barnes JF, *J of Craniomandibular Practice*. Oct. 1990, Vol 8, No. 4.

From the abstract: "Pathologic strain patterns in the soft tissues can be a primary cause of headaches, neckaches, throat infections, ear infections, sinus congestion, and asthma."

Chronic ear infections, strep throat, 50% right ear hearing loss, adenoiditis and asthma. G. Thomas Kovacs, D.C. *International Chiropractic Pediatric Association newsletter*. July 1995.

4 1/2 year old female. Chronic ear infections, strep throat, (on and off for 4 years) 50% right ear hearing loss, adenoiditis and asthma.

Had been on antibiotics (Ceclor), developed pneumonia, on bronchodilators and anti-inflammatory for asthma. Also given steroids.

ENT diagnosed child with enlarged adenoids. Surgery to remove child's adenoids and to put tubes in her ears was scheduled.

Chiropractic history: cervical (C2) and thoracic (T3) and right sacroiliac subluxation. Numerous enlarged lymph nodes and muscle spasm. Chiropractic care of 2x/week for 6 weeks scheduled. After 3 or 4 adjustments mother noticed "a changed child, she has life in her body again...acting like a little girl again for the first time in 4 years."

After 6 weeks, pediatrician and ENT noticed no sign of ear infection or inflammation, "Her adenoids, which were the worst the ENT has ever seen, were perfectly normal and healthy.

Hearing tests revealed no hearing loss whatsoever. When the family was asked how long the child was on antibiotics, her family responded 'all medication was stopped 6 weeks ago when chiropractic care started.' Shocked and confused by this answer, the family was told to continue chiropractic care because it had obviously worked."

Case #2 Adjustive treatment for chronic respiratory ailment in a five year old.

Case reports in chiropractic pediatrics. Esch, S. *ACA J of Chiropractic* December 1988. This is the story of a 5 ½ year old girl with a four-year history of what the parents called “bronchial congestion.” She had pneumonia “several times a year” since she was 18 months old.

In addition to he attacks of “bronchitis” she suffered from congestion and was wheezy after running and upon waking up in the morning. The father and mother both reported having allergies.

Chiropractic Examination reveal subluxations at C-2, T-4 and L-5.

At the second adjustment two days after the first the mother reported the child was not coughing as much and by the third visit a week later the mother reporting the child was breathing normally. Twelve adjustments were given over three months and the chief complaint did not recur. A follow-up call four years later revealed no recurrence.

<h2 style="text-align: center;">Attention Deficit Disorder and Hyperactivity</h2>

“After examining several diagnosed ADHD children, we find an upper cervical subluxation that can lead to neurotransmitter involvement.”

Larry Webster, D.C. *International Chiropractic Pediatric Association Newsletter*. January 1996.

When Kevin was 3 he was diagnosed as having ADHD. After trying diet changes, allergy testing and behavior modification techniques, we reluctantly agreed to put Kevin on Ritalin. The medication did its job as far as slowing him down a bit, but he suffered many side effects. In 2 years he grew only 2 inches and did not gain any weight at all. He cried easily, had trouble sleeping, no appetite, and would “zone out” quite often.

Finally at age 6 we made the decision to stop giving him Ritalin. He grew 6 inches in less than 1 year and gained nearly 15 pounds. His sleeping and eating patterns were still erratic, and the schoolwork was horrible...his writing was illegible and math made no sense to him.

We brought him to Dr. D’Angiolillo for chiropractic care, twice a week for 6 weeks. This past week when I went to his parent-teacher conference, the first thing the teacher asked me was had we put Kevin back on Ritalin. I said no, and she showed me samples of Kevin’s work and showed me the sudden improvement...for the first time his writing is in the lines, it is easy to read and much more age appropriate. Although he still tends to move around more than the average child does, he is able to concentrate, answer questions correctly and is reading better than most of his class!

*A Mother’s Testimonial. ICPA Newsletter. July/August 1998
(Dr. Angiolillo is in private practice in North Brunswick, NJ).*

A six year old boy with nightly nocturnal enuresis, attention deficit disorder and toe walking. *International Chiropractic Pediatric Association Newsletter* May/June 1997.

A six year old boy with nightly nocturnal enuresis, attention deficit disorder and toe walking (walked with his heels 4 inches above the ground). Medical specialist recommended both Achilles tendons cut and both ankles broken to achieve normal posture and gait.

Chiropractic findings included: C1, Occiput, sacrum and pelvis. After 4 weeks of care both heels dropped 2 inches and bedwetting decreased to 2-3 times/week.

ADHD – A multiple case study. Wendel P, *International Chiropractic Pediatric Association*. March/April 1998.

This is a 12-month study began on October 4, 1997 of twenty-one children: 17 male and 4 female, ages from six to sixteen years. Eight of the children in the study are on Ritalin. As of March 18, 1998, thirteen of the initial twenty-one children are still participating in the study. Five of the remaining children are on Ritalin.

Case Reviews:

1. Female, age 10. The child had poor grades due to lack of focus on homework and parental supervision was needed to complete homework. After three months of care, she received “Most Improved Student” award for bringing grades from an F and a D to an A and B respectively.
2. Male, age 13. History included traumatic birth (cord wrapped around neck) and did not crawl as a young child. After four weeks of care (including learning to cross crawl) he improved his grades from four F’s to a B, D and notable improvement in the remaining 2 classes.
3. Male, age 12. Run over by a car while riding a skateboard at age 5. He exhibited severe discipline problems at school with school suspension several times. Failing all classes. There has been little behavior improvement but grades have improved to a B, 3Cs and two Ds.
4. Male, age 15. Tested positive for allergies and had severe hand tremors. After one week of care hand tremors diminished. After 5 months grades improved to 3 As, 2Bs and 1C.

Epileptic seizures, Nocturnal enuresis, ADD. Langley C. *Chiropractic Pediatrics* Vol 1 No. 1, April, 1994.

This is an eight year old female with a history of epilepsy, heart murmur, hypoglycemia, nocturnal enuresis and attention deficit disorder.

The child had been to five pediatricians, three neurologists, six psychiatrists and ten hospitalizations. Child had been on Depakote, Depakene, Tofranil and Tegretol.

She had been a difficult birth, a cesarean had to be performed under general anesthesia. The mother was told the baby was allergic to breast milk and formulas and was stayed on prescription feeding.

The doctors told the mother the girl would never ride a bike nor do things like normal children do. The child was wetting the bed every night and experiencing 10-12 seizures/day, with frequent mood swings, stomach pains, diarrhea and special education classes for learning disabilities.

Chiropractic adjustments were given C1 and C2 for approximately three times per week.

Two weeks after beginning care the bed-wetting began to resolve and was completely

resolved after six months. She was also going to leave special education classes to enter regular fifth grade classes.

After one year of chiropractic, the seizures were much milder and diminished to 8-10 per week. Patient was also released from psychiatric care as "self managing." Her resistance to disease increased and she can now ride a bike, roller skate and ice skate like a normal child. After medical examinations, she is expected to be off all medication within a month.

First report on ADD study. Webster L. *International Chiropractic Pediatric Association Newsletter*. Jan. 1994.

Two cases from the ADD study are mentioned.

Case #1: Ten-year-old girl on 60 mg. Ritalin/day, severe scoliosis of 48 degrees Cobb angle. First seen 11/15/93. After ten adjustments mother reported a happier child, immune system doing much better and endurance much higher. Re-exam revealed scoliosis reduced to 12 degrees. By 1/10/94 off medication.

Case #2: 12-year-old boy diagnosed as ADD, asthma and seizures. First entered clinic 12/9/93 and after 8 adjustments, parent has withdrawn all medication with the cooperation of their doctor. Positive personality change has been noted.

ADD, Enuresis, Toe Walking. *International Chiropractic Pediatric Association Newsletter* May/June 1997. From the records of Rejeana Crystal, D.C., Hendersonville, TN.

A six year old boy with nightly nocturnal enuresis (bedwetting), attention deficit disorder and toe walking. He walked with his heels 4 inches above the ground. The medical specialist recommended that both Achilles' tendons be cut and both ankles be broken to achieve normal posture and gait. Chiropractic findings included subluxation of atlas, occiput, sacrum and pelvis...after 4 weeks of care both heels dropped 2 inches and the bedwetting frequency decreased to 2-3 times per week. His doctor could not believe how chiropractic care made such a change.

The effect of chiropractic treatment on students with learning and behavioral impairments resulting from neurological dysfunction (part 1). Brzozowske WT, Walton EV. *J. Aust Chiro Assoc* 1980;11(7):13-18.

The effect of chiropractic treatment on students with learning and behavioral impairments resulting from neurological dysfunction (part 2). Brzozowske WT, Walton EV. *J. Aust Chiro Assoc* 1980;11(8):11-17.

A group of 12 ADHD students receiving stimulant medication were compared to a group of 12 ADHD students receiving chiropractic care.

The group receiving chiropractic care both hyperactivity and attentiveness improved along with gross and fine motor coordination.

In the medicated group, hyperactivity and attentiveness improved initially (not gross and fine motor coordination) and the medication effectiveness decreased requiring higher dosages.

Over half the medical group had personality changes, loss of appetite and insomnia relating to their treatment. The study concluded that chiropractic care was 20-40% more effective than medication.

Case Studies. Male - age 7 years. Webster, L. Chiropractic Showcase Magazine, Vol. 2, Issue 5, Summer 1994.

The child was placed under care on February 14, 1994 with the following clinical picture: Hyperactivity, stuttering, slow learner, retarded growth, left leg approximately 1" shorter than right with a limp while walking. Medical plans were to break the left leg, insert metal rods in an attempt to stimulate growth and equalize leg lengths.

Our examination consisted of Metrecom evaluation, full spine X-rays, and chiropractic examination of the spine. Areas of subluxation were as follows: Sacrum anterior, inferior on left, 5th lumbar body left, atlas, anterior superior left.

Patient was placed on an intensive correction program of 3 times weekly for a period of two months.

During the first seven visits the legs were never balanced, however, each time a reduction of the short leg occurred. On the 8th, visit the legs balanced for the first time. Also noticed by 8th visit:

1. The stuttering had stopped.
2. The grades in school had risen from non-satisfactory to satisfactory.
3. The hyperactivity had abated.
4. The limp was no longer constant.

Case study: the effect of utilizing spinal manipulation and craniosacral therapy as the treatment approach for attention deficit-hyperactivity disorder. Phillips CJ. *Proceedings on the National Conference on Chiropractic and Pediatrics (ICA)*, 1991:57-74. A 10-year-old boy with a three year history of hyperactivity, also suffering from ear infections, headache and allergic symptoms. Chiropractic analysis revealed multiple cervical, thoracic and pelvic dysfunctions. The boy also had multiple cranial faults. By the 11th chiropractic adjustment hyperactivity symptoms had abated (his other health problems had cleared up from earlier spinal adjustments). After 5 1/2 months relatively symptom free he had two falls and hyperactivity, headache and allergy symptoms returned. A single session of spinal and cranial adjusting revolved this exacerbation. A strong link between spinal "dysfunctions" and hyperactivity is suggested.

A multi-faceted chiropractic approach to attention deficit hyperactivity disorder: a case report. Barnes, T.A. *ICA Int'l Review of Chiropractic*. Jan/Feb 1995 pp.41-43.

From the author's abstract: an 11-year-old boy with medically diagnosed Attention Deficit Hyperactivity Disorder has been a patient and student at the Kentuckiana Children's Center for three years...His case shows a history of early disruptive experience, repeated ear infections, consistent temporomandibular joint dysfunction, heavy metal intoxication, food allergy, environmental sensitivity and multiple levels of biomechanical alteration. This report emphasizes the need for care in all aspects of the structural, chemical and mental triangle of health in children with attention deficit hyperactivity disorder.

"He has improved academically and has advanced to the next grade level...he recognizes that he has control over his behavior and there is hope that he will be mainstreamed back into a regular public school setting soon...his mother says she notices improvement in his attention span and temper."

Effects of biomechanical insult correction on attention deficit disorder. Arne J. *J of Chiropractic Case Reports*, Vol. 1 No. 1 Jan. 1993.

Seven-year-old male was referred by his mother because of radical behavioral changes (uncharacteristic memory loss, inability to concentrate and general agitation) following a motor vehicle accident (other symptoms included loss of appetite, headache, difficulty in chewing, ear pain, hearing loss, difficulty in breathing through the nose, neck pain, and bilateral leg pain). An M.D. diagnosed "attention deficit disorder" and Ritalin was diagnosed with partial improvement. After four months, the mother sought chiropractic care. Spinal analysis revealed anterolisthesis of C2 on C3, reversal of cervical lordosis from C1-C4. Correction was accomplished using the Thompson technique with the terminal point table, three times a week for 16 weeks and twice per week for one week....12 week follow up revealed restoration of cervical curve, with residual C2 anterolisthesis. At 17 weeks Ritalin was stopped by M.D., the patient's medically diagnosed attention deficit syndrome seems to have been solved as were the other symptoms. The mother discontinued chiropractic care after settlement and the patient's behavior symptoms gradually returned and is back on Ritalin.

EEG and CEEG studies before and after upper cervical or SOT category 11 adjustment in children after head trauma, in epilepsy, and in "hyperactivity." Hospers LA, *Proc of the National Conference on Chiropractic and Pediatrics (ICA)* 1992;84-139.

Five cases were presented. Conventional EEG studies demonstrate responses of two children with petite mal (absent seizure) with potential for generating into grand mal. Upper cervical adjustment reduced negative brainwave activity and reduced the frequency of seizures over a four month period. In two cases of "hyperactivity" and attention deficit disorder, upper cervical adjustment reduced non-coherence between right and left hemispheres in one child and in another, CEEG demonstrated restoration of normal incidence of the alpha frequency spectrum. Increased attention span and improvement of social behavior were reported in both cases. A child rendered hemiplegic after an auto accident displayed abnormal brainwave readings. After adjustment, the CEEG demonstrated more normalized brainwave readings. Child was able to utilize his left arm and leg contralaterally to the injured side of the brain without assistance after upper cervical adjustments.

An evaluation of chiropractic manipulation as a treatment of hyperactivity in children. Giesen JM, Center DB, Leach RA. *JMPT* 1989; 12:353-363.

This was a blinded study in which a placebo was administered initially and chiropractic care provided thereafter. Five of the seven hyperactive children showed improvement under chiropractic care in comparison to placebo care.

The authors write: "The results of this study are not conclusive, however they do suggest that chiropractic manipulation has the potential to become an important nondrug intervention for children with hyperactivity."

References from Koren Publications' brochure: *Learning Disorders and Chiropractic* Palmer, D.D., *The Art, Science and Philosophy of Chiropractic*. Portland Printing House, 1910. Reprinted 1966, Davenport IA; Palmer College of Chiropractic.

Walton, E.V. Chiropractic Effectiveness with Emotional, Learning and Behavioral Impairments. *International Review of Chiropractic*, 29: 2-5, 21-22, September 1975.

Giesen J. M., Center D. B., Leach R. A. An Evaluation of Chiropractic Manipulation as a Treatment of Hyperactivity in Children. *JMPT*, October 1989; 12:353-363.

Feldenkrais, M., *Body and Mature Behavior*. Independence, MO: International University Press, 1949.

Lowen, A., *Physical Dynamics of Character Structure*. Grune and Stratton, 1958.

Autism, Behavioral And Learning Disorders

Note: The dramatic rise of autism has become an intense issue. Recent published reports of a vaccine-autism link confirm what a large percentage of parents of autistic children have claimed: their child's autism (including behavior and personality changes) occurred shortly after (a few days to weeks) their "well baby visit shots." The MMR (measles-mumps-rubella) vaccine has been increasingly targeted as the cause of autism, although a certain percentage of cases have been described after the Hepatitis B, Pertussis and other vaccines.

Some cases of autism have been reversed using chiropractic, homeopathy, cranioSacral therapy, nutrition and other approaches. Hugh Fudenberg, M.D. has been successful in reversing autism in many children using a special procedure to restore the child's immune system. He can be reached at:

NeuroImmuno Therapeutics Research Foundation
1092 Boiling Springs Road,
Spartanburg, SC 29303,
(864) 591-0944; Fax (864) 591-0622

Case report: autism and chronic otitis media. Warner SP and Warner TM. *Today's Chiropractic*. May/June 1999.

This is a case report of a 3 ½ year-old girl with autism. She was non-verbal, had compulsive disorders, daily rituals, head banging and violence.

After chiropractic, care began within one month her parents and teacher noticed a 30% improvement socially. After one year of care, an 80% improvement was noticed. Head banging and other rituals diminished by 50% with less violent behavior.

She had chronic serous otitis media and had been on antibiotics for one year. Within a one-week period after her first adjustment, antibiotic use stopped due to a 70% improvement in her otitis media.

Case Study – Autism. Rubinstein, HM, *Chiropractic Pediatrics* Vol. 1 No. 1, April 1994.

This is the case study of a seven year old female diagnosed with autism. The child has a history of sexual and physical abuse.

The little girl would slowly turn in circles in place while singing an incomprehensible song with a glazed stare and blank expression. Spinal examination revealed a right posterior and superior C1 with a frequency of about twice a week. After ten months of care she was able to carry on conversations, carry out commands, dress and groom herself. Cognitive

development progressed to where she was able to learn, read, and participate in public school.

The effects of chiropractic treatment on students with learning and behavioral impairments due to neurological dysfunction. Walton EV. *Int Rev of Chiro* 1975;29:4-5,24-26.

In this study 24 learning impaired students, half received chiropractic care and the other half, who were either on medication or receiving no treatment at all, were used for comparison. The case histories that follow were obtained from the above paper.

Case C 91: a high school student who was failing three subjects, with a history of failure, low morale, discipline problems, poor coordination, and a long history of clinical and medical treatment. After chiro-practic care the student was passing all subjects, highly motivated, showing improved coordination and able to participate in athletics. All medications were dropped.

Case C 92: also a high school student on 20mg. Ritalin and on Dilantin. She was non-motivated, negative, passive, nonverbal, and failing in high school work despite placement in special classes. After chiropractic adjustments the student was taken off Ritalin, began talking and expressing herself, and showed improved reading comprehension and reading speed.

Case CE 92: an elementary student who was extremely hyperkinetic, irritable, and he had severe behavior problems at home and school. Grades were marginal to failing. Although the boy was only 8 years old, Ritalin had been increased from an initial 5mg. to a total of 70mg./day with steadily diminishing results. (70mg. approaches danger level as a dosage). At the conclusion of chiropractic care, the Ritalin had been entirely discontinued and coordination was improved to the extent that the student became an able Little League ball player. His attitude was excellent, grades were up an average of one letter grade, and the student was considered free of all limiting factors. Behavior at home and school was exemplary.

Case CE 101: an elementary student. This student was marginally passing his courses. There was a four year history of marginal accomplishment in school. He was nervous, underweight and suffered from insomnia. Medication was briefly tried but the student's emotional control became poor and he frequently wept. The medication had to be discontinued. After chiropractic care there was a marked reduction in nervousness and great improvement in emotional stability. His mother reported that his appetite was now normal and he began enjoying school during the last month.

Case C 93: a high school student. Initially on heavy dosages of medication, non-motivated with a long history of clinical evaluation and treatment. The girl was failing most school subjects, marginal in others, and withdrawn. After chiropractic adjustments, her self-confidence improved; she was passing all subjects. All medication was discontinued after four months of treatment. A vocational goal was established.

Case CJ 95: a junior high school student. He was hyperkinetic almost from birth and had a traumatic early developmental history with suspected neurological problems. Although of above average intelligence he was passing only two subjects, both marginally. He was starting to become a discipline problem, making little or no effort in school. After chiropractic care, fine and gross motor coordination improved markedly. He began taking an interest

in athletics and played Little League on a team that placed third in the state. Effort and motivation improved to the extent that plans to send him back to a lower grade were dropped and he was promoted. Reports at the third week of school indicated that his academic progress was excellent after a late summer remedial program.

Case CE 102: an elementary student who had been diagnosed by numerous clinics as minimally brain damaged, retarded and/or suffering from neurological dysfunction. He also suffered from severe emotional problems. After chiropractic he showed great improvement in self-confidence. He began to take part in public speaking in school. Mental ability tests indicated that the student was at normal grade level except for deficiencies in reading.

Developmental Communication Disorder .Subluxation location and correction by Stephen R. Goldman, D.C. *Today's Chiropractic* July/August 1995 p.70-74.

Case Study No. 1

“A 2-year old child had a medical diagnosis of ‘developmental communication disorder.’ He was non-responsive to any external stimuli, even to receiving an injection...did not respond to sound or touch...Chiropractic analysis revealed an axis subluxation.

“On the third visit, when I walked into the room, he began to cry. That was the first time that he responded to anything happening around him. By the sixth adjustment, he started to follow certain commands and stopped making repeated hand motions. He started to talk after the 12th office visit. At present, he has an extensive vocabulary and is slightly hyperactive; he is probably making up for lost time.”

Learning difficulties of children viewed in the light of osteopathic concept. Frymann V (1988). In: Retalaff EW, Mitchell Fl Jr. (Eds). The cranium and its sutures, Springer, Berlin Heidelberg, NY, pp.27-47.

Osteopathic management of psychosomatic problems. Dunn, FE. *JAOA*, Vol. 48 No. 4 Neuropsychiatric Supplement Vol. 2 No. 1 Dec. 1948.

Relationship between structure and mental states and patient management.

Osteopathic concepts in psychiatry. Dunn FE *JAOA*, March 1950.

A table describing the lesion (subluxation) frequency in schizophrenia is included. Patient management is discussed.

Posture and mental health. Quigley WH. *ACA Journal* March 1964.

Discusses the relationship between mental health and posture.

A pilot study of applied kinesiology in helping children with learning disabilities.

Mathews MO, Thomas E, *British Osteopathic Journal* Vol. X11 1993.

IQ scores improved and learning disabilities lessened. The British Osteopaths used applied kinesiology and Neural Organization Technique (NOT) developed by Carl Ferrari, D.C.

An analysis of 350 emotionally maladjusted individuals under chiropractic care.

Hartmann GW, Schwartz HS. *NCA Journal of Chiropractic*, Nov. 1949.

Classic review of 350 individuals helped under chiropractic care.

Relations of disturbances of cranio-sacral mechanisms to symptomatology of the newborn. Fryman V. *JAOA*. 1966;65:1059.

In a group of 1250 unselected babies examined five days post partum, a group of 211 'nervous' children were found suffering from vomiting, hyperactivity, tremors and sleeplessness. Release of 'strain' in the skull resulted in immediate quieting, cessation of crying, muscular relaxation and sleepiness.

The effect of chiropractic adjustments on the behavior of autistic children; a case review. Sandeful, R, Adams E. *ACA Journal of Chiropractic*, Dec 21:5, 1987.

The authors reported that 50% of all subjects under chiropractic care experienced reliable behavioral improvements, as recorded by independent observers. It is reported by those working with autistic children that any change in behavior in an autistic child is considered to be significant. Behavioral improvements were observed in such diverse areas as picking up toys, use of sign language, reduction of self-abuse and appropriate use of language.

Post-traumatic evaluation and treatment of the pediatric patient with head injury: a case report. Araghi HJ. *Proceedings of the National Conference on Chiropractic and Pediatrics*, 1992:1-8.

From the abstract: a two-year-old boy suffering from vomiting and loss of energy following impact trauma to the head and found by neurological exam and CT scan to have suffered a concussion with no evidence of brain or spinal cord pathology. Chiropractic adjustment of occiput resolved the patient's symptoms.

Blocked atlantal nerve syndrome in infants and small children. Gutman G. *ICA Review*, 1990; July:37-42. Originally published in German *Manuelle Medizin* (1987) 25:5-10.

From the abstract: Three case reports are reviewed to illustrate a syndrome that has so far received far too little attention, which is caused and perpetuated in babies and infants by blocked nerve impulses at the atlas. Included in the clinical picture are lowered resistance to infections, especially to ear-, nose-, and throat infections, two cases of insomnia, two cases of cranial bone asymmetry, and one case each of torticollis, retarded locomotor development, retarded linguistic development, conjunctivitis, tonsillitis, rhinitis, earache, extreme neck sensitivity, incipient scoliosis, delayed hip development, and seizures.

Autism, Asthma, Irritable bowel syndrome (IBS), strabismus and illness susceptibility: a case study in chiropractic management. Amalu WC. *Today's Chiropractic*. September/October 1998. Pp. 32-47.

A 5-year-old female with autism, asthma, allergies, irritable bowel syndrome and left-sided strabismus who was experiencing 25 violent temper episode per day, with each episode lasting up to 20 minutes was referred for care. She also exhibited three episodes each day of self-inflicted violent behavior, which included biting her arm, slapping her head and repeatedly banging her head against a full-length mirror.

She also had at least one episode of violent behavior each day – hitting people, especially her mother. Speech was limited to a few words such as “mama, dada, milk and walk.”

Chiropractic Management consisted of correction of the atlanto-occipital subluxation with the patient adjusted in the knee-chest posture with contact to the posterior arch of atlas.

First week of care: After the first adjustment, patient had her first good night's sleep since her mother could remember. Violent temper episodes had reduced to 15 per day with decrease in intensity. Self-inflicted violent behavior was decreased in frequency. Her speech, vocabulary and sleep patterns had improved.

Second week: one adjustment. Violent temper episodes at five per day. Right eye showed no more signs of strabismus. Patient began speaking in sentences for the first time. Mother reported a marked decrease in hyperactivity along with a desire to be touched and hugged.

Third week: One adjustment. Violent temper episodes 2 per day with decreased intensity. Mother stated there was little hyperactivity. Self-directed or outward violent behavior have ceased. Irritable bowel syndrome was much improved.

Fourth week: no adjustments. All temper episodes, hyperactivity, violent behavior have stopped. Sleeping through the night. Patient was evaluated by two therapists who declared the diagnosis of autism was "incorrect."

Week 6 and 8: a mild return of symptoms, an adjustment was given, and symptoms abated.

Weeks 9-12: no adjustments. The IBS had almost completely resolved. Patient continued to improve over next 8 months; no more asthma attacks.

Subluxation location and correction by Stephen R. Goldman, D.C. *Today's Chiropractic* July/August 1995 p.70-74.

Case Study No. 4: 31-year-old with Crohn's disease (since age 15). A portion of his intestine had been removed and he was on antibiotics and prednisone. Had not had a normal bowel movement since age 15 and constantly suffered from abdominal cramps.

Chiropractic analysis: Subluxation of axis. By the 13th visit, he started having normal bowel movements and all medication was stopped.

Bed-Wetting

Chiropractic management of primary nocturnal enuresis. Reed WR, Beavers S, Reddy SK, Kern G. *JMPT* Vol. 17, No. 9 Nov/Dec 1994.

This was a controlled clinical trial of 46 enuretic children that were placed under chiropractic care. The children were under care for a 10 week period preceded by and followed by a 2 week nontreatment period.

Participants: Forty-six nocturnal enuretic children (31 treatment and 15 control group), from a group of 57 children initially included in the study, participated in the trial.

Results:...25% of the treatment-group children had 50% or more reduction in the wet night frequency from baseline to post-treatment while none among the control group had such reduction.

Bed-wetting; two case studies. Marko, RB *Chiropractic Pediatrics* Vol. 1 No. 1 April 1994.

Case #0991: Five year old female who had been wetting her bed for six months. She was prescribed antibiotics for what MDs diagnosed as a bladder infection. After the second chiropractic adjustment, she stopped wetting her bed for three weeks. She had a bad fall and began to wet her bed again. After her next adjustment, she has remained dry.

Case #0419: Nine year old male who wet his bed almost every day of his life. After the first six months of chiropractic, he would be dry for the next day or two. A change in adjustments to the sacrum resulted in greater improvement. He is now dry for one-half to two-thirds of the nights between the adjustments.

Nocturnal enuresis: treatment implication for the chiropractor. Kreitz, B.G. Aker, P.D., *JMPT* 1994;17(7): 465-473.

A review of the literature of nocturnal enuresis is presented. The author states: "Spinal manipulative therapy has been shown to possess an efficacy comparable to the natural history."

Chiropractic care of children with nocturnal enuresis: a prospective outcome study.

LeBouf C, Brown P, Herman A et al. *JMPT*, 1991;14(2):110-115.

171 children with a history of persistent bed-wetting at night received eight chiropractic adjustments. Number of wet nights fell from 7/week to 4. At the end of the study, 25% of the children were classified as successes.

Epileptic seizures, Nocturnal enuresis, ADD. Langley C. *Chiropractic Pediatrics* Vol 1 No. 1, April, 1994.

This is an eight year old female with a history of epilepsy, heart murmur, hypoglycemia, nocturnal enuresis and attention deficit disorder. The child had been to five pediatricians, three neurologists, six psychiatrists and ten hospitalizations and had been on Depakote, Depakene, Tofranil and Tegretol.

Birth was difficult including a cesarean under general anesthesia. Mother was told the baby was allergic to breast milk and formulas and stayed on prescription feeding.

The doctors told the mother the girl would never ride a bike or do things like normal children do. The child was wetting the bed every night and experiencing 10-12 seizures/day, with frequent mood swings, stomach pains, diarrhea and special education classes for learning disabilities.

Chiropractic adjustments: C1 and C2 approximately three times/week. After two weeks of care the bed-wetting began to resolve and was completely resolved after six months. She was also leaving special education classes to enter regular fifth grade classes.

Seizures were much milder and diminished to 8-10 per week after one year of care. Patient was also released from psychiatric care as "self managing." Her resistance to disease increased and she can now ride a bike, roller skate and ice skate like a normal child. After medical examinations, she is expected to be off all medication within a month.

Functional nocturnal enuresis. Blomerth PR. *JMPT* 1994;17:335-338.

Eight-year-old male bed wetter. Lumbar spine was manipulated once and at 1 month follow-up there was complete resolution of enuresis. "This happened in a manner that could not be attributed to time or placebo effect."

ADD, Enuresis, Toe Walking. *International Chiropractic Pediatric Association Newsletter* May/June 1997. From the records of Rejeana Crystal, D.C., Hendersonville, TN.

A six year old boy with nightly nocturnal enuresis (bedwetting), attention deficit disorder and toe walking. He walked with his heels 4 inches above the ground. The medical special-

ist recommended that both Achilles' tendons be cut and both ankles be broken to achieve normal posture and gait. Chiropractic findings included subluxation of atlas, occiput, sacrum and pelvis...after 4 weeks of care both heels dropped 2 inches and the bedwetting frequency decreased to 2-3 times per week. His doctor could not believe how chiropractic care made such a change.

Management of pediatric asthma and enuresis with probable traumatic etiology.

Bachman TR, Lantz CA *Proceedings of the National Conference on Chiropractic and Pediatrics (ICA)*, 1991: 14-22.

A 34-month-old boy with asthma and enuresis had not responded to medical care. More than 20 emergency hospital visits had taken place for the asthma attacks during a 12 month history. Three chiropractic adjustments were administered over an 11 day period and the asthma symptoms and enuresis ceased for more than 8 weeks. The asthma and enuresis reoccurred following a minor fall from a step ladder but disappeared after adjustments. After a two year follow-up, the mother reports no reoccurrence of the asthma or the enuresis.

Chiropractic management of enuresis: time series descriptive design. Gemmell HA, Jacobson, BH *JMPT* 1989; 12:386-389.

Case of a 14-year-old male with a long history of continuous bed-wetting that was alleviated (not completely cured) by adjustments.

Characteristics of 217 children attending a chiropractic college teaching clinic.

Nyiendo J. Olsen E. *JMPT*, 1988; 11(2):78084.

The authors found that pediatric patients at Western States Chiropractic College public clinic commonly had ordinary complaints of ear-infection, sinus problems, allergy, bedwetting, respiratory problems, and gastro-intestinal problems. Complete or substantial improvement had been noted in 61.6% of pediatric patients of their chief complaint, 60.6% received "maximum" level of improvement while only 56.7% of adult patients received "maximum" level of improvement.

Dear Abby. *San Francisco Chronicle* March 5th, 1992. Although not a research study, this exchange of columnist “Dear Abby” is not unusual.

Dear Abby:

I took my 15-year-old twin sons (both daily bed-wetters) to a chiropractor, and within a month, both boys were completely cured. Regular medical doctors could not help them.”
True Believer.

Dear True believer:

I believe you. I have several hundred letters bearing the same message concerning chiropractors

Neurogenic Bladder and spinal bifida occulta: a case report. Borregard PE. *JMPT* 1987; 10(3):122-3.

Examination found fixation in L3 and both SI joints, following the restoration of SI function the patient’s mother reported the patient was now aware of bladder distention approximately 30 minutes before it was necessary to void. A slight of bladder sensitivity occurred 4 months after the release from treatment and responded immediately to manipulation.

Chiropractic care of children with nocturnal enuresis: A prospective outcome study.

LeBoeuf, C.; Brown, P; Herman, A; Leembruggen K; Walton D; Crisp TC. *JMPT*, 1991, 14 (2), pp. 110-115.

In 171 children suffering from enuresis, the average number of bed-wettings per week was 7, while at the end of the study the average number of bed wettings per week was reduced to 4. Additionally 1% of patients were considered “dry” at the beginning of the study, while 15.5% were considered “dry” at the end of the study.

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Forsythe, W.I. & Redmond, A. Enuresis and spontaneous cure rate: study of 1129 enuretics. *Arch Dis Child*, 1974, 49, pp. 259-63.

Bachman, T.R. & Lantz, C.A. Management of pediatric asthma and enuresis with probable traumatic etiology. *Proceedings of the National Conference on Chiropractic and Pediatrics (ICA)*, 1991, pp. 14-22.

Blomerth, P.R. Functional nocturnal enuresis. *JMPT*, 1994, 17 (9), pp. 335-338.

Gemmell, H.A. & Jacobson, B.H. Chiropractic management of enuresis: Time-series descriptive design. *JMPT*, 1989, 12(5), pp. 386-389.

Reed, R.R., Scott, B., Reddy, S.K., & Kern, G. Chiropractic management of primary nocturnal enuresis. *JMPT*, 1994, 17(9), pp. 596-600.

LeBoeuf, C., Brown, P., Herman, A. et al. Chiropractic care of children with nocturnal enuresis: A prospective outcome study. *JMPT*, 1991, 14 (2), pp. 110-115.

San Francisco Chronicles, March 5, 1992.

Moser, R. Bed-wetting: The wee hours of the night. *Medical SelfCare*, Jan/Feb 1990, p. 21.

Bell's Palsy

Bell's Palsy is defined as an acute, idiopathic, commonly unilateral, peripheral facial paralysis.

Bells' Palsy, A chiropractic case study. Shara K, *Sacrooccipital Resource Society International* Vol. 11 NO. 2, May 1999. (originally published in the Kansas Chiropractic Association Journal – no date given).

A 40-year-old white male with right facial paralysis of 2 days duration. Prior to the paralysis he had been experiencing “tingling” sensations at approx. C7/T1 and had been fighting a sinus infection for two weeks. Patient also had right facial numbness, inability to smile on affected side, inability to eat on the affected side.

Under SOT (sacral occipital technique) using pelvic blocks, cranial work and cervical adjustment and by 3rd visit, 2 days later up to 75% of sensation in the face had returned and by 7 days complete recovery.

A five year old boy with Bell's Palsy. *International Chiropractic Pediatric Association Newsletter* September/October 1997

A five year old boy fell from his bike and within one week had symptoms of Bell's Palsy. He was unable to close his right eye or wrinkle his brow. He was brought to a neurologist who told the parents it would be 4 or 5 month's recovery time.

Chiropractic examination revealed a right lateral atlas (C-1) and the child was adjusted once per week for three weeks at which time has was 90% improved.

Chiropractic management of a patient with Bell's Palsy. Alacantara J, Plaughter G, Van Wyngarden DL. *International Journal of Chiropractic* Vol. 9, No. 2 1997.

49 year old Caucasian female, medical diagnosis of Bell's Palsy with right facial paralysis with the inability to close her right eye, extreme bilateral ear sensitivity to sound, pain in the right TMJ and neck pain. In addition patient could not raise her right eyebrow, close her eye, show her upper teeth, smile, frown or puff her cheeks. Symptoms began ten days after a series of dental treatments for crowns on her right molars.

Adjustment: From 10-18-95 to 4-19-96 patient was seen 37 times. The left TMJ was adjusted as well as thoracic and lumbar vertebrae. The patient experienced symptomatic relief in the cervical and facial regions after one week of care; within four months her right facial pain abated, she could close her right eye lightly, smile, move her eyebrows and puff her cheeks.

(Comment from Dr. Koren: There was not complete recovery for this patient. The history of such dramatic symptoms appearing so soon after dental work would lead me to believe that at least part of her problem was the fitting of the crowns. They probably were not put in properly. In addition to spinal analysis and adjustment this patient should have been sent to a dentist for re-evaluation.)

Chiropractic and pregnancy, a partnership for the future. Fallon J. *ICA Review* Nov/Dec 1990. pp. 39-42.

Discusses neurological conditions associated with subluxation in pregnancy: brachia neuralgia, compression of the brachial plexus causing tingling and numbness in the shoulder and arm; neuralgia, paresthesia, compression of the lateral femoral cutaneous nerve causing pain and paresthesia of the thigh; intercostal neuralgia, compression of the intercostal nerves causing radiating pain between the ribs; sciatic neuralgia, compression of lumbar plexus causing pain of the pelvic region and/or radiating down leg; coccydynia, pain at site of coccyx; separation of the symphysis pubis, causing pain at the symphysis pubis and SI joint; Carpal tunnel syndrome, compression of median nerve; Bell's Palsy, compression of CN V11 causing paralysis of facial muscles; traumatic neuritis, motor and sensory deficits of L5, S1 and S2 after labor.

Idiopathic facial paralysis: mechanism, diagnosis and conservative management.

Palmieri NF. *Chiro Technique* 1990; Nov: 182-187.

“Treatment consisted of mechanical force, manually assisted chiropractic adjusting, high voltage therapy and self-administered facial muscle exercises.” Positive results were reported.

Comment from Dr. Koren: This article and the one below discussed the electrical therapy in great detail while causally mentioning adjusting (“manipulating” the spine.)

Treatment of facial muscles affected by Bell's Palsy with high-voltage electrical muscle stimulation. *JMPT*, 1993; 16:347-352.

“Patients were treated with high-voltage pulsed galvanic current...spinal fixations were mobilized using chiropractic manipulation.” Positive results were reported.

Bladder and Urinary Tract Problems

The Mechanically Induced Pelvic Pain and Organic Dysfunction Syndrome: An Often Overlooked Cause of Bladder, Bowel, Gynecological, and Sexual Dysfunction. Brown-ing JF. *Journal of the Neuromusculoskeletal System*.1996; 4:52-667

Author's Abstract: The mechanically induced pelvic pain and organic dysfunction (PPOD) syndrome has recently been described in the literature. While the etiology of this disorder is thought to be a mechanical lesion of the lumbar spine with secondary impairment of lower sacral nerve root function, its clinical presentation is highlighted by various combinations of bladder, bowel, gynecologic and sexual dysfunction. As most PPOD patients present to the chiropractic clinician as a result of complaints relative to a mechanical disorder of the low back, the symptomatic representation of lower sacral nerve root impairment can easily be

overlooked. Therefore, patient management and therapeutic outcome may be compromised. (Abstract abridged).

29-year old woman with bilateral and low back pain. Previous chiropractic care gave partial relief but an exacerbation was accompanied by inguinal pain, urinary stress incontinence, loss of genital sensitivity, loss of libido and vaginal discharge. A gynecological exam failed to reveal any pathology.

Dr. Browning found evidence of lower sacral nerve root involvement, secondary to a L5/S1 disc herniation. Under chiropractic care the patient initially experienced symptoms (pain and paraesthesia of the genitalia) but within one week, bladder dysfunction had resolved, and the other symptoms were less severe. After 4 weeks, her PPOD symptoms had resolved.

A conservative approach for a patient with traumatically induced urinary incontinence. Stude DE, Bergmann TF, Finer BA *JMPT* 1998; 21:363-367.

Low back pain and urinary incontinence: a hypothetical relationship. Eisenstein SM, Engelbrecht DJ, and El Masry WS *Spine*, 1994; 19(10): 1,148-1,152.

This study comes from a medical spinal practice. 16 patients with low back pain had urinary incontinence. When surgery reduced low back pain successfully (11 of 12 patients) the urgency incontinence was cured or improved.

Chiropractic distractive decompression in the treatment of pelvic pain and organic dysfunction in patients with evidence of lower sacral nerve root compression. Browning JE. *JMPT*, 1988, 11(5): 426-432.

Review of ten cases including a 41-year-old married woman with a 20-year history of urological, gynecological, sexual and bowel disorders. After two weeks of care bladder and bowel control returned to normal. The sexual difficulties resolved completely.

Links between pelvic biomechanics and lower urinary tract dysfunction. Stone C. *Physiother* 1996; 82:616-27.

This is a literature review on the relationship between lower urinary dysfunction and the pelvic structure. Both osteopathic and chiropractic researchers are mentioned.

References from Koren Publications' brochure: Bladder and Chiropractic

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Cole W V "The Effects of the Atlas lesion after 96 hours and after six weeks". *Journal of the American Osteopathic Association*, 48(1);pp.7-9.

Physicians Weekly, Jan 18, 1988.

Physicians Weekly, Feb. 1, 1988.

The People's Doctor Vol. 5 No.4 pp.2-3.

Blindness

Visual recovery following chiropractic intervention. Gilman G and Bergstrand J. *Journal of Behavioral Optometry*. Volume 1/1990/Number3/Page73.

Abstract: An elderly man experienced a complete loss of vision following head trauma. It was determined that optometric and opthalmological treatments were not indicated. The patient was referred to a chiropractor and after a series of chiropractic adjustments the patient's vision returned. Possible neurological explanations are addresses.

Study on cervical visual disturbance and its manipulative treatment. Zhang C, Wang Y, Lu W, et al. *J Trad Chinese Medicine*, 1984;4:205-210.

From the abstract: "Determination of blood flow by x-ray in 18 of our cases shows that blood flow of the cerebral hemispheres greatly improves after manipulative treatment. The same is true in similar animal tests."

From the paper: "At the 1978 year end 3120 cases of cervical syndrome of which 30 were associated with hypopsia and blindness were summed up with satisfactory results found after manipulative treatment. **Vision was restored to no less than 1.0 in 4 cases with blindness.**"

Cortical blindness, cerebral palsy, epilepsy and recurring otitis media: A case study in chiropractic management. Amalu WC, *Today's Chiropractic* May/June 1998 pp.16-25.

A 5-year-old boy with recurring middle-ear infections at one-month intervals who had been diagnosed with cortical blindness (the eyes functioned properly but the vision center in the brain was damaged), cerebral palsy, epilepsy and severe drain damage, secondary to possible aborted crib death or viral encephalitis.

His mother reported he had been a very healthy baby until, "Two days following a well-child checkup with an inoculation," the child became "colicky" and developed a mild upper respiratory infection with fever. After putting him to sleep, he became cyanotic, gasping for air and nonresponsive. In the emergency room, he was cyanotic, in shock and unresponsive. Child remained on Phenobarbital for over 1½ years then placed on Dilantin. Multiple specialists said he would never walk, speak, regain his vision or progress in school. He was having 30 grand mal and complex seizures a day and otitis media once per month.

"Upon presentation, the patient was non-ambulatory, uncommunicative and non-responsive with a constant loud vocal drone and almost constant writhing torsocephalic motions. His

gross motor coordination included reaching out with his hands and rolling over onto all fours.”

Chiropractic Management: “Correction of the atlanto-occipital subluxation was chosen as the first to be adjusted.” Afterwards the mother noted that he had his first good-night sleep in weeks. After the second adjustment seizures reduced to only 10 a day, vocal drone became a quiet intermittent moan and he began to clap his hands.

During the next week patient had become more alert, sitting up and looking around, responded to sounds and seizures decreased to 5 per day. Pupillary reflexes returned to normal, almost all writhing motions had ceased, ears were clear of effusion.

By the third week, seizures were five per day grand mal seizures had stopped. He was sleeping through the nights. For the first time in his life he vocalized “dada” and began vowel sounds. Overall, spasticity had decreased in all extremities. He began showing fine motor skills. He had his first month free from otitis media in 9 months.

By end of fifth week was seen by an ophthalmologist who noted a drastic improvement with recovery of central field vision. Seizures reduced to three per day. Saying more words and improved fine motor coordination.

By the 7-12 weeks, seizures reduced to staring spells which saying his name brought him out of. Over the next 10 months improvement continued. All epileptic was removed and neurologist declared him non-epileptic. He remained free of ear infections. His vision improved to the point where he was prescribed glasses. Vocabulary continued to increase. He was learning to feed himself and was potty training. He was able to walk slowly with assistance.

Comment (tk): This appears to be a vaccine related injury, especially since cerebral edema is a sign of vaccine damage. Also encephalopathy has been noticed in the medical literature as a possible reaction to the DTP inoculation. Upon discussion with the author of this paper it was learned that the medical personnel did not tell the parents their child was possibly vaccine injured.

Blood Pressure/ Hypertension

While results cannot be predicted for a particular hypertensive patient, a therapeutic trial of chiropractic co-management would seem to be warranted, especially when dysfunction is identified in relevant spinal areas. Proper lifestyle advice and medical care should be concurrent with a regime of adjusting. The authors advise close monitoring of blood pressure for all chiropractic patients on anti-hypertensive medication...the combined effects of the adjustment and the medication might drive a patient's blood pressure below normal. Weber M. and Masarsky C, Eds. Neurological Fitness Vol.2 No.3 April 1993.

An effect of sacro occipital technique on blood pressure. Unger J; Sweat S; Flanagan S, Chudowski S. *Proceedings of the International Conference on Spinal Manipulation.* 1993 A/M. pp 87.

Data demonstrates that a single chiropractic intervention can bring about a significant reduction in blood pressure in a hypertensive group of subjects. Not only was the reduction in systolic blood pressure statistically significant; more important was the clinical significance of this effect.

Improvements Following the Combination of Chiropractic Adjustments, Diet, and Exercise therapy. GS, Sauer AD, Wahl DR, Kessinger J. *Chiropractic: The Journal of Chiropractic Research and Clinical Investigation* 1990; 5:37-39.

Author's abstract: Case reports of four individuals and the effects of chiropractic adjustments on their cardiac dysfunctions as monitored by ECG are presented. Patients with varying symptoms had a baseline ECG taken. A treatment plan was implemented consisting of adjustments combined with exercise and diet recommendations. At the end of the treatment period, a follow-up ECG was performed and three of the four patients showed improvement.

Chiropractic management of a hypertensive patient: a case study. Plaughter G, Bachman TR. *JMPT*, 1993: accepted for publication.

A case study of a 38-year-old male presented with a complaint of hypertension of 14 years duration and side effects of medication (Minipress and Corgard) which included bloating sensations, depression, fatigue, and impotency. Chiropractic analysis revealed vertebral subluxation complex at levels C6-7, T3-4, and T7-8 motion units; adjusted using Gonstead technique. After three visits patient's M.D. stopped the Minipress and reduced the Corgard. After six adjustments Corgard was reduced again. All medications were stopped after seven adjustments. Medication side effects had abated as well. After 18 months patient's blood pressure remained at normal levels.

Randomized clinical trial of chiropractic adjustments and brief message treatment for essential hypertension: A pilot study. Plaughter G, Meker W, Shelsy A, Lotun K, Jansen R. *Conf Proc Chiro Cent Found* 1995; Jul: 366-367.

The management of hypertensive disease: a review of spinal manipulation and the efficacy of conservative therapeutics. Crawford JP, Hickson GS, Wiles MR. *JMPT* 1986; 9:27-32.

This is a discussion of the literature relating high blood pressure to various factors, including stress and how that relates to the autonomic nervous system. As the author writes (from the abstract) "Hypertension, therefore, may be regarded as a prime condition warranting specialized care that includes proper education during the formative years, modification of dietary habits in conjunction with daily exercise regimens, and regular spinal maintenance, all of which are covered by modern chiropractic clinical practice."

Hypertension and the atlas subluxation complex. Goodman R. *Chiropractic: J of Chiropractic Research and Clinical Investigation*. Vol 8 No. 2, July 1992.

Six of eight patients under chiropractic experienced relief of symptoms and lowered blood pressure after chiropractic care. The blood pressures of two subjects remained unchanged or increased sometime during the test period.

“Although individual readings of the six subjects with lowered blood pressure showed some random variation during the two-month period there was a general decrease in blood pressure. Systolic pressure was lowered by an average of 27 mm Hg, and the diastolic pressure by an average of 13 mm Hg. In several subjects, other symptoms such as low back pain, thoracic tightness, headaches, and general malaise, diminished following the adjustments. Those subjects who were not on medication showed the greatest change.”

Preliminary study of blood pressure changes in normotensive subjects undergoing chiropractic care. McKnight ME, DeBoer KF, *JMPT*, 1988; 11:261-266.

Seventy-five people were tested after specific chiropractic cervical adjustments. Both systolic and diastolic blood pressure decreased significantly in the adjusted group. No significant changes occurred in the control group. In those with the highest pre-treatment blood pressures, the treatment effect was greatest, indicating that the effective in hypertensives may be even more significant.

Effects of chiropractic treatment on blood pressure and anxiety. Yates RG, Lamping DL, Abram NL, Wright C. *JMPT* 1988; 11:484-8.

In this patient-blinded, assessor-blinded, placebo-controlled study, the authors state that the data “lend support to the hypothesis that chiropractic manipulation of the thoracic spine significantly reduces blood pressure in patients with elevated blood pressure.” Both systolic and diastolic blood pressure decreased significantly in the adjusted group. No significant changes occurred in the placebo or control groups. Adjustments were delivered to segments T-1 to T-5.

The effects of upper cervical adjustment upon the normal physiology of the heart. Tran AT, Kirby JD. *J Am. Chiropractic Association*, 1977; 11/S: 58-62.

Upper cervical adjustments were found to have a hypotensive effect.

Effect of osteopathic manipulative therapy on autonomic tone as evidenced by blood pressure changes and activity of the fibrinolytic system. Fichera AP; Celander DR. *J Am Osteopath Assoc* 1969; 68(10): 1036-8.

Manipulation of the cervical and thoracic vertebrae reduces moderate hypertension.

Blood pressure: results in 75 abnormal cases. Hood RP *Dig Chiro Econ* 1974; 16:36-38.

Hypertension: a case study. McGee D. *Chiropractic: J of Chiropractic Research and Clinical Investigation*. Vol.7. No.4, Jan. 1992.

Case history of a 46-year-old woman’s rapid decrease in blood pressure following initial chiropractic adjustment.

Conservative management of patients with mild hypertension. Mootz RD *Top Clin Chiro* 1995; 2:37-44.

Effect of osteopathic manipulative therapy on autonomic tone as evidenced by blood pressure changes and activity of the fibrinolytic system. Celander E, Koenig AJ, Celander DR. *JAOA*, May 1968; 67:1037-1038.

Manipulation of cervical and thoracic vertebrae reduces moderate (140/90) hypertension. Manipulation caused a decrease in plasma fibrinogen, favoring the PSNS.

Evidence for a possible anti-hypertensive effect of basic technique apex contact adjusting. Dulgar G, Hill D, Sirucek A, Davis BP, *ACA J of Chiropractic*, 1980;14:97-102.

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Yates et. al. Effects of Chiropractic Treatment on Blood Pressure and Anxiety: A Randomized, Controlled Trial. *J Manipulative Physiol Ther* 1988; 11:484-488.

Gutzeit K., *The Vertebral Column As A Factor In Disease*. *Dtsch. Med. Wschr.*, 1 (1951):3-7.

Fichera, A.P., Calender, D.R. Effect of Osteopathic Manipulative Therapy on Autonomic Tone as Evidenced by Blood Pressure Changes and Activity of the Fibrinolytic System. June, 1969: 1036-1038.

Ward L.E., *Spinal Column Stressology*, *Spinal Stress Seminars*, Long Beach, CA 1982.

Brain Function/Emotional Health

While biomechanical dysfunction is usually viewed as a causative or contributing factor in the patient's problem, it is itself a consequence of the imperfections in that person's total adaptation, which is visible in posture. That adaptation, which is visible in posture and locomotion, is, to the discerning clinician, eloquent expression of the patient's total personality and view of the world and of self. It is no semantic accident that "posture" and "attitude" apply to both the physical and psychological domains. Given the unity of body and mind, posture and attitude reflect the history and status of both and help in determining where and how the body framework is vulnerable.

Somatic dysfunction, osteopathic manipulative treatment, and the nervous system: a few fact, some theories, many questions. Irvin M. Korr, Ph.D. *Journal of the American Osteopathic Association*, Feb 1986 Vol. 86, no. 2 pp. 109-114.

The effects of spinal manipulation on the intensity of emotional arousal in phobic subjects exposed to a threat stimulus: a randomized, controlled, double-blind clinical trial. Peterson KB. *JMPT* Nov. 1997;20(9), pp.602-6.

This study was done at a community college. Using muscle testing a spinal segment was found to be associated with an emotional response. Students were then adjusted while exposed to a fearful stimulus. It was found that the adjustments reduced the level of anxiety. Each student's heart rate and report of fear was taken before, during and after viewing a "phobogenic stimulus" (fear evoking item ex. spider). Spinal adjustments were performed while the student was experiencing fear. After the chiropractic adjustment, the phobic test was performed again. The researchers reported: "spinal manipulation significantly decreased the intensity of emotional arousal reported by phobic subjects."

Chiropractic medicine for rejuvenation of the mind. Academy of Chiropractic Medicine Gorman RF, 8 Budgen Street, Darwin, Australia, 1983.

Gorman, an ophthalmologist with an interest in migraine, worked with Eric Milne, M.D., a general practitioner who had an interest in spinal manipulation. They discovered a wide range of physical and psychological conditions responding to chiropractic care and believed that most people are suffering from decreased brain functioning due to decreased flow of blood to the brain and that chiropractic spinal manipulation could relieve this problem. They feel that many people are functioning with diminished mental potential or are disabled by "mental illness, which has a simple physical cause." The cause they refer to is a restriction in blood flow to the brain because of vertebral misalignment that creates stress on the vertebral arteries.

Changes in brain function after manipulation of the cervical spine. Carrick FR. *JMPT*, Oct. 1997;20(8), pp.529-45.

The brain was mapped before and after chiropractic care (to the cervical spine) in 500 adult volunteers. The volunteers were divided into six groups and underwent "specific manipulation of the second cervical motion segment."

Blind spots are found in everyone and the size of the blind spot is an indicator of brain function. A larger blind spot indicates less cortical summation (less input from other areas of the brain). It was found that, in volunteers, an adjustment on one side of the neck increased blind spot size while an adjustment on the opposite side decreased it.

"The results support the hypothesis that cortical-response maps can be used to measure the neurological consequences of spinal joint manipulation."

Comment (tk): This is very exciting work which, as our technology continues to evolve, will give us a window into observing how brain activity changes as a result of spinal care.

Two cases of spinal manipulation performed while the patient contemplated an associated stress event: the effect of the manipulation/contemplation on serum cholesterol levels in hypercholesterolemic subjects. Peterson, K.B, *Chiropractic Technique*, Vol. 7, No.2, May 1995.

Neuro-Emotional Technique (N.E.T.) is a fascinating technique to clear out physical correlations to emotional stress (called neuroemotional complexes by N.E.T. practitioners) in the body. The developer of N.E.T., Scott Walker, D.C. was inspired by Chinese medicine, particularly how acupuncture meridians related to spinal levels and emotional states. He then developed a system that correlates meridians to spinal levels. His analysis technique uses applied kinesiology to locate areas of emotional complex. The following case study

documents the results of a single NET intervention on each of two women suffering with well documented hypercholesterolemia. Baseline serum cholesterol levels for both patients averaged approximately 300 mg/dl and 227 mg/dl respectively. These results occurred between 2 and 5 months after the NET intervention.

A 9 month to 1 year follow up test revealed that serum cholesterol levels had risen back to the original range.

Brain SPECT findings in late whiplash syndrome. Otte A, Mueller-Brand J, Fierz L. *Lancet* 1995; 345:1512-13.

Using Technetium-99m hexamethylpropylrnsminr oxime single photon emission computerized tomography (SPECT), they found that 6 of 7 patients with nontraumatic cervical pain had parieto-occipital hypoperfusion. In 24 patients confirmed by independent observers to be suffering from cognitive disturbances after whiplash injury, all had parieto-occipital hypoperfusion compared with 15 normal control subjects.

PET and SPECT in whiplash syndrome: a new approach to a forgotten brain? Otte A, Ettlin TM, Nitzsche EU, Wachter K, Hoegerle S, Simon GH, Fierz L, Moser E, Mueller-Brand J. *J Neurol Neurosurg Psychiatry* 1997;63:368-372.

From the abstract: Whiplash associated disorders are a medicolegally controversial condition becoming increasingly worrisome to the western world. This study was designed to evaluate perfusion and glucose metabolism in [the] whiplash brain.

Comments: Whiplash patients have traditionally reported a number of symptoms that are related to brain function – i.e. loss of memory, vision changes, emotional changes. This study involved six patients suffering from whiplash syndrome and 12 normal controls. They gave everyone chemicals that reveal brain function when viewed by specialized equipment (PET and SPECT) which is similar to a CAT scan for the brain. In the patient group, there was “significant hypometabolism” or decreased brain function and hypoperfusion or decreased blood in the parieto-occipital regions on the right and left side compared to the control group.

However, most revealing was the authors’ statement as to the possible cause of the brain changes after they ruled out direct injury to the brain and brain structures:

“It is hypothesized that parieto-occipital hypometabolism may be caused by activation of nociceptive afferent nerves from the upper cervical spine.”

A retrospective assessment of network care using a survey of self-rated health, wellness and quality of life. Blanks, RHI, Schuster, TL. *JVSR* Vol. 1 No. 4, 1997.

From the abstract:

The present study represents a retrospective characterization of Network Care, a health care discipline within the subluxation-based chiropractic model. Data were obtained from 156 Network offices (49% practitioners participation rate) in the United States, Canada, Australia and Puerto Rico.

This was a survey of 2818 patients of 156 Network chiropractic offices.

Results indicated that patients reported significant positive perceived change in all four domains of health, as well as overall quality of life.

The evidence of improved health in the four domains (physical state, mental/emotional state, stress evaluation, life enjoyment), overall quality of life from a standardized index and the “wellness coefficient,” suggests that Network Care is associated with significant benefits. These benefits are evident from as early as 1-3 months under care, and appear to show continuing clinical improvements in the duration of care ...with no indication of a maximum clinical benefit.

Comment (tk): Network chiropractic is a combination of chiropractic techniques tailored to the specific needs of the patient. It capitalizes on the best that many traditional chiropractic techniques has to offer. This study is unique in its size, scale and scientific rigor.

Monocular visual loss after closed head trauma: immediate resolution associated with spinal manipulation. R. Frank Gorman. *Journal of Manipulative and Physiological Therapeutics*. Vol. 18, No.3, June 1995.

The author, a medical doctor discusses the relationship between spinal health and blood supply to the head. From the paper (p.310) “ I hold the opinion, based on two decades of dedication to the intricacies of the ‘Cervical Syndrome’ and from a personal experience of 6,000 spinal manipulations done under anesthesia, that concentric narrowing of the visual fields indicates that the child has inferior brain function, which is a serious detriment in both the child’s internal and external environment.”

Case #3 13-year-old with headache, depression, poor appetite, nausea, general muscular weakness, dizziness and sensitivity to light and noise.

Case reports in chiropractic pediatrics. Esch, S. *ACA J of Chiropractic* December 1988. A 13 day old with a history of respiratory difficulty since birth (home birth, uncomplicated). Infant had difficulty nursing due to “stiffness.”

Upon presentation patient was in considerable pain, wearing dark glasses and ear plugs to compensate for increased sensitivity to sound and light. One week beforehand he had been injured in a football game collision. Medical doctors had given the child pain killers. Patient was hospitalized in traction for two weeks with no improvement.

Chiropractic examination:

X-ray (Davis series) of the cervical spine showed right lateral displacement of atlas with right rotation of C-2.

Following initial adjustment the patient could ride home without wearing his sunglasses and for the first time in two weeks expressed an interest in food. He returned the next day saying he felt, “The best I’ve felt in six weeks.”

Monocular scotoma and spinal manipulation: the step phenomenon. R. Frank Gorman, *Journal of Manipulative and Physiological Therapeutics* 1996; 19:344-9.

Dr. Gorman discusses the brain blood flow/spinal column relationship.

From the abstract:

Objective: To discuss a case history wherein microvascular spasm of the optic nerve was treated by spinal manipulation.

Clinical Features: A 62 year old man who developed a scotoma in the vision of the right eye during chiropractic treatment.

Intervention and Outcome: Spinal manipulation treatment was continued with total resolu-

tion of the scotoma. The rate of recovery of the scotoma was mapped using computerized static perimetry. These measurements showed that significant recovery occurred at each spinal manipulation treatment, producing a stepped graph.

From the conclusion: This case history suggests that spinal manipulation can affect the blood supply of localized areas of brain tissue. More important is the converse implication, that microvascular abnormality of the brain is caused by spinal derangement.

Dr. Gorman noted that each spinal manipulation resulted in a 'stepped graph.' (hence the title).

A pilot study of applied kinesiology in helping children with learning disabilities.

Mathews MO, Thomas E, *British Osteopathic Journal* Vol. X11 1993; Ferreri CA (1986)

“All of the children in the treatment group made significant gains in IQ scores. An average increase of 8 Full Scale IQ points and 12 performance IQ points was obtained. Most children showed significant gains in visual perceptual organization. Some made significant gains in other important skills such as short-term auditory memory. Significant improvements were observed both at home and at school with regard to motivation, attitude and performance.” Reports from treatment included: “Dyslexia teacher says he no longer needs help.” “No more thumb sucking.” “Asthma much better on the whole.”

The effects of chiropractic treatment on students with learning and behavioral impairments due to neurological dysfunction. Walton EV. *International Review of Chiropractic* 1975; 29:4-5,24-26.

Of the twenty-four learning impaired students, half received chiropractic care and the other half, who were either on medication or receiving no treatment at all, were used for comparison. The case histories that follow were obtained from the records of the students who received chiropractic care and appeared in “Chiropractic Effectiveness with Emotional Learning and Behavioral Impairments”.

Case Histories

Case C 91: a high school student who was failing three subjects, with a history of failure, low morale, discipline problems, poor coordination, and a long history of clinical and medical treatment. After chiropractic care the student was passing all subjects, highly motivated, showing improved coordination and able to participate in athletics. All medications were dropped.

Case C 92: a high school student on 20mg. Ritalin and on Dilanton. She was non-motivated, negative, passive, nonverbal, and failing in school work despite placement in special classes. After chiropractic adjustments the student was taken off Ritalin, began talking and expressing herself, and showed improved reading comprehension and reading speed.

Case CE 92: an elementary student who was extremely hyperkinetic, irritable, and he had severe behavior problems at home and school. Grades were marginal to failing. Although the boy was only 8 years old, Ritalin had been increased from an initial 5mg. to a total of 70mg./day with steadily diminishing results. (70mg. approaches danger level as a dosage). At the conclusion of chiropractic care, the Ritalin had been entirely discontinued and coordination was improved to the extent that the student became an able Little League ball player. His attitude was excellent, grades were up an average of one letter grade, and the student was considered free of all limiting factors. Behavior at home and school was exemplary.

Case CE 101: an elementary student. This student was marginally passing his courses. There was a four year history of marginal accomplishment in school. He was nervous, underweight and suffered from insomnia. Medication was briefly tried but the student's emotional control became poor and he frequently wept. The medication had to be discontinued. After chiropractic care there was a marked reduction in nervousness and great improvement in emotional stability. His mother reported that his appetite was now normal and he began enjoying school during the last month.

Case C 93: a high school student. Initially on heavy dosages of medication, non-motivated with a long history of clinical evaluation and treatment. The girl was failing most school subjects, marginal in others, and withdrawn. After chiropractic adjustments, her self-confidence improved; she was passing all subjects. All medication was discontinued after four months of treatment. A vocational goal was established.

Case CJ 95: a junior high school student. He was hyperkinetic almost from birth and had a traumatic early developmental history with suspected neurological problems. Although of above average intelligence he was passing only two subjects, both marginally. He was starting to become a discipline problem, making little or no effort in school. After chiropractic care, fine and gross motor coordination improved markedly. He began taking an interest in athletics and played Little League on a team that placed third in the state. Effort and motivation improved to the extent that plans to send him back to a lower grade were dropped and he was promoted. Reports at the third week of school indicated that his academic progress was excellent after a late summer remedial program.

Case CE 102: an elementary student who had been diagnosed by numerous clinics as minimally brain damaged, retarded and/or suffering from neurological dysfunction. He also suffered from severe emotional problems. After chiropractic he showed great improvement in self-confidence. He began to take part in public speaking in school. Mental ability tests indicated that the student was at normal grade level except for deficiencies in reading.

Breakthrough for dyslexia and learning disabilities. Ferreri, CA and Wainwright, RB (1984) Exposition Press of Florida, Inc.

Changes in brain stem evoked response as a result of chiropractic treatment.

Shambaugh P, Pearlman RC, Hauck K. In Proceedings of the 1991 International Conference on Spinal Manipulation, FCER; 227-229.

In this paper, it is suggested that chiropractic adjustments, at least in patients with acute musculoskeletal problems, may enhance brain function. The research modality used was brain stem evoked response or BSER - a measure of how well brain waves travel (in this case following a sound through a headphone).

Four patients with acute musculoskeletal complaints and seven patients with no acute problems were adjusted with diversified technique and cranial adjusting. The four acute patients showed a shorter BSER latency period, indicating that the neural messages were going through their brain stems and auditory nerves more quickly or with less delay.

This study supports the hypothesis that brain stem function can be improved by chiropractic adjustments in patients with acute musculoskeletal complaints.

Upper cervical adjustments may improve mental function. Thomas MD, Wood J. *Journal of Manual Medicine*, 1992, 6:215-216.

From the abstract: This report describes abrupt improvement in mental and motor deficits in a 14-year-old girl after the initiation of specific upper cervical chiropractic care. Cessation of this care for several months was associated with a return to the patient's previous condition. Repeat manipulation was followed by recovery of the patient to the level of her previous improvement.

The child exhibited staring spells, never made eye contact, left arm and hand was used and remained flaccid as she walked. She had the verbal ability of a 3-year-old, spoke rarely, using single words. She was medically diagnosed with psychomotor seizures and a degenerative neurological disorder. After chiropractic adjustments began, she began to make eye contact. Within two weeks she was forming sentences, standing straighter, using her left arm and hand normally and began to engage in family conversation and activities.

Cerebral dysfunction: A theory to explain some effects of chiropractic manipulation.

Terrett AGJ. *Chiropractic Technique*; 1993; 5:168-173.

From the abstract: "This paper presents a theory...to explain a possible mode of action of spinal manipulation in some patients with...visual disorders, dizziness, depression, anxiety, memory problems, attention span problems, difficulty with concentration, irritability, tiredness, and clumsiness."

Terrett builds on the findings of Gorman and others to advance the theory that diminished blood flow to the brain causes some areas to "hibernate" that is, remain alive, but not function, resulting in diminished mental capacity. "I'm sure that this is exactly what happens to many people every day, and that this is why they suffer problems such as tiredness, headache, depression, irritability, difficulty concentrating, visual difficulty, etc.etc." (Letter to the editor, *Chiropractic Technique*, Vol.6 No.3, Aug. 1994).

Dr. Koren comments: Dr. Frank Gorman hypothesized that the reason why patients visual acuity and other conditions improved after spinal care was due to removed blockage of the vertebral arteries. Dr. Alan G.J. Terrett's paper on brain hibernation (**Cerebral dysfunction: A theory to explain some effects of chiropractic manipulation.** Terrett AGJ. *Chiropractic Technique*; 1993; 5:168-173) discusses vertebral artery blockage as one possible mechanism of action. However, he has written that there may be more to the decrease in cerebral blood flow due to cervical spine subluxation than blockage of the cerebral arteries.

In answering criticism that blockage of the cerebral arteries could not induce "brain hibernation" Dr. Terrett agreed that the cerebral arteries may not be the mechanism of the reduced cerebral blood flow due to cervical subluxation and that there may be, and most likely were other mechanisms involved:

The cortex is not the whole deal anyway, the brainstem is not without important (blood supply from the vertebral arteries), and without it, the cortex is isolated... In this paper, I did not address the possibility of diaschisis. It is not practical or sensible to separate the brain into sections relating to blood supply apart from the consider-

ation of major segmental catastrophes, such as stroke. **Letter to the editor.** Terrett AGJ. *Chiropractic Technique* Vol/6. No.3, August 1994.

Sato and Budgell's paper further indicates that the vertebral arteries may not be the mechanism of cerebral function compromise, which appears to occur due to vertebral subluxations. This fascinating field will no doubt uncover other mechanisms of spinal/brain relationship and I hope research in this field continues. However, let us not forget that the mechanism of function is of secondary importance. As with all Empirical healing arts (of which chiropractic is one) the most important thing is whether or not the patient gets better, not how well the mechanism is understood.

Study on cervical visual disturbance and its manipulative treatment. Zhang C, Wang Y, Lu W, et al. *J Trad Chinese Medicine*, 1984;4:205-210.

From the abstract: "Determination of blood flow by x-ray in 18 of our cases shows that blood flow of the cerebral hemispheres greatly improves after manipulative treatment. The same is true in similar animal tests."

From the paper: "At the 1978 year end 3120 cases of cervical syndrome of which 30 were associated with hypopsia and blindness were summed up with satisfactory results found after manipulative treatment. Vision was restored to no less than 1.0 in 4 cases with blindness."

Impaired Arterial Blood Flow to the Brain as a result of a cervical subluxation: a clinical report. Risley, WB. *Journal American Chiropractic Assoc* June 1995. pp. 61-63.

From the abstract: The author has witnessed impairment of the velocity of arterial blood flow of the occipital artery, unilaterally or bilaterally, as a direct result of a cervical subluxation in over 15,000 patients. This impairment is documented by Doppler examination and is the virtual 100 percent concomitant of a cervical subluxation. Clinical correction of the subluxation, especially at the C-1,C-2 level, restores the blood velocity through the occipital artery, virtually 100 percent of the time. Failure to correct the subluxation commonly fails to relieve the impaired blood velocity in this artery. It is thus an effective monitor of the efficacy of the administered adjustment.

Course of attention and memory after common whiplash: a two-years prospective study with age, education and gender pair-matched patients. Di Stefano G and Radanov BP *Acta Neurol Scand* 1995; 91: 346-352).

From the abstract: "Attentional functional and memory of common whiplash patients were evaluated during the first two years after experiencing injury....All (117) patients had a similar socioeconomic background, all being injured in automobile accidents and fully covered by insurance plans. Two years following initial trauma, 21 patients remained symptomatic."

When compared with matched controls, the 21 symptomatic patients had no memory impairment but did have attention functional (difficulty of follow-up of tasks with divided attention).

Comment: Some studies have documented attention deficits in symptomatic whiplash patients as well as memory loss. This paper reviews the value of the studies done by others in this field and found them to have designs that were “insufficient.” The chiropractic interest in this subject is more than that of the neuromusculoskeletal condition of whiplash, but of the brain function that is affected by presumed subluxations of the cervical spine. This work should be read in concert with Gorman’s and Zhang’s papers (above).

Automated static perimetry in chiropractic. Gorman RF. *JMPT* 1993; 16: 481-487.

Author’s Abstract: A 44 year old housewife presented with non-specific bilateral visual field loss. This visual disability disappeared immediate to pan-spinal manipulation under anesthesia. Later, on review, the presence of a unicular visual defect was detected by quantitative static perimetry. Further examination revealed no pathology in the eye or brain to explain its occurrence, suggesting that it was due to microischemia of the optic nerve.

Intervention and outcome: The unicular scotoma recovered immediate to further spinal manipulation under anesthetic, only to recur on two further occasions, each time to disappear immediate to spinal treatment.

Conclusions: This case history demonstrates that spinal manipulation may dissipate microvascular spasm in the brain: even in branches of the carotid arterial system, which is not directly related to the spine.

Mild head injury in preschool children: evidence that it can be associated with a persisting cognitive defect. Wrightson P. McGinn V, Gronwall D. *J Neurol Neurosurg Psychiatry* 1995; 59:375-380.

A mild head injury is defined by a hospital emergency department, as a head injury not severe enough to need admission for observation. 78 children were compared with 86 controls that had a minor injury in other areas. Children with mild head injury, at six months and one year were found to have scored less on a visual puzzle test and were more likely to have another mild head injury. At 6.5 years, they still scored less than controls.

Panic attacks and the chiropractic adjustment: a case report. Potthoff S. Penwell B, Wolf J. *ACA J of Chiropractic*, 1993 (December) 30:26-28.

A 52-year-old female diagnosed with chronic panic attacks. She had been prescribed a variety of antidepressants and tranquilizers over the years, as well as undergoing counseling and relaxation training - all to no benefit. Chiropractic examination revealed areas of upper and mid cervical, upper and mid thoracic and right sacroiliac fixations. The patient’s blood pressure would read 182/102 mm Hg and her pulse rate 120 beats per minute during an attack. Her blood pressure would drop to 140/80 and her pulse to 76 beats per minute four minutes after the adjustment. She had been free of panic attacks for more than two months which is the best she had been in years in spite of the fact that her M.D. cut her Xanax dosage in half after she began chiropractic care.

Spinal patterns as predictors of personality profiles: a pilot study. Koren T. and Rosenwinkel E. *International J of Psychosomatics*. 1992;39 Nos. 1-4:10-17.

Forty patients were analyzed by full spine (14”x36”) radiographs in both sitting (A to P and lateral) and standing (A to P and lateral) positions. Their radiographs were analyzed for

distance from center of gravity, pelvic drop, occipital, atlas (C-1), T1, T12 and Sacral angles plus the degree and level of thoracic kyphosis..Each patient took a Minnesota Multiphasic Personality Inventory (MMPI) test. The authors then analyzed the data from the radiographs and MMPI for any correlations between psychological expression and spinal indicators.

Among the findings: atlas angle (the measure of the number of degrees the atlas deviated from the horizontal plane) correlated to three MMPI scales: hypochondriasis, hysteria and paranoia in both standing and sitting films; the degree of the thoracic curve correlated with the hypomania scale (depression and low energy) only in the standing films and the pelvic drop correlated with “need for nurturing” in the sitting films.

These findings seemed to agree with Dr. Lowell Ward’s Spinal Column Stressology observations. The chief author (Dr. Koren) wishes to expand this pilot study as more research in this area is badly needed.

The chiropractic management of anxiety: a case report. Sullivan EC. *ACA J of Chiropractic*, 1992 (SEP); 29:29-34.

A 42-year-old female patient suffered from anxiety attacks and agoraphobia since an auto accident. Other symptoms included nightmares, insomnia, tachycardia, dizziness, memory loss, difficulty in concentrating, and urinary bladder urgency. She also reported that a well-controlled peptic ulcer had exacerbated after the accident. Chiropractic analysis revealed major vertebral subluxation complex at C5-6, T5-6, and L5-S1 levels. After two months of chiropractic care and counseling patient reported a sharp reduction in anxiety, an end to agoraphobia attacks, bladder urgency, insomnia and dizziness and reduced low back pain. After an additional four months patient reported complete relief from anxiety and ulcer symptoms.

Chiropractic treatment of mental illness: a review of theory and practice. Goff P.J. *Research Forum*/Autumn, 1987.

From the abstract: Between 1920 and 1960, several residential programs for mental health treatment by chiropractors were in existence. This interest has been largely forgotten in the following years. The size of two Davenport institutions were remarkable, especially considering the varying economic climate during those years and that all payment was by individuals or their families. State-operated facilities were concurrently available at little or no cost. The length of existence of the chiropractic sanitarium, 40 years, is also remarkable, as is their demise at roughly the same time (c.1960). W.H. Quigley, D.C., claimed successful treatment of 60% of the admitted population, while the state hospitals of that time reported a success rate of 30%.

Chiropractic Success in a Reform School Report of State Supervisor of Chiropractors of Kentucky In Connection With Kentucky Houses of Reform, Greendale, Kentucky, Marshall L.T., Lexington, Kentucky (December 1, 1931).

This little known report documents chiropractic success in a Kentucky Reform School. 244 boys were placed under chiropractic care. The Report is largely made up of cases histories of all the 244 boys many of whom undoubtedly suffered from various emotional and learning disorders. The success of chiropractic care is admirable. From the summary:

1. Number of boys given chiropractic adjustments...244.
2. Number of cases dismissed completely recovered or greatly benefited, 155
3. Of the 244 cases 89 are still under treatment
4. Number of cases promoted in school grades 54
5. Number of cases paroled 144.
6. Number of boys at Greendale (Kentucky Houses of Reform) at beginning of chiropractic program (September 3, 1930) approximately 540.
7. Number of boys at Greendale Dec. 1st, 1931 approximately 335

State officials were so impressed that they wrote enthusiastic letters of endorsement. From B.W. Hubbard, Superintendent, Commonwealth of Kentucky. Kentucky Houses of Reform: "I have been able to notice a marked improvement in the mental and physical condition of the boys and in school work and conduct; also, there has been a larger number of paroles during that period than any previous period during the past four years." (p.3)

"We have been able to accomplish results far beyond their fondest hopes and expectations in the rehabilitation of these boys. The teachers have voluntarily and without solicitation signed a petition asking for an all-time or full-time chiropractor in that institution." (P.1)

From the teachers: "As the records will show the boys who underwent treatment improved from the first adjustment and in many instances showed improvement beyond belief. Not only did they improve in health, but also in their school work as pupils, showing better results in the shops and other industrial training and above all there has been a marked improvement in their moral life." (p.7). Despite these endorsements, chiropractic services were not continued at the institution. (copy of this report can be obtained from the Palmer College reference library).

General muscular relaxation after chiropractic adjustment. Goff, McConnell, and Paone *J of Chiropractic Research and Clinical Investigations*, 1991; Vol. 7, No.1

Chiropractic approach to premenstrual syndrome (PMS). Whittier MA *Journal of Chiropractic Research and Clinical Investigation*, 1992;8:26-29.

Eleven women with histories of PMS had improvement of all measured symptoms including "variation in sexual drive/habits," "social impairment" and depression.

Effects of chiropractic treatment on blood pressure and anxiety. Yates RG, Lamping DL, Abram NL, Wright C. *JMPT* 1988;11:484-8.

In this patient-blinded, assessor-blinded, placebo-controlled study, the authors state that the data "lend support to the hypothesis that chiropractic manipulation of the thoracic spine significantly reduces blood pressure in patients with elevated blood pressure." Both systolic and diastolic blood pressure decreased significantly in the adjusted group. No significant changes occurred in the placebo or control groups.

[Anorexia Nervosa] The side-effects of the chiropractic adjustment. Arno Burnier, D.C. *Chiropractic Pediatrics* Vol. 1 No. 4 May 1995.

Case history of A.S. female, 23 years old taken from the records of Dr. Arno Burnier. Physical problem: anorexia.

Chiropractic result: Complete resolution following the first adjustment. Follow-up two years later. Problem never returned.

Presenting Vertebral Subluxation: Occiput/C1 with atlas ASLP, C5/C6 P1.

Original adjustment: Meningeal contact on occiput ridge medially close to the EOP for 60 seconds, double notch contact on the sacrum for 20 seconds, axis spinous contact for 20 seconds. Structural manual adjustment of Atlas in extension and rotation, C5/C6 in extension in supine position.

Effect of osteopathic medical management on neurologic development in children.

Frymann VM, Carney, RE, Springall P. *Journal of the American Osteopathic Association*, 1992; 92:729-744.

Author's abstract: For 3 years, children between 18 months and 12 years of age, with and without recognized neuralgic deficits, were studied at the Osteopathic Center for Children. Their response to 6 to 12 osteopathic manipulative treatments directed to all areas of impaired inherent physiologic motion was estimated from changes in three sensory and three motor areas of performance. Neurologic performance significantly improved after treatment in children with diagnosed neurologic problems and to a lesser degree in children with medical or structural diagnoses. The advances in neurologic development continued over a several months interval. The results support the use of osteopathic manipulative treatment as part of pediatric health care based on osteopathic medical philosophy and principles.

Are radiographic changes in the thoracic and lumbar spine of adolescent's risk factors for low back pain in adults? A 25-year prospective cohort study of 640 school children.

Spine. 1995; 20:2,298-2,302.

This is a study of 640 14-year-old children followed from 1965 through 1990 to determine risk factors for the development of low back pain in adulthood. Low back pain occurred during the growth period and family history was both associated with an increased risk. The lifetime prevalence for back pain was 84% for this cohort. The proportion of subjects having radiographic abnormalities was 36% and yet this was associated with an increased incidence of back pain in adulthood. Interestingly, the investigators did find an increased incidence of mental problems such as fear or depression in the group of patients with radiographic changes in the T11-L2 area.

References from Koren Publications' brochure: Mental Health and Chiropractic

Schwartz, H.S., Preliminary analysis 350 mental patients' records treated by Chiropractors, *Journal of National Chiropractic Association* (Nov. 1949), pp. 12-15.

Mental Health and Chiropractic, A Multidisciplinary Approach, Sessions Publishers, 48 Nassau Drive, New Hyde Park, New York, N.Y. 11040. 1973.

Dunn, E.E. Osteopathic Concepts in Psychiatry, *Journal of the American Osteopathic Association* 49: 354-357, (1950) Schizophrenics displayed subluxation of C-1 37.6%, C-2 66%, C-3 41.2%. T-4 54%, T-5 74.6%, T-6 67.6%.

Quigley, W.H. "Physiological psychology of chiropractic in mental disorder". Ch. 10 in *Mental Health and Chiropractic*. 70% of schizophrenics and 33% of brain syndrome patients were successfully treated by chiropractic and released out of 72 cases studied.

Breast-Feeding Difficulties

Chiropractic care for infants with dysfunctional nursing: a case series. Hewitt, EG, *Journal of Clinical Chiropractic Pediatrics*, Vol. 4, No. 1, 1999.

Two infants with dysfunctional nursing were able to breastfeed after receiving chiropractic care. In this article, the physiological mechanisms are presented on how chiropractic care may restore normal suckling.

First infant: 8-week-old girl unable to maintain suction while breastfeeding since birth. The mother said the child “broke suction with every suck,” regurgitated excessively and exhibited extremely fussy behavior, “especially in the evenings.” After two weeks of care the regurgitation and fussiness ceased and child was sleeping better. Follow-up telephone call at 9½ months of age revealed no return of symptoms.

Second infant: a 4-week-old boy who had been unable to suckle effectively since birth. He was diagnosed with spinal and cranial subluxations. He suckled immediately following his first adjustment (consisting of diversified spinal adjusting and cranioSacral therapy). He received four adjustments in 21 days.

Dr. Koren’s comments: In our family, we had a similar occurrence. Shortly after our son Seth was born, we were informed that there was a problem with his suckling and he would not be able to create a tight seal around the nipple. Seth was examined by a cranioSacral practitioner who found a restriction in his hard palate, probably due to the stress of labor. The restriction was released and his nursing went smoothly after that (for 39 ½ months!)

Chiropractic management of an infant experiencing breastfeeding difficulties and colic: a case study. Sheader, WE, *Journal of Clinical Chiropractic Pediatrics*, Vol. 4, No. 1, 1999.

A 15 day old emaciated Hispanic male infant experiencing inability to breastfeed and colic since birth, crying constantly, “shaking, screaming, rash, and vomiting during and after feeding.” The baby also had “increased distress” 30 minutes after feeding and had excessive abdominal and bowel gas since birth. The mother reported the infant was given a Hepatitis B vaccination within hours after birth.

Chiropractic Adjustment: Adjustment was followed by significant reduction of crying, screaming and shaking. The mother commented on the “quietness” of the child. On the second visit, two days later the mother commented, “This is a completely different baby.” The vomiting before and after feeding had ceased. Another adjustment was given. By the third visit, a “significant decrease of symptoms” was reported and complete remission of abdominal findings. Baby had been successfully breastfeeding since last visit. No adjustment was given.

By the fourth visit 3 days later, the baby had been symptom free for 5 days at which time he received another Hepatitis B shot with the return of all symptoms to a severe degree. Adjustment was given but there was no reduction of symptoms. The patient was adjusted three more times over the next week with minimal reduction in symptoms. By the eighth visit, eight days after receiving the vaccination the child began to show marked improvement and by the 11th visit, no symptoms were noticed and no adjustment was given.

Dr. Koren comments: the high-pitched screaming the child exhibited is a neurologic cry (*cri-encephalique*) which is due to irritation of the central nervous system. Children with neurologic damage should not be vaccinated.

Case study: infant's inability to breast-feed. Krauss, L. *Chiropractic Pediatrics* Vol 1 No. 3 Dec. 1994.

The inability to breast-feed due to pain caused by atlas subluxation and TMJ dysfunction. This three-week-old girl had colic, flatulence and outbursts of crying from 9 PM to 1 AM since birth, 19 days prior. Upon examination had inversion and pronation of left foot, left ear was folded, left cervical lateral flexion posture, rooting was poor and facial asymmetry and right lateral mandible.

Chiropractic care and CranioSacral therapy was begun.

“We suspected that his posture in utero was the primary contributing factor to child’s physical asymmetry and subluxation pattern. By fourth week of adjustments baby began to breast-feed from both breasts.”

Birth induced TMJ dysfunction: the most common cause of breastfeeding difficulties.

Arcadi, VC, Sherman Oaks, CA, *Proceedings of the National Conference on Chiropractic and Pediatrics*. Oct, 1993 Palm Springs, CA. Pub. International Chiropractors Assoc., Arlington, VA.

From the abstract: In a clinical setting, 1,000 newborns were observed and treated (ages one hour to 21 days), for failure and/or difficulty with breast feeding. In 800 or 80%, birth induced Temporomandibular Joint Dysfunction was found to be the cause. In all cases, the babies were treated with chiropractic cranial and spinal adjustments, with excellent results in 99% of the cases. This paper discusses the basic clinical findings, related newborn discomforts, and associated symptomatology involving other symptoms.

The above babies were all born with a lay midwife and without drugs in a calm, warm, peaceful setting. All babies were born vaginally. All babies were examined and in all cases a cranial distortion was present due to the birth process and trauma which produced a TMJ dysfunction, interruption proper suckling mechanics by causing severe headaches and gastrointestinal disturbances.

Newborn with atlas subluxation/absent rooting reflex from Case reports in chiropractic pediatrics (case #4). Esch, S. *ACA J of Chiropractic* December 1988.

This is the story of a two day old newborn female showing lethargy and a yellowish skin color present since birth and an inability to nurse; the baby seemed unable to “latch on.”

A medical doctor said the baby was probably hypothyroid and should be hospitalized.

The atlas was adjusted for a left lateral listing. Immediately thereafter, the baby exhibited a strong bilateral rooting reflex. The baby began to nurse right away. The jaundice quickly cleared. The mother continued to nurse her child for two years.

Breech Birth

Analysis and adjustment for breech presentations. Bagnell L and Gardner-Bagnell K *Today's Chiropractic* March/April 1999. P. 54.

This paper includes five case studies that demonstrate the effects of chiropractic on breech presentations of the fetus. Most were adjusted by the Webster Breech Technique but not all.

Case #1: A 29-year old female presented at 34 weeks with midwife confirmed breech presentation. C2 and T5 were adjusted at first adjustment, "left Logan" at second visit. One week after first adjustment midwife confirmed a vertex presentation. Baby born naturally without drugs or medical intervention of any kind.

Case #2: 30-year-old at 32 weeks gestation with a midwife confirmed breech presentation. Within two days midwife confirmed vertex position of fetus. Baby was born naturally.

Case #3: 36-year-old presented 37 weeks gestation with breech presentation. MD confirmed a transverse presentation of fetus. One day after the adjustment the baby turned. Baby was born naturally three weeks later.

Application of the Webster in-utero constraint technique: a case series. Kunau, PL. *J of Clinical chiropractic pediatrics*. Vol 3 No. 1, 1998.

From the abstract: The purpose of this paper is to present a brief review of the medical versus chiropractic management of breech presentation. This paper includes a description of the Webster in-utero constraint technique and the author's application of the technique with six pregnancies.

Patients: Amish women of varying ages and parity who had developed third trimester breech malpositions.

Outcome measures: Correction of the malposition was determined by palpation using Leopold's maneuver and verified by medical doctors.

Results: All cases were successfully treated using the Webster in-utero constraint technique. One woman had a failed external cephalic version attempt by a medical doctor. Five of the deliveries were uncomplicated: one birth is still pending as of this writing.

Conclusion: The author has presented a case series of woman with successfully corrected breech malpositions using a chiropractic technique developed by Larry Webster, D.C.

(From the *International Chiropractic Pediatric Newsletter* November/December 1997):

The Webster In Utero Constraint Technique makes a powerful impact on children's lives and health potential even before they are born. By correcting the mothers subluxations' using this technique, a significant amount of babies are turning in utero and avoiding birth trauma associated with breech births and C-sections.

Doctors internationally are calling in with their success stories quite frequently. Some DCs have formed alliances with midwives, birthing centers and even obstetricians.

The following letters from two of our members will give you a glimpse of its value in our practices.

Matthew Foreman, McKes Rock, PA wrote:

“We are thrilled that we were able to utilize the Webster breech technique on Kathy with favorable results. After receiving the video and reviewing the procedure approximately a month ago, we employed the method approximately every day for a week. (I employed the procedure at 36 weeks of pregnancy). Subsequently, during the next week on Kathy’s examination, she was near medical intervention (the doctors were planning on manual turning), the sonogram demonstrated that the baby was turned in the proper position.”

The baby delivered naturally with no trauma.

A chiropractors wife was referred to me by a midwife who was under the gun for time. She said that if she did not turn by Monday, she would have to go for a version. We saw her Wednesday, Thursday and Saturday. She was clear on Monday. We from my office to the midwife who thought the baby had turned. Scheduled to check her the next day and indeed was down. One more version saved! We are now six for six. Dr. Kevin Ross of Tempe, AZ.

The Webster In Utero Constraint Technique video is available from Koren Publications, Inc. (800-537-3001) and from the International Chiropractic Pediatric Association (800-670-5437).

Cancer

Remission of hepatocellular carcinoma in a patient under chiropractic care: a case report. Lee G, Jenson CD *JVSR*, 2(3), Nov. 1998.

This is a case report of a 60-year-old male patient with a confirmed diagnosis of liver cancer. Both of his brothers had died of liver cancer at age 50 and 52. All three brothers were infected at birth with Hepatitis B.

Patient’s alpha-fetal protein levels and CT portagram, with two lesions of approximately 2 cm and 1.6 cm. The larger lesion was confirmed as hepatocellular carcinoma and the second a benign hemangioma.

This patient had two remissions. The first after extensive medical intervention – after which the cancer reappeared. Surgery was ruled out by the HMO and the patient declined any further medical intervention and continued under chiropractic care. The second remission followed in the absence of any medical care. A follow-up CAT scan revealed no lesions. The patient report describes the relationship between the administration of Palmer Specific HIO chiropractic adjustments following directly by periods of rest (patient would sleep one hour after adjustment in the doctor’s office and another three hours at home) and changes in clinical findings, both during the first and second active episode of the carcinoma.

Three years later the patient is enjoying a life of retirement, and remains under chiropractic care.

Neurocalometer, Neurocalograph, Neurotempometer Research As Applied To Eight B.J. Palmer Chiropractic Clinic Cases. Preface by L.W. Sherman, DC, Asst. Director B.J. Palmer Chiropractic Clinic. Published by Palmer School of Chiropractic, Davenport, Iowa (undated).

Case No. 917. Col. Wm. Allen underwent exploratory surgery at Walter Reed General Hospital in Washington, D.C. he was told he had a “cirrhosis of the liver and a malignancy (cancer) in both liver ducts” on April 18, 1941. He was told there was nothing that could be done for him surgically and his wife was told that “she could expect him to die in a very short time.”

He began care at the BJ Palmer Chiropractic Clinic on April 22, 1941 and after three pre-checks received a chiropractic adjustment on April 24 (the only one he was to receive for over a year). Col. Allen, “felt sleepy most of the time.” In addition, within the next weeks his appetite improved and his strength slowly returned. He weighed 120 upon admittance and had gained five pounds alone the week of 5/14/41. His cough cleared and his jaundiced skin was clearing. His cancer disappeared.

He returned to active duty where he eventually commanded a battalion in the European theatre of W.W.11, fighting in the Battle of the Bulge and receiving American and French decorations.

He had his next adjustment September 1945.

Neurocalometer, Neurocalograph, Neurotempometer Research as Applied To Eight B.J. Palmer Chiropractic Clinic Cases. Preface by L.W. Sherman, DC, Asst. Director B.J. Palmer Chiropractic Clinic. Published by Palmer School of Chiropractic, Davenport, Iowa (undated).

Case No. 2342 Tumors. Female age 49 years diagnosed medically with “numerous small tumors in the uterus and possibly a tumor pressing on the bladder.”

Patient had first adjustment 8-17-45.

Patient reported “terrible pain between shoulders and sore all over” the day after the first adjustment. The pains continued, interfering with the patient’s sleep. After one week, “feel quite sore over whole body, with a warm glow over body.” The pains and soreness began to abate somewhat 8-27-45.

The NCM pattern did not return during the patient’s two weeks at the clinic and returned home for care by her local chiropractor.

The pressure on her bladder was completely gone a month after her first (and only) adjustment. The lumps on her breasts were completely gone within four months. Her other symptoms ameliorated after six months.

Cardiovascular

Shortly after this relief from deafness, I had a of heart trouble which was not which was not improving. I examined the spine and found a displaced vertebrae pressing against the nerves which innervate the heart. I adjusted the vertebra and gave immediate relief — nothing ‘accidental’ or ‘crude’ about this. Then I began to reason that if two diseases, so dissimilar as deafness and heart trouble, came from impingement, a pressure on nerves, were not other diseases due to a similar cause?

D.D. Palmer, The Chiropractors Adjuster. Portland Printing House, Portland, Oregon, 1910

Improvements of Cardiac Autonomic Regulation Following Spinal Manipulative Therapy. Jarmel ME, Zatzkin JL, Charuvastra E, Shell WE. Presented at the July 1995 Chiropractic Centennial event in Washington, DC.

Author’s Abstract: Unbalanced activation of cardiac sympathetic nerves plays a crucial role in the pathogenesis of sudden cardiac death. It has been proposed that mechanical irritation of upper thoracic vertebral joints may create an ectopic source of unbalanced cardiac sympathetic nerve activation. Eleven patients without a prior history of myocardial infarction who were found to have signs of dysrhythmic abnormalities on Holter monitoring, received a course of spinal manipulative therapy. Following one month of manipulative treatment, a positive trend was noted in the number of ventricular beats, ST segment events, maximum time of ST depression, and elimination of after-depolarizations. Additionally, reduced heart rate variability low-frequency/high-frequency power significantly increased ($p=0.025$). These preliminary results provide evidence suggesting that spinal manipulative therapy significantly enhance cardiac autonomic balance.

Cardiovascular functional disorder and distress among patients with thoracic outlet syndrome. Gockel M, Lindholm H, Vastasmaki M et al. *Journal of Hand Surgery (British and European Volume, 1995)* 20B: 29-33.

From the abstract: “Cardiovascular functional stability of 11 women with thoracic outlet syndrome (TOS)...was studied. The results suggest that TOS patients’ symptoms often reflect a wider disturbance than merely anatomical compression in the thoracic outlet. It seems possible that sympathetic tone is higher in TOS patients than in controls. In addition to possible operative treatment, it may be necessary to provide psychological help, relaxation and endurance training.”

The authors go on to state: “The pathology of TOS are pain at rest, effort pain, weakness and paraesthesia of the upper limb is unknown.” Later in the paper: “We suggest that in thoracic outlet syndrome often a broader pathology than irritation or compression of the brachial plexus or subclavian artery or vein in the region of thoracic outlet is involved....”

Comment: In reviewing this article from a chiropractic perspective, the phrase “So near and yet so far” comes to mind. I am constantly amazed that at this date the relationship of the

structural system to functional health is entirely overlooked. These authors return to the medical bias, that if they cannot figure it out, it must be, at least in part, a psychological problem.

Influence of a cervical mobilization technique on respiratory and cardiovascular function. McGuinness J, Vicenzino B, Wright A. *Manual Therapy*, Nov. 1997; 2(4), pp.216-20.

This study involved a non-chiropractic manipulation to pain-free volunteers to see if the sympathetic nervous system would be affected.

The researchers found a significant increase in respiratory rate, heart rate, systolic and diastolic blood pressure occurred during application of the technique to C5/6, when compared to control and placebo conditions.

Comment: the presence of a subluxation was not determined nor was the correction of a subluxation determined. This research showed that there was a relationship between autonomic function and spinal integrity.

Spondylotic change of the cervical spine and coronary infarction. Bruckman W. *Deutsche Medizinische Wochenschrift* 1956; 44:1740

This paper is discussion of the relationship between cervical spondylosis and coronary infarction.

Back problems and atherosclerosis. The study of osteoporotic fractures. Vogt MT, Nevitt MC, Cauley JA. *Spine*, Dec. 1997; 22(23), pp.2741-7.

The results of a study of 1,492 elderly white women found that those women with cardiovascular disease, were more likely to have back pain and disability as a result of the back pain than those of women free of cardiovascular disease.

Back-related disability was more than twice as likely to have worsened in the cardiovascular disease group. Back problems in elderly women are associated with self-reported cardiovascular disease, but not with objectively assessed lower-extremity arterial disease.

Cervical angina. Jacobs B. *NYS J of Medicine*, 1990; 90:8-11.

Breast pain: a symptom of cervical radiculopathy. LaBan MM, Meerschaert JR, Taylor RS. *Arch of Physical Medicine and Rehabilitation*, 1979; 60:315-317.

The impact of chiropractic care on established cardiac risk factors: a case study. Childs, N., Freerksen S and Plourde A. *Chiropractic: the J of Chiropractic Research and Clinical Investigation*. Vol. 8 No. 2, July 1992.

From the abstract:

A case study of 10 chiropractic students which monitored the total cholesterol, high density lipoprotein (HDL), and cholesterol/HDL ratio or cardiac risk factor (CRF) of each over a period of one to three years. The purpose of this study was to relate the possible effects of regular chiropractic care to changes in lipid metabolism in a group of subjects exposed to a stressful environment. All of the ten students studied obtained marked reductions in the CRF during the duration of the study.

Comment: Five males and five females, ages 22-38 were in this study. They had fasted for two hours before laboratory tests were conducted.

Carpal Tunnel Syndrome/ Shoulder, Arm, Hand

The double crush syndrome is a compression neuropathy of two areas, one usually distant from the other. A growing number of researchers have suggested a correlation between some peripheral neuropathies, of which carpal tunnel syndrome is one and cervical nerve root compression another. The nerve is “crushed” or irritated in the spine, “priming” more distal areas of the nerve for dysfunction when that part is stressed (second “crush”).

Comparative efficacy of conservative medical and chiropractic treatments for carpal tunnel syndrome: a randomized clinical trial. Davis PT, Hulbert JR, Kassak KM, et al. *Journal of Manipulative and Physiological Therapeutics*, June 1998, vol.21/no.5, pp317-26.

This study showed that chiropractic was as effective as medical treatment in reducing symptoms of CTS. Chiropractic care included spinal adjustments, ultrasound over the carpal tunnel, and the use of nighttime wrist supports. Carpal tunnel syndrome (CTS) can affect just about everyone, but particularly people involved in occupations requiring repetitive use of the hands and wrists (i.e., office and skilled labor jobs). Medical doctors commonly prescribe anti-inflammatory drugs, which prove ineffective in some patients and cause adverse side effects in others, for patients diagnosed with carpal tunnel syndrome.

Clinical commentary: pathogenesis of cumulative trauma disorders. Mackinnon S. *Journal of Hand Surgery*, Sept. 1994, 873-883.

Dr. Susan MacKinnon professor of surgery at Washington University School of Medicine in St. Louis in a study of 64 patients with repetitive stress disorders of whom 34 had wrist surgery it was discovered that wrist pain or discomfort was not the only symptom the patients complained of. Most patients had multiple problems, especially muscle imbalance. The high failure rate of surgery has caused her to rethink the cause of CTS: “Unnatural postures for extended periods creating pressure on the nerves in the neck, leading to neurological and other symptoms...even when extremity surgery improves the peripheral symptoms such as numbness in the hands, other associated problems like neck stiffness and shoulder pain persist,” her article states.

Research finds surface EMG useful in treatment of CTS. Prosanti MP. *Advances For Physical Therapists*, July 6, 1992.

From the article: “The notion that muscles of the neck could be involved in problems within the arm and wrist has been a subject of discussion for several years.”

A treatment for carpal tunnel syndrome: evaluation of objective and subjective measures. Bonebrake AR, Fernandez JE, Marley RJ et al. *JMPT* Vol.13 No.9 Nov/Dec 1990.

Thirty eight CTS sufferers underwent spinal manipulation and extremity adjusting. In addition, soft tissue manipulation, dietary modifications or supplements and daily exercises were prescribed. Post treatment results showed improvement in all strength and range of motion measures. A significant reduction of nearly 15% in pain and distress ratings were documented.

Resolution of a double-crush syndrome. Flatt DW. *Journal of Manipulative and Physiological Therapeutics*, July/August 1994; 17(6): 395-397.

A 63-year-old man suffered from a 36-month history of right anterior leg numbness and recurrent lower back pain. Complete resolution of right anterior leg numbness followed chiropractic treatment. Although not a carpal tunnel problem the double crush phenomenon, in this case involving the leg, and its resolution under chiropractic care is of interest.

The double crush in nerve entrapment syndromes. Upton, ARM, McComas AJ. *Lancet* 2:329, 1973.

67% to 75% of patients studied who had carpal tunnel syndrome or ulnar neuropathy also had spine nerve root irritation.

Impaired axoplasmic transport and the double crush syndrome: food for chiropractic thought. Czaplak S, *Clinical Chiropractic*/Jan. 1993 p.8-9.

“Chiropractic has an extensive anecdotal history of patients being relieved of classic carpal tunnel symptoms with spinal adjustments and/or cervical tractioning only.”

Carpal tunnel syndrome as an expression of muscular dysfunction in the neck. Skubick DL, Clasby R, Donaldson CCS et al. *J Occup Rehabil* 3:31-44, 1993.

Carpal tunnel syndrome can occur from increased forearm flexor activity caused by muscle dysfunction in the neck. Study of 18 patients.

Comparison of physiotherapy, manipulation, and corticosteroid injection for treating shoulder complaints in general practice: randomized, single blind study. Sobel JS, Winters JC, Groenier K, Arendzen JH, Meyboom de Jong B. *British Medical Journal* 1997; 314:1320-5.

198 patients with shoulder complaints were divided into two diagnostic groups: 58 in a shoulder girdle group and 114 into a synovial group. Patients in the shoulder girdle group were randomized to manipulation or physiotherapy and patients in the synovial group were randomized to corticosteroid injection, manipulation or physiotherapy.

In the shoulder girdle group, the duration of complaints was significantly shorter after manipulation compared to physiotherapy. The number of patients reporting treatment failure was less with manipulation.

In the synovial group duration of complaints was shortest after corticosteroid injection compared with manipulation and physiotherapy.

(Note: either G.P.s or physiotherapists performed the manipulations).

Physical examination of the cervical spine and shoulder girdle in patients with shoulder complaints. Sobel JS, Winters JC, Groenier K, Arendzen JH, Meyboom de Jong B. *JMPT* 1997; 20:257-62.

From the abstract: In the population of patients without shoulder complaints the mobility in the cervical and upper thoracic spine was found to decrease with aging...functional disorders in the cervical spine, the higher thoracic spine and the adjoining ribs are not extrinsic causes of shoulder complaints, but an integral part of the intrinsic causes of shoulder complaints.

Double crush syndrome: what is the evidence? Swenson RS. *J Neuromusculoskeletal System*, Spring 1993; 1(1): 23-29.

The hypothesis that a nerve injury close to the spine may weaken the nerves further away is discussed. The author concludes that more data is needed.

Surgery of the peripheral nerve. MacKinnon SE, Dellon AL. *Thieme Medical Publishers*. New York, 1988.

Nerve compression near the spine is found in people with carpal tunnel syndrome.

The neurone and its response to peripheral nerve compression. Dahlin LB, Lundborg G. *J Hand Surg* (Br Vol, 1990) 15B: 5-10.

Double crush syndrome: cervical radiculopathy and carpal tunnel syndrome.

Osterman AL, Pfeiffer G, Chu J, et al. Presented at the 41st annual American Society for Surgery of the Hand, New Orleans, LA 1986. Describes in detail the double crush syndrome.

The double lesion neuropathy: an experimental study and clinical cases. Nemoto et al Abstract 123, Second Int'l Congress. Boston, MA Oct. 1983.

Shows that nerve compression such as in the neck will block the distribution of necessary cellular material to the distal nerve axon such as in the wrist, making it more susceptible to injury.

The relationship of the double crush syndrome (an analysis of 1,000 cases of carpal tunnel syndrome). Hurst LC, Weissberg D, Carroll RE. *J Hand Surg* 10B: 202, 1985.

A significant correlation was found between bilateral carpal tunnel syndrome and radiologically diagnosed cervical arthritis.

Double crush syndrome: a chiropractic/surgical approach to treatment. Cramer SR, Cramer LM *Dig of Chiropractic Economics* Mar/April, 1991.

From the abstract: Seventy five patients had dual treatment of chiropractic and hand surgery/rehabilitation, "concluding that these two...treatments are complementary and can be effective in improving the lives and prognoses of patients...."

Carpal tunnel syndrome: a case report. Ferezy, JS, Norlin, WT. *Chiropractic Technique*, Jan/Feb 1989 P.19-22.

Electromyography demonstrated objective improvement in this case of CTS following chiropractic care.

Spinal Manipulation, 5th edition by Bourdillon JE, Day EA, Bookhout MR: Oxford, England, Butterworth-Heinemann Ltd, 1992:

“Faulty innervation caused by spinal joint lesions is one of the main factors in the production of carpal tunnel syndrome. p. 207.

Carpal tunnel syndrome in 100 patients: sensitivity, specificity of multi-neurophysiological procedures and estimation of axonal loss of motor, sensory and sympathetic median nerve fibers. Kuntzer T. *Journal of the Neurological Sciences*, 1994 Dec 20, 127(2): 221-9.

[**Diagnostic tests in carpal tunnel syndrome**] Megele R. *Nervenarzt*, 1991 Jun, 62(6): 354-9. Language: German.

Double crush syndrome: chiropractic care of an entrapment neuropathy. Mariano KA; McDougale MA; Tanksley GW. *Journal of Manipulative and Physiological Therapeutics*, 1991 May, 14(4): 262-5.

Thoracic outlet syndrome: diagnosis and conservative management. Liebenson, CS *JMPT* Vol. 11 No. 6, Dec 1988.

Thoracic outlet syndrome is caused by compression or irritation of the nerves as they exit the neck toward the upper extremity. Often it is the compression or irritation of the brachial plexus, not from compression of the subclavian artery.

In this discussion, the author notes some researchers who believe that the sacroiliac plays a large role in the etiology of this condition. Others feel an abnormal thoracic curve is the cause.

The role of thoracic outlet syndrome in the double crush syndrome. Narakas AO.. *Annales de Chirurgie de la Main et du Membre Superieur*, 1990, 9(5): 331-40.

The numb arm and hand. Bracker MD, Ralph LP *American Family Physician* 51(1): 103-116, 1995. Medical article that discusses thoracic outlet syndrome.

Abstract:

Trauma and compression along the course of the median, ulnar or radial nerve from the brachial plexus to the fingers may cause pain, weakness, numbness or tingling the upper extremity. Diabetes, smoking, alcohol consumption, rheumatoid arthritis and hypothyroidism are risk factors for nerve entrapment although these disorders typically produce bilateral symptoms.

Treating Shoulder Dysfunction and “Frozen Shoulders”. Ferguson LW. *Chiropractic Technique*, 1995; 7:73-81.

Author’s Abstract: This article presents three case histories to illustrate the treatment of “frozen shoulder” and related shoulder dysfunction as a combined disorder involving joint

dysfunction and myofascial pain syndrome. The author reviews the literature and questions the traditional treatment approaches, which focus on treating inflammation and breaking adhesions. The concept of adhesive capsulitis as the only cause of “frozen shoulder” is challenged. The author proposes an alternative treatment protocol that addresses specific patterns of joint dysfunction and myofascial disorder.

Comment: Dr. Ferguson utilized spinal adjustments and shoulder adjustments.

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Rietz, K.A. & Onne, L. Analysis of sixty-five operated cases of carpal tunnel syndrome. Acta Chir Scand, 1967, 133, pp. 443-447.

Mendelsohn, R. Treating carpal tunnel syndrome. The People’s Doctor, 8 (9), p.7.

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Upton, A.R.M. & McComas, A.J. The double crush in nerve entrapment syndromes. Lancet, 1973, 2, p. 329.

Nemoto, K. et al. The double lesion neuropathy: An experimental study and clinical cases. Abstract 123, Second Int’l. Congress. Boston, MA, Oct. 1983.

Hurst, L.C., Weissburg, D. & Carroll, R.E. The relationship of the double crush syndrome (an analysis of 1,000 cases of carpal tunnel syndrome). J Hand Surg, 1985, 10B, p. 202.

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Stoddard, A. Manual of osteopathic practice (2nd ed.). Melbourne, Australia: Hutchinson & Co., 1983, p. 228.

Bourdillon, J.F. Spinal manipulation (3rd ed.). New York: Appleton-Century-Crofts, 1984, pp.207; 210-211; 219-224.

Cerebral Palsy

Cerebral Palsy less of a handicap with chiropractic. Rubinstein H. *The Chiropractic Journal* July 1992.

Dr. Henry Rubinstein began adjusting 96 severely handicapped persons in United Cerebral Palsy-operated cluster homes. “He (Dr. Henry) comes to adjust them and stimulate their immune system to function better, and it works. My kids are happier and healthier. Even their skin color and tone is better”- nurse guardian of a foster home with CP and handicapped children.

Case study: Treatment of a cerebral palsy patient. Sweat R, Ammons D *Today’s Chiropractic* Nov/Dec 1988. P.51-52.

A 40 year old woman who was diagnosed with cerebral palsy at age 2 was placed under chiropractic care. She had been in severe pain her whole life. M.D.s told her she would have to “learn to live with it.” From the article: “The patient began to respond to treatment almost immediately, and improvement continued gradually over about the first 2-3 weeks.” Within two months of beginning care, “The patient...stated that this is the first time in her life that she has ever been free of pain.”

The efficacy of upper cervical chiropractic care on children and adults with cerebral palsy: a preliminary report. Collins, KF et al. *Chiropractic Pediatrics* 1994; 1 (1):13-15
Cerebral Palsy (CP) is the most prevalent lifelong development disability in the United States.

Seven patients were tested – two children and five adults.

All patients in this study had improvements in many areas which would be considered as subjective; muscle spasticity decreased, sleep patterns improved, decreased irritability, decreased pain, and decreased incidence of respiratory and other infections. One child had four unsuccessful surgeries to correct strabismus – after two adjustments, the strabismus was no longer apparent.

The children were able to hold their heads up for longer periods and are making more attempts at crawling or standing with support. There is also improved clarity and volume of speech in patients with speech and hearing problems.

With chiropractic care, there is overall decrease in muscle activity at all levels and balance improved with eyes closed.

Cortical blindness, cerebral palsy, epilepsy and recurring otitis media: A case study in chiropractic management. Amalu WC, *Today's Chiropractic* May/June 1998 pp.16-25.

A 5-year-old boy with recurring middle-ear infections at one-month intervals, cortical blindness, cerebral palsy, epilepsy and severe brain damage, secondary to possible aborted crib death or viral encephalitis.

His mother reported he had been a very healthy child. “Two days following a well-child checkup with an inoculation,” became “colicky” and developed a mild upper respiratory infection with fever. After putting him to sleep, he became cyanotic, gasping for air and nonresponsive. In the emergency room, he was cyanotic, in shock and unresponsive. Child remained on Phenobarbital for over 1½ years then placed on Dilanton. Multiple specialists said he would never walk, speak, regain his vision or progress in school. At the time of his first chiropractic visit, he was having 30 grand mal and complex seizures a day and otitis media once per month.

“Upon presentation, the patient was non-ambulatory, uncommunicative and non-responsive with a constant loud vocal drone and almost constant writhing torsocephalic motions. His gross motor coordination included reaching out with his hands and rolling over onto all fours.”

Chiropractic Management: “Correction of the atlanto-occipital subluxation was chosen as the first to be adjusted.” Knee-chest posture adjustment on posterior arch of atlas. After the first adjustment, the mother noted that he had his first good-night sleep in weeks. After the 2nd adjustment seizures reduced to only 10 a day, vocal drone became a quiet intermittent moan and he began to clap his hands.

During the next week patient had become more alert, sitting up and looking around, responded to sounds, seizures decreased to 5 per day. Pupillary reflexes returned to normal, almost all writhing motions had ceased, ears were clear of effusion.

By the 3rd week seizures were 5 per day grand mal seizures had stopped. He was sleeping through the nights. For the first time in his life he vocalized “dada” and began vowel sounds. Overall, spasticity had decreased in all extremities. He began showing fine motor skills. He had his first month free from otitis media in 9 months.

By end of fifth week was seen by an ophthalmologist who noted a drastic improvement with recovery of central field vision. Seizures reduced to 3 per day. Saying more words and improved fine motor coordination.

By the 7-12 weeks, seizures reduced to staring spells which saying his name brought him out of. Over the next 10 months improvement continued. All epileptic medication was removed and neurologist declared him non-epileptic. He remained free from ear infections. His vision improved to the point where he was prescribed glasses. Vocabulary continued to increase. He was learning to feed himself and was potty training. He was able to walk slowly with the assistance.

Comment (tk): This appears to be a vaccine related injury, especially since cerebral edema is a sign of vaccine damage. Also encephalopathy has been noticed in the medical literature as a possible reaction to the DTP inoculation. Upon discussion with the author of this paper it was learned that the medical personnel did not tell the parents their child was possibly vaccine injured.

Childhood Diseases

The relationship between intensity of chiropractic care and the incidence of childhood diseases. Rose-Aymon S, Aymon M. Prochaska-Moss G, Moss R, Rebne R, Nielsen K. *Journal of Chiropractic Research*, 1989 (Spring): 70-77.

From the abstract:

A pilot study was undertaken to determine if a relationship existed between the incidence of childhood diseases and intensity of chiropractic care.

The analysis of the data focused on non-vaccinated children who did not contract the disease in question. The results suggest that intensive chiropractic care (i.e. more than seven visits per year and more than one year of care) increased resistance to the common childhood diseases. Future research on a large scale is needed.

A comparative study of the health status of children raised under the health care models of chiropractic and allopathic medicine. Van Breda, WM and Van Breda JM *Journal of Chiropractic Research* Summer 1989.

Lower antibiotic use and lower incidence of disease, especially ear infections, was reported in the chiropractic children. If the “chiropractic” children did get measles, rubella or mumps it was reported that the diseases were quite mild compared to those exhibited by their classmates.

Absence of T-cells, immune dysfunction, has colds all the time. *International Chiropractic Pediatric Association Newsletter.* November 1996

Male child - Age 5 from a central American country.

Prior diagnosis: malformation of cervical spine, severe scoliosis, occiput position severely anterior to cervical spine. Not vocalizing well. Absence of T-cells, immune dysfunction, has colds all the time. Surgery had been considered to correct skull positioning.

In the first series of adjustments, we adjusted the lad in a sitting position utilizing the infant toggle headpiece. The Atlas was adjusted ASL.

Child was reevaluated in native country and medical staff stated that everything was now normal.

Child returned to U.S. for care 6 months later. Vocabulary was now normal. Head position - normal. No colds evident during these months. Scoliosis was greatly reduced.

References from Koren Publications' brochure: Children and Chiropractic

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Giesen, J.M., Center, D.B., Leach, R.A. An evaluation of chiropractic manipulation as a treatment of hyperactivity in children. *JMPT*, October 1989; 12: 353-63.

Walton, E.V. Chiropractic effectiveness with emotional, learning and behavioral impairments. *International Review of Chiropractic*, 29: 2-5, 21-22, September 1975.

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Lewit K Functional disorders (fixations) of the spine in children. *Manuelle Therapie*, Barth, Leipzig, 1973, Chap. 2.7. pp. 50-54.

Children and Chiropractic

According to figures released by the National Association of Teachers over 35% of all school aged children have been diagnosed and labeled disabled (including physical, mental and emotional disorders and learning disabilities.) The fastest growing population in the United States is now children with disabilities. Millions of children are being drugged everyday before going to school - these children need an opportunity to be treated naturally before resorting to chemical treatment with proven deleterious side-effects. Chiropractic And The Disabled Child by Bobby Doscher, D.C. Editorial in *Chiropractic Pediatrics* Vol. 1 No. 4 May 1995.

Characteristics of 217 children attending a chiropractic college teaching clinic.

Nyiendo J. Olsen E. *JMPT*, 1988; 11(2):78084.

The authors found that pediatric patients at Western States Chiropractic College public clinic commonly had ordinary complaints of ear-infection, sinus problems, allergy, bedwetting, respiratory problems, and gastro-intestinal problems. Complete or substantial improvement had been noted in 61.6% of pediatric patients of their chief complaint, 60.6%

received “maximum” level of improvement while only 56.7% of adult patients received “maximum” level of improvement.

“The *Journal of Pediatrics* reports that ‘Alternative Medicine (AM) is an aspect of child health care that no longer can be ignored’ in a study that determined that 11% of those surveyed had taken their child to an AM provider. The most used was chiropractic. The mothers who chose AM were better educated than those who chose conventional medicine. The medical reasons for seeking alternative care were for respiratory (27%), ENT (24%), musculoskeletal (15%), skin (6%), gastrointestinal (6%), allergies (6%), and prevention (5%). The factors influencing choice of AM were word of mouth (32%), fear of drug side-effects (21%), chronic medical problems (19%), dissatisfaction with conventional medicine (14%), and more personalized attention (9%). ICA Review Sept/Oct 1995 p.5.

Cumulative incidence of lumbar disc diseases leading to hospitalization up to the age of 28 years. Zitting, P, Rantakallio P, Vanharanta H. *Spine* 1998;23(21): 2337-42.

Investigators in Finland in a review of 12,000 cases of possible lumbar disc disease in subjects 28 years of age or less revealed that disc disease may begin as early as 15 years of age. “Symptomatic low back pain leading to hospitalization first appeared around the age of 15 years and the incidence rose more sharply from the age of 19, especially in men with other low back diseases.”

Chronic Fatigue Syndrome

Chronic fatigue syndrome update. Findings now point to CNS involvement Postgraduate medicine. Vol. 96, No. 6/November 1994.

From the Preview: “Recent research on chronic fatigue syndrome has been directed toward understanding the mechanism of symptom production rather than uncovering the underlying cause of the illness. Abnormalities of immune function, hypothalamic and pituitary function, neurotransmitter regulation, and cerebral perfusion have been found in patients with the syndrome. Dr. Bell summarizes and discusses the implications of these and other findings.” One of Dr. Bell’s more interesting points was that there is some form of “immune system activation or immune system dysfunction. The cause of this altered immunological state remains elusive.” Vertebral subluxation complex perhaps?

Progress study on chronic fatigue syndrome (CFS) study. Woodfield, Chuck, Rph, DC. Abstracts from the 14th annual upper cervical spine conference Nov 22-23, 1997 Life University, Marietta, Ga. Pub. In *Chiropractic Research Journal*, Vol. 5, No.1, spring 1998. P. 42.

This study involves the recruitment of 20 patients who have no prior history of depression and fulfill the requirements of the Centers for Disease Control and Prevention definition of chronic fatigue syndrome. The adjustment used is NUCCA.

There have been two CFS patients who have completed several aspects of the procedure...SF-36 scores on these two patients after chiropractic correction show very promising results.

Colic

The Short-term Effect of Spinal Manipulation in the Treatment of Infantile Colic: A Randomized Controlled Clinical Trial with a Blinded Observer, Wiberg JMM,

Nordsteen J, Nilsson N. *Journal of Manipulative and Physiological Therapeutics*. October 1999; Vol. 22, No. 8, pp. 517-522.

This is a randomized controlled trial that took place in a private chiropractic practice and the National Health Service's health visitor nurses in a suburb of Copenhagen, Denmark.

One group of infants received spinal care for 2 weeks, the other was treated with the drug dimethicone for 2 weeks.

Changes in daily hours of crying were recorded in a colic diary.

From the abstract:

By trial days 4 to 7, hours of crying were reduced by 1 hour in the dimethicone groups compared with 2.4 hours in the manipulation group ($P = .04$). On days 8 through 11, crying was reduced by 1 hour for the dimethicone group, whereas crying in the manipulation group was reduced by 2.7 hours ($P = .004$). From trial day 5 onward the manipulation group did significantly better than (sic) the dimethicone group.

Conclusion: Spinal manipulation is effective in relieving infantile colic.

“Chiropractic Care Conquers Colic” December 1998 issue of Country Living's Healthy Living, Page 53.

An inconsolable newborn finds comfort after six sessions with a chiropractor; Nicholas Roe tells the family story

When I telephoned my doctor to ask if he thought it was safe (to see a chiropractor), he was ambivalent: Chiropractic would neither harm nor help. He told me that if it was colic, it would run its course in three months.”

To summarize the article: Following the first adjustment, the child was more reactive and colicky, but mom followed the instructions given her by the DC and the baby calmed right down. “We had five more sessions with Stephen. Each lasted 20 minutes and Lucy (the infant!) really seemed to enjoy them. It completely changed what was fast becoming a nightmare. I would like to recommend to everyone with a colicky infant see a chiropractor. It certainly worked for us.

A six week old baby with colic. *International Chiropractic Pediatric Association Newsletter*. May/June 1997.

Six week baby with colic could not sleep for more than one hour at a time and could not hold food down. C1 subluxation was located and adjusted. After first adjustment infant fell asleep before leaving the office and slept for 8 hours straight. The baby gained two pounds in one week.

The child was seen three times per week for two months thereafter once a week. The colic symptoms never returned.

Chiropractic management of an infant experiencing breastfeeding difficulties and colic: a case study. Sheader, WE, *Journal of Clinical Chiropractic Pediatrics*, Vol. 4, No. 1, 1999.

A single case study of a 15 day old emaciated Hispanic male infant experiencing inability to breastfeed and colic since birth, crying constantly, “shaking, screaming, rash, and vomiting during and after feeding.” The baby also had “increased distress” 30 minutes after feeding and had excessive abdominal and bowel gas since birth. The mother reported the infant was given a Hepatitis B vaccination within hours after birth.

Examination: during the examination the infant continuously cried, with high-pitched screams, and full-body shaking. Child had a distended abdomen with excessive bowel gas.

Chiropractic Adjustment: Adjustment was made to the first cervical vertebra. It was followed by significant reduction of crying, screaming and shaking. The mother commented on the “quietness” of her baby.

On the second visit, two days later the mother commented, “This is a completely different baby”. The vomiting before and after feeding had ceased. Another adjustment was given. By the third visit, a “significant decrease of symptoms” was reported and complete remission of abdominal findings. Baby had been successfully breastfeeding since last visit. No adjustment was given.

By the fourth visit 3 days later, the baby had been symptom free for 5 days at which time he received another Hepatitis B shot with the return of all symptoms to a severe degree. Adjustment was given but there was no reduction of symptoms. The patient was adjusted three more times over the next week with minimal reduction in symptoms. By the eighth visit, eight days after receiving the vaccination the child began to show marked improvement and by the 11th visit, no symptoms were noticed and no adjustment was given.

Dr. Koren comments: the high-pitched screaming the child exhibited is a neurologic cry (*cri-encephalique*) which is due to irritation of the central nervous system. Children with neurologic damage should not be vaccinated.

Colic with projectile vomiting: a case study. Van Loon, Meghan. *J of Clinical Chiropractic Pediatrics*. Vol. 3 No. 1 1998. 207-210.

From the abstract: The purpose of this case study is to discuss the chiropractic care of a patient who presented to the author’s office with a medial diagnosis of colic with additional projectile vomiting. The proposed etiology, the medial approach to colic, and the chiropractic care for this infant is detailed. Also examined is the connection between birth trauma and non-spinal symptoms.

Patient: A three-month-old Caucasian male presenting with medically diagnosed colic. Symptoms had been increasing in severity over the previous two months despite medical intervention.

Results: the resolution of all preventing symptoms within a 2-week treatment period is detailed. Care consisted of chiropractic spinal adjustments and craniosacral therapy.

Conclusion: This case study details the chiropractic management of a three-month-old male with a medical diagnosis of colic who also exhibited projectile vomiting. Complete resolution of all symptoms was achieved. Proposed cranial and spinal etiologies are discussed as well as the connection between birth trauma and non-spinal symptoms.

Chiropractic care of infantile colic: a case study. Killinger LZ and Azad A. *J of Clinical Chiropractic Pediatrics*. Vol. 3 No. 1 1998. Pp. 203-206

This is the study of an 11-month-old boy with severe, complicated, late onset infantile colic. The infant had been unable to consume solid foods for a period of four months, and suffered from severe constipation. In addition, this subject demonstrated extreme muscular weakness and lack of coordination. The baby was unable to crawl, stand or walk and was greatly unresponsive to his surroundings. **[Note: child had been under medical care at the Rochester Medical Clinic, with no improvement in his condition.]**

Following upper cervical specific chiropractic adjustments for a subluxation of the first cervical vertebrae (atlas) there was immediate improvements in muscle strength, coordination, responsiveness, and ability to consume solid foods without vomiting.

Chiropractic management of an infant patient experiencing colic and difficult breastfeeding: a case report. Cuhel JM, Powell M, *Journal of Clinical Chiropractic Pediatrics* Vol. 2, No. 2 1997. P. 150-154.

A twelve-day-old male was presented for chiropractic examination and treatment by his mother. The mother related difficulty in feeding on the right breast. She also stated that he seemed “fussy” and had been producing excess bowel gas.

Palpation and motion studies revealed the occiput having a limited range of motion. The atlas was found to be fixed...with infant showing visible signs of distress on palpation of the right cervical soft tissue structures. A chiropractic adjustment was performed to the atlas: right atlas transverse using infant toggle-recoil technique.

The mother breastfed the infant at the office immediately following the adjustment with no problems nursing on the right breast.

Over the course of this patient’s care, additional chiropractic adjustments were performed. This course of treatment was met with limited success. This prompted the mother to add that an injection of Depo-Provera (contraceptive injection) had been administered 24 hours after the delivery. The parent was advised that this injection may have been a contributor to the infant’s problem. Acting on this advice the mother did not receive the next injection as scheduled. Nutritional supplementation was utilized, and adjustments were continued. The infant’s pattern of breastfeeding and bowel function normalized.

Infantile colic treated by chiropractors: a prospective study of 316 cases. Klougart N, Nilsson N and Jacobsen J (1989) *JMPT*, 12:281-288.

In this study, 73 chiropractors adjusted the spines of 316 infants (median age 5.7 weeks at initial examination) with moderate to severe colic (average 5.2 hours of crying per day). The infant’s mothers were provided a diary and kept track of the baby’s symptoms, intensity and length of the colicky crying as well as how comfortable the infant seemed. 94% of the children within 14 days of chiropractic care (usually three visits) showed a satisfactory response. After four weeks, the improvements were maintained. One fourth of these infants showed great improvement after the very first chiropractic adjustment. The remaining infants all showed improvement within 14 days. Note: 51% of the infants had undergone prior unsuccessful treatment, usually drug therapy.

Infantile colic and chiropractic. Nilsson N. *Eur J Chiro* 1985;33 (4) :264-65.

In this study (retrospective uncontrolled questionnaire) of 132 infants with colic, 91% of the parents reported an improvement, which occurred after an average of two to three adjustments, and within one week of care.

Vertebral subluxation and colic: a case study. Pluhar GR, Schobert PD. *J of Chiropractic Research and Clinical Investigation*, 1991;7:75-76.

From the abstract: A case study of a three-month-old female suffering from colic with resultant sleep interruption and appetite decrease is presented. Child received three adjustments with two weeks between adjustments (T-7 and upper cervical area were areas worked on.) Symptoms of colic were relieved within the above brief period.

Chiropractic adjustments and infantile colic: a case study. Hyman CA in Proceedings of the fourth National Conference on Chiropractic and Pediatrics. International Chiropractors Association. Arlington, VA 1994. A case study.

Kinematic imbalances due to suboccipital strain in newborns. Biedermann H. J. *Manual Medicine* 1992, 6:151-156.

More than 600 babies (to date) have been treated for suboccipital strain. One hundred thirty-five infants who were available for follow-up was reviewed in this case series report. The suboccipital strain's main symptoms include torticollis, fever of unknown origin, loss of appetite and other symptoms of CNS disorders, swelling of one side of the facial soft tissues, asymmetric development of the skull, hips, crying when the mother tried to change the child's position, and extreme sensitivity of the neck to palpation.

Most patients in the series required one to three adjustments before returning to normal. "Removal of suboccipital strain is the fastest and most effective way to treat the symptoms...one session is sufficient in most cases. Manipulation of the occipito-cervical region leads to the disappearance of problems..."

The side-effects of the chiropractic adjustment. Arno Burnier, D.C. *Chiropractic Pediatrics* Vol. 1 No. 4 May 1995.

This is a case history of R.S., male, age 15, taken from the records of Dr. Arno Burnier of Yardley, PA. 81 South Main Street, Yardley, PA 19067, 215-493-6589. Dr. Burnier has written his "miracle" cases up, please write up your own and submit them for publication in the journals.

Patient: E.L. male age 4 months.

Physical condition: Uncontrolled crying and screaming during all waking hours for months.

Chiropractic result: Immediate resolution of behavior following the first adjustment on 5/1/91. To date 2/10/94 the child is a normal healthy baby.

Presenting vertebral subluxation: CO/C1 with occiput posterior on the right.

Original adjustment: Right occiput ridge meningeal for 20 seconds, double notch meningeal contact on sacrum for 30 seconds. Structural adjustment of occiput in extension and right rotation.

Birth Trauma Results in Colic. Krauss LL, *Chiropractic Pediatrics* Vol. 2 No. 1, October, 1995

From the abstract: The objective of this case study is to document the effects of chiropractic on poor sleeping patterns in an infants through a difficult time in an infant's life. Many infants do not sleep well at night or nap time, and are then irritable throughout the day. These infants are often diagnosed as colicky. The term colic is a symptom commonly seen in infants under three months of age, characterized by paroxysmal abdominal pain and frantic crying. The mother, often as a reaction, is also irritable, exhausted, and, at times, depression and self doubt set in. Physical and emotional fatigue can make this time unbearable and bonding with child difficult.

This is the study of a 9 1/2 month old female child with colic. The child was adjusted C1 on the right side (using an adjusting instrument) T4-T5 was manually adjusted and the sacrum was instrument adjusted. The following day the mother reported that the infant had slept through the night, a consistent 12 hours, and woke up happy and playful.

Treatment of infants in the first year of life by chiropractors. Incidents and reasons for seeking treatment. Munck LK, Hoffman H, Nielsen AA. *Ugeskr Laeger* 1988; 150:1841-1844.

This was a retrospective survey of 162 children cared for by doctors of chiropractic in their first year of life.

The conditions seen by DCs were:

- ☛ Infantile colic 73%
- ☛ Curvature 8%
- ☛ Bronchitis 3%
- ☛ Allergy 2.5%
- ☛ Sleep disorder 1.8%
- ☛ Middle ear inflammation 1.8%
- ☛ Eczema 0.6%

References from Koren Publications' brochure: Relief from Colic

Karofsky, P.S. Infantile colic. *J Fam Prac*, 1984, 19, pp. 107-116.

Colon, A.R. & Dipalma, J.S. *Am Fam Phy*, 1989, 40(6), pp. 122-124.

Mendelsohn, R. How to raise a healthy child...in spite of your doctor. New York: Balantine Books, 1984, p. 65.

Wootan, G. & Verney, S. Take charge of your child's health. New York: Crown Publishers Inc., 1992, p. 208.

Ibid. p. 212.

Jakobsson, I. Cow's milk as a cause of infantile colic in breastfed babies. *Lancet*, 1978, 2, p. 437.

Klougart, N., Nilsson, N. & Jacobsen, J. Infantile colic treated by chiropractors: A prospective study of 316 cases. *JMPT*, 1989, 12, pp. 281-288.

Nilsson, N. Infantile colic and chiropractic. *Eur J Chiro*, 1985, 33, pp. 264-265.

Pluhar, G.R. & Schobert, P.D. Vertebral subluxation and colic: A case study. *J of Chiropractic Research and Clinical Investigation*, 1991, 7, pp. 75-76.

Biedermann, H. Kinematic imbalances due to suboccipital strain in newborns. *J Manual Medicine*, 1992, 6, pp. 151-156.

Gutman, G. Blocked atlantal nerve syndrome in infants and small children. *ICA Review*, July 1990, pp. 37-42. (Reprinted from *Manuelle Medizin*, 1987, 25, pp. 5-10.)

Fryman, V. Relations of disturbances of cranio-sacral mechanisms to symptomatology of the newborn. *JAOA*, 1966, 65, p. 1059.

Webster, L. Personal communication with author. April 20, 1995.

Colitis

The side effects of the chiropractic adjustment. Arno Burnier, D.C. *Chiropractic Pediatrics* Vol. 1 No. 4 May 1995.

This is a case history of J.C. male, 1 year old taken from the records of Dr. Arno Burnier of Yardley, PA. 81 South Main Street

Yardley, PA 19067, 215-493-6589. Nearly all D.C.s have miracle cases, but Dr. Burnier took the time to write his up. Please write up your interesting cases.

Medical diagnosis (gastroenterologist): post-viral enteritis, c.difficile enteritis, colitis secondary to antibiotic usage, allergic colitis, gastroesophageal reflux with esophagitis, gastric and/or duodenal ulcer disease, duodenitis secondary to congenital or autoimmune phenomenon, Club feet requiring surgery.

Medication: Amoxicillin, Zantac, Reglan, Tylenol, and Ambesol.

Chiropractic results: Off all medication after first visit. Immediate improvement within 24 hours. Complete resolution within 3 weeks of care. Six months later the child is in radiant health, has had no need for medical care and has been free of medication and over-the-counter drugs. Clubfeet straightened out without surgery within 1 1/2 months of care.

Presenting Subluxation Findings: Occiput/C1 with an Atlas ASRP, Sacrum base posterior.

Original Adjustments: Left occiput ridge meningeal contact for 30 seconds, double notch sacral meningeal contact for 1 minute; structural manual adjustment of Atlas ASRP, left Temporoparietal suture adjustment.

Coma

Coma as a result of bacterial meningitis in the compromised child. Rubinstein, H.

Chiropractic Pediatrics Vol.1 No. 3 Dec. 1994.

This is the case of a multi-handicapped 10-month-old male child born of a substance abuser was comatose from bacterial meningitis. Poor prognosis was reported. Chiropractic examination was performed at hospital bedside. Chiropractic analysis: vertebral subluxation secondary to pre-natal intoxication. Immediately following adjustment child began to cough and awaken. By next day child was fully conscious and released from intensive care.

Child Awakens From Coma after Chiropractic Care. Joe Flesia, D.C. From *Passion* tape series produced by Renaissance International, Colorado Springs, CO.

Dr. Flesia recounts his experience caring for a child who had been in a long term coma. The child awakened immediately after his adjustment and asked to “go home.”

Common Cold

The common cold, pattern sensitivity and contrast sensitivity. Smith AP, ET al. *Psychological Medicine*, 1992; 22:487-494.

This evidence indicates a possible link between vertebral subluxation complex, susceptibility to the common cold and vision sensitivity.

Upper respiratory infections in children. Fysh, P.N., *International Review of Chiropractic*, Jul/Aug 1990.

Manipulative therapy of upper respiratory tract infections in children. Purse FM. *J Am Osteopathic Assoc.* 1966; 65(9): 964-72.

In a case study of over 4,600 incidents of upper respiratory tract infections, only 5% of cases treated with spinal manipulative therapy developed secondary complications. As shown in this study, the results are superior to those obtained by antimicrobial therapy or symptomatic therapy alone. It would seem unnecessary to use any therapy other than manipulative therapy. Prescribing anti microbial agents because of uncertainty of diagnosis or because of pressure from the family is no substitute for application of good principles of medicine.

The atlas fixation syndrome in the baby and infant. Gutmann G. *Manuelle Medizin* 1987 25:5-10, Trans. Peters RE

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Goldstein, M. Ed. *The Research Status of Spinal Manipulative Therapy*. Bethesda: National Institutes of Health, 1975.

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Rumney, I.C. "Osteopathic Manipulative Treatment of Infectious Diseases". *Osteopathic Annals*, July 1974, pp. 29-33.

Mendelsohn, R. *The People's Doctor, A Medical Newsletter for Consumers*, 9:6 p.7. P.O. Box 982, Evanston, IL. 60204.

Ibid.

10.Center for Disease Control, Influenza Branch, Jan. 24/25, 1985.

11.Scripps-Howard News Service reports, Nov. 5, 1986.

12.Mendelsohn, R., op cit.

Constipation

Case study: the effect of chiropractic care on an infant with problems of constipation.

Marko, S. *Chiropractic Pediatrics* Vol. 1 No. 3 Dec. 1994.

Infant began having constipation at age 6 months when solid foods were introduced. In order for her to have a bowel movement she had to be in a warm bath with her legs up and

her abdomen massaged. At one point, the baby actually became impacted and emergency care was needed. Was not uncommon for her to go a week to ten days between bowel movements. After the second chiropractic, adjustment patient had a bowel movement all by herself. Within two weeks began having regular bowel movements by herself every two or three days. At 23 months, the patient began to walk and she has at least one totally normal bowel movement every day.

Expect a miracle. Kendzior AT, Sarasota, FL. *ICPA Newsletter* Jan/Feb 1998.

“My son took a serious fall as a baby and immediately stopped having bowel movements. After months, I was told that we might need to do an exploratory surgery to determine if there was a blockage. I had been trying to adjust him, but was not sure what I was feeling. Dr. Larry Webster examined him, adjusted him and taught me how to locate sublaxations in a baby’s lumbar spine. It was miraculous, the next day he started having normal bowel movements. This miracle response to an adjustment I now know is very common in kids. This same child started severely stuttering at the age of two. This was correlated to his fall. Finally, I attended another course with Dr. Webster who shared with me the Webster Cranial Technique. He assured me that it had helped children with stuttered speech, epilepsy, and learning disabilities. He advised me that before my son got better he might appear worse, but within two weeks he would stop stuttering completely. Sire enough, two weeks to the day that I started adjusting him, he stopped stuttering. This was a child who previously repeated a word twenty times and then, frustrated, gave up.

Coccyx

Chiropractic treatment of coccygodynia: instrumental adjusting procedures utilizing activator methods chiropractic technique. Polkinghorn B and Colloca C. *JMPT* Volume 22 No. 6, July/August 1999.

The patient was a 29 year-old woman with unremitting coccygeal pain of three weeks duration that manifested as a dull ache accompanied by intermittent sharp pain, especially upon sitting or rising from a seated position. The pain began after a lot of heavy lifting. She had been on aspirin and Motrin for three weeks before seeking out chiropractic care. Chiropractic care consisted of a force applied to the coccygeal area and the sacrococcygeal ligament.

“The patient experienced a complete resolution of her pain following the first treatment.”

Chiropractic and pregnancy, a partnership for the future. Fallon J. *ICA Review* Nov/Dec 1990. Pp. 39-42.

Neurological conditions associated with sublaxation in pregnancy: brachia neuralgia, compression of the brachial plexus causing tingling and numbness in the shoulder and arm; meralgia paresthetica, lateral femoral cutaneous nerve compression causing pain and paresthesia of the thigh; intercostal neuralgia, compression of the intercostal nerves causing radiating pain between the ribs; sciatic neuralgia, compression of lumbar plexus causing pain of the pelvic region and/or radiating down leg; coccydynia, pain at site of coccyx; separation of the symphysis pubis, causing pain at the symphysis pubis and SI joint; Carpal

tunnel syndrome, compression of median nerve; Bell's Palsy, compression of CN V11 causing paralysis of facial muscles; traumatic neuritis, motor and sensory deficits of L5, S1 and S2 after labor.

Endometriosis and anterior coccyx: observation of five cases. Robinson and Freedman. *Research Forum* 1(4) Chiropractic helps for endometriosis sufferers.

Constipation

Effects of upper cervical correction on chronic constipation. Eriksen K. *Chiropractic Research Journal*, 1994; 3:19-22.

From the abstract: A five-year-old female with severe, chronic constipation was treated with Grostic upper cervical care with a dramatic change in the child's bowel function occurring.

Chiropractic treatment of a 7-month-old with chronic constipation: a case report.

Hewitt EG, *Chiropractic Technique*, August 1993; 5(3): 101-103.

From the abstract: A 7-month-old girl suffering from chronic constipation had a history of painful straining and hard, pellet-like stools. Stools ranged in frequency from once per day to once every 3 days. After treatment consisting of full spine and cranial adjusting, the patient's bowel function normalized to one or two soft, effortless stools per day. Maintenance of these improvements was confirmed at a 1-year follow-up visit.

Irritable Bowel Syndrome and Spinal Manipulation: A Case Report. Wagner T, Owen J, Malone E, Mann K. *Chiropractic Technique* 1996; 7: 139-140.

Irritable bowel syndrome, also known as mucous colitis and nervous bowel affects 15-25% of adults. Symptoms include cramping and/or abdominal pain, diarrhea or constipation, ulcer-type symptoms, heartburn and/or upper abdominal indigestion.

In this case study of a 25-year-old woman with chronic irritable bowel syndrome her chief complaint was intestinal pain and diarrhea which was worse during stressful periods which occurred one or two times per week for the past five years.

After her first chiropractic adjustment, she reported that she had not experienced any diarrhea for two days. Her symptoms were quickly alleviated during the course of her care. two years later she remained symptom free. A number of mechanisms for this phenomenon are suggested in this paper.

Case study: the effect of chiropractic care on an infant with problems of constipation.

Marko, S. *Chiropractic Pediatrics* Vol. 1 No. 3 Dec. 1994.

Constipation at age 6 months when solid foods were introduced. In order for her to have a bowel movement she had to be in a warm bath with her legs up and her abdomen massaged. At one point, the baby actually became impacted and emergency care was needed. It was not uncommon for her to go a week to ten days between bowel movements. After the second chiropractic, adjustment patient had a bowel movement all by herself. Within two weeks began having regular bowel movements by herself every two or three days. At 23 months, the patient began to walk and she has at least one totally normal bowel movement every day.

Chiropractic adjustment in the management of visceral conditions: a critical appraisal. Jamison JR, McEwen AP, Thomas SJ. *JMPT*, 1992; 15:171-180.

In this a survey of chiropractors in Australia, more than 50% of the chiropractors stated that asthma responds to chiropractic adjustments; more than 25% felt that chiropractic adjustments could benefit patients with dysmenorrhea, indigestion, constipation, migraine and sinusitis.

Crib Death (SIDS)

Studies have revealed a correlation between spinal abnormalities, including trauma and crib death or SIDS (sudden infant death syndrome). This may be one piece of a larger puzzle.

Latent spinal cord and brain stem injury in newborn infants. Towbin, A, *Dev Med Child Neuro.* 11:54-68, 1969.

Autopsy of infants who died of SIDS revealed blood in the spinal cord, which the author hypothesized, was due to obstetrical trauma.

Atlanto-occipital hypermobility in sudden infant death syndrome. Schneier M, Burns R.

Released by Association for Research in Chiropractic. April, 1989.

A triple blinded x-ray study. Increased instability of upper cervical spine was found in children who died of crib death.

Infantile atlanto-occipital instability. Giles FH, Bina M, Sotrel A. *AM J Dis Child* 1979;133:30.

In a study of 17 infant cadavers the author found an instability in the atlanto-occipital level in some of the infants.

Crohn's Disease

Subluxation location and correction (31-year-old with Crohn's disease)

By Stephen R. Goldman, D.C. *Today's Chiropractic* July/August 1995 p.70-74.

Case Study No. 4

31-year-old with Crohn's disease (since age 15). A portion of his intestine had been removed and he was on antibiotics and prednisone. Had not had a normal bowel movement since age 15 and constantly suffered from abdominal cramps.

Chiropractic analysis: Subluxation of axis.

By the 13th visit, he started having normal bowel movements and all medication was stopped.

Deafness

Shortly after this relief from deafness, I had a case of heart trouble which was not improving. I examined the spine and found a displaced vertebrae pressing against the nerves which innervate the heart. I adjusted the vertebra and gave immediate relief — nothing ‘accidental’ or ‘crude’ about this. Then I began to reason that if two diseases, so dissimilar as deafness and heart trouble, came from impingement, a pressure on nerves, were not other diseases due to a similar cause?

D.D. Palmer, The Chiropractors Adjuster. Portland Printing House, Portland, Oregon, 1910

There is no doubt in the mind of at least one of the authors that dysfunction in the joints in the upper thoracic spine can affect the function of the inner ear, presumably by way of its sympathetic innervation.

Bourdillon JF, Day EA, Bookhout MR. Spinal Manipulation. Butterworth-Heinemann Ltd., Oxford, 1992.

Horsturz und kraniozervikaler Übergang (Sudden deafness and craniocervical junction) Hormann K, Weh L, Fritz W, Borner U *Laryngo-Rhino-Otol*68 (1989) 4546-461.

From the abstract:

Morphological alterations of the craniocervical junction as a basilar impression, a ponticulus posterior, an atlas assimilation, an intervertebral narrowing, and spondylosis deformans were found radiologically...there was a statistically significant reduced mobility in the upper cervical spine in patients suffering from sudden deafness. Especially very high standard deviations in the atlanto-occipital and the atlanto-dental joint are interpreted as hypermobile as well as hypomobile atlas joints. These results indicate a correlation between sudden deafness and functional pathology of the craniocervical junction.

Migraine as a cause of sudden hearing loss.*Headache*,1996;36:24-28. Virre ES, Baloh RW. Approximately one person in a thousand each year are victims of permanent sudden hearing loss.(SHL) Drs. Masarsky and Weber reviewing this (Neurological Fitness Vol. VI No.1) “If Drs. Virre and Baloh are correct in their conclusion that SHL can be associated with migraine, the two conditions should share a common neurophysiology. From a chiropractic point of view, VSC involving the cervicothoracic junction could be expected to disturb [the stellate ganglion - associated with migraine] directly, while VSC involving the upper thoracic spine could disturb it indirectly. Recent chiropractic studies have indicated that cervicothoracic adjustments can benefit both pediatric and adult migraine sufferers, lending further support to the migraine-stellate relationship.”

References from Koren Publications’ brochure: Infections, Antibiotics and Inflammation

Dubos, R and. Pines, M .Health and Disease, NY Time-Life Books:1965.

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Wolf J. Be Safe, Not Sorry, At Your Next Meal. Let’s Live March 1992

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Mendelsohn, R. Male Practice. Chicago: Contemporary Books 1981. pp.141-142.

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Incao, P. Inflammation- The Natural Enemy of Cancer. Lecture at Foundation for Advancement of Cancer Therapy. Phila. PA, Jan.1991.

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Incao, P. Inflammation- The Natural Enemy of Cancer Lecture at Foundation for Advancement of Cancer Therapy. Phila. PA, Jan. 1991.

Brennan P. and Hondras M. Priming of Neutrophils for Enhanced Respiratory Burst by Manipulation of the Thoracic Spine. Proceedings of the 1989 international Conference on Spinal Manipulation. Pub: FCER:Arlington, VA. pp.160-163.

Nansel D., Jansen R. et al. Effects of Cervical Adjustments on Lateral-flexion Passive End-Range Asymmetry and on Blood Pressure, Heart Rate and Plasma Catecholamine Levels. *JMPT* Vol.14 No.8 Oct.1991

Brennan P., Kokjohn K. et al Enhanced Phagocytic Cell Respiratory Burst Induced by Spinal Manipulation.... *JMPT* Vol.14 No.7 Sept 1991

Diabetes

Diabetes mellitus: two case reports. Nelson WA. *Chiropractic Technique*, 1989;1:37-40. The first patient was a juvenile diabetic diagnosed at age 4. She was now 38 and required 18 units of insulin per day. Her primary complaints were nervousness and prolonged menstrual cycle. After three visits a week for three months the patient reported normal menses and reduced nervousness. Her insulin had been reduced to 15 units per day. The second patient was a 61-year-old man with a primary complaint of coldness in the lower extremities of about 4 years duration, due to circulatory problems related to diabetes mellitus. He had two adjustments per week for 5 months. Warmth was restored from the mid-calf to the ankles. An additional 5 months of care restored normal warmth to the soles of the feet.

Diagnosis and manipulative treatment in diabetic polyneuropathy and its relation to intertarsal joint dysfunction. Murphy DR. *JMPT*, 1994; 17:29-37.

An 80-year-old man with a history of diabetes mellitus complained of low back pain, burning pain in the lower extremities, and poor balance. Visits of 3 times per week consisted of modified pelvic SOT blocking for the sacroiliac joints, manual adjustments for the fixated tarsal joints, and manual soft tissue work for the plantar trigger points. After the first visit, the patient reported a "rush of warmth" over his feet while driving home. The return of warmth was permanent. Improvement continued over the four months of chiropractic care.

References from Koren Publications' brochure: Diabetes, Hypoglycemia and Chiropractic

Canadian Medical Journal, April 1, 1986.

Challem J. New Hope for Diabetics. Let's Live April 1991, p.24.

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Atkinson M.A. and Maclaren N.K. What Causes Diabetes? Scientific American July 1990. pp.62-71.

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Derzko C.M. "Role of Danazol in Relieving Premenstrual Syndrome" Journal of Reproductive Medicine, Jan. 1990.

Kamen B. Hypoglycemia: The Highs and Lows of Blood Sugar. Let's Live August, 1991 pp.46-49.

Erickson D. On Again, Off Again. Scientific American. Oct. 1990 p.121.

Burns L, Chandler LC, Rice RW: Pathogenesis of visceral Disease Following Vertebral Lesions. Chicago, American Osteopathic Association, 1948, pp.226-233.

Dickinson, R.L. Effects of Chiropractic Spinal Adjustments and Interferential Therapy in the Restoration of Peripheral Circulatory Impairment in the Lower Extremities of Diabetics. Chiropractic. April 1988. p.18-24.

Nelson WA Diabetes Mellitus, Two Case Reports. Chiropractic Technique. 1989;1:3 7-40.

Let's Live, March, 1991 p.10.

Disc Herniation, Protrusion

Although considered medically "incurable", the recovery of degenerative spinal conditions has been observed by chiropractors for decades.

Management of cervical disc herniation with upper cervical chiropractic care. Eriksen K. *JMPT* Vol. 21, number 1, January, 1998.

From the abstract: "A 34-year-old man suffered from severe neck, lower back and radicular pain of 1 year duration. He had previously received care from multiple medical specialists with little or no results. An MRI of the cervical spine demonstrated a C6-C7 herniated nucleus pulposus. A needle electromyogram examination confirmed the presence of a C6-C7 radiculopathy with radiculopathic changes from C4-C7. X-ray analysis showed that the atlas and axis were misaligned."

The patient was adjusted using grostic procedures by hand. Within one month there were dramatic improvements in all subjective and objective findings. At a one year follow-up it was concluded that surgery was not necessary.

Magnetic resonance imaging and clinical follow-up: study of 27 patients receiving chiropractic care for cervical and lumbar disc herniations Ben Eliyahu, DJ.

JMPT Vol. 19 No. 19 Nov/Dec 1996.

This study suggests that chiropractic care may reverse disc herniation. Twenty-seven patients with MRI documented and symptomatic disc herniations of the cervical or lumbar spine were given chiropractic spinal care, flexion distraction, physiotherapy and rehabilitative exercises. Post-care MRIs revealed that 63% of the patients had a reduced size or completely resorbed disc herniation. 78% of the patients were able to return to work in their pre-disability occupations.

From the author's abstract: This prospective case series suggests that chiropractic care may be a safe and helpful modality for the treatment of cervical and lumbar disc herniations. A random, controlled, clinical trial is called for to further substantiate the role of chiropractic care for the non-operative management of intervertebral disc herniation.

Disc regeneration: reversibility is possible in spinal osteoarthritis. Ressel, OJ. *ICA Review* March/April 1989 pp. 39 -61.

From the abstract: “Historically, osteoarthritis has been regarded as a common slowly progressive disorder seen most often in the elderly that affects the weight bearing joints, the peripheral and axial articulations, and the spine...clinically, osteoarthritis has been universally accepted as an integral consequence of aging. The condition is considered to be the product of various pathobiomechanical alterations in joint function, a “wear and tear” sequela. It is only in the past few years that increased knowledge about the histopathology, biomechanics, biochemistry, and metabolic properties of normal and osteoarthritic tissue structures has given clinicians any hope of being able to deal with osteoarthritis. When patient care is related to the pathology, pathophysiology, and the kinesiopathology of this condition, arrest and even reversal is possible.”

Reabsorption of a herniated cervical disc following chiropractic treatment utilizing the atlas orthogonal technique: a case report. Robinson, G.Kevin. Abstracts from the 14th annual upper cervical spine conference Nov 22-23, 1997 Life University, Marietta, Ga. Pub. In *Chiropractic Research Journal*, Vol. 5, No.1, spring 1998.

A case of a herniated cervical disc as diagnosed by magnetic resonance imaging (MRI) utilizing chiropractic care (atlas orthogonal technique). Comparative MRI post adjustment revealed complete resolution of the herniated cervical disc.

This is the case of a 44 year-old man whose symptoms were as follows: severe neck pain, constant burning, left arm pain and left shoulder pain plus paresthesia in the index finger of the left hand. Patient also had diminished grip strength on left hand using dynamometer testing. Tests also revealed hyporeflexive biceps and triceps on the left as well as a C6 and C7 sensory deficit on the left. The MRI scan revealed a large left lateral herniated disc at the C6-7 level.

By the fifth week of care the patient’s symptoms of severe neck, shoulder, and arm pain were completely resolved. The patient’s numbness and grip strength improved consistently during the following six months. Comparative MRI obtained 14 months following the initial exam revealed total resolution of the herniated cervical disc.

Treatment of Multiple lumbar disc herniations in an adolescent athlete utilizing flexion distraction and rotational manipulation. Hession EF, Donald GD. *JMPT*, 1993; 16:185-192.

This is the case of a 15-year-old high school athlete with acute low back pain that began after weightlifting in preparation for a football game. MRI demonstrated disc herniations of the lumbar area.

Chiropractic care resulted in long-term resolution of the symptoms. Patient has returned to playing football.

Correction of multiple herniated lumbar disc by chiropractic intervention. Sweat R. *Journal of Chiropractic Case Reports*. Vol. 1 No. 1 Jan 1993.

Abstract:

A 39 year old patient presented with severe pain in his lower back, radiating into the buttocks, the thigh and his left calf and foot. A medical diagnosis of herniated nucleus pulposus at L-4 L-5 and L-5 S-1 was confirmed by Magnetic Resonance Imaging (MRI). Palliative medications were administered and surgical procedures were recommended. Chiropractic adjustive therapy was begun utilizing the Atlas Orthogonal Percussion Instrument on the atlas vertebrae. After 4 weeks of care he showed a 50% improvement and was not using medications. After six months of care, the patient was discharged after a subsequent MRI Radiologist's report indicated that a definite focal herniation is not felt to be present.

Chiropractic adjustments, cervical traction and rehabilitation correct cervical spine herniated disc. Breakiron G. *Journal of Chiropractic Case Reports*. Vol. 1 No. 1 Jan 1993.

Abstract:

A 43 year old female suffered C5-6 and C6-7 nuclear herniations as a result of an automobile collision. The patient suffered a hyperextension/hyperflexion trauma to the cervical spine which resulted in a reversal of her cervical lordosis, thus causing extensive soft tissue damage and herniations as seen on magnetic resonance imaging (MRI) procedures. Specific spinal adjustments were administered with a hand held adjusting instrument to correct her posterior and lateral cervical subluxations. A therapeutic exercise program was prescribed along with cervical traction and soft tissue rehabilitation. After 6 months, a repeat MRI revealed that there was a mild posterior bulging of the C5-6 level in the mid line with no evidence for significant disc herniation. The C5-6 area appears to be essentially normal.

Low back pain and the lumbar intervertebral disk: Clinical consideration for the doctor of chiropractic. Troyanovich SJ, Harrison DD, Harrison DE. *Journal of Manipulative and Physiological Therapeutics*, Feb. 1999; vol. 22, no. 2, 96-104.

This review of the literature distills and synthesizes previously published research. The article lists various causes of low back pain, noting what findings in patient histories, physical examinations, and diagnostic imaging represent "red flags" that indicate the need for referral to a specialist for surgical intervention.

After patients are screened for red flags, conservative treatment should be the first line of treatment for patients without absolute signs for surgical intervention.

The authors concluded:

Of the available conservative treatments, chiropractic management has been shown through multiple studies to be safe, clinically effective, cost-effective, and to provide a high degree of patient satisfaction. As a result, in patients . . . for whom the surgical indications are not absolute, a minimum of 2 or 3 months of chiropractic management is indicated.

Treatment of lumbar intervertebral disc protrusions by manipulation. Pang-Fu Kuo P, Loh Z. *Clinical Orthopedics and Related Research*, Feb. 1987; 215:47-55.

Of 517 patients with protruded lumbar discs 76.8% had satisfactory results. Manipulation of the spine can be effective for lumbar disc protrusions.

Lumbosacral disc protrusion: a case report. Cox J. *JMPT*, Dec. 1985; 8(4): 261-266.

Lumbar disc herniation: computed tomography scan changes after conservative treat-

ment of nerve root compression. Delauche-Cavallier MC, Budet C, Laredo JD, et.al *Spine*, 1992; 17(8): 927-933.

In 21 patients with CT scan diagnosed lumbar disc herniation, nerve root pain resolved after chiropractic. A follow-up CT scan at least 6 months later showed the herniation reduced or disappeared in most patients.

Manipulative Therapy and Rehabilitation of the Locomotor System, second edition, Lewit, K. 1991. Butterworth-Heinemann, Oxford, 272. Quoted in the Chiropractic Report July 1992. Vol. 6 No.5.

Disc regeneration: reversibility is possible in spinal osteoarthritis. Ressel, OJ. *ICA Review* March/April 1989 pp.39-61.

From the abstract: “When patient care is related to the pathology, pathophysiology, and the kinesiopathology of this condition, arrest and even reversal is possible.”

Chymopapain, chemonucleolysis and nucleus pulposus regeneration. A biochemical study. Bradford DS, Cooper KM, Oegema TR Jr. *Spine*, and Mar (2): 135-147, 1984. The intervertebral disc has the ability to heal and regenerate.

Correction of multiple herniated lumbar disc by chiropractic intervention. Sweat R. *J of Chiropractic Case Reports*. Vol. 1 No. 1, Jan. 1993. pp.14-18.

From the abstract: A 39-year-old male with severe pain in his lower back, radiating into the buttocks, the thigh and left calf and foot. A medical diagnosis of herniated nucleus pulposus at L-4 L-5 and L-5 S-1 was confirmed by MRI. Surgical procedures were recommended. After 4 weeks (of chiropractic) he showed a 50% improvement and was not using medications. After six months, the patient was discharged after an MRI radiologist’s report indicated that a definite focal herniation is not felt to be present.

Bourdillon JE, Day EA, Bookhout MR: Spinal Manipulation, 5th edition. Oxford, England, Butterworth-Heinemann Ltd, 1992.

“There is no doubt that surgery is occasionally the only satisfactory treatment for those with unequivocal signs of protrusion, and the more so with extrusion of disc material. There is also ample evidence in the experience of most manual practitioners to show that, even in the presence of such unequivocal evidence, relief may be obtained by conservative measures including manual intervention.”

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Bogduk, N. & Aprill, C. On the nature of neck pain, discography and cervical zygapophyseal joint blocks. Pain, 1993, 54, pp. 213-217.

Kuslich, S. et al. The tissue origin of low back pain and sciatica: A report of pain response to tissue stimulation during operations on the lumbar spine. Orthopedic Clinics of North America, 1991, 22(2), pp. 181-187.

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Saal, J. & Saal, J. Non-operative treatment of herniated lumbar intervertebral disc with radiculopathy, and outcome study. Spine, 1989, 14(4).

Hakeluis, A. Prognosis in sciatica. Acta Orthop Scand (Suppl), 128.

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Wennberg , J. & Gittelsohn, A. Variations in medical care among small areas. Scientific American, 1982, 246(4), pp. 120-134.

Radin, E.L. Reasons for failure of L5-S1 intervertebral disc excisions. Int'l Orthop, 1987, 11, pp. 255-259.

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Down's Syndrome

Studies reveal that 10 to 20 percent of individuals with Down's Syndrome have radiographic Atlas/Axis instability. *International Chiropractic Pediatric Association newsletter*. May 1990.

Cranial therapeutic treatment of Down's Syndrome Chiropractic Technique. Blum CL. *Chiropractic Technique*, 1999; 11:66-76.

Child born with trisomy X, suffered from failure to thrive, history of chronic pneumonia, tachypnea, fever and possible atrial septal defect. Medical professionals recommended open heart surgery but parents decided to investigate conservative care consisting of cranial therapy and nutritional therapy. Many of the symptoms that the patient suffered were alleviated and the surgery was later cancelled.

Male Child - age 4 - Diagnosis: retardation, asthma, Down's syndrome, immune dysfunction. *International Chiropractic Pediatric Association newsletter*, November 1996.

Patient had been evaluated at several clinics with the above disorders. Patient was on 11 medications on initial visit. After 4 months of care, all medications were withdrawn and the above diagnoses are being changed. Patient still under chiropractic care and very difficult to adjust - child does not want to lay or be on adjusting table - the patient is adjusted either in

the mother's arms or on her back using the mother as a "table." Adjustment: Atlas ASR, with a toggle type thrust.

Handicapped infants and chiropractic care, Down Syndrome, Part 1 McCullen, M. *ICA Internal Review of Chiropractic.*

Most infants with Down Syndrome exhibit subluxation of Occiput, C1, and C2. 85% were considered neurologically asymptomatic. While local symptoms include head tilt, torticollis and neck discomfort.

Upper cervical instability in Down's Syndrome: A case report. Dyck V. *Journal of the Canadian Chiropractic Association* 1981; 25(2): 67-8.

Although spinal manipulation is a safe procedure, the chiropractor always be alert for contraindications to his treatment

Ear Infection (Otitis Media)

By the age of three, over two thirds of all children have had one or more episodes of otitis media or middle ear infection. There are numerous problems with antibiotic usage of children with ear infections such as: allergic reactions, GI upset, destruction of the gut's intestinal flora leading to yeast proliferation and antibiotic resistance. Tubes in the ears have a 98% recurrence of infection within two months while 25% of those with tubes suffer from hearing loss years later.

The role of the chiropractic adjustment in the care and treatment of 332 children with otitis media. Fallon, JM. *Journal of Clinical Chiropractic Pediatrics* Vol 2, No. 2 1997 p.167-183.

From the abstract: This pilot study included children from 27 days old to five-years-old, was on the effects of chiropractic adjustments on children with otitis media used tympanography as an objective measure.

Results: the average number of adjustments administered by types of otitis media were as follows: acute otitis media (127 children) 4 adjustments; chronic/serous otitis media (104 children) 5 adjustments; for mixed type of bilateral otitis media (10 children) 5.3 adjustments; where no otitis was initially detected (74 children) 5.88 adjustments. The number of days it took to normalize the otoscopic examination was for acute 6.67, chronic/serous 8.57 and mixed 8.3. the number of days it took to normalize the tympanographic examination was acute: 8.35, chronic/serous 10.18 and mixed 10.9 days.

The overall recurrence rate over a six month period from initial presentation in the office was for acute 11.02%, chronic/serous 16.34%, for mixed 30% and for none present 17.56%.

Conclusion: The results indicate that there is a strong correlation between the chiropractic adjustment and the resolution of otitis media for the children in this study.

Note: 311 of the 332 had a history of prior antibiotic use. 53.7% of the children had their first bout of otitis media between the ages of 6 months and 1 year and a total of 69.9% of the

subjects in the study had their first bout of OM under a year of age. This is consistent with the findings of others.

Prevention and Therapy of Serous Otitis Media by Oral Decongestants. A Double-Blind Study in Pediatric Practice. Olson, AL; Klein SW; Charney E. MacWhinney JB Jr., McInerney TK, Miller RL, Nazarian LF, Cunningham D.. et al *Pediatrics* Vol. 62, May 1978, 679-84.

Pharyngitis-57% of patients with pharyngitis were treated on the first day of sore throat with spinal manipulative therapy and salt water gargle. All were symptom free the second day.

Laryngitis- 100% of patients with laryngitis were treated on the first day of illness, with spinal manipulative therapy and voice function returned to normal within one day.

Characteristics of 217 children attending a chiropractic college teaching clinic.

Nyiendo J. Olsen E. *JMPT*, 1988; 11(2):78084.

The authors found that pediatric patients at Western States Chiropractic College public clinic commonly had ordinary complaints of ear-infection, sinus problems, allergy, bedwetting, respiratory problems, and gastro-intestinal problems. Complete or substantial improvement had been noted in 61.6% of pediatric patients of their chief complaint, 60.6% received “maximum” level of improvement while only 56.7% of adult patients received “maximum” level of improvement.

Allergy airway disease and otitis media in children. Todd NW, Feldman CM, *Int J Pediatr Otorhinolaryngol* 1985; 10(1):27-35.

Musculoskeletal eustachian tube dysfunction is an important etiological factor for otitis media. The eustachian tube dysfunction manifests primarily by poor ventilation from the nasopharynx to the middle ear, by allowing negative pressure in the middle ear.

Treatment protocols for the chiropractic care of common pediatric conditions: otitis media and asthma. Vallone S and Fallon JM *Journal of Clinical Chiropractic Pediatrics* Vol 2, No.1 1997. P. 113-115

This paper’s purpose presents the results of a survey of chiropractors enrolled in the first year of a three year postgraduate course in chiropractic pediatrics. The survey sought to establish if consensus existed with respect to the modalities these doctors used to treat two of the most common childhood disorders seen by chiropractors: otitis media and asthma. Thirty-three doctors of chiropractic participated in the survey. “Of the primary therapeutic modalities employed by the chiropractor, spinal adjusting was the most commonly used for both asthma and otitis media. Certain areas of the spine were addressed most frequently for each of the two conditions.

Chiropractic results with a child with recurring otitis media accompanied by effusion. *Chiropractic Pediatrics*, 1996;2:8-10.

Author’s Abstract (Abridged) : A case study of five year old male with recurring otitis media is reviewed. Chiropractic Biophysics spinal analysis methods and adjusting procedures were applied over a six month period. During the six months of adjustments, the child had only one middle ear infection with mild effusion. In the previous year, the child had recur-

ring middle ear infections with effusion approximately every three to six weeks.

Note: Newer studies in the effectiveness of antibiotics for middle ear infections in child are reporting that child treated with antibiotics are *more likely* to have recurrences. Antibiotics are known to weaken resistance to disease and that is probably why children are so affected by their use.

Cause of Eustachian tube constriction during swallowing in patients with otitis media with effusion. Takahashi H; Miura M, Honjo I, Fujita A. *AnnOtol Rhinol Laryngol* 1996; 105(9);724-8.

Inflammation in the nasopharynx and the pharyngeal portion of the Eustachian tube was considered to be closely related to the tubal constriction, which represents a considerable part of the cause of tubal ventilatory dysfunction in otitis media with effusion.

Ear Infection: A Retrospective Study Examining Improvement from Chiropractic Care and analyzing influencing factors. Froehle RM *J Manipulative Physiol Ther* 19 (3): 169-177 (Mar 1996)

This was a study of forty-six children aged 5 years and under in a private practice in a Minneapolis suburb. All care was done by a single chiropractor, who adjusted the subluxations found and paid particular attention to the cervical vertebrae and occiput. Sacral Occipital Technique-style pelvic blocking and the doctor's own modified applied kinesiology were also used. Typical care was three adjustments per week for one week, then two adjustments per week for one week, then one adjustment per week. Interestingly, children with a history of past antibiotic use was associated with a less favorable outcome.

From the abstract: "93% of all episodes improved, 75% in 10 days or fewer and 43% with only one or two treatments. Young age, no history of antibiotic use, initial episode (vs. recurrent) and designation of an episode as discomfort rather than ear infection were factors associated with improvement with the fewest treatments... Improvement was based on parental decision (they stated that the child had no fever, no signs of ear pain, and was totally asymptomatic), and/or the child seemed to be asymptomatic to the treating DC and/or the parent stated that the child's MD judged the child to be improved.

Chronic recurrent otitis media: case series of five patients with recommendations for case management. Fysh PN, *Journal of Clinical Chiropractic Pediatrics* Vol. 1, No. 2 1996.

The author has presented a case series of five patients (ages 0 to 5) with chronic otitis media who had previously been under regular medical pediatric care for this condition.

These children all underwent a program of chiropractic case management, including specific spinal adjustments. All patients had excellent outcomes with no residual morbidity or complications. All had five adjustments to the spine. Of the five, 3 had an atlas subluxation, one had an occipital subluxation and one had an atlas and axis subluxations. These children were adjusted full spine as well.

Hypothetical mechanisms for the putative effects of spinal adjustments at areas exhibiting signs of subluxation, in patients with otitis media, are presented in the paper.

The response of a patient with otitis media to chiropractic care. Thill L, Curtis J, Magallances S, Neuray P. *Life Work*, 1995; 3: 23-28.

Authors' Abstract: This paper discusses the case of a nineteen month old female with a chronic history of acute episodes of suppurative otitis media. Treatment consisted of four series of antibiotics over a six month period with no improvement; antibiotics were stopped and then began a four week course of intensive chiropractic care, with complete resolution at two weeks.

From Neurological Fitness Vol. V, No. 2 Jan 1996: Reviewer's Synopsis: This patient presented with glassy eyes, a runny nose, and apparent discomfort evidenced by continually tugging at both her ears. The mother reported that the child had been like this consistently over the previous six months. In addition to the antibiotic therapy noted in the abstract, medical treatment also included weekly steroid injections and inhalants to control asthma...no improvement had been noticed by the mother and several emergency room visits had been required due to asthmatic attacks.

Diversified adjusting at C1, T1 and right sacroiliac joint every day for two weeks. Pulling at the ears, runny nose, and glassy eyes were resolved by the second visit.

Infections of the ears, nose and throat. Blood HA. *Osteopathic Annals* 6:11 November 1978, p.46-48.

The atlas fixation syndrome in the baby and infant. Gutmann G. *Manuelle Medizin* 1987 25:5-10, Trans. Peters RE.

18-month-old boy, recurring tonsillitis, frequent enteritis, therapy resistant conjunctivitis, suffered from colds, rhinitis, ear infections and sleep disturbances. "Immediately after (spinal adjustment) the child demanded to be put to bed and for the first time slept peacefully to the next morning. Previously disturbed appetite normalized completely. Conjunctivitis cleared completely."

Vertebral subluxation and otitis media: a case study. Phillips, NJ. *Chiropractic: The Journal of Chiropractic Research and Clinical Investigation*. Jul 1992, Vol: 8(2), pp.38-9.

Author's abstract: This is the case of a 23-month-old female with chronic otitis media who had orthodox medical treatment with no relief of symptoms. She had sustained improvement with chiropractic care. A mechanism for the etiology of chronic otitis media is suggested. From the paper: "Conventional medical treatment had been administered, including numerous regimens of broad-spectrum antibiotics. Six months before having been seen, bilateral myringotomies with tympanostomy tube placement were performed. The tubes were still in place on presentation."

Three days after initial adjustment (at C-1) the patient's ear drainage and pain were noticeably reduced. Child was soon free of all symptoms.

Sore throat, difficulty in swallowing, nausea, vomiting, poor appetite, and alternating diarrhea and constipation

From *Neurological Fitness* Vol. V, No. 2 Jan 1996:

Patient presented with a history of sore throat, difficulty in swallowing, nausea, vomiting, poor appetite, and alternating diarrhea and constipation. She was also suffering from ear pain and ear discharge related to chronic otitis media of 17 months duration. This condition had resisted several regimens of antibiotics as well as surgery to insert tympanostomy tubes. Three days after this first adjustment, the ear pain and discharge were substantially reduced. Continued correction of C1 eventually resulted in both ears being clear of exudate. At the time of this report, the patient has been symptom-free for approximately four years.

A comparative study of the health status of children raised under the health care models of chiropractic and allopathic medicine. Van Breda, Wendy M. and Juan M. *Journal of Chiropractic Research* Summer 1989.

More than 80% of the medical children suffered from at least one bout of otitis media while only 31% of the chiropractic children were so reported.

Diagnosis and treatment of TMJ, head, neck and asthmatic symptoms in children.

Gillespie BR, Barnes JF, *J of Craniomandibular Practice*. Oct. 1990, Vol 8, No. 4.

From the abstract: "Pathologic strain patterns in the soft tissues can be a primary cause of headaches, neckaches, throat infections, ear infections, sinus congestion, and asthma."

Structural normalization in infants and children with particular reference to disturbances of the CNS. Woods RH *JAOA*, May 1973,72: pp.903-908.

Post-traumatic epilepsy, allergic problems, otitis media and dizziness have been relieved by cranial manipulation.

Blocked atlantal nerve syndrome in babies and infants. Gutman G. *Manuelle Medizin* (1987) 25:5-10.

From the abstract: Three case reports are reviewed to illustrate a syndrome that has so far received far too little attention, which is caused and perpetuated in babies and infants by blocked nerve impulses at the atlas. Included in the clinical picture are lowered resistance to infections, especially to ear-, nose-, and throat infections."

Chronic otitis media: a case report. Hobbs DA, Rasmussen SA. *ACA J of Chiropractic*, Feb 1991; 28:67-68.

This is a case study of a 38-year-old female. She had previously suffered from headaches and colitis and they resolved after earlier chiropractic care. Her hearing loss and chronic otitis media symptoms subsided and hearing was restored through chiropractic care with an emphasis on cranial adjustments. (Note from *Neurological Fitness Magazine* V.1 No.4, July 1992: "Recently, Dr. Peter Fysh (Proceedings of the National Conference on Chiropractic and Pediatrics (ICA), 1991;37-45 hypothesized that cervical adjustments relieve blockage to lymphatic drainage from the ears.)

Aerotitis Media: A Case Report. Doyle EP, Dreifus LI, Dreifus GL. *Chiropractic Sports Medicine*, 1995; 9: 89-93.

Authors' Abstract: the objective of this report is to determine if spinal manipulation affects symptoms associated with aerotitis media (barotitis), which commonly affects underwater

divers and airplane travels. This study involves a recreational scuba diver that has a history of eustachian tube blockage that is exacerbated by diving.

From Neurological Fitness Vol. V, No. 2 Jan 1996: The 33-year-old male patient presented with a feeling of fullness in his ears, hearing loss, and tinnitus: these problems were not relieved by a course of antihistamines (patient had a history of eustachian tube blockage since childhood).

Following Diversified adjusting (primarily C2, C5) audiometry and tympanometry findings normalized. The patient's subjective complaints were alleviated as well.

Chronic ear infections, strep throat, 50% right ear hearing loss, adenoiditis and asthma. Case history by G. Thomas Kovacs, D.C. *International Chiropractic Pediatric Association Newsletter*. July 1995.

4 1/2 year old female with chronic ear infections, strep throat, (on and off for 4 years) 50% right ear hearing loss, adenoiditis and asthma.

Had been on antibiotics (Ceclor), developed pneumonia, on bronchodilators and anti-inflammatory for asthma. Also given steroids.

ENT diagnosed child with enlarged adenoids. Surgery to remove child's adenoids and to put tubes in her ears was scheduled.

Chiropractic history: cervical (C2) and thoracic (T3) and right sacroiliac subluxation. Numerous enlarged lymph nodes and muscle spasm. Chiropractic care of 2x/week for 6 weeks scheduled. After 3 or 4 adjustments mother noticed "a changed child, she has life in her body again...acting like a little girl again for the first time in 4 years."

After 6 weeks, pediatrician and ENT noticed no sign of ear infection or inflammation, "Her adenoids, which were the worst the ENT has ever seen, were perfectly normal and healthy. Hearing tests revealed no hearing loss. Family told M.D.s 'all medication was stopped 6 weeks ago when chiropractic care started.' Shocked and confused by this answer, the family was told to continue chiropractic care because it had obviously worked."

Chronic ear infections

The side-effects of the chiropractic adjustment. Arno Burnier, D.C. *Chiropractic Pediatrics* Vol. 1 No. 4 May 1995.

This is a case history of T & P Roger, males, ages 6 and 9, from the records of Dr. Arno Burnier of Yardley, PA.

Medical Diagnosis: Chronic ear infections.

Medication: Multiple course of Ceclor antibiotic, Nebulizer.

Chiropractic result: Both children have been free of medication and over-the-counter drugs for the past three years since the onset of care.

Presenting Vertebral Subluxation: T2, C3, D12/L1 Patrick Oc/C1, Sacrum.

Sinus Infections

Case report # 1589. ICPA Newsletter May/June 1998. Paul Zell, D.C., F.I.C.P.A.

History: A 12 year old boy, since the age of three, has had "non-stop sinus infections every 2-3 months." Antibiotics were used to control the infections and previous surgeries included removal of the tonsils and adenoids at age 3.

Examination: Among the findings were: decreased cervical range of motion, motion palpation found C-2, C-7, T-3, T-5, T-8 and right ileum fixations.

Patient Progress: By the second adjustment, antibiotics were stopped and sinus infection was gone. By the third week of care child was able to carry his head in an upright position. “Both patient and parents are aware of the quality of life that is returning as an apparent result of chiropractic care.”

References from Koren Publications’ brochure: Ear Infections and Chiropractic

Van Buchem F.L., Dunk J.H.M., and Van’t Hof M.A. Therapy of Acute Otitis Media: Myringotomy, Antibiotics, or Neither? *Lancet*, October 24, 1981, pp. 883-887.

Diamant, M., M.D. and Diamant B, M.D. Abuse and Timing of Use of Antibiotics in Acute Otitis Media. *Archives of Otolaryngology Vol 100*, Sept 1974, pp. 226-232.

Olson, A. L. et al Prevention and Therapy of Serous Otitis Media by Oral Decongestants. A Double-Blind Study in Pediatric Practice. *Pediatrics* Vol. 62, May 1978, 679-84.

The People’s Doctor, A Medical Newsletter for Consumers, Vol. 9, No.5. August 1981. pp.1-4.

Hendricks, C.L., D.C. Thier, S.M., D.C. Otitis Media in Young Children, *Chiropractic* Jan. 1989 Vol 2 No.1 pp. 9-13.

Gutman G, Blocked Atlantal Nerve Syndrome in Babies and Infants, *Manuelle Medizin* (1987) 25:5-10.

Purse F.M. Manipulative Therapy of Upper Respiratory Infections In Children. *Journal of the American Osteopathic Association*. 65: pp 964-971, 1966.

Elderly Health

Chiropractic patients in a comprehensive home-based geriatric assessment, follow-up and home promotion program. Coulter ID et al. *Topics in Clinical Chiropractic* 1996: 3(2): 46-55.

The results of a three year randomized trial of people 75 years of age and over revealed better overall health and a higher quality of life among those who use chiropractic care. Elderly chiropractic patients report better overall health, have fewer chronic conditions, spend less days in nursing homes and hospitals, are more mobile in their communities and are less likely to use prescription drugs than non-chiropractic patients according to a study conducted by the Foundation for Chiropractic Education and Research through the Los Angeles College of Chiropractic.

87% of chiropractic patients described their health as excellent compared to just 67.8% of non- chiropractic patients.

Within a total sample size of 414, a subpopulation of 23 (5.65%) reported receiving chiropractic care. This figure is similar to published reports of distribution of chiropractic patients in the general population. Chiropractic users were less likely to have used a nursing home, more likely to report a better health status, more likely to exercise vigorously, and more likely to be mobile in the community. In addition, they were less likely to use prescription drugs.

Conclusions: Results suggest a need to develop chiropractic models that address the special preventive and rehabilitative needs of the older patient.

Encephalitis/Meningitis (Brain Fever, Sleeping Sickness) (See Also Neurologic Development In Children And Neuromuscular Disorders)

Neurocalometer, Neurocalograph, Neurotempometer Research As Applied To Eight B.J. Palmer Chiropractic Clinic Cases. Preface by L.W. Sherman, DC, Asst. Director B.J. Palmer Chiropractic Clinic. Published by Palmer School of Chiropractic, Davenport, Iowa (undated).

Sleeping sickness (brain fever or encephalitis). Case No. 2120.

“November, 1944 child had infection in her nose, caused from a dead hair. The sulfa tablets to clear this up....In February, 1945 was very irritable and not eating as well as usual. After a spinal test she was diagnosed with sleeping sickness and told there was no cure. She was having difficulty using her hands was sleeping most of the time, refusing to eat or drink.

“By the time we reached the B.J. Palmer Chiropractic Clinic she was stone blind and could not stand or walk alone. She had also lost all power of speech.

“One hour after she received her first adjustment, she could talk. Her appetite returned, and three weeks later she could see fairly well. Today she is a healthy, normal child and has perfect vision.” Child had one adjustment and was under the clinic care for about 7 weeks.

Epilepsy/Seizures

“Chiropractic Management of a Patient with Subluxations, Low Back Pain and Epileptic seizures.” Alcantara, Herschong, Plaughter and Alcantara. *JMPT*, Volume 21, Number 6, pp. 410-418, April 1998.

This is a case study of a 21 year old female with a history since childhood of grand mal and petit mal seizures occurring every three hours. Examination revealed subluxation/dysfunction at L5-S1, C6-C7 and C3-C4, retrolisthesis at L5, hypolordosis of the cervical spine and hyperextension at C6-C7.

Gonstead care was administered and at a 1.5 year follow-up, “the patient reported her low back complaints had resolved and her seizures had decreased (period between seizures as great as 2 months.)

The authors conclude, “Data suggests that epilepsies are common, with an incidence between 40 and 200 per 100,000 with an overall prevalence between 0.5-1.0% of the general population. When one considers the potential side effects of antiepileptic drugs, research into the effects of chiropractic care for patients with epilepsy should be initiated.”

Chiropractic Adjustments and the reduction of petit mal seizures in a five-year-old make: a case study. Hyman CA. *Journal of Clinical Chiropractic Pediatrics* Vol. 1 No. 1 Jan 1996.

From the abstract: This case study involves a five-year-old Caucasian male, presenting with petit mal (absence) seizures and bilateral toe in foot flare with leg pain. This study addresses the reduction in petit mal seizures, decreases in toe in foot flare and the cessation of bilateral leg pain while under chiropractic care.

The child received upper cervical care (Palmer toggle-recoil and Thompson adjustments) and adjustments of T4, L2 and both sacroiliacs. By the third visit, the mother noted that the 4 to 6 seizures and hour had reduced to 2-3 seizures every two hours. After two months of chiropractic care, it was reduced to 1 seizure per day with a duration of 2-4 seconds. The bilateral leg pain completely resolved and the foot flare decreased.

Epileptic seizures, Nocturnal enuresis, ADD. Langley C. *Chiropractic Pediatrics* Vol 1 No. 1, April, 1994.

An eight year old female with a history of epilepsy, heart murmur, hypoglycemia, nocturnal enuresis and attention deficit disorder had been to five pediatricians, three neurologists, six psychiatrists and ten hospitalizations. Child had been on Depakote, Depakene, Tofranil and Tegretol.

The doctors told the mother the girl would never ride a bike nor do things like normal children do. The child was wetting the bed every night and experiencing 10-12 seizures/day, with frequent mood swings, stomach pains, diarrhea and special education classes for learning disabilities.

Chiropractic adjustments were given at C1/C2 for approximately three times per week. Two weeks after beginning care the bed-wetting began to resolve and was completely resolved after six months. She was also going to leave special education classes to enter regular fifth grade classes.

After one year of chiropractic, the seizures were much milder and diminished to 8-10 per week. Patient was also released from psychiatric care as “self managing.” Her resistance to disease increased and she can now ride a bike, roller skate and ice skate like a normal child. After medical examinations, she is expected to be off all medication within a month.

Longitudinal clinical case study: multi-disciplinary care of child with multiple functional and developmental disorders. Golden, L. Van Egmond, C. *JMPT* May 1994, Vol.:17(4) pp.279.

Cessation of seizure disorder: correction of the atlas subluxation complex. Goodman R. *Proceedings of the National Conference on Chiropractic and Pediatrics (ICA)*, 1991:46-56. When beginning chiropractic care a five-year-old girl was experiencing up to 70 seizures a day. She is now seizure-free and has her spine checked every 2-3 months.

Cessation of a seizure disorder: correction of the atlas subluxation complex. Goodman R., Mosby J. *Chiropractic: J of Chiropractic Research and Clinical Investigation*. Jul 1990, Vol 6(2) pp.43-46.

From the abstract: Patient was experiencing 1 to 70 seizures per day prior to chiropractic care. On the 17th day after the adjustment, the seizures numbered 100 (the most recorded). On the 27th day the seizures abated. The seizures remained absent for approximately 4 weeks. Adjustment was to the occipito-atlanto-axial complex.

Subluxation location and correction. Stephen R. Goldman, D.C. *Today's Chiropractic* July/August 1995 p.70-74.

Case Study No.2

“A 22-month-old child diagnosed with chronic infection and febrile seizures. Condition started when he fell out of a chair and hit his head on the floor. He had been on antibiotics and Phenobarbital since age six months. As a result of the medication did not eat well and lacked the strength to play.

Chiropractic analysis revealed C1 subluxation. Within 4 months of adjustments all medication was stopped and he resumed normal activities for a boy of his age.”

Structural normalization in infants and children with particular reference to disturbances of the CNS. Woods RH *JAOA*, May 1973,72: pp.903-908.

Post-traumatic epilepsy, allergic problems, otitis media and dizziness have been relieved by cranial manipulation.

Neurocalometer, Neurocalograph, Neurotempometer Research As Applied To Eight B.J. Palmer Chiropractic Clinic Cases. Preface by L.W. Sherman, DC, Asst. Director B.J. Palmer Chiropractic Clinic. Published by Palmer School of Chiropractic, Davenport, Iowa (undated).

Case No. 1560. Epilepsy (grand mal) . Age 24. He has had seizures since age 7, most of the convulsions occur at night, averaging 1-5 every 24 hours.

Patient’s entrance remarks: “The longest that he has gone without any attacks has been two or three weeks and that was immediately after adjustment from local chiropractor. Patient has been taking Phenobarbital for past 17 years.”

Phenobarbitol use was discontinued a day or two prior to his entering the BJP Clinic and “much of the reaction following reduction of nerve pressure was, in our opinion, withdrawal symptoms....”

After the first adjustment his attacks increased in severity and number. The patient began to experience various symptoms: headache, hallucinations, numbness in both hands. The attacks increased per day to 12, 26, 51, 41, 54, 78, 97, 125-150 (in one 24 hour period!). The patient then reported five seizure-free months. Symptoms returned briefly after dental work was performed but after adjustment disappeared. Patient eventually remained seizure-free.

Neurocalometer, Neurocalograph, Neurotempometer Research As Applied To Eight B.J. Palmer Chiropractic Clinic Cases. Preface by L.W. Sherman, DC, Asst. Director B.J. Palmer Chiropractic Clinic. Published by Palmer School of Chiropractic, Davenport, Iowa (undated).

Case No. 2348. Epilepsy. Boy, aged 5 years.

March 1944 child had a streptococci infection in inner ear. Started falling many times each day: often hurt himself. Child had a tonsillectomy, appendectomy, and hernia operation “since this trouble started.” Child had first adjustment 8-22-45.

Immediately after the first adjustment, “child became more alert and his eyes started getting clearer. His appetite increased and we noticed he wasn’t so nervous.”

In the two weeks since the first adjustment, the child gained five pounds. Child was discharged and parents were advised to have child under observation for period of several

months as the original NCM reading (pattern) has a good chance of returning. Child had a “mild attack” three months later and has since remained free of epileptic symptoms. Child had one adjustment in all. Child’s father later entered Palmer School Chiropractic.

Blocked atlantal nerve syndrome in infants and small children. Gutman G. *International Review of Chiropractic*, 1990; July:37-42. Originally published in German *Manuelle Medizin* (1987) 25:5-10.

From the abstract: Three case reports are reviewed to illustrate a syndrome that has so far received far too little attention, which is caused and perpetuated in babies and infants by blocked nerve impulses at the atlas. Included in the clinical picture are lowered resistance to infections, especially to ear-, nose-, and throat infections, two cases of insomnia, two cases of cranial bone asymmetry, and one case each of torticollis, retarded locomotor development, retarded linguistic development, conjunctivitis, tonsillitis, rhinitis, earache, extreme neck sensitivity, incipient scoliosis, delayed hip development, and seizures.

Cortical blindness, cerebral palsy, epilepsy and recurring otitis media: A case study in chiropractic management. Amalu WC, *Today’s Chiropractic* May/June 1998 pp.16-25.

This is the story of a 5-year-old boy referred by his parents because of recurring middle-ear infections at one-month intervals.

Child had been diagnosed with cortical blindness, cerebral palsy, epilepsy and severe brain damage, secondary to possible aborted crib death or viral encephalitis. His mother reported he had been a very healthy child. “Two days following a well-child checkup with an inoculation,” became “colicky” and developed a mild upper respiratory infection with fever. After putting him to sleep, he became cyanotic, gasping for air and nonresponsive. In ER a septic workup found no infection. A cranial CT-scan showed cerebral edema, comparable with either an ischemic insult or sepsis. Child began to have seizures 24 hours later, diagnosed as severe hypoxemic encephalopathy, secondary to possible SIDS or viral encephalitis.

Child remained on Phenobarbital for over 1½ years then placed on dilantin. Multiple specialists said he would never walk, speak, regain his vision or progress in school. At the time of his first chiropractic visit, he was having 30 grand mal and complex seizures a day and otitis media once per month.

“Upon presentation, the patient was non-ambulatory, uncommunicative and non-responsive with a constant loud vocal drone and almost constant writhing torsocephalic motions...gross motor coordination included reaching out with his hands and rolling over onto all fours.”

Chiropractic Management: “Correction of the atlanto-occipital subluxation was chosen as the first to be adjusted.” Knee-chest posture adjustment on posterior arch of atlas. After the 1st adjustment, the mother noted that he had his first good-night sleep in weeks. After the 2nd adjustment seizures reduced to only 10 a day, vocal drone became a quiet intermittent moan and he began to clap his hands.

During the next week patient had become more alert, sitting up and looking around, responded to sounds and seizures decreased to 5 per day. Pupillary reflexes returned to normal, almost all writhing motions had ceased, ears were clear of effusion.

3rd week: seizures were 5 per day, no grand mal. Sleeping through the nights. For the first time in his life he vocalized “dada” and began vowel sounds. Overall, spasticity had de-

ceased in all extremities. He began showing fine motor skills. He had his first month free from otitis media in 9 months.

5th week: ophthalmologist noted a drastic improvement with recovery of central field vision. Seizures now to 3 per day. Saying more words and improved fine motor coordination.

7-12 weeks: seizures reduced to staring spells which saying his name brought him out of. Over the next 10 months improvement continued. All epileptic drugs removed and neurologist declared him non-epileptic. He remained free of ear infections. His vision improved to the point where he was prescribed glasses. Vocabulary continued to increase. He was learning to feed himself and was potty training. He was able to walk slowly with the assistance of holding someone's hand.

Comment (tk): This appears to be a vaccine related injury. Encephalopathy is known in the medical literature as a possible reaction to the DTP inoculation.

EG and CEEG studies before and after upper cervical or SOT category 11 adjustment in children after head trauma, in epilepsy, and in "hyperactivity." Hospers LA, *Proc of the Nat'l Conference on Chiropractic and Pediatrics (ICA)* 1992;84-139.

Five cases were presented. Conventional EEG studies demonstrate responses of two children with petite mal (absent seizure) with potential for generating into grand mal. Upper cervical adjustment reduced negative brainwave activity and reduced the frequency of seizures over a four month period. In two cases of "hyperactivity" and attention deficit disorder, upper cervical adjustment reduced non-coherence between right and left hemispheres in one child and in another, CEEG demonstrated restoration of normal incidence of the alpha frequency spectrum. Increased attention span and improvement of social behavior were reported in both cases. A child rendered hemiplegic after an auto accident displayed abnormal brainwave readings. After adjustment, the CEEG demonstrated more normalized brainwave readings. Child was able to utilize his left arm and leg contralaterally to the injured side of the brain without assistance after upper cervical adjustments.

The side-effects of the chiropractic adjustment. Arno Burnier, D.C. *Chiropractic Pediatrics* Vol. 1 No. 4 May 1995.

Male, age 15 with epileptic seizures due to birth trauma.

Medication: antibiotics, Mebaral, Depakene, Klonopin, Phenobarbital, Dilantin.

Chiropractic results: Marked decrease of number and frequency of seizures since onset of care. Decreased medication intake to one drug with 1/3 dosage. Able to recover from flu, cold, respiratory infection without medication or antibiotics and without seizure. Marked improvement in school. 5 years later the child has been seizure free for a few years on reduced dose of medication.

Presenting Vertebral Subluxation: Occiput/C1 with Atlas ASR, C5/C6 posterior, D4/D5 posterior.

Brain injured child with seizures benefits from chiropractic care. Gambino, D.W., *Chiropractic Pediatrics* Vol. 2, No. 1, Oct. 1995

From the abstract: A five year old boy with a history of seizures and brain injury began chiropractic care using the Harrison (CBP) Model (Chiropractic Biophysics Technique). Immediate improvements were seen and seizure activity virtually ceased to exist.

Erb's Palsy

Erb's Palsy (Erb's-Duchenne Paralysis) is defined as a brachial plexus paralysis, secondary to trauma of the upper trunk (C5-C6) of the brachial plexus. Brachial plexus injuries are most commonly seen in newborns and are usually caused by traction and excessive lateral flexion of the head and neck during delivery.

Chiropractic adjustments and Erb's Palsy: a case study. Hyman CA, *Journal of Clinical Chiropractic Pediatrics*. Oct. 1997;2(2) pp. 157-60..

Chiropractic care of a patient presenting to the author's chiropractic office, with obstetrical brachial plexus injury at the level of C5-C6 nerve roots (Erb's Palsy). Brachial plexus injuries are most commonly seen in newborns and are usually caused by traction and excessive lateral flexion of the head and neck during delivery.

Patient: A two-month old black female presented with obstetrical brachial plexus injury (Erb's Palsy). This infant had been under the care of several medical pediatricians without resolution.

Conclusion: The infant had complete resolution of her condition with no complications or residual impairments under chiropractic care.

Resolution of infantile Erb's palsy utilizing chiropractic treatment. Harris SL, Wood KW *JMPT* 1993,16:415-418.

From the abstract:

A 5-week-old boy suffered from a limp left arm. Clinical diagnosis of Erb-Duchenne palsy was made. The child received specific chiropractic adjustments to the mid-cervical spine and muscle stimulation therapy with an upper extremity with an upper extremity exercise program.

Patient's condition resolved with only a mild "waiter's tip" deformity within two months.

Facial Symmetry

The atlas fixation syndrome in the baby and infant. Gutmann G. *Manuelle Medizin* 1987 25:5-10, Trans. Peters RE.

Seven-month-old male baby with facial and skull asymmetry since the eighth week of life. After spinal adjustment slept well in all positions for first time. "Skull becoming more symmetrical, facial asymmetry cannot be noticed any more."

Kinematic imbalances due to suboccipital strain in newborns (KISS syndrome).

Biedermann H. J. *J Manual Medicine* 1992, 6:151-156.

More than 600 babies (to date) have been treated for suboccipital strain. One hundred thirty-five infants who were available for follow-up was reviewed in this case series report. The

suboccipital strain's main symptoms include torticollis, fever of unknown origin, loss of appetite and other symptoms of CNS disorders, swelling of one side of the facial soft tissues, asymmetric development of the skull, hips, crying when the mother tried to change the child's position, and extreme sensitivity of the neck to palpation. Most patients in the series required one to three adjustments before returning to normal. "Removal of suboccipital strain is the fastest and most effective way to treat the symptoms...one session is sufficient in most cases. Manipulation of the occipito-cervical region leads to the disappearance of problems...."

Fever

Kinematic imbalances due to suboccipital strain in newborns. Biedermann H. J. *Manual Medicine* 1992, 6:151-156.

More than 600 babies (to date) have been treated for suboccipital strain. One hundred thirty-five infants who were available for follow-up was reviewed in this case series report. The suboccipital strain's main symptoms include torticollis, fever of unknown origin, loss of appetite and other symptoms of CNS disorders, swelling of one side of the facial soft tissues, asymmetric development of the skull, hips, crying when the mother tried to change the child's position, and extreme sensitivity of the neck to palpation.

Most patients in the series required one to three adjustments before returning to normal. "Removal of suboccipital strain is the fastest and most effective way to treat the symptoms...one session is sufficient in most cases. Manipulation of the occipito-cervical region leads to the disappearance of problems...."

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Fibromyalgia

The effectiveness of chiropractic management of fibromyalgia patients: a pilot study.

Blunt KL, Rajwani MH, and Guerriero RC. *J Manipulative Physiological Therapy*; 1997; 20(6):389-99.

Twenty-one rheumatology patients aged 25-70 suffering from fibromyalgia (muscular pain characterized by muscular tautness/stiffness, well-defined tender/trigger points, numbness, tingling, and pain) were studied to demonstrate chiropractic's effect on this condition.

From the abstract:

Objective:

To demonstrate the effectiveness of chiropractic management for fibromyalgia patients using reported pain levels, cervical and lumbar ranges of motion, strength, flexibility, tender points, myalgic score and perceived functional ability as outcome measures.

Chiropractic interventions:

Treatment consisted of 4 weeks of spinal manipulation, soft tissue and passive stretching at the chiropractors' discretion.

Results: Chiropractic management improved patients' cervical and lumbar ranges of motion, straight leg raise and reported pain levels. These changes were judged to be clinically important with the confines of our sample only.

Prospective, longitudinal study of service utilization and costs in fibromyalgia.

Wolf F, Anderson J, Harkness, D et al. *Arthritis and Rheumatism*, 1997; 40, pp.1560-70.

In this study of 538 fibromyalgia patients it was revealed that chiropractors were one of the more common health care professionals visited by patients, averaging 30.4 visits per 100 patients (per six-month period).

Foot Inversion/ Club Foot/Hip Dysplasia/Toe Walking

The resolution of chronic inversion and plantarflexion of the foot: a pediatric case study. Ellis W.B., Ebrall, P.S. *Chiropractic Technique* Vol. 3, No. 2 May 1991.

Receptor based manipulative lesions in children who toe walk. Press H. *Proceedings of the National Conference on Chiropractic and Pediatrics*. Oct, 1993 Palm Springs, CA. Pub. International Chiropractors Assoc., Arlington, VA.

Eight children, four normal and four toe walkers were studied. The four toe walkers were diagnosed with childhood schizophrenia. All eight children vocalized, verbalized, and appeared more alert and responsive after manipulation of the cervical spine. The four abnormal toe walkers demonstrated restoration of joint position sense, increased mobility of the cervical spine. Parents of all four children reported no observable dysplasia during family meals since the children's second (chiropractic) visit. In addition, the parents reported undisturbed and less disrupted sleeping patterns since the initial adjustment. After 180 days, the children did not exhibit any toe walking. Their family physicians reported normal urinalysis and restoration of the normal cervical lordosis in all four abnormal children.

ADD, Enuresis, Toe Walking. International Chiropractic Pediatric Association Newsletter May/June 1997. From the records of Rejeana Crystal, D.C., Hendersonville, TN.

A six year old boy with nightly nocturnal enuresis (bedwetting), attention deficit disorder and toe walking. He walked with his heels 4 inches above the ground. The medical specialist recommended that both Achilles' tendons be cut and both ankles be broken to achieve normal posture and gait. Chiropractic findings included subluxation of atlas, occiput, sacrum and pelvis...after 4 weeks of care both heels dropped 2 inches and the bedwetting frequency decreased to 2-3 times per week. His doctor could not believe how chiropractic care made such a change.

The side-effects of the chiropractic adjustment. Arno Burnier, D.C. *Chiropractic Pediatrics* Vol. 1 No. 4 May 1995.

J.C., 1-year-old male was diagnosed with post-viral enteritis, c.difficile enteritis, colitis secondary to antibiotic usage, allergic colitis, gastroesophageal reflux with esophagitis, gastric and/or duodenal ulcer disease, duodenitis secondary to congenital or autoimmune phenomenon, Club feet requiring surgery.

Medication: Amoxicillin, Zantac, Reglan, Tylenol, and Ambesol.

Chiropractic results: Off all medication after first visit. Immediate improvement within 24 hours. Complete resolution within 3 weeks of care. Six months later the child is in radiant health, has had no need for medical care and has been free of medication and over-the-counter drugs. Club feet straightened out without surgery within 1 1/2 months of care.

Presenting Subluxation Findings: Occiput/C1 with an Atlas ASRP, Sacrum base posterior.

Original Adjustments: Left occiput ridge meningeal contact for 30 seconds, double notch sacral meningeal contact for 1 minute; structural manual adjustment of Atlas ASRP, left Temporoparietal suture adjustment.

Hip Dysplasia in 7 day old infant. Case Studies. Webster, L. Chiropractic Showcase Magazine, Vol. 2, Issue 5, Summer 1994.

Case study of 7 day old infant with hip dysplasia affecting left leg. Patient wore a brace, which restricted movement of both legs. Would not extend left leg and did not have full range of motion. Examination revealed a sacral subluxation. After adjustment child could extend left leg and had full range of motion. Patient returned one week later, no hip dysplasia evident. According to the parents their orthopedist was amazed and could not understand what had happened. Parents did not tell him that they had taken the baby to a chiropractor.

Gallbladder

Segmental spinal osteophytosis in visceral disease. Burchett GD *J of the American Osteopathic Association* 1968; 67(6): 675.

Using radiography, Burchett examined sixty-one hospital patients and found that in 88% of patients with gallbladder disease there was lipping from T7-T10; spinal osteophytes (T9-T11) were found in 82% of those with stomach disease. Many sufferers of pancreatic disease had segments T5-T7 involved and 31% of patients with duodenal disease had osteophytes at T9-L2.

Postmortem studies of viscerosomatic relationships. Snyder GE, Chance JA, Clarey JK *J of the American Osteopathic Association* 1966(5) 65:995.

90% of patients with gallbladder disease (on post-mortem examination) had exostoses of T7 or T8.

The Evidence of the Association, in Dissected Cadavers, of Visceral Disease with Vertebral Deformities of the Same Sympathetic Segments. Winsor H. Sympathetic segmental disturbances—II. *The Medical Times*, Nov. 1921, 49:267-271 and **The Prevalence of minor curvatures and deformities of the spine in man. Also in other vertebrates.** appeared in *The Medical Times*, Oct.1921, pp.237-239.

All five cases with gallstone disease had spinal misalignments in the same spinal area.

Unpublished clinical report from Tedd Koren, D.C.

I had a patient, an MD in fact, who had been to his internist and was diagnosed with crystals in his gallbladder, a pre-gallstone condition he was told. Upon spinal examination I found T-7 subluxated and adjusted the segment. His gallbladder became inflamed shortly thereafter and remained that way for about two weeks. He was very uncomfortable.

When he next had his gallbladder checked his internist was surprised to find that the crystals were gone. The inflammation was apparently a curative response.

Gynecological Conditions

While a medical examination to rule out serious underlying pathology is always a good idea, researchers have suggested that chiropractic care might be a viable alternative for women suffering from menstrual pain and discomfort. This would be especially true for women who cannot or do not wish to take anti-inflammatory drugs or oral contraceptives.

Masarsky C. and Weber M. (*Neurological Fitness* Vol. 2, No. 1 Oct. 1992).

Chiropractic care for women with chronic pelvic pain: a prospective single-group intervention study. Hawk, C, Long C, Azad A. *JMPT* Vol. 20 No. 2 Jan 1997.

This was a study involving 19 volunteer female subjects (18 completed the study).

From the abstract:

Objective: To assess the role of chiropractic care for women with chronic pelvic pain (CPP) as a first step in designing a randomized clinical trial.

Eighteen subjects completed the study the mean improvement in the PDI score was 13.0 points; in the VAS it was 4.0 cm and in the BDI it was 6.1 points. All eight subscales of the Rand-36 Health Survey increased post-intervention, with the largest differences in role function limitations because of physical problems (45.8%), emotional problems (44.4%) and pain (40.6%).

Conclusion: The chiropractic treatment used in this study had positive short-term effects.

These results will be used to design a randomized clinical trial to investigate the efficacy of chiropractic care in the treatment of CCP.

Chiropractic management of a 7-year-old female with recurrent urinary tract infections. Vallone SA. *Chiropractic Technique* 1998; 10:113-117.

This girl had trauma to the thoracic and lumbar spine and had not responded to homeopathic and antibiotic therapy for two years.

The patient received eight chiropractic adjustments over a period of two months with complete resolution of the complaint.

The Mechanically Induced Pelvic Pain and Organic Dysfunction Syndrome: An Often Overlooked Cause of Bladder, Bowel, Gynecological, and Sexual Dysfunction. Brown-ing JF. *Journal of the Neuromusculoskeletal System*.1996; 4:52-66

Author's Abstract: The mechanically induced pelvic pain and organic dysfunction PPOD) syndrome has recently been described in the literature. While the etiology of this disorder is thought to be a mechanical lesion of the lumbar spine with secondary impairment of lower sacral nerve root function, its clinical presentation is highlighted by various combinations of bladder, bowel, gynecologic and sexual dysfunction. As most PPOD patients present to the chiropractic clinician because of complaints relative to a mechanical disorder of the low back, the symptomatic representation of lower sacral nerve root impairment can easily be overlooked. As a result, patient management and therapeutic outcome may be compromised. (Abstract abridged).

29-year-old woman with bilateral and low back pain. Previous chiropractic care gave partial relief but an exacerbation was accompanied by inguinal pain, urinary stress incontinence, loss of genital sensitivity, loss of libido and vaginal discharge. A gynecological exam failed to reveal any pathology.

Dr. Browning found evidence of lower sacral nerve root involvement, secondary to a L5/S1 disc herniation. Under chiropractic care the patient initially experienced symptoms (pain and paraesthesia of the genitalia) but within one week, bladder dysfunction had resolved, and the other symptoms were less severe. After 4 weeks, her PPOD symptoms had resolved.

Distractive manipulation protocols in treating the mechanically induced pelvic pain and organic dysfunction patient. Browning JE *Chiropractic Technique*. 1995; 7:1-11.

From the abstract: Treatment protocols outlining the application of distractive decompressive manipulation of the lumbar spine in the management of the (mechanically induced pelvic pain and organic dysfunction syndrome) have been developed. Their incorporation requires the identification of patients with symptoms of bladder, bowel, gynecologic, and sexual dysfunction secondary to impairment of lower sacral nerve root function as a result of a mechanical disorder of the low back.

Dysmenorrhoea. To treat or not to treat. Polus, BI, Henry SJ, Walsh MJ. *Chiro J Aust* 1996; 26:21-4.

This review examined a number of studies that have shown a positive correlation between Chiropractic intervention and the alleviation of the suffering associated with primary dysmenorrhea.

The effect of spinal manipulation on pain and prostaglandin levels in women with primary dysmenorrhea. Kokjohn J, Schmid DM, Triano JJ, Brennan PC *JMPT*, June 1992; 15(5): 279-285.

This randomized pilot study of 45 women (ages 20-49 divided into experimental and control groups). The controls received a “sham” manipulation. The perception of pain and level of menstrual distress were significantly reduced immediately after spinal manipulation. The symptom improvement of the experimental group was twice as great as the symptomatic improvement of the control group. These effects were associated with significant decreases in post-manipulative plasma levels for both groups.

The authors found that immediately after treatment, the perception of pain and the level of menstrual distress were significantly reduced. The authors suggest that SMT may be an effective and safe nonpharmacological alternative for relieving the pain and distress of primary dysmenorrhea. It was suggested that further studies be performed over a longer time frame.

Disorders of the iliopsoas muscle and its role in gynecological diseases. Dobrik I. *Journal of Manual Medicine*, 1989; 4: 130-133.

Discusses how gynecologists and chiropractors should work together for the benefit of the patient.

Effectiveness of spinal manipulative therapy in treatment of primary dysmenorrhea: a pilot study. Thomason PR, Fisher BL et al *JMPT*, 1979; 2:140-145.

Women were divided into three groups: one group was given chiropractic adjustments, one group was given sham adjustments and one group was monitored only (control).

24.6% demonstrated a vertebral displacement at the first lumbar segment, 45.5% showed it at the second lumbar level, 54.0 % at third lumbar, 63.7% at fourth lumbar, and 63.7% had a fifth lumbar subluxation.

Of those who received chiropractic, adjustments 88% reported reduced pain during their menstrual periods while none of the control or sham group did. As the study stated: "Conclusions suggest that in primary dysmenorrhea spinal manipulative therapy should be seriously considered...."

A chiropractic approach to the treatment of dysmenorrhea. Liebl NA, Butler LM *JMPT*, 1990; 13:101-106.

A patient suffered from monthly menstrual cramps since the onset of menses that had intensified after the birth of her child 4 years prior to eight painful days a month. The patient received 19 adjustments over two month period, approximately twice per week for the first two months and one a week for the last month. Patient was adjusted in the sacroiliac, upper lumbar, mid-thoracic and upper cervical areas. Some cranial adjusting was done on some sessions. "The average number of recordings showing pain in the baseline phase was 8 per month compared to an average of 2.25 episodes per month in the treatment phase." Pain was over 1/3 lessened.

Mechanically induced pelvic pain and organic dysfunction in a patient without low back pain. Browning JE. *JMPT*, 1990; 13:406-411.

A case in which eighteen years of organ trouble in the pelvis including diarrhea, pelvic pain, and reduced genital sensitivity resolved within eight weeks of chiropractic care. The patient had undergone numerous medical and surgical procedures: an appendectomy for abdominal pain (appendix was normal), partial hysterectomy and left oophorectomy to resolve pelvic pain and abdominal bleeding, three exploratory bowel surgeries for continuous diarrhea, pain, rectal bleeding and mucous discharge and four bladder surgeries - without resolution. Patient had reduced genital sensitivity, sexual dysfunction (been unable to experience orgasm), and had pelvic pain during intercourse.

Diagnosis: Central L5 disc herniation.

Care: chiropractic flexion-distraction adjustment.

Complete resolution of symptoms including pelvic pain and diarrhea occurred within eight weeks and genital sensitivity improved and patient was able to achieve orgasm on a regular basis after thirty weeks.

Pelvic pain and organic dysfunction in a patient with low back pain: response to distractive manipulation: a case presentation. Browning J. *JMPT*, June 1987; 10(3): 116-121. "Chiropractic may be an effective means of treating pelvic disorders secondary to lower sacral nerve root compression."

The recognition of mechanically induced pelvic pain and organic dysfunction in the low back pain patient. Browning JE *JMPT* Vol. 12 No. 5 Oct, 1991.

Pelvic organic problems that have been shown to respond to manipulative treatment include impairment of bladder, bowel and sexual function.

Uncomplicated mechanically induced pelvic pain and organic dysfunction in low back patients. Browning JE *J of the Canadian Chiropractic Association*. 1991; 35: 149-155.

A 29-year-old female had back pain radiating into the right leg, urinary urgency and stress incontinence, loss of genital sensitivity, loss of libido, and constant sharp rectal pain. No pelvic abnormality could be found. Within one month of chiropractic care the bladder disturbance and the other pelvic complaints completely cleared up.

Distractive manipulation protocols in treating the mechanically induced pelvic pain and organic dysfunction patient. Browning JE, *Chiropractic Technique*, Vol. 7, No.1, Feb. 1995.

From the author's abstract: "The mechanically induced pelvic pain and organic dysfunction syndrome...characterized by various disturbances in pelvic organ function has been successfully managed by chiropractic manipulative procedures...symptoms [include] bladder, bowel, gynecologic, and sexual dysfunction secondary to impairment of lower sacral nerve root function as a result of a mechanical disorder of the low back."

Association between primary dysmenorrhea and pain threshold at the thoracolumbar junction. Hains F, Batt R, Bellis S, Martel J. Proceedings of the 1991 Conference on Spinal Manipulation, FCER; 106-109.

Dysfunctional uterine bleeding with concomitant low back and lower extremity pain.

Stude, DE, *JMPT* Vol. 14 No. 8 Oct. 1991.

A temporal relationship between chiropractic care and uterine bleeding in a patient with mild low back and leg pain.

Endometriosis and anterior coccyx: observation of five cases. Robinson and Freedman. *Research Forum* 1(4) Chiropractic helps for endometriosis sufferers.

Painful menstruation with special reference to posture as an etiological factor. Adams TW, *Pacific Medicine and Surgery*, 1943; 42.

The group suffering from menstrual pain had a much higher incidence of poor posture.

Theoretical considerations to the clinic and therapy of spinal disturbances in gynecology. Dvorak N. *Manuelle Medizin*, 1973, Heft 1. Five pages.

Study of 496 female patients with gynecological problems (inflammation, dysmenorrhea, sacral pain etc.) who underwent chiropractic care. Immediate relief occurred in most cases.

Functional disorders (fixations) of the spine in children. Lewit K. *Manuelle Therapie*, J.A. Barth, Leipzig, 1973. Chap.2.7. Pp. 50-54.

Functional disorders in children may manifest themselves as sleep disorders, loss of appetite, psychic problems, dysmenorrhea and may not exist as spinal pain. Studies on healthy children revealed pelvic subluxations in 40% of all school children, cervical fixation in 15.8%. After manipulative treatments, the problems rarely recurred.

Investigation of the effect of chiropractic adjustments on a specific gynecological symptom: dysmenorrhea. Arnold-Frochet S. *J Aust Chiro Assoc*, 1981; 10:14-16.

Chiropractic adjustment in the management of visceral conditions: a critical appraisal.

Jamison JR, McEwen AP, Thomas SJ. *JMPT*, 1992; 15:171-180.

This was a survey of chiropractors in Australia. More than 50% of the chiropractors stated that asthma responds to chiropractic adjustments; more than 25% felt that chiropractic adjustments could benefit patients with dysmenorrhea, indigestion, constipation, migraine and sinusitis.

Headaches/Migraine

Headaches are among the most common of health problems. Chiropractic and other non-medical healers are increasingly sought out by the public. Twenty-seven percent of Americans who visit alternative health care providers do so for headache relief according to *Unconventional Medicine in the United States*, *NEJM* 28 May 1993. Pp.246-252.

The efficacy of spinal manipulation, amitriptyline and the combination of both therapies for prophylaxis of migraine headache. Nelson CF, Bronfort G, Evans R, et al. *Journal of Manipulative and Physiological Therapeutics*, October 1998: Vol. 21, No. 8, pp 511-19.

This study compared the relative effectiveness of treating migraines by with chiropractic care alone, with the antidepressant/antianxiety drug amitriptyline (best known under the brand name Elavil); and with a combination of both the drug therapy and chiropractic care. Patients who received only chiropractic showed significant improvement, on a par with those given the powerful prescription drug (though without the side effects). The headache index, from a diary kept by each patient, showed chiropractic to have reduced the severity and frequency of headaches as well or better than the combined therapy or amitriptyline alone at each stage of the study.

Spectrum of pathophysiological disorders in cervicogenic headache and its therapeutic indications. Martelletti P, LaTour D, Giacobozzo M *Journal of the Neuromusculoskeletal System* 1995; 3:182-7.

This describes a number of patients who were diagnosed with cervicogenic headache (headache arising from neck structures) and received chiropractic care. The patients reported improvement.

Chiropractic care of a 13-year-old with headache and neck pain: a case report. Hewitt, EG, Portland, Oregon. *Proceedings of the National Conference on Chiropractic and Pediatric*

rics. Oct, 1993 Palm Springs, CA. Pub. International Chiropractors Assoc., Arlington, VA. From the abstract: Headaches are the most frequent cause of visits to primary care practitioners. Standard medical care for headaches is prescription of pain relieving medication.

Incidence of ponticulus posterior of the atlas in migraine and cervicogenic headache.

Wight S, Osborne N, Breen AC. *Journal of Manipulative and Physiological Therapeutics*, Jan. 1999; vol. 22, no. 1, pp15-20.

A common structural variation of the atlas vertebra is called ponticulus posticus (also known as foramen arcuale or “Kimmerle’s anomaly”). Investigators studied the relationship between this condition and headache symptoms in 895 first-time chiropractic patients. The patients complaints included migraine with aura (classical migraine), migraine without aura (common migraine), cervicogenic headache, neck pain only, and other problems. They were examined for the presence or absence of partial or complete ponticulus posticus.

The authors found a significant correlation of ponticulus posticus with migraine without aura. They explain that because the ponticulus posticus is intimately attached to the atlanto-occipital membrane (where the spine and skull meet) and this membrane, in turn, is attached to the dura (the outermost covering of the brain and spinal cord), small tensions exerted on the dura may result in excruciating head pain of a type experienced in migraine.

The beneficial results of chiropractic for migraine and cervicogenic headache are possibly related to the nature of the structures connecting the upper spine to the skull.

A case series of migraine changes following a manipulative therapy trial. Tuchin PJ.

Australasian Chiropractic & Osteopathy, Nov. 1997; 66(3), pp. 85-91.

Four cases of migraine responded dramatically to spinal care. Many self reported symptoms were either eliminated or substantially reduced.

Average frequency of episodes was reduced by 90% with the length of each headache reduced by 38%. Medication use dropped 94%. Other symptoms associated with migraine were reduced including nausea, vomiting, photophobia and phonophobia.

The effect of spinal manipulation in the treatment of cervicogenic headache. Nilsson N, Christensen HW, Hartvigsen J. *JMPT* 1997; 20:326-330.

This is a randomized controlled trial performed at the University of Odense, Denmark by chiropractors and medical doctors.

From the abstract: Fifty-three [patients] suffering from frequent headaches who fulfilled the International Headache Society criteria for cervicogenic headache...were recruited from 450 headache sufferers from responded to the newspaper advertisements.

...28 of the group received high-velocity, low-amplitude cervical manipulation twice a week for three wk. The remaining 25 received low-level laser in the upper cervical region and deep friction massage in the lower cervical/upper thoracic region, also twice a week for three weeks.

Results: the use of analgesics decreased by 36% in the manipulation group, but was unchanged in the soft-tissue group; this difference was statistically significant. The number

of headache hours per day decreased by 69% in the manipulation group compared with 37% in the soft-tissue group; this was significant. Finally, the headache intensity per episode decreased by 36% in the manipulation group, compared with 17% in the soft-tissue group; this was significant.

Spinal manipulation vs. Amitriptyline for the treatment of chronic tension-type headaches: a randomized clinical trial. Boline PD, Kasaak K, Bronfort G, Nelson C, Anderson AV, *JMPT*, 1995; 18: 148-154.

Six weeks of drug therapy were compared to six weeks of chiropractic adjustments. The drug therapy was considered slightly more effective than chiropractic however 82% of the patients had side effects which included drowsiness, weight gain and dry mouth. Cardiac problems and glaucoma were also associated with amitriptyline use.

Chiropractic patients had no side effects (apart from slight neck stiffness in the first two weeks of the study that 5% of the patients reported). After four weeks, chiropractic and drug therapy was halted in both groups.

The patients who used drugs began having headaches again while the chiropractic group continued to express headache relief, as well as higher levels of energy and vitality than the drug therapy group.

A controlled trial of manipulation for migraine. *Aust and New Zealand Journal of Medicine* 1978;8:589-593. Parker GB, Tupling H, Pryor D.

Spinal manipulation administered by chiropractors, spinal manipulation administered by medical practitioners and physical therapists and a mobilization procedure administered by physical therapists was studied. Eighty-five (85) patients received two manipulations per week over a 2-month period. At the end of the study, all three groups showed clinically significant improvement in the frequency, intensity, and duration of migraine headache episodes.

The effect of manipulation (toggle recoil technique) for headaches with upper cervical joint dysfunction: a pilot study. Whittingham, W, Ellis WB, and Molyneux TP, *JMPT*, July/August 1994, 17(6): 369-375.

Twenty-six patients (16 males, 10 females) all had chronic headaches with upper cervical joint dysfunction. Significant diminishing of the severity and frequency of headaches was reported in a large majority of the subjects (24 out of 26).

Chiropractic care of a 13 year-old with headache and neck pain: a case report. Hewitt EG. *Journal of the Canadian Chiropractic Association*, Sept. 1994; 38(3): 160-162.

From the abstract: This report describes a 13 year-old female who had suffered from unremitting headache and neck pain for five days. She described them as a throbbing and stabbing pressure that normally occurred once per week and lasted approximately one hour. She had missed one week of school. She had visited her family MD and he had recommended seeing a chiropractor.

Following a series of four chiropractic treatments over a two-week period, her headache and neck pain resolved. Patient had injured her neck in gymnastics. Her neck pain and shortly after her headaches resolved. At a four-week follow-up, she remained pain free.

Chiropractic care of children with headaches: five case reports. Anderson-Peacock, ED, *Journal of Clinical Chiropractic Pediatrics*, Vol.1, No.1, Jan. 1996.

From the abstract: In this case series, five children presented with varying types of headaches to a family-based chiropractic practice. In each case, spinal subluxations were present. Following reduction of those subluxations through chiropractic adjustments the child's chief complaint remised. Adjunctive therapy (education on diet, posture and exercise) was not given until the headaches remised. Thus, it was felt that the headache reduction may have been due to the restoration of nervous system function through the chiropractic adjustment. Chiropractic management of headaches should be further researched in children.

Chiropractic treatment of childhood migraine headache: a case study. Proceedings of the National Conference on Chiropractic and Pediatrics 1994, p. 85-90. As abstracted by Masarsky Cs. Headache and Torticollis (Research review) *ICA International Review of Chiropractic* 1995; 51(1): 45-47.

A case of a 10-year-old male with a three-year-history of migraine headaches. During the first month of chiropractic care, it was reported that he only had two prodromal episodes, but no full migraines.

Case #3: 13-year-old with headache, depression, poor appetite, nausea, general muscular weakness, dizziness and sensitivity to light and noise.

Case reports in chiropractic pediatrics. Esch, S. *ACA J of Chiropractic* December 1988. A 13-day-old with a history of respiratory difficulty since birth (home birth, uncomplicated). Infant had difficulty nursing due to "stuffiness."

Upon presentation patient was in considerable pain, wearing dark glasses and ear plugs to compensate for increased sensitivity to sound and light. One week beforehand he had been injured in a football game collision. Medical doctors had given the child painkillers.

Patient was hospitalized in traction for two weeks with no improvement.

Chiropractic examination:

X-ray (Davis series) of the cervical spine showed right lateral displacement of atlas with right rotation of C-2.

Following initial adjustment the patient could ride home without wearing his sunglasses and for the first time in two weeks expressed an interest in food. He returned the next day saying he felt, "The best I've felt in six weeks."

A holistic approach to severe headache symptoms in a patient unresponsive to regional manual therapy. Stude, DE and Sweere, JJ. *JMPT* 1996; 19:202-7.

This case history deals with a woman who suffered from severe migraine headache symptoms who found no relief from medical care or cervical chiropractic adjustments.

This is the case of a patient suffering from severe headache complaints who was previously unresponsive to regional cervical spine care. Chiropractic spinal adjustments were provided as the only intervention and the patient reported no visits to the emergency room, even after a 1-year follow-up, and the average visual analogue pain decreased.

Chiropractic Treatment of Chronic Episodic Tension type Headache in Male Subjects: A Case Series Analysis. Mootz RD, Dhimi MSI, Hess JA, et al. *Journal of the Canadian Chiropractic Association*, 1994; 38(3): 152-159.

Ten male outpatients 18-40 years old with a history of chronic headache of at least six months in duration occurring at least once a week were seen in the Palmer College of Chiropractic-West Outpatient clinic. Diversified technique was the primary care. Results showed an over 50% decrease in headache frequency and duration. Mean anchored pain scale intensity ratings changed from 5.05 to 3.37 which was “just beyond statistical significance...there was no significant changes in any McGill Pain Questionnaire scores pre and post treatment. A large sampling size is suggested for a larger study.

Headache following whiplash. Kreeft, J. In Spine: State of the art reviews: Cervical Flexion-Extension/Whiplash Injuries, Sept. 1993, p. 395.

Trauma of the cervical spine as cause of chronic headache. Braaf M. & Rosner SJ. *Trauma*, 1975, 15:441-446.

Results of manipulative treatment on childhood migraine. *Hippocrates*, 1963, pp. 308-316.

Chiropractic Management of Migraine Without Aura: A Case Study. Lenhart, L.J. *JNMS* 1995: 3(10: 20-26.

A case of migraine is discussed. The author has done a number of tests to objectify his care. The patient continued his improvement two months post-spinal (cervical) adjustments.

Mobilization of the cervical spine in chronic headaches. Turk Z. & Ratkolb O. *Manuel Medizin*, 1987:15-17.

Spinal curvatures-visceral disturbances in relation thereto. Ussher NT. *California and Western Medical Journal*, 1933, 38:423.

Ussher has written that spinal abnormalities could be causing visceral disorders and that X-rays could be a help in diagnosing the spine/internal organ relationship. Ussher urged “A careful neurological examination of the spine” as part of differential diagnosis.

Spinal manipulation and headaches of cervical origin. Vernon HT. *JMPT*, 1989, 12:455-468.

Diagnosis and treatment of TMJ, head, neck and asthmatic symptoms in children.

Gillespie BR, Barnes JF, *J of Craniomandibular Practice*, Oct. 1990, Vol 8, No. 4.

From the abstract: “Pathologic strain patterns in the soft tissues can be a primary cause of headaches, neckaches, throat infections, ear infections, sinus congestion, and asthma.”

Manipulative therapy in the chiropractic treatment of headaches: a retrospective and prospective study. Vernon H. *JMPT*, 1982; 5:109-112.

Occipital headaches; statistical results in the treatment of vertebragenous headache.

Droz JM, Crot F. *Swiss Annals VIII*, 1985; 127-36.

332 patients received an average of 8.6 chiropractic adjustments.

Results: 80% of patients had excellent (pain-free) and good (almost pain-free) outcomes with 10 reporting a 75% decrease in pain.

Migraine: a statistical analysis of chiropractic treatment. Wright JS. *J Am Chiro Assoc* 1978; 12:363-67.

Upper cervical vertebrae and occipital headache. Ng SY. *JMPT*, 1980; 3:137-41.

Chiropractic adjustment in the management of visceral conditions: a critical appraisal.

Jamison JR, McEwen AP, Thomas SJ. *JMPT*, 1992; 15:171-180.

This was a survey of chiropractors in Australia. More than 50% of the chiropractors stated that asthma responds to chiropractic adjustments; more than 25% felt that chiropractic adjustments could benefit patients with dysmenorrhea, indigestion, constipation, migraine and sinusitis.

Chiropractic treatment of chronic episodic tension type headache in male subjects: a case series analysis. Mootz, RD, Dhami MSI, Hess JA, et al. *Journal of the Canadian Chiropractic Association*, September 1994; 38(3): 152-159.

This study was conducted at the Palmer College of Chiropractic-West Outpatient Clinic. It involved 11 men between the ages of 18 and 40 who suffer from headache. The patients reported consistent and significant reduction in the frequency and duration of headaches. However, the intensity of the headaches in this group was unchanged. The adjustments used were diversified with myofascial trigger point therapy, and moist hot packs.

This study reflects a serious limitation of studies found in nearly all research on the effects of spinal care. There is no inter-technique study. Would another adjusting technique be more effective? Less effective? Unfortunately that research was not done.

Toftness Spinal Correction in the treatment of migraine: a case study. Gemmell HA, Jacobson BH and Sutton L *Chiropractic Technique*, May 1994; 6(2): 57-60.

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Vernon, H.T. Spinal manipulation and headaches of cervical origin. *JMPT*, 1989, 12, pp. 455-468.

Hip and Sacroiliac (See also Sciatica, Low back, Disc)

Hip Dysplasia in 7-day-old infant. Case Studies. Webster, L. *Chiropractic Showcase*, Vol. 2, Issue 5, summer 1994.

Case study of 7-day-old infant with hip dysplasia affecting left leg. Patient wore a brace, which restricted movement of both legs. Would not extend left leg and did not have full range of motion. Examination revealed a sacral subluxation. After adjustment child could extend left leg and had full range of motion. Patient returned one week later, no hip dysplasia evident. According to the parents their orthopedist was amazed and could not understand what had happened. Parents did not tell him that they had taken the baby to a chiropractor.

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Hydrocephalus (Water On The Brain)

Neurocalometer, Neurocalograph, Neurotempometer Research As Applied To Eight B.J. Palmer Chiropractic Clinic Cases. Preface by L.W. Sherman, DC, Asst. Director B.J. Palmer Chiropractic Clinic. Published by Palmer School of Chiropractic, Davenport, Iowa (undated).

Hydrocephalus. Case No. 2887.

Baby was diagnosed as hydrocephalus in a large university hospital and was brought in for Chiropractic “very soon after affect effect (enlarging of the head) was first noticed. Thus, permanent damage apparently was slight. Had many months passed before case was brought to Chiropractic, its chances for recovery would have been greatly decreased and there would have been the probability of greater permanent distortion even though causative factor had been entirely removed.”

This is the case of a three month old male infant from a “normal birth: no instruments used.” The MD had noticed that the baby’s head was growing faster than the rest of the body and baby was diagnosed with hydrocephalus “no hope was held out for his recovery.” A few days after his first adjustment the skin on his head appeared “looser” and child was able to “wrinkle brow more.” Eyes did not seem so deep-set. Both the bowel and urine developed a strong odor. By the 16th visit (approx. 3 weeks after 1st adjustment) “Skin breaks out from poison in urine. Head chang in shape and size; not so feverish.” Three days later “head gone down 1 ¾ inches [in size].”

After a month at the clinic, the parents were instructed to take the child to their local chiropractor for continued observation. A year later the child continued to do well and was developing normally. “His head size is out of proportion with his body size but he still has a lot of growing (in his body) to do.”

The child had one adjustment.

Immune System Function

This is one of the most exciting areas of chiropractic. More and more research is pointing to an immune system enhancement effect of the spinal adjustment.

The effects of specific upper cervical adjustments on the CD4 counts of HIV positive patients. Selano JL, Hightower BC, Pflieger B, et al. *Chiropractic Research Journal*. 1994; 3(1): 32-39.

Five patients were adjusted and five were controls. After 6 months, in the control group (not under chiropractic care) the CD4 levels declined by 7.96% while the group receiving chiropractic adjustments experienced a 48% increase in CD4 cell counts. This indicates that correction of upper cervical subluxation could improve immunocompetence.

Note: This study was originally intended to go on for one year, but after two patients in the control group died of AIDS Dr. Grostic decided to end the study and put the surviving controls under chiropractic care.

The effects of chiropractic on the immune system: a review of the literature. Allen JM, *Chiropractic Journal of Australia*, 1993; 23:132-135.

This review of the literature gives a summary of recent research implying a connection between chiropractic adjustments and immunocompetence. The literature suggests that the nervous system plays a role in the modulation of the immune response and that chiropractic adjustments influence T and B lymphocyte numbers, natural killer cell numbers, antibody levels, phagocytic activity and plasma endorphin levels. The few studies attempting to measure the effect of chiropractic or manipulative treatment on the immune response are reviewed. The anatomical and physiological connections between the immune system and the nervous system suggest that the nervous system plays a role in the modulation of the immune response.

Noradrenergic sympathetic neural interactions with the immune system: structure and function. Felton, D.L., Felton, S.Y., Bellinger, D.L., et al. *Immunol Rev* 100:225-260, 1987.

A comparative study of the health status of children raised under the health care models of chiropractic and allopathic medicine. Van Breda, Wendy M. and Juan M. *Journal of Chiropractic Research* Summer 1989.

Children under chiropractic had less use of medications, including antibiotics.

An overview of neuroimmunomodulation and a possible correlation with musculoskeletal system function. Fidelibus J. *JMPT*, 12:4, 1989.

Receptors for neuromodulators and neurohormones have been identified on human T-lymphocytes, it is believed that the immune system can communicate with the nervous system using neuromodulators and neurohormones secreted by lymphocytes.

Chiropractic treatment and antibody levels. Alcorn, S. *Journal of the Australian Chiropractic Association* 1977. Alcorn, working at the Anglo-European College, reported in-

creased levels of immunoglobulins in the blood serum of three patients under chiropractic care. A fourth patient, who did not demonstrate this increased immunoglobulin level, also was not responding to care. Dr. Alcorn speculates the VSC acts as a stressor, which causes increased secretion of cortisol from the adrenal cortex. If cortisol levels exceed optimum levels, immunoglobulin secretion would be inhibited.

Enhanced phagocytic cell respiratory burst induced by spinal manipulation: potential role of substance P. Brennan PC, Kokjohn DC, Kaltinger CL et al. *JMPT* Vol. 14 No 7 Sept 1991 p 399-408.

An interesting property of phagocytic cells (polymorphonuclear neutrophils or PMNs and monocytes in this study) is put to use in this study, that is, they emit light during phagocytosis (called “respiratory burst”). Using 67 male and 32 female volunteers, blood was taken 15 minutes before and after subjects who had a sham manipulation, thoracic spine manipulation or soft tissue manipulation. More light was emitted from monocytes and PMNs after spinal manipulation than from those who had the sham or soft tissue work. Substance P (SP) is a neurotransmitter released from the dorsal root ganglion and its plasma level was elevated after the manipulation. SP appears to be able to prime phagocytes for enhanced respiratory burst. *From the discussion:* “Thus the data provide evidence in man that spinal manipulation elicits viscerosomatic responses; specifically, our study shows that manipulation affects cells involved in inflammatory and immune responses, at least over the short term.”

Dr. Koren: We need more research of this type. Although the authors state that “trained manipulators are able to deliver controlled, discriminable efforts”, it is not apparent how their concept of manipulation relates to the chiropractic adjustment of the vertebral subluxation complex. The authors admit that there appears to be a “threshold effect” of force but is that force due to the correction of the vertebral subluxation complex or the body’s response to physical stress? Is a manipulation different from an adjustment? This makes the paper limited from a practical therapeutic standpoint.

Enhanced neutrophil respiratory burst as a biological marker for manipulation forces: duration of the effect and association with substance P and tumor necrosis factor.

Brennan PC, Triano JJ, McGregor M et al. *JMPT* Vol. 15 no. 2 Feb. 1992. P. 83-89.

This paper builds upon the one above. Using blood collected from 27 male and 19 females after a manipulation of the thoracic spine, the plasma levels of substance P (SP) and respiratory burst response of PMLNs was found to be higher 15 minutes after manipulation than from blood collected 15 minutes before and 30 and 45 minutes after manipulation. In addition to priming PMNs for enhanced respiratory burst (RB), SP also stimulates production of mononuclear cell tumor necrosis factor (TNF). Mononuclear cells are also primed for enhanced endotoxin-stimulated TNF production after manipulation.

From the discussion: “The data presented confirm and extend our previous reports that a high-velocity, low-amplitude thrust to the thoracic spine primes PMN for an enhanced respiratory burst in response to a particulate challenge. Spinal manipulation also primes mononuclear cells for enhanced endotoxin stimulated TNF production...this has not been previously reported.... Thus these data further support the motion that spinal manipulation elicits viscerosomatic responses....”

This paper has the weaknesses of the one above i.e. If it is chiropractic research, where's the subluxation? How does the vertebral subluxation complex relate to this? Are chiropractors merely manipulating spines or specifically adjusting subluxations and how does their "thoracic manipulation" fit into this?

The effect of chiropractic spinal manipulative therapy on salivary cortisol levels.

Tuchin PJ. *J of Australasian Chiropractic and Osteopathy*, July 1998; 7(2), pp. 86-92
Six males and three females had their baseline cortisol levels established and then they had two-weeks of care (4 adjustments) and a two-week postadjustment period.
Saliva samples were analyzed and results showed reduction or no increase of salivary cortisol over the study suggesting that chiropractic care had a measurable calming, physically soothing and restorative effect.

Immunologic correlates of reduced spinal mobility: preliminary observations in a dog model. Brennan PC, Kokjohn K, Triano JJ et al. In: *Proceeding of the 1991 International Conference on Spinal Manipulation*, FCER; 118-121.

The posterior facet joints of four beagles were surgically fused at L1/L2 and L2/L3 by injecting a sealant. T11/12 and T12/13 joints were fused on two of the beagles. Four beagles were used as controls. The respiratory burst (RB) of the polymorphonuclear neutrophils (PMN) were depressed in the dogs who underwent the surgical fusion in contrast to the 4 dogs who had a sham surgical fusion. The results of this study suggest that spinal joint fixation results in immunosuppression.

Note: An earlier animal experiment by DeBoer and McKnight (Surgical model of a chronic subluxation in rabbits. DeBoer KF and McKnight ME *JMPT* 11:366-372)
Spinal severe spinal distortions were created in rabbits. This experiment tried to do the opposite by creating a lessening of motion, a surgical fusion. These experiments are testing one component of the vertebral subluxation complex, kinesio-pathology. Clinically chiropractors have found that *both* hypomobility and hypermobility are related to the vertebral subluxation complex.

Chiropractic and HIV infection. Martin, C; *Journal of the American Chiropractic Association* 1995; 32(12): 41-4.

Recent research and case history analysis suggests that vertebral manipulation may have wide-ranging effects. From improvement in symptoms like peripheral neuropathy, to stimulation of immune system, components, chiropractic is encouraging to individual well-being. The reduction of stress, education of the patient towards an immunopositive lifestyle and the removal of nervous system interference are the central benefits which chiropractic offers.

Priming of neutrophils for enhanced respiratory burst by manipulation of the thoracic spine. Brennan P. and Hondras M *Proceedings of the 1989 International Conference on Spinal Manipulation*. Pub: FCER: Arlington, VA. pp.160-163.

Chiropractic care in adult spina bifida: a case report. Thomas RJ, Wilkinson RR. *Chiropractic Technique*, 1990; 2:191-193.

31-year-old female with spina bifida T11-L2 presented with multiple symptoms such as muscle spasms, poor bladder control, recurrent bladder infection, swollen cervical lymph nodes, and possible immunosuppression. Chiropractic adjustments consisted of Logan Basic and other minimal force techniques. After 5 years of chiropractic care, the bladder has been infection free for a period of more than a year; bladder control has improved and leg spasms have decreased in frequency and severity. Menstrual cramping has been reduced. Based on the case history of recurrent infection, the author hypothesized that one effect of the vertebral subluxation complex was immunosuppression, which was relieved by chiropractic adjustments.

The side effects of the chiropractic adjustment. Arno Burnier, D.C. *Chiropractic Pediatrics* Vol. 1 No. 4 May 1995.

L.T. female age 7 1/2.

Chiropractic result: Has been under chiropractic care since birth. Has never had the need to seek medical care. Has never taken a single medication over over-the-counter drug to date.

Presenting Vertebral Subluxation: Atlas ASLA, D3/D4 PI.

Original Adjustment: Structural manual adjustment of D3/D4 in extension prone and Atlas in supine position.

S. Family 4 children age 1,2,3,5

Chiropractic result: All children have been under regular chiropractic care since birth and have not had yet the need for medication or over-the-counter drugs.

Presenting vertebral subluxation: Each child was checked soon after birth and then weekly thereafter. Adjustments were only given if and when subluxations were present. Those children were adjusted in one or two places on an average of 21 day intervals.

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Brennan P., Kokjohn K. et al Enhanced Phagocytic Cell Respiratory Burst Induced by Spinal Manipulation.... *JMPT* Vol.14 No.7 Sept 1991 p.399-408.

Felton D. *The brain and the immune system in Healing and the mind* Bill Moyers pp.213-216 Doubleday, New York 1993.

Indigestion, Bowel, Kidney, Prostate, Incontinence, Interstitial Cystitis

The Mechanically Induced Pelvic Pain and Organic Dysfunction Syndrome: An Often Overlooked Cause of Bladder, Bowel, Gynecological, and Sexual Dysfunction. Browning JF. *Journal of the Neuromusculoskeletal System*. 1996; 4:52-667

Dr. Browning found evidence of lower sacral nerve root involvement, secondary to a L5/S1 disc herniation. Under chiropractic care the patient initially experienced symptoms (pain and paraesthesia of the genitalia) but within one week, bladder dysfunction had resolved and the other symptoms were less severe. After 4 weeks, her PPOD symptoms had resolved.

Author's Abstract: While the etiology of this disorder is thought to be a mechanical lesion of the lumbar spine with secondary impairment of lower sacral nerve root function, its clinical presentation is highlighted by various combinations of bladder, bowel, gynecologic and sexual dysfunction. As most PPOD patients present to the chiropractic clinician as a result of complaints relative to a mechanical disorder of the low back, the symptomatic representation of lower sacral nerve root impairment can easily be overlooked. Therefore, patient management and therapeutic outcome may be compromised. (Abstract abridged).

29-year old woman with bilateral and low back pain. Previous chiropractic care gave partial relief but an exacerbation was accompanied by inguinal pain, urinary stress incontinence, loss of genital sensitivity, loss of libido and vaginal discharge. A gynecological exam failed to reveal any pathology.

Irritable Bowel Syndrome and Spinal Manipulation: A Case Report. Wagner T, Owen J, Malone E, Mann K. *Chiropractic Technique* 1996; 7: 139-140.

Irritable bowel syndrome, also known as mucous colitis and nervous bowel affects 15-25% of adults. Symptoms include cramping and/or abdominal pain, diarrhea or constipation, ulcer-type symptoms, heartburn and/or upper abdominal indigestion.

In this case study of a 25-year-old woman with chronic irritable bowel syndrome her chief complaint was intestinal pain and diarrhea which was worse during stressful periods which occurred one or two times per week for the past five years.

After her first chiropractic adjustment, she reported that she had not experienced any diarrhea for two days. Her symptoms were quickly alleviated during the course of her care. Two years later she remained symptom free. A number of mechanisms for this phenomenon are suggested in this paper.

Lumbar nerve root compression and interstitial cystitis-response to decompressive surgery. Gillespie L, Bray R, Levin N, Delamarter R. *British Journal of Neurology*, 68:361-364, 1991.

“An identifiable lumbar nerve root compression appears to cause urological dysfunction consistent with interstitial cystitis.”

MRI of the lower spine found a lateral compression of the L5 dorsal nerve root. Surgical decompression of the lateral foramina of L5 resulted in immediate relief of urological pain in nine patients and continued symptom free after a six-month follow-up.

Indigestion and heartburn: a descriptive study of prevalence in persons seeking care from chiropractors. Bryner P and Staerker, PG. *Journal of Manipulative and Physiological Therapeutics* 1996; 19(5); 317-23.

From the abstract: Of 1,567 persons who consulted eight chiropractors on 2,974 occasions during November 1994, 1,494 responses were obtained.

Fifty-seven percent reported indigestion infrequently or more and 71% reported mid-back pain during the previous 6 months. Forty-six percent experienced both symptoms during this time. Of these 36% reported the symptoms together at some time. Twenty-two percent of those with indigestion reported some relief after chiropractic care...a person with indigestion is more likely to report mid-back pain.

This is a condition that affects a large segment of the population (about 40% of adults) with the majority of cases termed “psychogenic” meaning that there’s no physical basis for the patient’s complaint and their problem is all in their mind. However, M.D.s never check their patient’s spines for vertebral subluxations. As this study shows, that may be an important factor in their complaint.

Segmental spinal osteophytosis in visceral disease. Burchett GD *J of the American Osteopathic Association* 1968; 67(6): 675.

Using radiography, Burchett examined sixty-one hospital patients and found that in 88% of patients with gallbladder disease there was lipping from T7-T10; spinal osteophytes (T9-T11) were found in 82% of those with stomach disease. Many sufferers of pancreatic disease had segments T5-T7 involved and 31% of patients with duodenal disease had osteophytes at T9-L2.

Chiropractic adjustment in the management of visceral conditions: a critical appraisal. Jamison JR, McEwen AP, Thomas SJ. *JMPT*, 1992; 15:171-180.

In this a survey of chiropractors in Australia, more than 50% of the chiropractors stated that asthma responds to chiropractic adjustments; more than 25% felt that chiropractic adjustments could benefit patients with dysmenorrhea, indigestion, constipation, migraine and sinusitis.

The recognition of mechanically induced pelvic pain and organic dysfunction in the low back pain patient. Browning JE. *JMPT*, 1991,12(5).

Pelvic organic problems that have been shown to respond to manipulative treatment include impairment of bladder, bowel and sexual function.

The side effects of the chiropractic adjustment. Arno Burnier, D.C. *Chiropractic Pediatrics* Vol. 1 No. 4 May 1995.

This is a case history of J.C. male, 1 year old taken from the records of Dr. Arno Burnier of Yardley, PA. Nearly all D.C.s have miracle cases, but Dr. Burnier took the time to write his, please write up yours.

Medical diagnosis (gastroenterologist): post-viral enteritis, c.difficile enteritis, colitis secondary to antibiotic usage, allergic colitis, gastroesophageal reflux with esophagitis, gastric

and/or duodenal ulcer disease, duodenitis secondary to congenital or autoimmune phenomenon, Club feet requiring surgery.

Medication: Amoxicillin, Zantac, Reglan, Tylenol, and Ambesol.

Chiropractic results: Off all medication after first visit. Immediate improvement within 24 hours. Complete resolution within 3 weeks of care. Six months later the child is in radiant health, has had no need for medical care and has been free of medication and over-the-counter drugs. Clubfeet straightened out without surgery within 1 1/2 months of care.

Presenting Subluxation Findings: Occiput/C1 with an Atlas ASRP, Sacrum base posterior.

Original Adjustments: Left occiput ridge meningeal contact for 30 seconds, double notch sacral meningeal contact for 1 minute; structural manual adjustment of Atlas ASRP, left Temporoparietal suture adjustment.

References from Koren Publications' brochure: Prostate Problems and Chiropractic

Leake A, Chisholm GD, and Habib FK: The Effect of Zinc on the 5 alpha-Reduction of Testosterone by the Hyperplastic Human Prostate Gland. J Steroid Biochem 20:651-5, 1984.

Health and Healing Newsletter, ed. J. Whitaker, M.D. Oct 1991, p.7.

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Bottom Line Personal July 30, 1991 p.5

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Jorgensen L.S. and Fossgreen J. Scandinavian Journal of Gastro-enterology, 1990, Dec.; 25(12):1235-41.

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Infantile Spasms

Infantile spasms (fixation spasms) affect one of every four to six thousand newborns. They are massive and debilitating muscular seizures that manifest within the first six to eight months of life.

Note: When initial age of vaccination was raised in Japan from 2 months (as it is in the U.S.) to two years, according to Cherry writing in *Pediatrics (Suppl)* infantile seizures in Japan virtually disappeared.

Child had been having fifty seizures per day and dismissed as a hopeless case of infantile spasm by her medical specialist. “He told her parents that she would be “a vegetable,” and put her on several medications.

At age 7 months, she had her first chiropractic examination; the child’s head appeared to be at a ninety degree angle from normal. After one month of three adjustments per day she is off most medications, mobility has dramatically improved, spends more time awake “doing things that a baby should do – something her specialist had said would never happen.

After two months of chiropractic care, she had her first normal EEG reading since the condition began.

Michigan Chiropractic Council *Communique*- Feb/March '98 p.9.

Infertility/Inability to Conceive

Below is the story of a California woman who was given a 5 percent chance of ever pregnant, even with *in vitro* procedures and who became pregnant after chiropractic adjustments to her lower spine released subluxations.

A spine tingling affair

The Monterey County Herald, Match 1998 Section D Page 1.

Did you hear the one about the woman who went to the chiropractor and got pregnant?

Really, all Karen Bulch wanted was a little neck-and-shoulders adjustment.

But a month after wandering into chiropractor Mark Kimes’ Salina office, the 44-year-old Monterey woman was with child, something she had unsuccessfully been trying to accomplish for 4 ½ years.

Kimes told her it might happen. And if it did, he said it would be within the first few months.

Seems when he was doing the nec/shoulders/complete personal history drill, Kimes noticed a subluxation – essentially, that’s chiropractic for blockage – in Bulch’s lower back. He wasn’t sure, but Kimes thought he just might be able to tweak the subluxation to the point of reproduction. “I’ve been in practice for 12 years and I’ve seen it happen with many women,” he said. “Probably about a dozen women.”

Inability to conceive. Two case histories from the files of Larry L. Webster, D.C.

International Chiropractic Pediatric Association Newsletter. Nov. 1995.

Female - Age 32 - Prior Care - Medical -fertility pills, shots - negative results. No menses for 12 years. After two months of chiropractic care, menses resumed. Patient complained of abdominal discomfort during cycle. It was my feeling that this would be natural occurrence following an absence of menses for 12 years. Her menses occurred on a regular cycle for four months when she conceived. She was referred back to her medical doctor for confirmation of pregnancy. Her doctor informed her it was impossible for her to be pregnant - after all, he had done everything *medically* possible “and besides, there were no nerves emitting from the spine to the reproductive organs.” A few months later she delivered a healthy seven 1/2-lb. son. The major area of the spine adjusted in this case was the lumbar region.

Female - Age 26 - Had been trying to get pregnant for past few years with negative results. She had taken the medical route with fertility pills, shots, etc. Had a severe scoliosis (Cobb’s angle of 58°) and upon examination, I informed her that I felt we could not affect the Cobb’s angle and that possibly the severity of the curve with the subluxations present could be the reason for the lack of her body’s ability to conceive. At the end of six months, X-Rays revealed the Cobb’s angle was reduced to 47°. Approximately one month later, she became pregnant and remained under care throughout the pregnancy and delivered a fine baby with no complications. The areas adjusted were sacrum, lumbar and cervical spine. No side posture moves were utilized in this case.

The restoration of female fertility in response to chiropractic treatment. *Proceedings Of The National Conference On Chiropractic And Pediatrics.* 1994:55-64. McNabb B. Copies of the proceedings may be purchased through the ICA; call 1-800-423-4690.

This is the case history of a 36-year-old woman who had been medically tested and examined for infertility for a year. No abnormalities were found in her or her husband’s reproductive system.

When she finally sought chiropractic care she also had pelvic pain (often interfering with sleep) low neck and upper back pain, headache of two weeks duration and tinnitus of several year’s duration.

Chiropractic care adjusted C1-2, T11-T12, and L-4-5. Care was three times a week for two weeks, twice a week for four weeks and once a week for 3 weeks. The pelvic, tinnitus lower neck and upper back pain were improved. Headaches became mild and rare. Patient become pregnancy shortly thereafter and had an uncomplicated delivery.

IQ Score Improvement

A pilot study of applied kinesiology in helping children with learning disabilities.

Mathews MO, Thomas E, *British Osteopathic Journal* Vol. X11 1993; Ferreri CA (1986)

All of the children in the treatment group made significant gains in IQ scores. An average increase of 8 Full Scale IQ points and 12 performance IQ points was obtained. Most children showed significant gains in visual perceptual organization. Some made significant gains in other important skills such as short-term auditory memory. Significant improvements were observed both at home and at school with regard to motivation, attitude and performance." Reports from treatment included: "Dyslexia teacher says he no longer needs help." "No more thumb sucking." "Asthma much better on the whole."

The effects of chiropractic treatment on students with learning and behavioral impairments due to neurological dysfunction. Walton EV. *International Review of Chiropractic* 1975;29:4-5,24-26.

Twenty-four learning impaired students were placed under chiropractic care with many displaying dramatic results.

Breakthrough for dyslexia and learning disabilities. Ferreri, CA and Wainwright, RB 1. (1984) Exposition Press of Florida, Inc.

Knee Problems

Conservative treatment of torn medial meniscus vial mechanical force, manually assisted short lever chiropractic adjusting procedures. Polkinghorn BS. *Journal of Manipulative and Physiological Therapeutics*, September 1994; 17(7): 474-484.

A 54 year old woman complaining of right knee pain for several months was diagnosed with a tear in the posterior horn of the ipsilateral medial meniscus, confirmed by MRI. Instead of surgery, the patient agreed to try chiropractic care. The patient received 23 adjustments over 11 months. A chiropractic adjusting instrument was used and resulted in the complete resolution of the patient's disability, with full function of the knee returning. More research is necessary in this area. The author cautions that due to the length of time under care, the patient could simply had a spontaneous resolution.

Case report: upper cervical adjusting for knee pain. Brown M and Vaillancourt P. *Chiropractic Research Journal* 1993. Vol. 2 No. 3.

This is the case study of a 35-year-old male patient suffering from chronic knee pain after dislocating his knee playing football 15 years earlier. The patient was symptom free after initial chiropractic care and in 1991 was in a car accident and received a whiplash injury. The knee began to swell and lose range of motion, stability and strength and patient described chronic, sharp and deep stabbing knee pain. After a medical examination knee, surgery was considered.

The patient was adjusted using The Grostic Technique, a method of upper cervical analysis and atlas adjusting. Adjusting atlas only, the patient was relieved from his chronic knee pain.

It is hypothesized that the atlas subluxation can cause a functional short leg which in turn can affect the function of a knee joint.

Effectiveness of chiropractic management for patellofemoral pain syndrome's symptomatic control phase: a single subject experiment. Meyer, JJ, Zachman, ZJ, Keating JC, Traina AD. *JMPT* Vol 13 No. 9 November/December 1990

This patient had bilateral knee pain. Care consisted of long axis tibiofemoral adjustment, passive patellofemoral mobilization, and continuous ultrasound. The care was "effective."

Low Back Pain

See also Cost-Benefit Analysis of Chiropractic.

Chiropractic Management of a Patient with Subluxations, Low Back Pain and Epileptic seizures. Alcantara, Herschong, Plaughter and Alcantara. *JMPT*, Volume 21, Number 6, pp. 410-418, April 1998.

This is a case study of a 21-year-old female with a history since childhood of grand mal and petit mal seizures with seizures occurring every three hours. Examination revealed subluxation/dysfunction at L5-S1, C6-C7 and C3-C4, retrolisthesis at L5, hypolordosis of the cervical spine and hyperextension at C6-C7.

Gonstead care was administered and at a 1.5 year follow-up, "the patient reported her low back complaints had resolved and her seizures had decreased (period between seizures as great as 2 months.)

The authors conclude, "Data suggests that epilepsies are common, with an incidence between 40 and 200 per 100,000 with an overall prevalence between 0.5-1.0% of the general population. When one considers the potential side effects of antiepileptic drugs, research into the effects of chiropractic care for patients with epilepsy should be initiated."

Chiropractic/Dental cotreatment of lumbosacral pain with temporomandibular (TMJ) joint involvement. Chinappi AS and Getzoff H *JMPT*, Vol. 19 No. 9 November/December 1996.

A 33-year old woman with centralized lumbosacral pain, after 30 months of chiropractic care was still experiencing some lower back pain and limited improvement and agreed to see an orthodontist who diagnosed a "Class 11 malocclusion with significant loss of vertical dimension, characteristic of bilateral posterior bite collapse."

From the abstract: The co-treatment approach, which integrated dental orthopedic and craniochiropractic care, ameliorated the pain and improved head, jaw, neck and back function.

Conclusion: The position of the jaw, head and vertebral column, including the lumbar region, are intricately linked. Orthodontic treatment improved the position of the mandible, which in turn enabled the body to respond to chiropractic care.

The efficacy of manual treatment in low back pain: a clinical trial. US Gov't and Manga reports. Arkuszewski Z. *Manual Medicine*, 1986; 2:68-71.

Spinal manipulation out-performs conventional care in the most costly low back patients.

...The percentage of chiropractic patients who were 'very satisfied' with the care they received for low back pain was triple that for patients of family physicians. W J Med 1989;150:351-5

On the evidence, particularly the most scientifically valid clinical studies, spinal manipulation applied by chiropractors is shown to be more effective than alternative treatments for low back pain. Manga Report, 1993.

The Commission has found it established beyond any reasonable degree of doubt that chiropractors have a more thorough training in spinal mechanics and spinal manual therapy than any other health professional. It would therefore be astonishing to contemplate that a chiropractor, in those areas of expertise, should be subject to the directions of a medical practitioner who is largely ignorant of those matters simply because he has had no training in them. Royal Commission of Inquiry on Chiropractic in New Zealand, 1979.

"There is therefore, economic support for the use of chiropractic in low back pain, though the obvious clinical improvement in pain and disability attributable to chiropractic treatment is in itself, an adequate reason for considering the use of chiropractic... The benefit of chiropractic treatment became more evident throughout the follow-up period... Chiropractic was particularly effective in those with fairly intractable pain-that is, those with a history of severe pain." BMJ 1990; 300:1431-6.

Low back pain and the lumbar intervertebral disk: Clinical consideration for the doctor of chiropractic. Troyanovich SJ, Harrison DD, Harrison DE. *Journal of Manipulative and Physiological Therapeutics*, Feb. 1999; vol. 22, no. 2, pp96-104.

This review of the literature distills and synthesizes previously published research. The article lists various causes of low back pain, noting what findings in patient histories, physical examinations, and diagnostic imaging represent "red flags" that indicate the need for referral to a specialist for surgical intervention.

After patients are screened for red flags, conservative treatment should be the first line of treatment for patients without absolute signs for surgical intervention.

The authors concluded:

Of the available conservative treatments, chiropractic management has been shown through multiple studies to be safe, clinically effective, cost-effective, and to provide a high degree of patient satisfaction. As a result, in patients . . . for whom the surgical indications are not absolute, a minimum of 2 or 3 months of chiropractic management is indicated.

References from Koren Publications' brochure: Low Back Pain and Chiropractic

Deyo, R. A. Description epidemiology of lower-back pain and its related medical care in the United States. *Spine*, 1987, 12 (3), pp. 264-268.

Low Back Pain, the \$50 Billion Problem. Conference sponsored by the Institute for Low Back Care. Minneapolis, MN: Abbott Northwestern Hospital, September 30, 1982.

Acute low back problems in adults. Clinical Practice Guideline No. 14. U.S. Dept. Of Health and Human Services. Public Health Service. Agency for Health Care Policy and Research, Rockville, Maryland, Dec. 1994.

News release, International Chiropractors Association, Dec. 8, 1994.

Manga, P. et al. The effectiveness and cost-effectiveness of chiropractic management of low-back pain. University of Ottawa, Canada: Pran Manga and Associates, 1993.

Meade, T. W., Dyer, S. et al. Low back pain of mechanical origin: Randomised comparison of chiropractic and hospital outpatient treatment. British Medical Journal, June 1990, 300, pp. 431-437.

Kirkaldy-Willis, W.H. American Back Society Newsletter, Spring 1989, 5 (2).

Acute low back problems in adults. Clinical Practice Guideline No. 14. U.S. Dept. Of Health and Human Services. Public Health Service. Agency for Health Care Policy and Research, Rockville, Maryland, Dec. 1994. p.36.

References from Koren Publications' brochure: Heal Faster From On-The-Job Injuries

Deyo, R. A. Description epidemiology of lower-back pain and its related medical care in the United States. Spine, 1987, 12 (3), pp. 264-268.

Low Back Pain, the \$50 Billion Problem. Conference sponsored by the Institute for Low Back Care. Minneapolis, MN: Abbott Northwestern Hospital, September 30, 1982.

Practice guideline: Acute low back problems in adults. Washington, DC: The Agency for Health Care Policy and Research (AHCPR), U.S. Public Health Service, December 1994, p. 30.

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Manga, P. et al. The effectiveness and cost-effectiveness of chiropractic management of low-back pain. University of Ottawa, Canada: Pran Manga and Associates, 1993.

Kirkaldy-Willis, W.H. American Back Society Newsletter, spring 1989, 5 (2).

Lung and Bronchi Health, Respiratory Problems

Treatment of visceral disorders by manipulative therapy. Miller WD. In: Goldstein M, Ed. *The Research Status of Spinal Manipulative Therapy.* Bethesda: Dept. HEW. 1975:295-301.

Patients with chronic obstructive pulmonary disease were treated with osteopathic manipulation. 92% of the patients stated they were able to walk greater distances, had fewer colds, experienced less coughing, and had less dyspnea than before treatment. 95% of patients with bronchial asthma said they benefited from chiropractic care. Peak flow rate and vital capacity increased after the third treatment.

The atlas fixation syndrome in the baby and infant. Gutmann G. *Manuelle Medizin* 1987 25:5-10, Trans. Peters RE.

Examination of 1,250 infants five days after birth showed over 25% were suffering from vomiting, irritability and sleeplessness. Examination showed that 75% of these infants had cervical (neck) strain. Treatment frequently resulted in an immediate relief of the symptoms.

Symptoms of Visceral Disease. Pottinger, Symptoms of Visceral Disease, Mosby, 1910. Pottinger is a famous British MD who noticed that patients with chronic bronchial problems to have an anterior saucer of the spine in the mid-scapular region.

Effects of soft tissue technique and Chapman's Neurolymphatic Reflex Stimulation on respiratory function. Lines DH, McMilan AJ, Spehr GJ. *J Australian Chiropractors' Assoc*, 1990;20:17-22.

Thirty asymptomatic subjects received care. Measurements of forced vital capacity (FVC) were taken. A significant improvement in FVC was noted suggesting that chiropractic may improve breathing capacity.

A comparison of the effect of chiropractic treatments on respiratory function in patients with respiratory distress symptoms and patients without. Hviid CA. *Bull Eur Chiro Union* 1978;26:17-34.

Chiropractic adjustment in the management of visceral conditions: a critical appraisal. Jamison JR, McEwen AP, Thomas SJ. *JMPT*, 1992;15:171-180.

This was a survey of chiropractors in Australia. More than 50% of the chiropractors stated that asthma responds to chiropractic adjustments; more than 25% felt that chiropractic adjustments could benefit patients with dysmenorrhea, indigestion, constipation, migraine and sinusitis.

Chronic ear infections, strep throat, 50% right ear hearing loss, adenoiditis and asthma. by G. Thomas Kovacs, D.C. *International Chiropractic Pediatric Association newsletter*: July 1995.

4 1/2 year old female. Chronic ear infections, strep throat, (on and off for 4 years) 50% right ear hearing loss, adenoiditis and asthma.

Had been on antibiotics (Ceclor); developed pneumonia, on bronchodilators and anti-inflammatory for asthma, steroids. ENT diagnosed child with enlarged adenoids and surgery to remove adenoids and to put tubes in her ears was scheduled.

Chiropractic history: cervical (C2) and thoracic (T3) and right sacroiliac subluxation. After 3 or 4 adjustments mother noticed "a changed child, she has life in her body again...acting like a little girl again for the first time in 4 years."

After 6 weeks, pediatrician and ENT noticed no sign of ear infection or inflammation, "Her adenoids, which were the worst the ENT has ever seen, were perfectly normal and healthy. Hearing tests revealed no hearing loss whatsoever. When the family was asked how long the child was on antibiotics, her family responded 'all medication was stopped 6 weeks ago when chiropractic care started.' Shocked and confused by this answer, the family was told to continue chiropractic care because it had obviously worked."

Case #2 Adjustive treatment for chronic respiratory ailment in a five year old.

Case reports in chiropractic pediatrics. Esch, S. *ACA J of Chiropractic* December 1988.

This is the story of a 5 1/2 year old girl with a four-year history of what the parents called "bronchial congestion." She had pneumonia "several times a year" since she was 18 months old. In addition to the attacks of "bronchitis" she suffered from congestion and was wheezy after running and upon waking up in the morning. The father and mother both reported having allergies.

Chiropractic Examination reveal subluxations at C-2, T-4 and L-5. At the second adjustment two days after the first the mother reported the child was not coughing as much and by the

third visit a week later the mother reporting the child was breathing normally. Twelve adjustments were given over three months and the chief complaint did not recur. A follow-up call four years later revealed no recurrence.

Menopause

Menopausal (climacteric) symptoms can include depression, night sweats, hot flashes, back or joint pain, irritability, headaches or fatigue. Since chiropractic's inception anecdotal reports of spinal care, helping menopausal woman has been reported.

Cervicothoracic Subluxation and Hot Flashes in a Perimenopausal Subject: A Time-Series Case Report. Weber M, Masarsky CS *Journal of Vertebral Subluxation Research* Volume 1 No. 2, 1996.

Author's Abstract: A time-series study of a 55 year old woman with a four year history of hot flashes related to natural perimenopause is reported. A distinct downward trend in the frequency of hot flashes, based on entries from the patient's diary and clinical records, is noted following intervention with cervical and upper thoracic adjusting. Possible mechanisms and implications for future investigation are discussed.

Menopausal Symptoms: An Osteopathic Investigation. Cleary C and Fox JP. *Complementary Therapies in Medicine*, 1994; 2:181-186.

This was a placebo controlled osteopathic study on 30 patients with menopausal symptoms. There was a significant reduction in menopausal symptoms (depression, hot flashes, back or joint pain, irritability, headaches or fatigue) in the group receiving spinal care. Also found was that testosterone levels were lowered in the group receiving care.

Multiple Functional and Developmental Disorders

Longitudinal clinical case study: multidisciplinary care of child with multiple functional and developmental disorders. Golden L, Egmond C. *JMPT*, 1994, 17(4): 79. Clinical course of a pediatric patient spanning eight years of chiropractic is reviewed. 22-month non-ambulatory male diagnosed of spinal meningitis, cerebral palsy, physical and mental retardation, non-febrile seizures, and clinical considerations including enuresis, scoliosis, ambulation, vision, behavior and fine motor problems.

From the abstract: Comprehensive care, coordinating chiropractic with other health care approaches was initiated after conventional treatment had produced a poor prognosis...the anti-seizure prescriptions are discontinued, child is ambulatory, interactive and mainstreamed into his age group for regular public school education."

Retardation, asthma, Down's syndrome, immune dysfunction. *International Chiropractic Pediatric Association Newsletter*, November 1996.

Male Child - age 4 - Diagnosis: retardation, asthma, Down's syndrome, immune dysfunction. Patient was on 11 medications on initial visit. After 4 months of care, all medications were withdrawn and the above diagnoses are being changed. Patient still under chiropractic

care and very difficult to adjust - child does not want to lay or be on adjusting table - the patient is adjusted either in the mother's arms or on her back using the mother as a "table." Adjustment: Atlas ASR, with a toggle type thrust.

Multiple Sclerosis

A Case Study: The Effects of Chiropractic on Multiple Sclerosis. Kirby SL, *Chiropractic Research Journal* 1994; Vol. 3. No. 1.

This is the case history of a 24 year old female with the chief complaint of paresthesia and tingling in upper and lower extremities, stiffness in left arm and hand, and chronic fatigue. She was diagnosed by a neurologist as probable MS

From the abstract: Management of a case with symptomatology indicative of Multiple Sclerosis. The condition, which currently has no cure, responded favorably to chiropractic care using an upper cervical approach to reduce a specific subluxation complex.

Clinical presentation of a patient with multiple sclerosis and response to manual chiropractic adjustive therapies. Stude DE, Mick T. *JMPT* 1993;16:595-600.

This is a case study of a 32-year-old male with fatigue, gait imbalance, diplopia, and numbness from the lower trunk to the distal lower extremities, with a family history suggestive of MS. Reflexes were hyperactive, and hypoesthesia was present with the neurological pin-wheel exam. There was evidence to suggest biomechanical vertebral segmental dysfunction. A medical neurologist and a medical radiologist both agreed that the neurological evaluation and multifocal demyelination lesions confirmed with MRI reinforced the working impression.

After the first chiropractic adjustment (prone and side-posture) the patient reported complete absence of symptoms. Months later, the patient reported remaining symptom free.

The role of chiropractic in the management of degenerative disease cases. Ward, L. *Today's Chiropractic* July/August 1995.

This is a fascinating discussion of Dr. Lowell Ward's research and clinical success with "incurable" Duchenne muscular dystrophy sufferers and other cases: "Degenerative conditions we have had good success in working with include: ataxia, multiple sclerosis, cerebral palsy, epilepsy, convulsive disorders, the various dystrophies, phobias and most any chronic degenerative, 'incurable' or life-threatening disease. Generally speaking the degenerative spinal pattern is relatively the same from disease to disease."

Dr. Koren comments: I have studied methods of Dr. Ward and have used his work. Although the above statements may seem fantastic, he is, in fact, able to elicit impressive healing responses from many patients given up as incurable by other doctors. Dr. Ward has a tape of his work. Contact him at California at Ward Chiropractic Group, 3535 East Seventh St., Long Beach, CA 90804. 310-433-0444.

Neurocalometer, Neurocalograph, Neurotempometer Research As Applied To Eight B.J. Palmer Chiropractic Clinic Cases. Preface by L.W. Sherman, DC, Asst. Director B.J.

Palmer Chiropractic Clinic. Published by Palmer School of Chiropractic, Davenport, Iowa (undated).

Multiple Sclerosis. Case number 2109.

“Case medically diagnosed as Multiple Sclerosis. Was told to go home to die. Symptoms first noticed in September, 1943, while on duty as a missionary in Central Africa. Started with numbness in feet; traveled upward until it reached his neck. Hands shook somewhat but were useful. Could walk when someone balanced him.

In October 1943 he became helpless, could not feed or take care of himself in any way., After Chiropractic adjustments, he gradually improved enough to feed himself and get around fairly well (December, 1943).

About 22 years ago, patient fell ten feet off building, landing on his head. He was unconscious for thirty minutes, had a very sore neck for several days, but does not remember any other ill effects of this fall. Does not take drugs of any kind. No other member of family similarly afflicted. Elimination, sleep, appetite, digestion good. Strength limited. Case entered the BJ Palmer Chiropractic Clinic February 17, 1945.”

Pre-adjustment-atlas ASR. Patient received one adjustment in 2-19-45, left clinic 3-3-45. Patient was adjusted ten months later after Neurocalograph reported return to pattern. Patient was able to return to work with almost complete recovery.

Note: Was this person immunized before leaving for Africa for his missionary work? The records do not say. However vaccinations have been implicated in multiple sclerosis and the vaccinations he received could be the cause of his condition.

Muscular Dystrophy

Duchenne’s Muscular Dystrophy: a chiropractic approach. Faulkner TL; Ward LE

In a review of some 70 plus individual Duchenne’s and other muscular dystrophy cases, it is quite evident that chiropractic plays an important role in the process of slowing the degenerative changes that are anticipated with muscular dystrophy conditions.

J Chir Research Clin Invest 1994; 9(3):76-80.

Management of Duchenne Muscular Dystrophy: A literature review. Reifschneider T and Olson PL. *Chiropractic: The Journal of Chiropractic Research and Clinical Investigation*. Vol. 9 No. 4, Oct. 1994.

This is a literature review of Duchenne muscular dystrophy to describe the disease and its related processes. The authors discuss the failure of the medical model and discuss the basis for the chiropractic approach to help those with this condition.

Muscular Dystrophy and Chiropractic. Koren T. *The American Chiropractor* July/August 1993.

From the introduction: “Duchenne Muscular Dystrophy is an incurable, progressive, genetic disease...victims suffer from deterioration of the voluntary muscle. In time they lose their ability to walk, to stand, and ultimately, to breathe. They live out their last years as motionless, helpless cripples, dying as teenagers or in their twenties. According to the Muscular

Dystrophy Association no one ever recovers. Eric Knapp...has one of the most severe forms of muscular dystrophy. Eric is getting better.” This article highlights one chiropractic clinic’s success with (by last count) over seventy MS sufferers who were not expected to improve and yet have had significant improvements.

The role of chiropractic in the management of degenerative disease cases. Ward, L. *Today’s Chiropractic* July/August 1995.

This is a fascinating discussion of Dr. Lowell Ward’s research and clinical success with “incurable” Duchenne muscular dystrophy sufferers and other cases: “Degenerative conditions we have had good success in working with include: ataxia, multiple sclerosis, cerebral palsy, epilepsy, convulsive disorders, the various dystrophies, phobias and most any chronic degenerative, ‘incurable’ or life-threatening disease. Generally speaking the degenerative spinal pattern is relatively the same from disease to disease.”

Dr. Koren comments: I have studied Dr. Ward’s methods and have used his work. Although the above statements may seem fantastic, he is, in fact, able to elicit impressive healing responses from many patients given up as incurable by other doctors. Dr. Ward is located in Long Beach, California and can be contacted at Ward Chiropractic Group, 3535 East Seventh St., Long Beach, CA 90804. 310-433-0444. He sells a tape describing his methods.

Myasthenia Gravis

Juvenile Myasthenia Gravis: a case study in chiropractic management. Araghi HJ. *Proceedings of the International Conference on Pediatrics and Chiropractic*, 1993:122-131.

From the abstract: A two-year-old female who was diagnosed with Myasthenia Gravis from clinical and laboratory tests performed by a neurologist and pediatric ophthalmologist. Symptoms included lethargy, weakness of the lower extremities, ptosis (drooping) of the right eye-lid. Bi-lateral toe-in of both feet, and moderate left head tilt. Parents were told nothing could be done for their child. Symptoms continued to worsen. By the time the child was brought to the chiropractor she was barely able to sit upright and had to be held up by one of the parents for most of the examination.

Specific chiropractic spinal adjustments were performed. The mother noticed slight improvement after the first adjustment. At the time of the writing of this report (5 months later), the child’s eyes are functioning normally and she is able to run for prolonged periods without fatigue. The case history suggests that this was not a spontaneous remission but was due to the physiological response to the chiropractic adjustment.

Chiropractic management of a patient with myasthenia gravis and vertebral subluxations. Alacantara J, Steiner DM, Plaughter P, Alacantara J. *JMPT* 1999; 22:333-340.

A 63 year-old man suffering from myasthenia gravis and signs of vertebral subluxation. The initial complaint was dysphagia, swelling of the tongue, nausea, digestive problems, weakness in the eye muscles, difficulty breathing, myopia, diplopia and headaches. In addition, the patient had balance and coordination problems and resultant walking difficulties.

Results of chiropractic care: Subluxations were adjusted and “myasthenia gravis is no longer debilitating to the patient; he is medication free and has assumed a ‘normal life’”.

Neck Pain

Brain SPECT findings in late whiplash syndrome. Otte A, Mueller-Brand J, Fierz L. *Lancet* 1995; 345:1512-13.

Using Technetium-99m hexanethylpropylrnsminroxime single photon emission computerized tomography (SPECT), they found that six of seven patients with nontraumatic cervical pain had parieto-occipital hypoperfusion. In 24 patients confirmed by independent observers to be suffering from cognitive disturbances after whiplash injury, all had parieto-occipital hypoperfusion compared with 15 normal control subjects.

Manipulation and mobilization of the cervical spine: a systematic review of the literature. Hurwitz EL, Aker PD, Adam AH, Meeker WC, Shekelle PG. *Spine* 1996; 21:1746-60. This was a literature analysis of the medical literature from 1966 to 1996 regarding cervical spine manipulation and neck pain and headache. Data was summarized and randomized controlled clinical trials were critically appraised.

Spinal manipulation was found superior to other therapies (muscle relaxants and medical care).

Diagnosis and treatment of TMJ, head, neck and asthmatic symptoms in children.

Gillespie BR, Barnes JF, *J of Craniomandibular Practice*, Oct. 1990, Vol 8, No. 4.

From the abstract: “Pathologic strain patterns in the soft tissues can be a primary cause of headaches, neckaches, throat infections, ear infections, sinus congestion, and asthma.”

Reabsorption of a herniated cervical disc following chiropractic treatment utilizing the atlas orthogonal technique: a case report. Robinson, Kevin. Abstracts from the 14th annual upper cervical spine conference Nov 22-23, 1997, Life University, Marietta, Ga. Pub. in *Chiropractic Research Journal*, Vol. 5, No.1, Spring 1998.

A case of a herniated cervical disc, diagnosed by magnetic resonance imaging (MRI) utilizing chiropractic care (atlas orthogonal technique). Comparative MRI post adjustment revealed complete resolution of the herniated cervical disc.

This is the case of a 44 year-old man whose symptoms were as follows: severe neck pain, constant burning, left arm pain and left shoulder pain plus paresthesia in the index finger of the left hand. Patient also had diminished grip strength on left hand using dynamometer testing. Tests also revealed hyporeflexive biceps and triceps on the left as well as a C6 and C7 sensory deficit on the left. The MRI scan revealed a large left lateral herniated disc at the C6-7 level.

By the fifth week of care the patient’s symptoms of severe neck, shoulder, and arm pain were completely resolved. The patient’s numbness and grip strength improved consistently during the following six months. Comparative MRI obtained 14 months following the initial exam revealed total resolution of the herniated cervical disc.

Neurofibromatosis

Chiropractic management of Neurofibromatosis (von Recklinghausen's disease): a case study. Bedell, LL, *Proceedings Of The National Conference On Chiropractic Pediatrics.* International Chiropractors Association, Arlington, VA, October 1993, Palm Springs, California, and November, 1993, Palm Beach, Florida.

This is the case of a 13-year-old white female patient with neurofibromatosis (Von Recklinghausen's disease). Chiropractic care was administered to reduce secondary symptomatology and improve posture.

Symptoms included neck and lower back pain, pain in the right temple, and severe aching pain in her lower mid-dorsal region. She also experienced loss of sleep, amenorrhea and a low energy level, poor muscle tone, anorexia nervosa and depression.

The child was diagnosed with NF age five by a Public Health Department nurse who noticed that her fine and gross motor skills were slower than normal.

Chiropractic care: a 5mm heel lift was placed on side of sacral inferiority, which was also the side of lumbar body rotation. Patient received spinal adjustments and Logan Basic once a week for one month and twice a month for two months.

Patient reported less back pain and more energy. The effects of the anorexia have been reversed as she has gained 20 lbs. in the past year. She resumed her menses with the help of hormones. Her doctor reports that, "Her general appearance have improved greatly and she looks healthier."

Neurologic Development in Children

Birth trauma, antibiotic abuse, vaccine reaction: a single case report. Phillips, CJ *ICA Review* Sept/Oct 1996.

Fourteen month old female with delayed development, hypotonia, dysarthria, excessive cranial molding, photophobia, loss of visual motor control, history of excessive antibiotic therapy and adverse reaction to vaccinations. After one week of chiropractic and cranio-sacral therapy: Decreased symptoms of photophobia, increased muscle tone and ability to sit on mother's lap with minimal support, no pain when held erect and increased muscle strength allowing her to be held against her parent's shoulder with normal head control (previously flopped backwards if not supported), increased visual acuity, decrease in atetoid movements of arms, hands and fingers, immediate change in mood with a calmer, happier disposition.

Effect of osteopathic medical management on neurologic development in children.

Frymann VM, Carney RD, Springall P. *JAOA*, 92;729-744, 1992.

Neurologic performance (sensory performance, manual competence, mobility, and spoken language) significantly improved after treatment in children with defined neurologic problems...improvement continued to occur over several months...children with neurologic problems have exhibited significantly improved sensory and motor functions."

M.D. and D.C. Cooperation improves child's life. Microcephalic (having abnormally small head/small brain). *Today's Chiropractic* p. 40 Sept/Oct 1995.

Story of Fara Hoffman born microcephalic, "With the help of chiropractic adjustments and therapy can now, at age 5 feed herself, walk and make sounds. Her mother attributes Fara's miraculous progress to chiropractic care." Fara, who could not move received her first cranial adjustment. "They adjusted her, and her feet moved (said her mother), "I couldn't believe it."

Chiropractic Sacro-Occipital Technique treatment of arthrogryposis multiplex congenita. Getzoff H. Gregory T.M. *Chiropractic Technique* Vol.8, No. 2, May 1996.

This is the case report of a 6 year old boy who suffers from arthrogryposis multiplex congenita (AMC), also known as amyoplasia congenita is a congenital lack of muscular development resulting in multiple joint contractures and deformities.

With AMC the extremities are commonly fixed in flexion, the muscle mass is usually hypoplastic and muscle biopsy may reveal denervation, persistence of small fetal muscle fibers or muscular dystrophy.

From the abstract: [Child had] severe generalized locomotor disability, including the inability to bend over to tie his shoes, as well as recurring kidney infections. The patient received 26 chiropractic treatments using SOT protocols over a period of 9 months, after which he could bend over to tie his shoes. In addition, he learned to ride a bicycle without training wheels, could swim part of the way across a pool unaided, and presented a greatly improved physical demeanor.

Neuromuscular Conditions/Multiple Functional Disorders

The fifth component of the vertebral subluxation complex...pathophysiologic or pathologic component. On a local level, there are biomechanical changes in response to local tissue damage, inflammation and vascular insufficiency. One example of the degenerative changes happening local to the spine occurs at the myelin sheath, in which there is a loss of integrity of the myelin sheath. Research on this has been done by Dr. Luttges, a member of the research team of Dr. Chung Ha Suh at the University of Colorado, doing research on the vertebral subluxation complex, as well as Dr. Irvin Korr, and Dr. Tran, Ph.D. showing that long-term irritation or compression of the nerve and the myelin sheath causes the myelin sheath to degenerate, producing degenerative toxins which are absorbed by the local tissues in the area, and by the axoplasm of the nerve. In the case of axoplasmic absorption these toxins are circulated throughout the entire length of the nerve causing metabolic disturbances of the nerve itself and at the end organ.

Joe Flesia, D.C. Feb. 7, 1985 address to The Colorado State Board of Chiropractic Examiners.

Child with myoclonic encephalopathy. *International Chiropractic Pediatric Association Newsletter.* May 1990.

Boy 2 ½ years old diagnosed with myoclonic encephalopathy (unable to control body movements). Child was normal until a tuberculin test and within a two week period symptoms prevailed. After four adjustments to the C1-T9 and L3 areas, the uncontrollable body movements improved about 80%.

Chiropractic sacro-occipital technique treatment of arthrogryposis multiplex congenita. Getzoff H, Gregory TM. *Chiropractic Technique* Vol. 8, No 2 May 1996.

This is the case of a six-year-old boy diagnosed with AMC, a congenital lack of muscular development resulting in multiple joint contractures and deformities. The child had the following symptoms: Severe generalized locomotor disability including the inability to bend over to tie his shoes, as well as recurring kidney infections.

Medical care had been orthopedic surgery and antibiotic therapy.

The child received 26 chiropractic adjustments using SOT protocols over a nine month period. After this period he was able to bend over to tie his shoes, ride a bicycle with training wheels, swim part way across a pool unaided and “presented a greatly improved physical demeanor.”

The role of chiropractic in the management of degenerative disease cases. Ward, L. *Today's Chiropractic* July/August 1995.

This is a fascinating discussion of Dr. Lowell Ward's research and clinical success with “incurable” Duchenne muscular dystrophy sufferers and other cases: “Degenerative conditions we have had good success in working with include: ataxia, multiple sclerosis, cerebral palsy, epilepsy, convulsive disorders, the various dystrophies, phobias and most any chronic degenerative, ‘incurable’ or life-threatening disease. Generally speaking the degenerative spinal pattern is relatively the same from disease to disease.”

Dr. Koren comments: I have studied methods of Dr. Ward and have used his work. Although the above statements may seem fantastic, he is, in fact, able to elicit impressive healing responses from many patients given up as incurable by other doctors. Dr. Ward is located in Long Beach, California and can be contacted at Ward Chiropractic Group, 3535 East Seventh St., Long Beach, CA 90804. 310-433-0444. He sells a tape describing his methods.

Longitudinal clinical case study: multidisciplinary care of child with multiple functional and developmental disorders. Golden L, Van Egmond C. *JMPT*, 1994, 17(4): 79. Clinical course of a pediatric patient spanning eight years of chiropractic is reviewed. 22-month non-ambulatory male diagnosed of spinal meningitis, cerebral palsy, physical and mental retardation, non-febrile seizures, and clinical considerations including enuresis, scoliosis, ambulation, vision, behavior and fine motor problems.

From the abstract: Comprehensive care, coordinating chiropractic with other health care approaches was initiated after conventional treatment had produced a poor prognosis...the

anti-seizure prescriptions are discontinued, child is ambulatory, interactive and mainstreamed into his age group for regular public school education.”

Spinal cord stimulation for palsies. Waltz, J.M. *Patient Care* 1979; 13:118-206.

Dr. J.M. Waltz, (M.D.) Director Department of Neurological Surgery, St. Barnabas Hospital, New York has stated in the above article:

“In patients with cerebral palsy, upper cervical stimulation has repeatedly obtained unexpected benefits, such as decreased spasticity and marked improvement in motor control. Stimulation of C2, C3, and C4 offers the best overall chance of improvement.”

Dr. Koren comments: Although not a chiropractic publication, it appears that the medical profession has noticed a connection between the health of cerebral palsy victims and the upper cervical spine.

References from Koren Publications’ brochure: Seizures and Chiropractic

Middleton A, Attwell A and Walsh G. *Epilepsy*. Boston-Toronto: Little, Brown and Company, 1981, p.1.

Lechtenberg R. *Epilepsy and the Family*. Cambridge and London: Harvard University Press, 1984, p.3.

Middleton A, Attwell A and Walsh G. *Epilepsy*. Boston-Toronto: Little, Brown and Company, 1981, p.1. *Epilepsia* 17:xiii-xv, 1976.

As quoted in *The People’s Doctor* Vol.5 No.1 p.2.

The Principles and Practice of Medicine by Harvey M.A., Johns R.J., McKusick V.A., Owens A.H., Ross R.S., 22nd Edition, 15.5: Syncope, Seizures, and other Episodic Disorders 1988 Appleton & Lange. pp.1032.

Young G. Chiropractic Success in Epileptic Conditions. *ACA Journal of Chiropractic*, April 1982.

Goodman RJ and Mosby JS Cessation of a Seizure Disorder: Correction of the Atlas Subluxation Complex. *Chiropractic: The Journal of Chiropractic Research and Clinical Investigation*, Vol. 6. No. 2, July 1990.

The Principles and Practice of Medicine by Harvey, Johns, McKusick, Owens, Ross, 22nd Edition, 15.5: Syncope, Seizures, and other Episodic Disorders 1988 Appleton & Lange.

Seizures of Axial Structures Presumptive Evidence for Brain Stem Origin. *Arch. Neurol*, Vol. 35, July 1978, pp. 448-452.

Jackson JH and Singer HD. Observations of a Case of Convulsions (Trunk Fit Or Lowest Level Fit?). *Brain* 15:122, 1902.

Kriender A, Zuckerman E, Steriade M, et al. Electroclinical Features of Convulsions Induced by Stimulation of Brain Stem. *J. Neurophysiol.*21:420-436, 1958.

Torres F. and Shapiro S. Electroencephalograms in Whiplash Injury. *Arch. Neurol.* Chicago 5:(1961) 28-35.

Catalano F. Epilessia centroencefalica consecutiva a compressione midollare alta. (Descrizione di due case). *Acta Neurologica (Napoli)* 20 (1965) pp.238-291.

Newborns and Infants

Adjusting a newborn infant may be one of the most significant and rewarding events that we get to perform in our offices. Armand Rossi, DC, FICPA

Evidence links vertebral subluxation complex to immunosuppression

Chiropractic adjustments linked to improved resistance to disease.

Current research suggests that spinal health is particularly important for children. This applies from infancy, and extends far beyond back pain to prevention and general health. The fact that chiropractic management is conservative and safe, making no use of drug therapy or surgery, will be attractive to many parents. In short, it is often sensible to have children under both chiropractic and medical care.

Parents should seek professionals who are able to admit their limitations, cooperate with one another, and place the interests of their mutual patients first. Chapman-Smith, D the Chiropractic Report, July 1992 Vol. 6 No. 5.

Blocked atlantal nerve syndrome in babies and infants (alternative translations of title: The atlas fixation syndrome in the baby and infant; The atlas subluxation syndrome of the baby and infant.) Gutmann G. *Manuelle Medizin* 1987 25:5-10, Trans. Peters RE

From the author's abstract:

Three case reports are reviewed to illustrate a syndrome that has so far received far too little attention, which is caused and perpetuated in babies and infants by blocked nerve impulses at the atlas. The clinical picture ranges from central motor impairment and development through idencephalic impairments of vegetative regulatory systems to lowered resistance to infections, especially to ear-, nose-, and throat infections...Chiropractic can often bring about amazingly successful results, because the therapy is a causal one."

Gutman is a medical doctor who has been using chiropractic techniques for the past 35 years. From his and other German medical studies, Gutman has been led to conclude that only 14-20% of all children is in autonomic balance. The author suggests that of the 80% now in balance many atlas subluxations must be included. He has been "constantly amazed how, even with the lightest adjustment with the index finger, the clinical picture normalizes, sometimes gradually, but often immediately."

A comparative study of the health status of children raised under the health care models of chiropractic and allopathic medicine. Van Breda, Wendy M. and Juan M. *Journal of Chiropractic Research* Summer 1989; p: 101-3.

Children under chiropractic care showed a 96.5% non-occurrence rate of asthma, whereas children under medical care showed a 95% non-occurrence rate of asthma. The authors concluded that the immune systems of children under chiropractic care are better able to cope with allergens, which may cause asthmatic conditions.

Die Kopfgelenksblockierung des Neugeborenen. Seifert J. in Lewit K. Gutmann G (eds) *Rehabilitacia*, Vol. 8 Prague: Bratislava, 1975:53.

Among 1093 newborn 298 babies had upper cervical subluxation and early signs of infantile scoliosis.

Treatment of infants in the first year of life by chiropractors. Incidents and reasons for seeking treatment. Munck LK, Hoffman H, Nielsen AA. *Ugeskr Laeger* 1988; 150:1841-1844.

The authors performed a retrospective survey of 162 children cared for by doctors of chiropractic in their first year of life.

The conditions seen by DCs were:

- ☛ Infantile colic 73%
- ☛ Curvature 8%
- ☛ Bronchitis 3%
- ☛ Allergy 2.5%
- ☛ Sleep disorder 1.8%

- ☛ Middle ear inflammation 1.8%
- ☛ Eczema 0.6%

Case #1: Newborn respiratory difficulty associated with nasal subluxation.

Case reports in chiropractic pediatrics. Esch, S. *ACA J of Chiropractic* December 1988. A 13-day –old with respiratory difficulty since birth (uncomplicated and at home). Family history of asthma and hayfever.

Jamming of the proximal end of the nasal bones. A traction adjustment with a caudal-ventral direction gave an audible release. The child took a deep sighing inspiration and began breathing without difficulty.

Pain

Chronic spinal pain syndromes: a clinical pilot trial comparing acupuncture, a nonsteroidal anti-inflammatory drug (NSAID), and spinal manipulation. Giles LG, Muller R. *JMPT* July/August 1999:22(6), pp.376-81.

Seventy seven patients received needle acupuncture, a NSAID or chiropractic care. They were followed up after 30 days. Spinal care was the only intervention to achieve a statistically significant improvement. Patients receiving chiropractic care demonstrated a 30.7% reduction in Oswestry scores and a 25% reduction in neck disability index scores, a 50% reduction for low back pain, 46% reduction for upper back pain, and 33% reduction for neck pain. Acupuncture or NSAIDS had no significant improvement.

An investigation of the interrelationship between manipulative therapy induced hypoalgesia and sympathoexcitation. Vicenzino B, Collins D, Benson H et al., *JMPT*, Sept. 1998:21(7), pp448-53.

This study investigated a proposed model of how manipulation produced decreased pain or pain inhibiting effects.

Twenty-four patients diagnosed with chronic lateral epicondylalgia were assigned to either a placebo group, control group or a group receiving chiropractic neck adjustments.

The patients receiving neck “manipulations” had more pain diminishing and more activity of the sympathetic system than the other patient.

Pregnancy and Fertility

It is a common observation that birthing seems to be more comfortable for women who were under chiropractic care during pregnancy. The following studies mention how common spinal problems are during pregnancy (up to 90%). The chiropractic drugless approach is ideally suited for pregnancy care.

Follow-up of patients with low back pain during pregnancy. Brynhildsen J, Hansson A, Persson A, Hammar M. In: *Obstetrics & Gynecology*, Feb 1998; 91(2): 182-6.

“Women with severe low back pain during pregnancy have an extremely high risk for experiencing a new episode of severer low back pain during another pregnancy and when not pregnant.”

Note: According to revised guidelines from the American College of Obstetrics and Gynecology, vaginal delivery should be routine in women who previously underwent cesarean section birth, *JAOA*, Feb.1989, Vol.89 No.2, p.164.

AMA study shows that pregnant women under chiropractic care have easier pregnancy and delivery. *American Medical Association records released in 1987 during trial in U.S. District Court Northern Illinois Eastern Division, No. 76C 3777.* Irvin Hendryson, M.D. a member of the American Medical Association board of trustees did a clinical study which revealed that pregnant women who received chiropractic adjustments in their third trimester were able to carry to term and deliver children with more comfort. (This information was suppressed and never revealed to the public or media. In the meantime, the AMA continued to attack chiropractic as “unscientific and dangerous.”

Medical expert states that less painkillers needed during delivery if patient under chiropractic care. Freitag, P. Expert testimony of Pertag, M.D., Ph.D. comparing results of two neighboring hospitals. *U.S. District Court Northern Illinois Eastern Division, No. 76C 3777, May 1987.*

A study was conducted in which chiropractic adjustments were incorporated during many patients’ pregnancy. It revealed that the need for painkillers during delivery was reduced by half.

This study was suppressed by the AMA because it showed chiropractic effectiveness.

What is the role of osteopathic manipulative therapy in obstetric care? For normal patients? For patients with problems (e.g. toxemia of pregnancy)? Hampton D. *J Am Osteopath Assoc* 1974; 74(3): 192-7.

Manipulation keeps the segments of the pregnant woman’s structure freely and normally movable. It permits a constant free flow of all body fluids and a normal venous supply to control function. During the second 6 weeks of pregnancy, the growing fetus and expanding uterus often settle in the hollow of the sacrum and relief of nausea may be achieved. Manipulation results in an easier pregnancy and an easier delivery. The postpartum return of the mother to prepartum health is also expedited by manipulation. Manipulation has a part in the prevention and cure of toxemias.

Case history: premature labor. Cohen Eddy, D.C., F.I.C.A. *Chiropractic Pediatrics* Vol 1 No. 4 May 1995.

This is the report of a woman experiencing premature labor at 32 weeks of gestation. She was also diagnosed with severe endometriosis resulting in inflammation of the ovaries and was informed that she would never be able to become pregnant and recommendation for treatment was laparoscopic surgery. Patient refused treatment. She went to a hospital where the M.D.s wished to inject oxytocin to stop her contractions. “While at the hospital, the patients husband...adjusted her. The intensity of the contractions decreased somewhat.

However the contractions maintained the same frequency of every five minutes.” She was adjusted C-2, Toggle Recoil Technique. Contractions reduced markedly and then discontinued completely “Patient then continued with weekly adjustments until the occurrence of labor and delivery at 40 weeks gestation, with no complications. The patient’s newborn infant was checked and adjusted 20 hours after the birth.

Some preterm labor may have a neurologic condition that responds to correcting/reducing vertebral subluxation complex. Found in Chiropractic and prenatal reference manual. Peet, JB, The Baby Adjusters, Inc. 1992. Shelburne, VT.

Mother’s smoking linked to child’s IQ drop. *Science News*, Feb 12, 1994. “Preschool children whose mothers smoked heavily during pregnancy scored significantly lower on standardized I.Q. tests than kids whose mothers didn’t smoke.” Study of 400 women.

Pregnancy and caffeine don’t go together. Mindell EL. *Let’s Live*, June 1994, p.6. A study done at McGill U School of Medicine in Montreal of 133 women who lost their fetuses and 993 control women who had normal pregnancies showed a strong association between fetal loss and intake of caffeine. For every 100-mg dose of caffeine taken daily during pregnancy, the ratio increased their chances of losing their fetuses by 1:22.

The short leg syndrome in obstetrics and gynecology. Sicuranza BJ, Richards J, Tisdall, LH *American J of Obstetrics and Gynecology*. May 15, 1970. pp.217-219. Of 63 women found to have this syndrome, 90% achieved excellent relief with this therapy.

Effect of pressure applied to the upper thoracic (placebo) versus lumbar areas (osteopathic manipulative treatment) for inhibition of lumbar myalgia during labor. Guthrie R, Martin R. *JAOA*, Dec. 1982, Vol. 82 No. 4, pp.247-251. From the author’s abstract: “In a study of 500 women during labor, 352 experienced pain in the lumbar area during labor, an incidence of 70.4%. One of the most interesting findings of the study was the association of back pain during labor and abnormal fetal presentation. Application of pressure to the lumbar area to inhibit lumbar pain reduced the need for major narcotic pain medication and minor tranquilizing medication.”

More on OMT in obstetric care. *Journal of the AOA* Vol 74, March 1975, Wentling, P: “In the past, I have delivered over 6,000 babies. Each one of the mothers has received osteopathic manipulative therapy. Specifically, I move the sacroiliacs, keep the pelvis lined up, and loose. I feel that this helps to facilitate deliveries.”

Low back pain during pregnancy. Berg. G. et al. *Obstetrics Gynecology*, 1988;71:71-75. Sacroiliac dysfunction is common in pregnancy and manipulation is found to help it.

Low back pain in pregnancy. Fast A et al (1987) *Spine* 12(4): 368-371. A study of 200 New York women indicated that 56% suffered low back pain during pregnancy and the most frequent onset of the pain was during the 5th to 7th months.

The effects of chiropractic treatment on pregnancy and labor: a comprehensive study.

Proceedings of the world chiropractic congress. 1991; 24-31. Fallon J.

Dr. Fallon reports that subjects who received chiropractic care from at least the tenth week of pregnancy through labor and delivery experienced mean labor times significantly reduced compared to controls.

Primigravidae subjects receiving chiropractic care averaged 24% shorter labor times, and multiparous subjects receiving chiropractic care average 39% shorter labor times versus controls.

Adjustive procedures for the pregnant chiropractic patient. Esch S., Zachman Z. *Chiropractic Technique.* May 1991; 3(2): 66-71.

Discussion of the technique and modifications needed to facilitate spinal adjustments for the pregnant patient. The authors used pillows under the abdomen and flexed the knees while prone to reduce stress on the low back.

Pregnancy and chiropractic care. Penna M. *ACA Journal of Chiropractic*/Nov. 1989 p.31 from the summary: "Regular adjustments can make pregnancy less stressful and delivery less uncomfortable. Chiropractic treatment can continue safely until the day of delivery."

Conservative obstetrical procedures - part 11 Tyler R., *Digest of Chiropractic Economics,* March/April, 1983, 25(5): 18-19.

Mentions that in the last trimester of pregnancy, especially in the last month, when the likelihood of difficulties and discomforts is greater, frequency of visits may be increased to up to three visits a week.

Chiropractic cares for the pregnant patient. Moore P. *Digest of Chiropractic Economics.* May/June, 1983, 25(6): 60-61.

"The frequency of visits of the pregnant patient should not vary drastically from ordinary proper procedure."

Chiropractic and pregnancy, a partnership for the future. Fallon J. *ICA Review* Nov/Dec 1990. Pp. 39-42.

Discusses neurological conditions associated with subluxation in pregnancy: brachia neuralgia, compression of the brachial plexus causing tingling and numbness in the shoulder and arm; neuralgia paresthetica, compression of the lateral femoral cutaneous nerve causing pain and paresthesia of the thigh; intercostal neuralgia, compression of the intercostal nerves causing radiating pain between the ribs; sciatic neuralgia, compression of lumbar plexus causing pain of the pelvic region and/or radiating down leg; coccydynia, pain at site of coccyx; separation of the symphysis pubis, causing pain at the symphysis pubis and SI joint; Carpal tunnel syndrome, compression of median nerve; Bell's Palsy, compression of CN V11 causing paralysis of facial muscles; traumatic neuritis, motor and sensory deficits of L5, S1 and S2 after labor.

From *Science News* Sept. 21, 1991 Vol. 140 p.182. Fetus tells mother: It's time for labor. "A specific region in the fetal brain may serve as the biosensor that triggers the events

leading to birth, according to two new studies of sheep.” This “dramatic” finding represents the first solid proof that the fetal brain initiates labor, at least in an animal model.”

Back pain during pregnancy and labor. Diakow, PRP, Gadsby, TA, Gadsby JB et al. *JMPT* Vol. 14, No. 2 Feb. 1991.

From the author’s abstract: An interview of 170 consecutive female patients. Of the 170 pregnancies with reported back pain, 72% also reported back labor...The treated group experienced less pain during labor.

Eighty-four per-cent of patients receiving spinal manipulative therapy reported relief of back pain during pregnancy. There was significantly less likelihood of back labor when spinal manipulative therapy was administered during pregnancy.

The effect of chiropractic treatment on pregnancy and labor: a comprehensive study. Fallon J. New York, NY: Yeshiva University. From 1991, *World Chiropractic Congress Abstracts*.

Abstract: One half of all pregnant women complain to their obstetricians about backache (LeBan et al. 1983).

From the conclusion: It can be demonstrated that chiropractic care significantly reduces the mean labor time.

Ostgaard HC, Anderson GBJ. *Spine*, 1991; 16(4): 432-436.

428 pregnant women who had back pain before pregnancy and 375 pregnant women with no previous back pain were followed at regular intervals. Back pain occurred twice as often in the group with a back-pain history.

Labour pain: correlations with menstrual pain and acute low-back pain before and during pregnancy. Melzack R, Belanger E. *Pain*, 1989; 36:225-229.

Visceral reflexes may be responsible for low back pain during birth. Low back pain was significantly correlated with labour pain. Both menstrual pain and the increased labour pain may come from the same mechanisms.

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Cecil and Loeb’s Textbook of Medicine, 13th Edition, p.16.

Nelson’s Textbook of Pediatrics, 10th Edition, p.323.

The People’s Doctor, A Medical Newsletter for Consumers by Robert S. Mendelsohn, M.D. Vol.8, No. 10, p.3.

“The Value of Chiropractic Care in Cases of Pregnancy.” Stein, K. The ACA J of Chiropractic, July 1964, p.19.

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“Effect of Pressure Applied to the Upper Thoracic (Placebo) versus Lumbar Areas (Osteopathic Manipulative Treatment) For Inhibition of Lumbar Myalgia During Labor.” R.A. Guthrie, D.O., Ralph H. Martin, D.O. Journal of the AOA, Vol. 82, no. 4, Dec. 1982, p.247-251.

“More on OMT in Obstetric Care,” Journal of the American Osteopathic Association/Volume 74, March 1975, p.597. From a letter by D.M. Peterson, D.O., Brooklyn, Michigan.

PMS (Premenstrual Syndrome)

Chiropractic approach to premenstrual syndrome. Wittler NA. *Chiropractic: The Journal of Chiropractic Research and Clinical Investigation*. 1992; (8): 22-29.

Eleven women with histories of PMS symptoms that had occurred regularly for more than 4 months were given chiropractic spinal adjustments. The care continued for four menstrual cycles and consisted of 5-7 spinal adjustments per month.

The subjects were given questionnaires at the beginning and end of the care. They evaluated changes in irritability and mood swings, tension, ineffectiveness, lack of motor coordination, mental/cognitive functioning, eating habits, variations in sexual drive and activity, overall physical symptoms, and social impairment.

The subjects reported improvement in all ten categories with the greatest improvement of symptoms relating to variations in sexual drive (70.7%), social impairment (64.5%), and mood swings (60.8%). The average improvement in all symptom categories was 44.2%.

Premenstrual syndrome: a clinical update for the chiropractor. Walsh MJ. *Chiropractic Journal of Australia*. June 1993; 23(2): 48-53. “A wholistic chiropractic management regime offers the possibility of a safe, effective method of reducing many of the symptoms of PMS.”

The management of symptoms associated with premenstrual syndrome. Stude De. *JMPT*, 1991; 14:209-216.

Management of a single case of PMS revealed alleviation of low back pain, abdominal bloating, breast tenderness and cardiac palpitations. “Patient did report pursuing other medical treatment alternatives in the past, without subjective improvement.”

Vertebral subluxation and premenstrual tension syndrome: a case study. Hubbs EC. *Research Forum*, 1986; Summer: 100 -102.

A case of a 28 year-old female with a chronic history of low back pain and symptoms of premenstrual syndrome consisting of intermittent cramping for 24 hours prior and during early menstrual flow, depression, bloating, agitation, and nervous eating. Spinal adjustments to L1. Premenstrual cramping went from 24 hours to 30 minutes, plus lumbar pain ceased.

The frequency of positive common spinal clinical examination findings in a sample of premenstrual syndrome sufferers. Walsh, M, Polus B. *Journal of Manipulative and Physiological Therapeutics* Vol. 22, number 4. May 1999.

This was a study of 54 subjects with diagnosed premenstrual syndrome (PMS) who were compared with non-PMS controls carried out at RMIT teaching clinics in Australia.

The PMS group showed a higher incidence of spinal dysfunction as compared to the control group. The PMS group had more cervical, thoracic and low back tenderness, Neck Disability Index, low back testing weakness and low back orthopaedic testing.

References from Koren Publications' brochure: Menstrual Problems and Chiropractic

Pokras, R., Hufnagel, V. Hysterectomies in the United States, 1965-1984, National Center for Health Statistics, U.S. Department of Health and Human Services, Hyattsville, MD, 1987.

“The Doctor’s People,” A Medical Newsletter for Consumers. October, 1989.

“The Doctor’s People,” A Medical Newsletter for Consumers. April, 1990

“The People’s Doctor,” A Medical Newsletter for Consumers by Robert S. Mendelsohn, M.D. Vol. 5 No. 12.

Radler, M. Dysmenorrhea. *The American Chiropractor* March/April 1984.

Novotny, T. Functional Disturbances of the Vertebral Column in Gynecological Practice. *Manuelle Medizin*, Vol 2, 1973.

Hubbs, E.C. Dysmenorrhea subluxation and premenstrual tension syndrome; a case study. *Res. Forum* 1986; 2:100-102.

Liebl, N., and Butler L. A Chiropractic Approach to the Treatment of Dysmenorrhea. *Journal of Manipulative and Physiological Therapeutics*. February 1990. pp.101-106.

Polio and Post Polio Syndrome

Polio Poster Girl Walks Again *Chiropractic Home* August 1957 Volume XX1, No. 8. (Photos and data were provided by Chiropractic News publishing corporation of Detroit, Michigan.)

Reproductions of March of Dimes polio poster child five-year-old Winifred Gardella of Stockton, CA were used during the 1952-53 March of Dimes Campaign. It showed her in a hospital crib and carried the following caption: “Will WALK AGAIN.”

“There is no hope!” These were the words given to the family of little Winifred Gardella after 2 ½ years of expert care by the March of Dimes.”

She was declared a hopeless paraplegic after 2 ½ years of care. Her grandparents took their granddaughter to Glendale, California chiropractor Dr. Lewis Robertson and after six months, she was able to walk again without crutches or braces.

Photo caption: “Yes, Winifred can wlk and run now. A doctror of Chiropractic took over. Dr. Lewis Robertson, a member of “We Walk Again” foundation, restored Winifred to a happy, health childhood. She now walks with her doctor.”

The issue highlighted another such story with a photo caption: “Kicking out in a dance step with complete confidence is Karen Moore, 4, another polio poster girl, with her Chiropractor, Dr. Henry G. Sole. After twenty weeks of regular medical care had left her in braces, Dr. Sole took over. You see the results” (picture of happy doctor and patient).

Clients evaluation of chiropractic treatment for post polio syndrome. Westbrook MT. *J of the Australian Chiropractors’ Association*, 1990; 20:147-157.

A survey was done of 304 people who had survived polio and who had post polio syndrome (general fatigue, pain, muscular weakness, muscle atrophy, cold intolerance, dyspnea, dysphagia and sleep apnea). It revealed that chiropractors were significantly more likely than M.D.s or physiotherapists to be rated as helpful.

Post-polio syndrome: A Case Report. Bougie JD, Cassidy JD, and Donat JR. *Journal of the Neuromusculoskeletal System*, summer 1994; 2(2): 75-78.

A discussion of this condition, which presents as symptoms of weakness, pain and fatigue experienced by patients who were afflicted with polio.

Pyloric Stenosis

Assessing the Efficacy of Chiropractic Care in Pediatric Cases of Pyloric Stenosis . Proceedings of the National Conference on Chiropractic and Pediatrics (International Chiropractors Association: Arlington, VA). Fallon JP, Lok BJ.1994: 72-79.

From the abstract: Clinical evidence suggests that chiropractic adjustments can be an effective conservative treatment for pyloric stenosis. Additional studies are required to validate the efficacy of chiropractic care in cases of infantile hypertrophic pyloric stenosis. Discussion of pyloric stenosis and case history of a three week old female infant with a two-day history of projectile vomiting who was diagnosed with pyloric stenosis. Infant was extremely irritable and would scream 18 hours each day. Mother brought child to chiropractor in order to avoid surgical intervention. Infant had been breastfed since birth.

From the paper: “Upon static palpation of the atlas, the child would physically try to move away from the examiner with extension of the extremities. A loud ‘wail’ followed motion palpation of the atlas. Passive cervical range of motion was fixed upon right lateral flexion. First adjustment was an atlas adjustment performed, as the baby was supine on the mother’s lap. Doctor’s right thumb was placed on right atlas transverse process and left hand placed on the left occiput for stabilization. A light thrust was given to the atlas, directly lateral. The first six adjustments were of atlas, the 7th visit the child was not adjusted and on tenth visit the child was adjusted T-4. By the second visit (2nd day of care) child was less fussy but still vomiting. By the fourth visit (seventh day of care), the projectile vomiting had ceased. Screaming continued in decreasing intensity until the 10th visit (day 32). Infant slept from 8:30 PM to 4:30 AM without waking.

Quality of Life

Outcome studies measuring health related quality of life (HRQL) are becoming increasingly sought as measures as to the value of a health intervention. In outcomes studies the overall wellness or well-being of a person is explored to ask the question, “Is this intervention truly benefiting the overall health of the patient or are we just treating symptoms or having a minimal effect on this patient’s life?” That is very important because doctors can give a patient a drug to lower their high blood pressure, but the result may be impotence. Doctors may give a drug to lower high cholesterol and the result may be suicide. Doctors may give a child a measles-mumps-rubella shot and the result may be autism. Is the intervention worth the risk? Looking at it from a non-quality of life viewpoint the doctor may say, “Well, his blood pressure is down, his cholesterol is down and the child didn’t get the measles.” Of course this begs the question, “Was the intervention a net benefit to the patient?” Quality of Life studies look at the big picture and they are particularly valuable for subluxation for that reason since subluxation based chiropractic care is designed to affect the entire person’s

ability to relate to their environment rather than the diagnosis and treatment of symptoms and diseases. tk.

A longitudinal assessment of chiropractic care using a survey of self-rated health wellness & quality of life: a preliminary study. Marino MJ and Phillipa ML. *Journal of Vertebral Subluxation Research* 3(2), 1999.

From the abstract: This longitudinal study evaluated changes in self-rated health status of patient receiving chiropractic care at the training clinic of the New Zealand School of Chiropractic. The study was designed to assess subluxation-based chiropractic care in association with changes in patients' perceived health status. The Self-Rated Health/Wellness Survey (SRHW) was used to evaluate the health status on two occasions, "initial" and "follow-up." The instrument assessed health across four domains, Physical State, Emotional/Mental State, Stress and Life Enjoyment. Collectively, these four domains, assessed initially and after a follow-up period, constituted Combined Wellness, or a fifth domain. Quality of Life was evaluated as a sixth domain of the questionnaire instrument.

The study population included 89 subjects, evaluated over a five-month study period. The average interval between initial and follow-up surveys was 8.0+/- 3.2 weeks, with an average number of visits of 9.1 +/- 4.2. A bivariate analysis was conducted using a two tailed, paired, sample t-test to assess the subjects' survey responses. Subjects reported significant positive perceived changes in Physical State (p=0.000) Mental/Emotional State (p=0.008), and Combined Wellness (p=0.001), with corresponding effect sizes of 0.61, 0.24 and 0.31 respectively. The improvement in the Physical and Mental/Emotional State, and Combined Wellness suggests that chiropractic care provided through the NZ School of Chiropractic is associated with significant benefits in these domains. Study data suggested that health/wellness may accrue with time under care. Thus, further study with a larger sample size and longer duration of care is proposed to more thoroughly investigate possible health benefits in the areas studied, as well as to confirm present findings.

A retrospective assessment of network care using a survey of self-rated health, wellness and quality of life. Blanks, RHI, Schuster, TL. *JVSR* Vol. 1 No. 4, 1997.

From the abstract: The present study represents a retrospective characterization of Network Care, a health care discipline within the subluxation-based chiropractic model. Data were obtained from 156 Network offices (49% practitioners participation rate) in the United States, Canada, Australia and Puerto Rico.

This was a survey of 2818 patients of 156 Network chiropractic offices.

Results indicated that patients reported significant positive perceived change in all four domains of health, as well as overall quality of life.

The evidence of improved health in the four domains (physical state, mental/emotional state, stress evaluation, life enjoyment), overall quality of life from a standardized index and the "wellness coefficient," suggests that Network Care is associated with significant benefits.

These benefits are evident from as early as 1-3 months under care, and appear to show continuing clinical improvements in the duration of care ...with no indication of a maximum clinical benefit.

Comment (tk): Network chiropractic is a combination of chiropractic techniques tailored to the specific needs of the patient. It capitalizes on the best that many traditional chiropractic techniques has to offer. This study is unique in its size, scale and scientific rigor.

Changes in general health status during upper cervical chiropractic care: PBR report. Owens, Edward F., Hoiriis, Kathryn T., Burd, Deana. *Chiropractic Research Journal*, Vol. V, No. 1, Spring 1998.

This is a practice-based research project PBR: doctors in their private offices collected and pooled data on their patients.

From the abstract: Data have been [so far] collected on 153 patients. Among the factors tested for are:

- physical functioning (PF) limitations in physical activities due to physical problems
- bodily pain (BP)
- general health (GH)
- vitality (V)
- social functioning (SF) – limitations in social activities due to physical or emotional problems
- mental health (MH)

The preliminary results show that patients enter into upper cervical chiropractic care with a variety of mostly musculoskeletal complaints. At the outset of care, those patients have significantly lower health status, as measured by SF-36, than the general population. There is a general trend for patients to experience an upward trend in their perception of health as measured by both the SF-36 and the GWBS (global well-being score).

Analysis of SF-36 scores showed improvement in all categories compared to the initial scores upon initial care. The average patient improvement was 12.1% within the first four weeks, and increased to 45.6% by maximum improvement. Overall, the chiropractic patients on whom they had complete data improved on all subscales and show scores exceeding the national norms on four of the eight scales (GH, V, SF, MH).

In addition, analysis of x-ray listing factors suggests that upper cervical chiropractic adjustment improves misalignment of the occipito-atlanto-axial spine.

Although these results are encouraging many of our original questions go answered because of a lack of follow-up data. In addition, the sample size is too small; additional upper cervical chiropractic offices are needed as collection sites. Better tracking of patient attrition is required to assess the length of chiropractic care needed to reach maximum improvement for specific conditions.

Italian Study

In 1987, a study of 17,142 patients (22 clinics) in Italy by medical physicians and chiropractors concluded:

The results of our survey presented herein, are clear and incontrovertible: our sample population of over seventeen thousand patients treated with chiropractic for at least two years showed that this treatment could lead to a 75-55% reduction in the number of daily absences from work and could cut down the

number of hospitalized patients by 87.60% vis-à-vis other currently used forms of treatment (pharmacological, psysiokinesitherapeutic, surgical, etc.)

“A most meaningful indicator of the effectiveness of chiropractic is the improvement it produces in the quality of life, not only because of its curative effect but also thanks to its preventative and rehabilitative functions.”

Chiropractic-Therapeutical effectiveness-Social importance. Incidence of Absence from work and Hospitalization. Survey on a Sample of 17,142 patients, Italy, 1987, Professor F. Splendori

British Medical Journal Publishes Follow-up to Meade Study

Mead TW, *British Medical Journal* August 5, 1995

Chiropractic patients not only reported less pain than hospital patients at six weeks, but three years later chiropractic patients reported a 29% greater improvement with chiropractic compared to hospital treatment.

The most dramatic improvements were associated with pain reduction, but many of the factors that contribute to the quality of life were affected by chiropractic care.

Sitting for more than a short period of time and sleeping showed the most significant improvement, but scores such as personal care, lifting, walking, standing, sex life, social life, and ability to travel also improved.

Changes in salivary pH and General Health Status following the clinical application of bio-energetic synchronization. Morter T, Schuster T. *JVSR* 2(2), Jan. 1998.

From the abstract: The present preliminary study investigated the relationship between autonomic nervous system imbalance, fasting salivary pH, and general health status following the clinical application of Bio-energetic Synchronization (BEST)...Twenty-four patients attending a four day program were separated into two groups of 12 each.

Following the administration of BEST pH values increased significantly in the (subject) S-Group, and decreased significantly in the (placebo) P-group. Moreover, the G-group expressed lower total scores (lowered perceived health status) than the P-Group...

Based on these preliminary findings it is suggested that measurement of fasting salivary pH may be a reliable non-invasive means of substantiating pre/post intervention changes in autonomic imbalance...both groups (report) self-reported overall improvement in general health status concomitant with pH changes following the application of BEST. The preliminary findings support clinical observations suggesting that this approach is associated with restoration of autonomic balance. The relevance of this process to the etiology and correction of vertebral subluxation is discussed.

A study regarding measures of general health status in patients using the Bio Energetic Synchronization Technique: a follow-up study. Blanks R and Dobson M.

Journal of Vertebral Subluxation Research 3(2), 1999.

From the Abstract: The present study was conducted to investigate the health benefits of Bio Energetic Synchronization Technique (BEST) in a large patient sample. Participants were

attendees at one of ten consecutive, four day, in-residence health programs (Health Weeks) held between July, 1997 and July, 1998. The Health Week program consisted of a comprehensive four day program of intensive BEST care which has been linked to restoring autonomic nervous system balance, as well as reduction of subluxation. The technique also includes lifestyle and nutritional education. Patients were assessed with the Rand-36 health survey and the Global Well-Being Scale (GWBS) just prior to Health Week, and then eight weeks following the program. Following a structured clinicla interview, assessment forms were administered by staff at the beginning or end of the four day event. The eight-week follow-up questionnaires were mailed to all study participants. Results indicate significant ($p<0.006$) improvement in six of the eight subscales of the Rand-36 health survey among the 205 participants completing both the pre and post Health Week assessment in the Rand-36 scores through the eight week follow-up. The GWBS was higher than the pre Health Week but lower than the post Health Week. These follow-up data demonstrate long term benefits derived during the Health Week program, and confirm a previous pilot study involving Health Week attendees. Further investigation relative to sociodemographic factors, which may influence the health and wellness outcomes associated with this form of care will be evaluated in future studies.

Respiratory Function, Breathing Ability, Bronchitis, Pneumonia

The lungs and bronchi receive an extensive nerve supply from the spine. Case reports and research studies have repeatedly demonstrated an improvement in respiratory function as a result of spinal care.

Specific upper cervical chiropractic care and lung function. Kessinger, R
Abstracts from the 13th annual upper cervical spine conference, Nov 16-17, 1996 Life College, Marietta, Georgia. Pub in *Chiropractic Research Journal*, Vol. 1V, No.1, Spring 1997 p.27 (also Kessinger R; **Changes in pulmonary function associated with upper cervical specific chiropractic care** *JVSR* 1997; 1(3):43-9.

From the abstract: This was a study of 58 patients to determine whether the upper cervical knee chest adjustment as developed by Dr. B.J. Palmer, influenced pulmonary function. FEV-1 and FVC were measured before care and two weeks after care on a computerized auto spiro spirometer.

Of the 58 patients, 33 (57%) were considered to have “abnormal” lung function before care. The rest were within normal range. The abnormal group showed the greatest increases in FEV and FVC over the two-week study. Forty-two percent of the abnormal patient population actually tested within normal limits after the two-week study. The “normal” subject population also showed predictable increases in lung function, but not as dramatic as the abnormal group.

Chiropractic adjustments of the cervicothoracic spine for the treatment of bronchitis with complications of atelectasis. Hart, D.L. Libich, E, Ficher R. *International Review of Chiropractic*, March/April 1991.

Adjustive osteopathic manipulative treatment in the elderly hospitalized with pneumonia: a pilot study. Noll DR, Shores J, Bryman PN, Masterson EV. *Journal of the American Osteopathic Association* 1999; 99(3): 143-6

This was a study of twenty-one individuals with acute pneumonia. Eleven of them were given “specific osteopathic manipulative treatment for somatic dysfunction.” All twenty-one received medical treatment as well (antibiotics etc.).

The study found that those getting the manipulative treatments recovered more quickly from pneumonia. As the authors wrote: “Although the mean duration of leukocytosis, intravenous antibiotic treatment, and length of stay were shorter for the treatment group, these measures did not reach statistical significance. However, the mean duration of antibiotic use did reach statistical significance...3.1 days (versus) 0.8 day.”

A comparison of the effect of chiropractic treatment on respiratory function in patients with respiratory distress symptoms and patients without. Hviid C. *Bulletin of the European Chiropractic Union*, 1978; 26:17-34.

It is suggested that there is a change of the peak flow rate and the vital capacity in patients with obstructive lung disease after chiropractic care.

Treatment of visceral disorders by manipulative therapy. Miller WD. In: Goldstein M, Ed. *The Research Status of Spinal Manipulative Therapy*. Bethesda: Dept. HEW. 1975:295-301.

Patients with chronic obstructive pulmonary disease were treated with osteopathic manipulation. 92% of the patients stated they were able to walk greater distances, had fewer colds, experienced less coughing, and had less dyspnea than before treatment. 95% of patients with bronchial asthma said they benefited from chiropractic care. Peak flow rate and vital capacity increased after the third treatment.

Relation of faulty respiration to posture, with clinical implications. Lewit K. *JAOA*, 1980, 79:525-529. The relation of faulty respiration and posture of the spine and pelvis is considered.

Somatic Dyspnea and the orthopedics of respiration. Masarsky CS, Weber M *Chiropractic Technique*, 1991; 3:26-29

Author’s Abstract: Several brief cases are presented in which the symptom of dyspnea was alleviated or abolished following the correction of vertebral subluxation complex or other somatic dysfunctions. In discussing such cases, the term “somatic dyspnea” is suggested to denote air hunger or shortness of breath related to somatic dysfunction. Somatic dyspnea is a condition, which may accompany other causes of dyspnea (lung pathology, psychogenic or “functional” causes, etc., or it can exist alone. In our chiropractic practice, most somatic dyspnea is seen as a secondary condition in patients presenting primarily with orthopedic complaints. When the symptom is secondary, the patient will often not mention it until an examination procedure reproduces it or treatment causes it to improve or disappear. The response to manipulative therapy is sometimes so dramatic and rapid that a strong linkage between the dyspnea and the primary presenting complaint is suggested.

Chiropractic and lung volumes - a retrospective study. Masarsky CS, Weber M. *ACA Journal*, Sept 1986; 20:65-68. Lung vital capacity was found greater after chiropractic adjustment.

Chiropractic management of chronic obstructive pulmonary disease. Masarsky CS, Weber M. *JMPT*, 1988; 11:505-510.

A 53-year-old man with 20 years of chronic obstructive pulmonary disease was treated with chiropractic, nutritional advice and exercises. Improvements were noted in forced vital capacity, coughing, fatigue and ease of breathing.

The influence of osteopathic manipulative therapy in the management of patients with chronic obstructive lung disease. Howell RK, Allen TW, Kappler RE. *JAM Osteopathic Association* 1975; 74(8): 757-60.

This was a 9-month study on the effects of spinal manipulative therapy as a treatment for obstructive pulmonary disorders, there was a progressive decline in the severity of the condition. The average reduction in severity was approximately 10.7%. All of the patients were noted as having costotransverse dysfunction at the level of T3, as well as T2 being noted in patients with asthma. Joint motion between T3/T4 was restricted. Local tissue was edematous and tender to palpation.

Somatic dyspnea and the orthopedics of respiration. Masarsky CS, Weber M. *Chiropractic Technique*, 1991; 3:26-29.

From the abstract: "Several brief cases are presented in which the symptom of dyspnea (shortness of breathe, air hunger) was alleviated or abolished following the correction of vertebral subluxation complex or other somatic dysfunctions.

Lung function in relation to thoracic spinal mobility and kyphosis. Mellin G, Harjula R. *Scand. J. Rehab. Med.*, 1987; 19:89-02.

Mobility of the thoracic spine is shown to directly effect respiratory function.

Somatic dysfunction associated with pulmonary disease. Beal MC, Morlock JW, *JAOA*, Vol.84 No.2 Oct. 1984.

A review of osteopathic literature on respiratory disease revealed that the majority of those with lung disease had changes in the spinal area T2-7. In this study, all 40 patients with lung disease had abnormalities of T2-7.

The physiologic response to the nose to osteopathic manipulative treatment: preliminary report. Kaluza CL, Sherbin M, May 1983, *JAOA*, Vol. 82 No.9.

The work of breathing was lessened after an osteopathic manipulative treatment.

Rett Syndrome

The effect of chiropractic care on Rett Syndrome: a case report. Gossett, LJ. *Journal of Clinical Chiropractic Pediatrics*, Vol. 4, No. 1, 1999.

Rett Syndrome, also called Rett's Disorder is a neurologic disorder that affects girls. The child appears normal, and at six months, the loss of acquired skills is noted. There is loss of communication skills and purposeful use of the hands. Apraxia, the ability of the body to perform motor movements is the most severely handicapping aspect. This is considered a genetic neurodegenerative disorder of childhood first described by Dr. Rett in 1983. The cause is unknown. "No consistent genetic abnormalities or biological markers have been identified."

By five ½ years, the child had received four doses of DPT, one dose of DT, six doses of polio and one dose of MMR. "Vaccinations were begun at ten weeks of age and no adverse reactions were noted."

Examination: "The 13 year-old girl was confined to a wheelchair and appeared very thin and small for her age." She was unable to speak, she was unable to stand or walk on her own.

Chiropractic care: Care was given on a daily basis for the first week, three times per week for the next two weeks, then twice a week for three weeks.

Results: Mother reported child did not complain of pain after her period as she usually did, and did not need her regular pain medication; consistent bowel movements were reported whereas before care they were 1-2 per week. Her mood had improved. According to the mother, "She is much happier and laughing more."

Dr. Koren comments: The late Robert Mendelsohn, MD once stated that "If MDs don't know much about a condition, they name it after someone." This condition may be vaccine related, especially since it appears similar to autism, cerebral palsy, or non-specific developmental delay – all conditions that have been related to vaccine damage. It is certain that no medical research done on this disorder has explored this possibility. It is also possible that the child had a late vaccine reaction but it was never recorded as such.

Safety of Chiropractic for Children

Risk assessment of neurological and/or vertebrobasilar complications in the pediatric chiropractic patient. (Risk of complications in pediatric patients under chiropractic care). Pistolesse Richard A. *Journal of Vertebral Subluxation Research*, 2(2), June 1998 p. 73-81.

How safe is chiropractic care for children? In this unique paper Richard Pistolesse, research assistant for the International Chiropractic Pediatric Association (800-670-5437) computed both the number of chiropractic adjustments children have had and the risks of neurological/vertebrobasilar complications or injury. He found that in the period 1966 to 1977 over half a billion adjustments were delivered to children with an injury rate of one in 250 million.

From the abstract: "This paper has reviewed literature concerning the occurrence of neurological and/or vertebrobasilar (N/VB) complications in patients receiving either specific chiropractic adjustments and/or non-specific manipulations of the spine. This topic was

chosen due to the potentially severe consequences of N/VB complications, regardless of etiology....The number of pediatric visits, extrapolated to also include the periods between 1966 and 1977, was estimated to be 502,184,156....The estimate risk due to the pediatric chiropractic patient in this category of (N/VB) complication was estimated to be 4.0 x 10-7% of all visits. Stated otherwise, there would be a chance of approximately 1 in 250 million pediatric visits that a N/VB complication would result.”

Comment: A 1 in 250 million chance of injury means the patient has a greater chance of being hit by lightning than having an injury from a chiropractic adjustment. In discussion with the author, it was stated that the above statistics may actually be low and the chance of injury even less than 1 in 250 million. I know of no healing art with such a safe healing record.

Sciatica (See Low Back, Disc, Musculoskeletal)

References from Koren Publications' brochure: Sciatica and Chiropractic

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When walking is the cure. The John's Hopkins Medical Letter. Sept. 1991, p.7.
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Scoliosis

Scoliosis: Biomechanics and Rationale for Manipulative Treatment. Danbert, RJ. *JMPT* 1989; 12(1) 38-45. Scoliosis is a biomechanical problem deserving a biomechanical treatment, and should be advanced by biomechanical specialists (i.e. chiropractic).

Adolescent idiopathic scoliosis and the presence of spinal cord abnormalities. Preoperative MRI analysis. Maiocco B et al. *Spine*, Nov. 1997;22(21), pp.2537-41.

Forty-five patients diagnosed with adolescent idiopathic scoliosis were given MRIs and two had abnormal findings. This is much higher than found in the general population.

Comment (tk) : Serious spinal abnormalities were seen, yet more subtle abnormalities are not able to be viewed at this time. Spina subluxations or abnormal proprioceptive events were not measured.

Proprioceptive Function in Children with Adolescent Idiopathic Scoliosis. Yekutieli M; Robin GC; Yarum R.

Disturbances of postural equilibrium have been found in idiopathic scoliosis, and it has been suggested by several researchers that this is a result of brain stem disturbances. It has been shown experimentally that stress on posterior nerve roots can also cause spinal deviation. *Spine* 1981; 6(6):560-6.

A Retrospective Consecutive Case Analysis of Pretreatment and Comparative Static Radiological Parameters Following Chiropractic Adjustments. *JMPT* 1990; 13(9): 498-506. Plaugher G, Cremata E, Phillips R.

The data from pre and comparative post measurements of retrolisthesis showed a significant reduction of approximately 34%. No reduction was seen in a control group with retrolisthesis.

International Chiropractic Pediatric Association Newsletter. November 1996

Male child - Age 5 from a central American country.

Prior diagnosis: malformation of cervical spine, severe scoliosis, occiput position severely anterior to cervical spine. Not vocalizing well. Absence of T-cells, immune dysfunction, has colds all the time. Surgery had been considered to correct skull positioning.

In the first series of adjustments, we adjusted the lad in a sitting position utilizing the infant toggle headpiece. The Atlas was adjusted ASL.

Child was reevaluated in native country and medical staff stated that everything was now normal. Child returned to U.S. for care 6 months later. Vocabulary was now normal. Head position - normal. No colds evident during these months. Scoliosis was greatly reduced.

Correction of juvenile idiopathic scoliosis after primary upper cervical chiropractic care: a case study. Abstracts from the 13th annual upper cervical spine conference, Nov 16-17, 1996 Life College, Marietta, Georgia. Pub in *Chiropractic Research Journal*, Vol. 1V, No.1, Spring 1997 p.29

From the abstract: A nine-year-old male presented in our office with a chief complaint of juvenile idiopathic scoliosis and intermittent back pain. The patient had fractured his clavicle one month before his initial visit and complained of intermittent "growing pains" in his right foot. The case history also revealed that he had been involved in a motor vehicle accident two years previously.

The patient was managed with upper cervical care, utilizing the Grostic Procedure of adjusting by hand. Over the five months and ten days of care, the patient was checked on 13 visits and required an upper cervical adjustment on five of those visits. The leg length inequality, posture, and palpatory findings balanced immediately after the first upper cervical adjustment. Post-adjustment paraspinal surface EMG showed that the paraspinal muscular activity was more balanced. Post-treatment x-ray taken on the 13th visit revealed the thoracic curve to be reduced to 0.5x and the lumbar curve was measured at 3.0x, which represents an 88% overall reduction in the scoliosis after the five months of chiropractic care.

Scoliosis and Subluxation. Fortinopoulos V. *International Chiropractic Pediatric Association*. July/August 1999. Following are three case studies of trauma induced scoliosis. The children below had been in traumas years before their scoliosis was noticed.

John's Story: "I first met John when he was 11 years old. He had developed a classic Distortion #3 scoliosis. There was a primary left thoracic curvature of 20 degrees, a secondary lumbar curvature of 13 degrees, and a tertiary cervical curvature of 12 degrees. John started under care and for the next 9 months, he received specific chiropractic care to correct his vertebral subluxation complex (VSC) and the scoliosis. The result was a reduction of the three curves from 14/20/12 degrees to 3/4/4 degrees, and the reduction of his VSC.

Sandy's Story: "I met Sandy when she was 9 years old. She was referred to my office as the result of a school scoliosis-screening program. X-ray...revealed a Distortion #2 type scoliosis, which included a left lateral thoracic curve of 23 degrees and a right lateral compensatory curve in the cervical spine of 9 degrees. After a six-month care program, Sandy's thoracic curvature was down to 4 degrees."

Danielle's Story: "I first met Danielle when she was 10 years old. The results of the exam revealed Vertebral Subluxation Complex (VSC) at levels of C1, C5, T11, T12, L4, and L5. I also found a classic Distortion #3 type scoliosis. There was a left lateral rotatory curve of 6 degrees from T10 to L3, a right lateral curve of 15 degrees from T4 through T10, and a slight compensatory curve in the cervical spine. I made recommendations for mom to bring Danielle in on a 2x per week. Mom followed through by bringing Danielle in for care 1x every 6 weeks.

Danielle entered into puberty just after her 11th birthday. Shortly after that, I noticed that her scoliosis seemed to be worse so I took new X-rays. The new X-rays revealed a slight cervical curve, T4 through T10 was now 26 degrees, and T10 through L3 was now 20 degrees. At that point I started some much more specific scoliosis care. After 6 months, the curves were: slight cervical, T4-T10 18 degrees, and T10-L3 20 degrees.

Sexual Function

Sexual impotence in men having low-back syndrome. LeBan MM, Burk Rd, Johnson EW. *Archives Phys. Med. & Rehab.*, Nov. 1966 pp. 715-723.

Of 43 men having back injuries from industrial accidents, 63% were found to be sexually impotent.

Testalgia caused by dysfunction at the thoraco-lumbar junction. Jamelick R, Penickova V, Vyborny K. *J of Manual Medicine*, 1992; 6:189.

Ten men aged 30-55 had long term unilateral testalgia (pain in scrotum or testicle). They had no back pain or urinary tract disease. After a single manipulation or repeated manipulation, the testalgia completely disappeared.

The Mechanically Induced Pelvic Pain and Organic Dysfunction Syndrome: An Often Overlooked Cause of Bladder, Bowel, Gynecological, and Sexual Dysfunction. Browning JF. *Journal of the Neuromusculoskeletal System*. 1996; 4:52-667

Author's Abstract: The mechanically induced pelvic pain and organic dysfunction (PPOD) syndrome has recently been described in the literature. While the etiology of this disorder is thought to be a mechanical lesion of the lumbar spine with secondary impairment of lower sacral nerve root function, its clinical presentation is highlighted by various combinations of bladder, bowel, gynecologic and sexual dysfunction. As most PPOD patients present to the chiropractic clinician as a result of complaints relative to a mechanical disorder of the low back, the symptomatic representation of lower sacral nerve root impairment can easily be overlooked. Therefore, patient management and therapeutic outcome may be compromised. (Abstract abridged).

29-year old woman with bilateral and low back pain. Previous chiropractic care gave partial relief but an exacerbation was accompanied by inguinal pain, urinary stress incontinence, loss of genital sensitivity, loss of libido and vaginal discharge. A gynecological exam failed to reveal any pathology.

Dr. Browning found evidence of lower sacral nerve root involvement, secondary to a L5/S1 disc herniation. Under chiropractic care the patient initially experienced symptoms (pain and paraesthesia of the genitalia) but within one week, bladder dysfunction had resolved, and the other symptoms were less severe. After 4 weeks, her PPOD symptoms had resolved.

The recognition of mechanically induced pelvic pain and organic dysfunction in the low back pain patient. Browning JE. *JMPT*, 1991,12(5).

Pelvic organic problems that have been shown to respond to manipulative treatment include impairment of bladder, bowel and sexual function.

Distractive manipulation protocols in treating the mechanically induced pelvic pain and organic dysfunction patient. Browning JE *Chiropractic Technique*. 1995; 7:1-11.

From the abstract: Treatment protocols outlining the application of distractive decompressive manipulation of the lumbar spine in the management of the (mechanically induced pelvic pain and organic dysfunction syndrome) have been developed. Their incorporation requires the identification of patients with symptoms of bladder, bowel, gynecologic, and sexual dysfunction secondary to impairment of lower sacral nerve root function as a result of a mechanical disorder of the low back.

Sinus and Respiratory Infections/Sinusitis

Upper respiratory infections in children. Fysh PN. *ICA Review* March/April, 1990.

“Patients frequently attest to the rapid improvement in upper respiratory symptoms following adjustment of vertebral subluxations....Children who are afflicted with frequent bouts of any of the upper respiratory disorders should be carefully checked for evidence of cervical subluxations.”

The atlas fixation syndrome in the baby and infant. Gutmann G. *Manuelle Medizin* 1987 25:5-10, Trans. Peters RE.

18-month-old boy, recurring tonsillitis, frequent enteritis, therapy resistant conjunctivitis, suffered from colds, rhinitis, ear infections and sleep disturbances. “Immediately after (spinal adjustment) the child demanded to be put to bed and for the first time slept peacefully to the next morning. Previously disturbed appetite normalized completely. Conjunctivitis cleared completely. Chiropractic can often bring about amazingly successful results, because the therapy is a causal one.”

Blocked atlantal nerve syndrome in babies and infants. Gutman G. *Manuelle Medizin* (1987) 25:5-10.

From the abstract: Three case reports are reviewed to illustrate a syndrome that has so far received far too little attention, which is caused and perpetuated in babies and infants by blocked nerve impulses at the atlas. Included in the clinical picture are lowered resistance to infections, especially to ear-,nose-, and throat infections.”

Blocked atlantal nerve syndrome in babies and infants. Gutman G. *Manuelle Medizin* (1987) 25:5-10.

From the author’s abstract: Three case reports are reviewed to illustrate a syndrome that has so far received far too little attention, which is caused and perpetuated in babies and infants by blocked nerve impulses at the atlas. The clinical picture ranges from central motor impairment and development through idencephalic impairments of vegetative regulatory systems to lowered resistance to infections, especially to ear-,nose-, and throat infections.....Chiropractic can often bring about amazingly successful results, because the therapy is a causal one.”

Male Child - age 4 - Diagnosis: retardation, asthma, Down’s syndrome, immune dysfunction. *International Chiropractic Pediatric Association Newsletter*, November 1996.

Patient had been evaluated at several clinics with the above disorders. Patient was on 11 medications on initial visit. After 4 months of care, all medications were withdrawn and the above diagnoses are being changed. Patient still under chiropractic care and very difficult to adjust - child does not want to lay or be on adjusting table - the patient is adjusted either in the mother’s arms or on her back using the mother as a “table.” Adjustment: Atlas ASR, with a toggle type thrust.

Not vocalizing well. Absence of T-cells, immune dysfunction, has colds all the time.

Male child - age 5 - Prior diagnosis: malformation of cervical spine, severe scoliosis, occiput position severely anterior to cervical spine. Not vocalizing well. Absence of T-cells, immune dysfunction, has colds all the time. Surgery had been considered to correct skull positioning.

In the first series of adjustments, we adjusted the lad in a sitting position utilizing the infant toggle headpiece. The Atlas was adjusted ASL.

Child was reevaluated in native country and medical staff stated that everything was now normal.

Child returned to U.S. for care 6 months later. Vocabulary was now normal. Head position - normal. No colds evident during these months. Scoliosis was greatly reduced.
International Chiropractic Pediatric Association newsletter. November 1996

References from Koren Publications' brochure: Relief from Sinus Trouble

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Skin/Eczema/Psoriasis

Reduction of psoriasis in a patient under Network Spinal Analysis Care: a case report.

Behrendt M. *Journal of Vertebral Subluxation Research* Vol. 2, No.4, Dec 1998

A 52 year old white male with chronic psoriasis first diagnosed April 1992 was placed on 12.5 mg/week methotrexate and oral immunosuppressant medication October 1997. After commencing the medication, the condition reduced from 6% body coverage with flares of 15-20% to a body coverage of 5%.

After approx. 6 weeks of Network Spinal Analysis (NSA) patient was taken off oral medication. For 5 months since cessation of methotrexate, the patient remained under NSA with no recurrence of psoriasis body coverage greater than 1%.

Eczema. ICPA Newsletter July/August 1997.

A seven year old girl had severe skin lesions covering much of her body "from her neck to her ankles." She was diagnosed at age 4 and had been treated with cortisone creams with no success. Past history revealed a forceps delivery.

Her parents took her to Dr. Richard McCarthy of Valleyfield, Quebec. Chiropractic analysis revealed subluxation of C2. She was checked and adjusted 2 times per week. Within 4 weeks, she was 90-95% better. She continued care for two more months.

Chiropractic management of a pediatric patient with eczema. Lacunza C, Waldron M, Tarr W. *Life Work*, 1995 (Summer); 3: 20-25.

This 16-month-old female patient presented to a chiropractor with eczema lesions covering the entire body except for the diaper area. Her eczema began shortly after her mother added formula to her diet, along with breast milk. In addition to the skin condition, she also suffered from constipation. The medical intervention suggested was cortisone therapy, but the patient declined. Her mother tried homeopathic remedies, removing cow's milk from the diet and Diversified, Bio Energetic Synchronization Technique (BEST) and Toftness without success. Chiropractic adjustments were administered for 5 weeks, after which the eczema completely resolved. After two Alphabiotic adjustments over a four day period, the eczema was reduced by 50% and she was napping longer. After three weeks (7 more adjustments), the eczema was almost gone.

Sleep

Case report: The effect of a chiropractic spinal adjustment on toddler sleep pattern and behavior. Rome PL. *Chiropractic Journal of Australia*, 1996;26:11-14.

Author's abstract: The interaction of the cervical spine with the nervous system, and the effectiveness of spinal adjustment in the management of the poor sleeping patterns of a 12-month-old male are discussed. The history of an often irritable, unsettled infant, is also presented with a brief, but relevant, research review.

Since birth, this 12 month old boy would wake up 7-8 times a night. Medication (PanadolTM) had been given without success. Following the first adjustment (C 1/2 and T 8/9) the child slept for seven hours.

A second case is briefly discussed of a 4-month-old boy with depressed appetite who slept only 30 minutes at a time. After one adjustment, he slept for 11 hours. Four months later he had a fall and his poor sleeping habit returned. After one adjustment the sleeping returned to normal, in addition he had a normal appetite.

Kinematic imbalances due to suboccipital strain in newborns. Biedermann H. J. *Manual Medicine* 1992, 6:151-156.

More than 600 babies (to date) have been treated for suboccipital strain. One hundred thirty-five infants who were available for follow-up was reviewed in this case series report. The suboccipital strain's main symptoms include torticollis, fever of unknown origin, loss of appetite and other symptoms of CNS disorders, swelling of one side of the facial soft tissues, asymmetric development of the skull, hips, crying when the mother tried to change the child's position, and extreme sensitivity of the neck to palpation.

Most patients in the series required one to three adjustments before returning to normal. "Removal of suboccipital strain is the fastest and most effective way to treat the symptoms...one session is sufficient in most cases. Manipulation of the occipito-cervical region leads to the disappearance of problems..."

The atlas fixation syndrome in the baby and infant. Gutmann G. *Manuelle Medizin* 1987 25:5-10, Trans. Peters RE.

Examination of 1,250 infants five days after birth showed over 25% were suffering from vomiting, irritability and sleeplessness. Examination showed that 75% of these infants had cervical (neck) strain. Treatment frequently resulted in an immediate relief of the symptoms.

Functional disorders (fixations) of the spine in children. Lewit K. *Manuelle Therapie*, J.A. Barth, Leipzig, 1973. Chap.2.7, pp.50-54.

Functional disorders in children may manifest themselves as sleep disorders, loss of appetite, psychic problems, dysmenorrhea and may not exist as spinal pain. Studies on healthy children revealed pelvic subluxations in 40% of all school children, cervical fixation in 15.8%. After manipulative treatments, the problems rarely recurred.

Relations of disturbances of crano-sacral mechanisms to symptomatology of the newborn. Fryman V. *JAOA*. 1966;65:1059.

In a group of 1250 unselected babies examined five days post partum, a group of 211 'nervous' children were found suffering from vomiting, hyperactivity, tremors and sleeplessness. Release of 'strain' in the skull resulted in immediate quieting, cessation of crying, muscular relaxation and sleepiness.

Blocked atlantal nerve syndrome in infants and small children. Gutman G. *ICA Review*, 1990; July:37-42. Originally published in German *Manuelle Medizin* (1987) 25:5-10.

From the abstract: Three case reports are reviewed to illustrate a syndrome that has so far received far too little attention, which is caused and perpetuated in babies and infants by blocked nerve impulses at the atlas. Included in the clinical picture are lowered resistance to infections, especially to ear-, nose-, and throat infections, two cases of insomnia, two cases of cranial bone asymmetry, and one case each of torticollis, retarded locomotor development, retarded linguistic development, conjunctivitis, tonsillitis, rhinitis, earache, extreme neck sensitivity, incipient *scoliosis*, delayed hip development, and seizures.

Speech Disorders

Acquired verbal aphasia in a 7-year old female: case report. Manuelle, JD and Fysh, PN *Journal of Clinical Chiropractic Pediatrics* Vol. 1, No.2 1996.

From the abstract:

A case report is presented of a 7-year-old female patient with acquired verbal aphasia. Despite appropriate referral to specialists in pediatrics, audiology and speech and language pathology, the patient's verbal difficulties improved following the commencement of chiropractic care. Follow-up evaluations over a period of 18 months demonstrated that speech improvements had been maintained.

The authors comment that the patient received DPT and MMR shots about 6 weeks prior to the onset of symptoms. The relationship between aphasia and vaccination damage has been noted by researchers in other writings.

Oral apraxia: a case study in chiropractic management. Araghi HJ. In: *Proceedings of the ICA National Conference on Chiropractic and Pediatrics*, Dallas; 1994:34-41.

Case of a five-year-old female diagnosed with oral apraxia (inability to speak) who responded successfully with chiropractic spinal adjustments. Prior to chiropractic care the child could understand spoken language and could respond with sign language but was unable to speak. Specific upper cervical adjustments were given to the Co-C1 and C1-C2 segments. The patient's speech continued to improve.

Case report: resolution of spasmodic dysphonia (focal laryngeal dystonia) via chiropractic manipulation. Wood KW. *JMPT* 1991; 14:376-378.

Author's abstract: This paper discusses the case of a 46 year old male suffering from spasmodic dysphonia, a chronic disorder involving hyperadduction of the vocal mechanism and resultant vocal arrest. Attention is paid to the innervation of the intrinsic laryngeal musculature and postulated mechanisms of irritation, which may be amenable to chiropractic.

At the time, the patient went to the chiropractor he had been suffering from this condition for six months and had consulted with numerous specialists and two teaching hospitals with no improvement in his condition. The chiropractor learned that upper cervical pain and stiffness and suboccipital headache appeared along with the vocal problem. After two weeks of upper cervical adjustments (5 visits) patient's condition cleared up.

Spinal Health

Functional disorders (fixations) of the spine in children. Lewit K. *Manuelle Therapie*, J.A. Barth, Leipzig, 1973. Chap.2.7. Pp.50-54.

Functional disorders are considered to be the first manifestations of vertebrogenic disease, with first symptoms appearing at a young age. In a total of 57 children's migraine cases, 48 had excellent results after manipulative therapy. Functional disorders in children may manifest themselves as sleep disorders, loss of appetite, psychic problems, dysmenorrhea and may not exist as spinal pain. Studies on healthy children revealed pelvic subluxations in 40% of all school children, cervical fixation in 15.8%. After manipulative treatments, the problems rarely recurred.

The concept of research of vertebrogenic disease in CSSR. Stary O. Clinic of Neurology, Charles Univ. Prague, *Acta Universitatis Carolinae (Med) Suppl.* 1965.

Data reveals that more than half the population suffers from vertebrogenic diseases for certain periods of their life. Disorders of the vertebral column may start in childhood many years before clinical manifestation.

Blocked atlantal nerve syndrome in infants and small children. Gutman G. *ICA Review*, 1990; July:37-42. Originally published in German *Manuelle Medizin* (1987) 25:5-10.

From the abstract: Three case reports are reviewed to illustrate a syndrome that has so far received far too little attention, which is caused and perpetuated in babies and infants by blocked nerve impulses at the atlas. Included in the clinical picture are lowered resistance to infections, especially to ear-, nose-, and throat infections, two cases of insomnia, two cases of cranial bone asymmetry, and one case each of torticollis, retarded locomotor development, retarded linguistic development, conjunctivitis, tonsillitis, rhinitis, earache, extreme neck sensitivity, incipient scoliosis, delayed hip development, and seizures.

The importance of chiropractic care for children. Abram, N. *The Chiropractic Report*. July 1992 Vol. 6 No. 5.

Lumbar dysfunctions in children. Bourdillon JE, Day EA, Bookhout MR: Spinal Manipulation, 5th edition. Oxford, England, Butterworth-Heinemann Ltd, 1992.

“In school children’s orthopaedic clinics one of the authors saw many primary school children with symptoms arising from lumbar dysfunctions. In most of these, a parent would remember an injury when specifically asked, but the history had to be searched for before it was mentioned. Unless they are treated, by the time these children have reached adulthood, the compensatory asymmetries will almost certainly have become fixed and themselves require treatment.”

Are radiographic changes in the thoracic and lumbar spine of adolescent’s risk factors for low back pain in adults. A 25-year prospective cohort study of 640 school children. *Spine*. 1995;20:2,298-302.

This is a study of 640 14-year-old children who were followed from 1965 through 1990. It was done to determine risk factors for the development of low back pain in adulthood. Low back pain occurred during the growth period and family history was both associated with an increased risk. The lifetime prevalence for back pain was 84% for this cohort. The proportion of subjects having radiographic abnormalities was 36% and yet this was associated with an increased incidence of back pain in adulthood. Interestingly, the investigators did find an increased incidence of mental problems such as fear or depression in the group of patients with radiographic changes in the T11-L2 area.

Sports Performance and Chiropractic

From: *The Latest Stuff from Gerry* by Gerald Clum, DC President of Life Chiropractic College-West. November 1998 issue (on-line):

Jocks and Chiropractic Care

There have been a number of recent high profile articles and references to world class athletes receiving chiropractic care. On October 16, USA Today carried an extensive article about Emmitt Smith with the headline “*Cowboys’ Smith still runs ahead of time*” with a tag

line “Body maintenance key to longevity for backfield star.” The article notes “Smith will head to his chiropractor.” Smith himself commented, “I started doing this on a regular basis about four or five years ago. I believe what I am doing is helping me go on. I think Warren Moon does the same thing. So I’ve become a big, big believer in servicing my body and making sure it is lined up properly and functioning the way it should be on Sundays.”

The San Francisco Chronicle ran an article a few days later under the headline “*Considering the Alternative,*” which was a discussion of the use of alternative health care by professional athletes. “More and more professional athletes are embracing alternative health practices, forcing teams to acknowledge the effectiveness of everything from shark cartilage to chiropractic care.”

“Though more teams are acknowledging the effectiveness of acupuncture and chiropractic care, even these practices are considered too unusual for by some teams. The Chicago Bulls, for example, do not have a chiropractor on staff, so Scottie Pippen has to hire one on his own. In the NBA finals in June, Pippen received chiropractic care at least once during a game—only because he brought the chiropractor to the game.”

“Chiropractors are flown in at the player’s expense,” said Dr. Malcolm Conway, a chiropractor in Pennsylvania who works with wide receivers Rocket Ismail and Qadry Ismail and other professional athletes. “Athletes like Pippen are willing to pay for chiropractic care because they need to recover quickly from injuries and they believe chiropractic treatment has a good rate of success.” I agree!

Chiropractic effects on athletic ability. Lauro A. Mouch B. *Chiropractic: The Journal of Chiropractic Research and Clinical Investigation.* 1991; 6:84-87.

Fifty athletes were tested. They were divided into two groups. One group received chiropractic adjustments, the other served as controls. Eleven tests were used to measure aspects of athletic ability including: agility, balance, kinesthetic perception, power, and reaction time. After 6 weeks, the control group exhibited minor improvement in eight of the 11 tests while the chiropractic group improved significantly in all 11 tests.

In a hand reaction test measuring the speed of reaction with the hand in response to a visual stimulus, the control group exhibited less than a 1% response while the chiropractic group exhibited more than an 18% response after 6 weeks. After 12 weeks the chiropractic group exhibited more than 30% improvement.

Effects of Chiropractic Care on Athletic Performance in Baseball Players.

Schwartzbauer J, Kolber J, Schwartzbauer, DC, Hart, JDC, Zhang J. Paper Presented at the National Subluxation Conference, October 12-13, 1996 Phoenix, Arizona, Sponsored by Sherman College of Straight Chiropractic. Published in the *J of Vertebral Subluxation Research* Vol. 1 No. 4. 1997 as **Athletic performance and physiological measures in baseball players following upper cervical chiropractic care: a pilot study.**

Abstract: The athletic performance of university baseball player was assessed before, during and after chiropractic care. Each athlete’s performance was evaluated by athletic abilities, such as the vertical jump, standing road jump. Linear space (specified), broad jump (speci-

fied), muscles strength; and physiological tests such as electrical cardiogram, blood pressure, pulse rate and treadmill stress testing. 28 players were recruited for the study. Twenty players completed the entire experiment with usable data. All players were randomly divided into control and experimental groups. Every player was required to complete three sessions of athletic ability and physiological tests. The first test was administered before any chiropractic care was given. The second test was given after six weeks of chiropractic care. The third test was given after fourteen weeks of chiropractic care. Only the subjects in the experimental group received chiropractic adjustments to remove/reduce vertebral subluxation. The results showed a positive correlation between chiropractic adjustments and athletic performance.

Note: In addition to the above improvements, the chiropractic group showed significant improvement in capillary count at five and fourteen weeks of chiropractic care. Since healthy oxygenation of tissues is dependent up blood supply, this physiologic parameter may be the most important one of all.

References from Koren Publications' brochure: Sports and Chiropractic

Green, J. *Fort Lauderdale Sun-Tattler*, July 7, 1988. Sec. D. P.1

Athens, N. *Chiropractic Achievers*, Nov/Dec 1989, p.38.

Haldeman, S. "Spinal Manipulative Therapy in Sports Medicine." *Clinics in Sports Medicine* 5(1986): p. 277.

U.S. News and World Report, 31 July, 1989, p.56.

Spinal Surgery

Failed back surgery syndrome. Walker, S, Cousins MJ. *Australian Family Physician* Vol. 23 No. 12 December 1994.

From the introduction: "Persistent back pain after surgical treatment presents a frustrating and difficult problems for both patient and doctor. The authors review the postulated causes for this condition and provide a brief summary of specific entities resulting in lower back pain. Treatment options are discussed." This article gives interesting information on the magnitude of the failure of the medical/surgical approach to low back pain. However, the anatomical/physiological information is incorrect in light of recent findings, information the authors should have known since it was available to them during the writing of this paper. Chiropractic is not mentioned in "treatment options."

An international comparison of back surgery rates. Cherkin DC, Deyo RA, Loeser JD, Bush T, Waddell G. *Spine* 1994, (19) 11:1201-1206.

The rate of back surgery in the U.S. is 40% higher than in any other country and was more than five times those in England and Scotland. According to the article, "Back surgery rates increased almost linearly with the per capita supply of orthopaedic and neurosurgeons in the country.

Stuttering

Expect a miracle. Kendzior AT, Sarasota, FL. *ICPA Newsletter* Jan/Feb 1998.

“My son took a serious fall as a baby and immediately stopped having bowel movements. After months, I was told that we might need to do an exploratory surgery to determine if there was a blockage. I had been trying to adjust him, but wasn’t sure what I was feeling. Dr. Larry Webster examined him, adjusted him and taught me how to locate subluxations in a baby’s lumbar spine. It was miraculous, the next day he started having normal bowel movements. This miracle response to an adjustment I now know is very common in kids. This same child started severely stuttering at the age of 2. This was correlated to his fall. Finally, I attended another course with Dr. Webster who shared with me the Webster Cranial Technique. He assured me that it had helped children with stuttered speech, epilepsy, and learning disabilities. He advised me that before my son got better he might appear worse, but within two weeks he would stop stuttering completely. Sure enough, two weeks to the day that I started adjusting him, he stopped stuttering. This was a child who previously repeated a word twenty times and then, frustrated, gave up.”

Stuttering, hyperactivity, slow learner, retarded growth. Case Study. Webster, L. *Chiropractic Showcase Magazine*, Vol. 2, Issue 5, Summer 1994.

This 7 year old male child was placed under care on February 14, 1994 with the following clinical picture: Hyperactivity, stuttering, slow learner, retarded growth, left leg approximately 1” shorter than right with a limp while walking. Medical plans were to break the left leg, insert metal rods in an attempt to stimulate growth and equalize leg lengths.

Our examination consisted of Metrecom evaluation, full spine X-rays, and chiropractic examination of the spine. Areas of subluxation were as follows: Sacrum anterior, inferior on left, 5th lumbar body left, atlas, anterior superior left. Patient was placed on an intensive correction program of 3 times weekly for a period of two months.

During the first seven visits the legs were never balanced, however, each time a reduction of the short leg occurred. On the 8th visit the legs balanced for the first time. Also noticed by 8th visit:

1. The stuttering had stopped.
2. The grades in school had risen from non-satisfactory to satisfactory.
3. The hyperactivity had abated.
4. The limp was no longer constant.

Systemic Lupus Erythematosus

The effects of chiropractic on the amelioration of symptoms associated with Systemic Lupus Erythematosus. Goldstone AS, Bashore RE, Ferguson AC. *Chiropractic Technique*, 1992; 4:87-89.

From the abstract: Two case studies demonstrate how the patients received relief of symptomatology associated with systemic lupus erythematosus through chiropractic care.

Temporomandibular Joint (TMJ) Syndrome/Dental Health

Chiropractic/Dental cotreatment of lumbosacral pain with temporomandibular (TMJ) joint involvement. Chinappi AS and Getzoff H *JMPT* Vol. 19 No. 9 November/December 1996.

A 33 year old woman with centralized lumbosacral pain, after 30 months of chiropractic care was still experiencing some lower back pain and limited improvement and agreed to see an orthodontist who diagnosed a “Class 11 malocclusion with significant loss of vertical dimension, characteristic of bilateral posterior bite collapse.”

From the abstract: The cotreatment approach, which integrated dental orthopedic and craniochiropractic care, ameliorated the pain and improved head, jaw, neck and back function.

Conclusion: The position of the jaw, head and vertebral column, including the lumbar region, are intricately linked. Orthodontic treatment improved the position of the mandible, which in turn enabled the body to respond to chiropractic care.

The relationship between impacted wisdom teeth, headaches, and persistent cervical fixations. Dawson L, Frolund S. *The European Journal of Chiropractic* 1992; 40:1-6.

Author’s Abstract: The study group of 100 patients with one or more impacted wisdom teeth was selected by viewing each patient’s antero-posterior and lateral cervical x-rays. A control group of 100 subjects without impacted wisdom teeth was chosen in a similar manner....after statistical analysis of the data...a significant relationship was demonstrated between impacted wisdom teeth and headaches, headaches and persistent cervical fixations and impacted wisdom teeth and persistent cervical fixations.

A number of instances are cited in which recurrent cervical VSC with concomitant headache were resolved following extraction of an impacted wisdom tooth.

The Dental-Chiropractic Cotreatment of Structural Disorders of the Jaw and Temporomandibular Joint Dysfunction. Chinappi AS JR; Getzoff H. *JMPT* 1995; 18(7): 476-8.

The position of the jaw, head and neck are intricately linked. The acute symptoms experienced during the initial dental treatment phase were caused by the inability of the head and neck to adapt to maxillary and mandibular changes. Chiropractic enabled the body to respond positively to the dental changes. As the mandibular position improved, further improvements were indicated by physical testing and X-rays.

Forward head posture: Its structural and functional influence on the stomatognathic system, a conceptual study. Gonzalez H, Mann A. *J Craniomandib Pract* 1996; 14:71-80. There is a correlation between forward head posture and TMJ dysfunction.

Birth induced TMJ dysfunction: the most common cause of breastfeeding difficulties.

Arcadi, VC, Sherman Oaks, CA, *Proceedings of the National Conference on Chiropractic and Pediatrics*. Oct, 1993 Palm Springs, CA. Pub. International Chiropractors Assoc., Arlington, VA.

From the abstract: In a clinical setting, 1,000 newborns were observed and treated (ages one hour to 21 days), for failure and/or difficulty with breast-feeding. In 800 or 80%, birth induced Temporomandibular Joint Dysfunction was found to be the cause. In all cases, the babies were treated with chiropractic cranial and spinal adjustments, with excellent results in 99% of the cases. This paper discusses the basic clinical findings, related newborn discomforts, and associated symptomatology involving other symptoms.

The above babies were all born with a lay midwife and without drugs in a calm, warm, peaceful setting. All babies were born vaginally. All babies were examined and in all cases a cranial distortion was present due to the birth process and trauma which produced a TMJ dysfunction, interruption proper suckling mechanics by causing severe headaches and gastrointestinal disturbances.

A multi-faceted chiropractic approach to attention deficit hyperactivity disorder: a case report. Barnes, T.A. *ICA Int'l Review of Chiropractic*. Jan/Feb 1995 pp.41-43.

From the author's abstract: an 11-year-old boy with medically diagnosed Attention Deficit Hyperactivity Disorder has been a patient and student at the Kentuckiana Children's Center for three years...His case shows a history of early disruptive experience, repeated ear infections, consistent temporomandibular joint dysfunction, heavy metal intoxication, food allergy, environmental sensitivity and multiple levels of biomechanical alteration. This report emphasizes the need for care in all aspects of the structural, chemical and mental triangle of health in children with attention deficit hyperactivity disorder.

"He has improved academically and has advanced to the next grade level...he recognizes that he has control over his behavior and there is hope that he will be mainstreamed back into a regular public school setting soon...his mother says she notices improvement in his attention span and temper."

Thyroid

Case #4 Newborn with atlas subluxation/absent rooting reflex. Esch, S. *ACA J of Chiropractic* December 1988.

A two day old newborn female showing lethargy and a yellowish skin color present since birth and an inability to nurse; the baby seemed unable to "latch on." A medical doctor said the baby was probably hypothyroid and should be hospitalized. The atlas was adjusted for a left lateral listing. Immediately thereafter, the baby exhibited a strong bilateral rooting reflex. The baby began to nurse right away. The jaundice quickly cleared. The mother continued to nurse her child for two years.

Hyperthyroid Condition (Grave's Disease): A case review. Firczak, SW. *Today's Chiropractic* (citation unavailable date approx. 1989).

This is the case of a 20-year-old female who had been diagnosed as suffering from hyperthyroidism. Symptoms included nervous irritation, tachycardia, hives, occasional eyelid and upper lip edema and frontal headaches. She had been under medical treatment for six years, which included prophyllthiouracil. She had stopped medication and the symptoms worsened.

Chiropractic examination revealed nerve irritation at C1, C3, T6, T7, T11 and L5. Restricted movement was found at C2. Adjustments were usually to C2 using the Gonstead cervical chair and the Gonstead technique. L5 was occasionally adjusted.

After 4 months of chiropractic care the patients T4 blood levels were within normal range and symptoms completely disappeared.

Thyroid dysfunction and its somatic reflections: a preliminary report. Wiliamson ME, *Journal of the American Osteopathic Association* Vol. 72, March 1972.

From the abstract: The hypothesis that thyroid dysfunction can be detected by palpation of a lesion at the second cervical vertebra (C2) on the left was tested in 100 selected subjects. Patients were studied by palpation of all cervical vertebrae, scanning, laboratory tests, including uptake, and clinical evaluation. Of 38 patient with no palpable cervical lesion, 25 (66 percent) had normal thyroid function whereas 13 (34 percent) had either thyrotoxicosis, nodular goiter, autonomous nodules, or hypothyroidism. The remaining 62 patients had palpable cervical lesions, 39 on the left C2 area of whom 88 percent had thyroid dysfunction. Seven (11 percent) of the 62 patients with cervical lesions with euthyroid (normal thyroid function). Further investigation of the concept of the somatic reflection of dysfunction of internal organs is warranted.

Tinnitus

Spinal/cranial manipulative therapy and tinnitus: a case history. Blum CL *Chiropractic Technique*, 1998; 10:163-168.

This woman had been exposed to a high-decibel noise at the loading dock and work and was unable to hear anything for about 30 minutes. She later developed “ringing, hissing, buzzing and warbling” sounds.

The medical doctor told her that the sounds would spontaneously resolve in a month’s time but they did not. She then went to an ear-nose-throat specialist who prescribed medications, which did not help.

The patient was sleeping no more than two hours per night and experiencing “crying spells” for six hours per day along with unremitting tinnitus along with neck and jaw tension. Chiropractic care involved SOT protocols for category 2, focusing on a sacroiliac subluxation that correlates with TMJ, cranial and cervical dysfunction. After approximately 4 months, care the patient reports 50% decrease in tinnitus intensity. Sleep and neck/jaw tension has improved. Co-management has now been undertaken with an ENT specialist, a dentist and a psychotherapist.

Tonsillitis

The atlas fixation syndrome in the baby and infant. (German title: Das atlas-blockierungs-syndrom des sauglings und des kleinkindes.) Gutmann G. *Manuelle Medizin* 1987 25:5-10, Trans. Peters RE.

18-month-old boy, recurring tonsillitis, frequent enteritis, therapy resistant conjunctivitis, suffered from colds, rhinitis, ear infections and sleep disturbances. “Immediately after (spinal adjustment) the child demanded to be put to bed and for the first time slept peace-

fully to the next morning. Previously disturbed appetite normalized completely. Conjunctivitis cleared completely.”

The Neurobiologic Mechanisms in Manipulative Therapy Lewit K. Ed. I.W. Korr, Plenum Press 1978.

Taking the case history in patients with vertebrogenic disturbances, I was so struck by the high incidence of chronic relapsing tonsillitis that I took a random sample of 100 cases from my files and found that 56 had a history of chronic relapsing tonsillitis or tonsillectomy for that reason, while only 44 had no or only incidentally tonsillitis.” A later systematic study was carried out under the care of an otolaryngologist. Movement restriction (hypomobility) at the craniocervical junction was found in the great majority between occiput and atlas (70 cases or 92%).

Manipulative Therapy and Rehabilitation of the Locomotor System, 2nd ed. Lewit K (1991), Butterworth-Heinemann, Oxford, 259.

37 children with chronic tonsillitis were treated by manipulation. Tonsillitis disappeared in 25 of them. “Tonsillitis goes hand in hand with movement restriction in the craniocervical junction.”

Manipulative Therapy and Rehabilitation of the Locomotor System. Lewit K. 1991. Second edition. Butterworth-Heinemann, Oxford p.259.

Of 76 children with chronic tonsillitis and movement restriction at the craniocervical junction, 70 had spinal dysfunction between the occiput and atlas. 37 children who had not been operated on were given manipulation and were followed up for 5 years. 67.6% were cured of tonsillitis entirely, the remainder relapsed and were treated again with manipulation. 25 had their tonsils surgically removed, but 19 of these still suffered from movement restriction after surgery, requiring manipulation for relief.

A comparative study of the health status of children raised under the health care models of chiropractic and allopathic medicine. Van Breda, Wendy M. and Juan M. *Journal of Chiropractic Research* Summer 1989.

Two hundred pediatricians and two hundred chiropractors that were randomly selected and sent a survey to determine any differences were to be found in the health status of their respective children as raised under different health care models. Nearly 43% of the medical children had suffered from tonsillitis, compared to less than 27% of the chiropractic children. Lower antibiotic use and lower incidence of disease was also reported in the chiropractic children.

Blocked atlantal nerve syndrome in infants and small children. Gutman G. *ICA Review*, 1990; July:37-42. Originally published in German *Manuelle Medizin* (1987) 25:5-10.

From the abstract: Three case reports are reviewed to illustrate a syndrome that has so far received far too little attention, which is caused and perpetuated in babies and infants by blocked nerve impulses at the atlas. Included in the clinical picture are lowered resistance to infections, especially to ear-, nose-, and throat infections, two cases of insomnia, two cases of

cranial bone asymmetry, and one case each of torticollis, retarded locomotor development, retarded linguistic development, conjunctivitis, tonsillitis, rhinitis, earache, extreme neck sensitivity, incipient scoliosis, delayed hip development, and seizures.

Torticollis

Over 45,000 infants are born with congenital torticollis in the US each year. This twisted or tilted neck, the so-called “fixed wry neck” is often ascribed to problems during birth. The condition causes painful, involuntary spasms; impedes normal growth and development and disturbs vision.

The medical approach to this condition is often surgery on neck muscles, nerves and tendons, and intensive physical therapy and drug therapy.

Congenital muscular torticollis: a review, case study, and proposed protocol for chiropractic management. Colin N. *Topics in Clinical Chiropractic*, September 1998:volume 5, number 3, pp27-33.

A 7-month-old child subject became more confident and responsive, had better motor control, and his head centered rather than being twisted and tilted after chiropractic care.

Chiropractic care of the newborn with congenital torticollis. Fallon JM and Fysh PN. *Journal of Clinical Chiropractic Pediatrics* Vol 2, No.1 1997. P. 113-115.

Congenital torticollis has been estimated to affect approximately two percent of newborn infants. The frank breech birthing position has been reportedly associated with the highest incidence of torticollis, with up to 34 percent of infants born in this position being affected...the most common type of congenital torticollis is that associated with subluxation of the upper cervical spine. Chiropractic management of congenital torticollis is primarily directed at reducing cervical spine subluxations, which have been identified as commonly present with this condition....

Chiropractic management of congenital torticollis, using a combination of spinal adjustments, cranial re-alignment and soft tissue therapies can produce rapid resolution in many cases of congenital torticollis and plagiocephaly (an asymmetrical and twisted condition of the head and face due to irregular closure of the cranial sutures, frequently occurs in conjunction with congenital torticollis) in the newborn infant. Spinal adjustments have been demonstrated to be efficacious to the resolution of the congenital torticollis....

The medical approach to a protracted torticollis is surgical intervention. While surgical intervention is typically a solution of last resort, it is frequently the only solution considered by the medical community. Chiropractic care is considered essential to the health and maintenance of the child's spine and nervous system. It is therefore important that the doctor of chiropractic become part of the multi-disciplinary team and that medical doctors become aware of chiropractic management as a solution to the most common causes of congenital torticollis.

Congenital muscular torticollis: a review, case study, and proposed protocol for chiropractic management. Colin N. *Top Clin Chiro* (1998); 5(3):27-33.

From the abstract: A case study of a 7-month-old infant who had been medically diagnosed with the disorder as birth-trauma related.

Summary: Six sessions of chiropractic management involving low force adjusting and gentle myofascial release work were administered based on clinical mechanical findings derived from an apparent right hand and right leg dominance of the child. The child had not previously responded to several weeks of physical therapy. Following chiropractic care, the case completely resolved. The response was sustained at 1year follow-up.

Pediatric traumatic torticollis: a case report. Moore TF, Pfiffner TJ, *Journal of Clinical Chiropractic Pediatrics* Vol. 2, No. 2 1997.

This is the case of a 4 year old male child who sustained a moderate trauma (falling off a bed landing head first) with left lateral head tilt and right lateral rotation the “cock robin” position that is typical of atlantoaxial rotary fixation.

Results: **Two weeks following the spinal adjustment, the patient returned to the clinic reporting that complete resolution had occurred and no clinical signs or symptoms were present to substantiate further radiographic study.**

From the conclusion: “Any child presenting with a recent upper respiratory infection, sore throat, otitis media or minor trauma with torticollis is a candidate for consideration of atlantoaxial rotary fixation.”

Chiropractic adjustments and congenital torticollis with facial asymmetry: a case study. Hyman C.A. *ICA Review* September/October 1996. Pages 41-45.

A two-month-old black female presented with obstetrical brachial plexus injury (Erb’s palsy) who had been under the care of several medical pediatricians without resolution.

The condition showed complete resolution under chiropractic care without any complications or residual impairments.

Kinematic imbalances due to suboccipital strain in newborns. Biedermann H. J. *Manual Medicine* 1992, 6:151-156.

More than 600 babies (to date) have been treated for suboccipital strain. One hundred thirty-five infants who were available for follow-up were reviewed in this case series report. The suboccipital strain’s main symptoms include torticollis, fever of unknown origin, loss of appetite and other symptoms of CNS disorders, swelling of one side of the facial soft tissues, asymmetric development of the skull, hips, crying when the mother tried to change the child’s position, and extreme sensitivity of the neck to palpation.

78 to 79 infants with torticollis responded favorably to a short course of conservative chiropractic care.

Most patients in the series required one to three adjustments before returning to normal.

“Removal of suboccipital strain is the fastest and most effective way to treat the symptoms...one session is sufficient in most cases. Manipulation of the occipito-cervical region leads to the disappearance of problems....”

Chiropractic correction of congenital muscular torticollis. Toto BJ. *JMPT*. 1993;16:556-559.

This is the case of a 7-month-old male infant with significant head tilt from birth. The child's health history included ear infections, facial asymmetry (flattening of left side of face) and regurgitation (15 times per day), projectile vomiting (about once each week), spasm of the left SCM muscle, left trapexius muscles, a left lateral atlas and suboccipital joint dysfunctions. The child cried frequently and rarely laughed. Diversified chiropractic adjustments were performed three times a week for three months. After 5 months of chiropractic care head tilt and associated muscle spasm were absent with dramatic improvement in child's general demeanor. Regurgitation became much less frequent with some residual facial asymmetry remaining.

Chiropractic Care of the Newborn with Congenital Torticollis, Fallon, JM, Fysh, PN *Journal of Clinical Chiropractic Pediatrics*.

From the abstract: Chiropractic management of congenital torticollis using a combination of spinal adjustments, cranial re-alignment and soft tissue therapies can produce rapid resolution in many cases of congenital torticollis and plagiocephaly in the newborn infant. Spinal adjustments have been demonstrated to be efficacious to the resolution of the congenital torticollis. Before commencing a course of conservative spinal care however, accurate identification of the cause of the torticollis must be made to rule out complicating conditions which may result in high morbidity or mortality. The typical course of spinal adjustments for torticollis is usually of short duration requiring just a few treatments. Early correction of congenital torticollis should be the goal since prolonged contraction of the SCM can be the cause of cranial and facial anomalies as well as scoliosis.

The medical approach to a protracted torticollis is surgical intervention. While surgical intervention is typically a solution of last resort, it is frequently the only solution considered by the medical community. Chiropractic care is considered essential to the health and maintenance of the child's spine and nervous system. It is therefore important that the doctor of chiropractic become part of the multi-disciplinary team and that medical doctors become aware of chiropractic management as a solution to the most common causes of congenital torticollis.

Blocked atlantal nerve syndrome in infants and small children. Gutman G. *ICA Review*, 1990; July:37-42. Originally published in German *Manuelle Medizin* (1987) 25:5-10.

From the abstract: Three case reports are reviewed to illustrate a syndrome that has so far received far too little attention, which is caused and perpetuated in babies and infants by blocked nerve impulses at the atlas. Included in the clinical picture are lowered resistance to infections, especially to ear-, nose-, and throat infections, two cases of insomnia, two cases of cranial bone asymmetry, and one case each of **torticollis**, retarded locomotor development, retarded linguistic development, conjunctivitis, tonsillitis, rhinitis, earache, extreme neck sensitivity, incipient scoliosis, delayed hip development, and seizures.

Tourette's Syndrome

The response of an adult Tourette patient to Life upper cervical adjustments. Trotta N. *Chiropractic Research Journal*, 1989; 1: 43-48.

Author's Abstract: Tourette's Syndrome is a chronic familial neuropsychiatric disorder of unknown etiology accompanied by chemical imbalances in the brain. It is characterized by motor tics and uncontrolled vocalizations that wax and wane in severity. Although there have been anecdotal reports of total remission of symptoms in the patients while under chiropractic care, there are no known documented controlled studies existing in the current literature. The present study covers three months of care for a single patient; the results suggest that chiropractic care may have been useful in the management of this disorder. However, since no long-term follow-up data exist, the results must be preliminary. A 31 year old male originally diagnosed at age 4 with Tourette's. By middle age symptoms included uncontrolled sniffings and grunting which were most severe at night and when under stress. Psychomotor symptoms were also present. All symptoms had been worsening during the 6 years prior to chiropractic. Symptom reduction was seen immediately post adjustment (C-1 ASLP and C-2 R) with an increase occurring before the next visit. The patient was seen 12 times but not adjusted on four of those visits.

Tourette Syndrome, case study. LaBarbera, JA, Utica, NY. *International Chiropractic Pediatric Association Newsletter* March/April 1998.

"A 6-year-old boy diagnosed with Tourette syndrome whose presentation included eye-blinking, head shaking, mouth stretching, lateral eye movements and some vocalizations occurring at a frequency of several times per minute. History revealed a head injury one month before he was diagnosed.

"Chiropractic evaluation including x-rays and heat pattern analysis revealed subluxation of occiput (AS), atlas (AS++LA) and Axis (PLI). There was an extremely high atlas angle of +20 degrees. Chiropractic care included upper cervical adjustments of C1 and C2. The boy was adjusted on a knee-chest table. He was adjusted 2 times per week for 9 weeks and then 1 time per week.

"There was a noticeable change within 3 weeks of care. Symptoms continued to steadily improve. Within 4 months the patient was asymptomatic a majority of the time."

Trauma

Mild head injury in preschool children: evidence that it can be associated with a persisting cognitive defect. Wrightson P, McGinn V, Gronwell D. *J Nuerol Neurosurg Psychiatry* 1995;59:375-80.

This study tests child who have had mild head injury (an injury which, at the emergency room was not considered severe enough to require hospital admission for observation) the year of the accident and at age 6 ½ for cognitive performance, particularly reading skills. Seventy-eight children with mild head injury were compared with a group of eighty-six who with a minor injury elsewhere.

There were no differences soon after the injury but at six months and one year the children with the mild head injury scored less than controls on one test and they were also more likely to have had another mild head injury. At 6 ½ years of age, they still scored less than controls and they were more likely to have needed help with reading.

The neuropathophysiology of traumatic hemiparesis and its association with dysfunctional upper cervical motion units: a case report. Schimp, J. Schimp D. *Chiropractic Technique* Aug 1992, Vol: 4(3) pp.104-107.

A 7-year-old boy suffering from traumatic hemiparesis following an auto-pedestrian injury, was found by MRI and CT to have an intact cervical spine and no evidence of pathology.

Child was diagnosed at the hospital with “torqued brain stem.”

Child was adjusted in the upper cervical area and within two weeks the child was assessed as 90% functional for the upper extremity and 70% functional for the lower extremity. Hemiparesis eventually completely resolved under chiropractic care.

The authors do not feel it was a spontaneous recovery since the hemiparesis persisted for the week before presentation and resolved immediately after the adjustments.

Post-traumatic myelopathy following high jump: a pilot case of spinal manipulation.

Woo CC. *JMPT*, June 1993, Vol.16 (5), pp.336-341.

An 11-year-old tetraplegic boy did not respond to 3 months of orthodox conservative hospital management, including steroid therapy. He greatly recovered after 3 months of chiropractic care with some residual hand muscle atrophy, and some increased reflexes of the triceps, ankle reflex and ankle and patellar clonus absent.

Traumatic spinal myoclonus. Woo CC. *JMPT*, 1989;12:478-481.

A 24-year-old woman suffered from myoclonus of the inner thighs and abdomen (seizures involving rapid phasic contractions of muscles or groups of muscles) after a diving accident 17 years prior. She had not responded to medicines. The condition was apparently resolved after a single chiropractic adjustment relieved a subluxation of the thoraco-lumbar junction.

EEG and CEEG studies before and after upper cervical or SOT category 11 adjustment in children after head trauma, in epilepsy, and in “hyperactivity.” Hospers LA, *Proceedings of the National Conference on Chiropractic and Pediatrics (ICA)* 1992;84-139.

Five cases were presented. Conventional EEG studies demonstrate responses of two children with petite mal (absent seizure) with potential for generating into grand mal. Upper cervical adjustment reduced negative brainwave activity and reduced the frequency of seizures over a four month period. In two cases of “hyperactivity” and attention deficit disorder, upper cervical adjustment reduced non-coherence between right and left hemispheres in one child and in another, CEEG demonstrated restoration of normal incidence of the alpha frequency spectrum. Increased attention span and improvement of social behavior were reported in both cases. A child rendered hemiplegic after an auto accident displayed abnormal brainwave readings. After adjustment, the CEEG demonstrated more normalized brainwave readings. Child was able to utilize his left arm and leg contralaterally to the injured side of the brain without assistance after upper cervical adjustments.

Post-traumatic evaluation and treatment of the pediatric patient with head injury: a case report. Araghi HJ. *Proceedings of the National Conference on Chiropractic and Pediatrics*, 1992:1-8.

From the abstract: a two-year-old boy suffering from vomiting and loss of energy following impact trauma to the head and found by neurological exam and CT scan to have suffered a concussion with no evidence of brain or spinal cord pathology. Chiropractic adjustment of occiput resolved the patient's symptoms.

Monocular visual loss after closed head trauma: immediate resolution associated with spinal manipulation. R. Frank Gorman. *Journal of Manipulative and Physiological Therapeutics*. Vol. 18, No.3, June 1995.

The author, a medical doctor discusses the relationship between spinal health and blood supply to the head. From the paper (p.310) "I hold the opinion, based on two decades of dedication to the intricacies of the 'Cervical Syndrome' and from a personal experience of 6,000 spinal manipulations done under anesthesia, that concentric narrowing of the visual fields indicates that the child has inferior brain function, which is a serious detriment in both the child's internal and external environment."

Case #3 13-year-old with headache, depression, poor appetite, nausea, general muscular weakness, dizziness and sensitivity to light and noise.

Case reports in chiropractic pediatrics. Esch, S. *ACA J of Chiropractic* December 1988. A 13 day old with a history of respiratory difficulty since birth (home birth, uncomplicated). Infant had difficulty nursing due to "stiffness."

Upon presentation patient was in considerable pain, wearing dark glasses and ear plugs to compensate for increased sensitivity to sound and light. One week beforehand he had been injured in a football game collision. Medical doctors had given the child pain killers. Patient was hospitalized in traction for two weeks with no improvement.

Chiropractic examination:

X-ray (Davis series) of the cervical spine showed right lateral displacement of atlas with right rotation of C-2.

Following initial adjustment the patient could ride home without wearing his sunglasses and for the first time in two weeks expressed an interest in food. He returned the next day saying he felt, "The best I've felt in six weeks."

References from Koren Publications' brochure: Accidents, Injuries and Chiropractic

Hadley, L.A. Intervertebral joint subluxation, bony impingement and foramen encroachment with nerve root change. *American Journal of Roentgenology and Radiological Therapeutics*, 1951, 65, pp. 337-402.

Breithaupt, D.J., Jousse, A.T. & Wynn-Jones, M. Late causes of death and life expectancy in paraplegia. *Canadian Medical Association Journal*, 1961, 85, pp. 73-77.

Bohnen, N., Vanzutphen, W., Twijnstra, A. et al. Late outcome of mild head injury: Results from a controlled postal survey. *Brain Injury*, 1994, 8(8), pp. 701-708.

Posttraumatic headache. *Journal of Neuropsychiatry and Clinical Neuroscience*, 1946, 3, pp. 229-236.

Relationship between early somatic, radiological, cognitive and psychosocial findings and outcome during a one-year follow-up in 117 patients suffering from common whiplash. Br J Rheumatol, 1994, 33, pp. 442-448.

Braaf, M.M. & Rosner, S. Trauma of cervical spine as cause of chronic headache. Journal of Trauma, 1975, 15, pp. 441-446.

Gukelberger, M. The uncomplicated post-traumatic cervical syndrome. The Scandinavian Journal of Rehabilitative Medicine, 1972, 4, pp. 150-153.

Visceral diseases as a sequela of brain damages. Vestnik Rossiiskoi Akademii Meditsinskikh Nauk, 1994, 1, pp. 12-15.

Ulcers

Use of spinal manipulative therapy in the treatment of duodenal ulcer: a pilot study.

Pikalov AA, Vyatcheslav VK. Presented at the June, 1993 meeting of the Consortium for Chiropractic Research, Monterrey, CA.

Sixteen adult men and women 16-47 years old with endoscopically confirmed diagnosis of ulcer disease were in the experimental group that received chiropractic care. Forty were in the control group that received traditional medical treatment. They were studied using endoscopy and clinical examination. The chiropractic group had pain relief and healing of the ulcer after 1-9 (average 3.8) days while the control (medical) group took ten days longer. Most frequently involved segments were T9-T12. Gonstead claimed duodenal ulcer T4-T10. Homewood's review of the literature signified T6-T9.

The above paper also appeared in **Use of spinal manipulative therapy in the treatment of duodenal ulcer: a pilot study.** Pikalov AA, Kharin VV *JMPT* 1994 17(5): 310.

The side-effects of the chiropractic adjustment. Arno Burnier, D.C. *Chiropractic Pediatrics* Vol. 1 No. 4 May 1995.

This is a case history of J.C. male, 1 year old taken from the records of Dr. Arno Burnier of Yardley, PA. 81 South Main Street

Yardley, PA 19067, 215-493-6589. Nearly all D.C.s have miracle cases, but Dr. Burnier has written his up. Please write up your interesting cases.

Medical diagnosis (gastroenterologist): post-viral enteritis, c.difficile enteritis, colitis secondary to antibiotic usage, allergic colitis, gastroesophageal reflux with esophagitis, gastric and/or duodenal ulcer disease, duodenitis secondary to congenital or autoimmune phenomenon, Club feet requiring surgery.

Medication: Amoxicillin, Zantac, Reglan, Tylenol, and Ambesol.

Chiropractic results: Off all medication after first visit. Immediate improvement within 24 hours. Complete resolution within 3 weeks of care. Six months later the child is in radiant health, has had no need for medical care and has been free of medication and over-the-counter drugs. Clubfeet straightened out without surgery within 1 1/2 months of care.

Presenting Subluxation Findings: Occiput/C1 with an Atlas ASRP, Sacrum base posterior.

Original Adjustments: Left occiput ridge meningeal contact for 30 seconds, double notch sacral meningeal contact for 1 minute; structural manual adjustment of Atlas ASRP, left Temporoparietal suture adjustment.

An osteopathic approach to disease of the upper gastrointestinal tract. Harakal, J.H., Burns, and C.L. *Osteopath Ann* 1978; 6:51-54.

Manipulative treatment for diseases of stomach and duodenum, Kranz, M.A.: Symposium on stomach and duodenum *JAOA* 29:158-60, Dec, 1929.

Segmental spinal osteophytosis in visceral disease. Burchett GD *J of the American Osteopathic Association* 1968; 67(6): 675.

Using radiography, Burchett examined sixty-one hospital patients and found that in 88% of patients with gallbladder disease there was lipping from T7-T10; spinal osteophytes (T9-T11) were found in 82% of those with stomach disease. Many sufferers of pancreatic disease had segments T5-T7 involved and 31% of patients with duodenal disease had osteophytes at T9-L2.

A double blind clinical study of osteopathic findings in hospital patients. Kelso. A.F. Progress Report. *JAOA* 70:570-592, Feb 1971.

Acute effects of spinal manipulation on gastrointestinal myoelectric activity in conscious rabbits. DEBOER KF, Schutz M, and McKnight ME. *Manuelle Medicine*, 1988; 3:85-94.

An acute stimulus thought to mimic a chiropractic subluxation (surgically implanted spinal appliances) was created at T6 and at various points above and below. Within 2 1/2 minutes, there was a dramatic decrease of smooth muscle contraction in the stomach and duodenum. Masarsky CS and Weber M Eds of *Neurological Fitness* (Vol. 2 No. 4 July 1993) in commenting on this study: "These changes could make the upper gastrointestinal tract vulnerable to disease and dysfunction."

Vertigo

The vertigo sufferer feels that he is moving or that objects are whirling around himself. Other symptoms can include dizziness, faintness, lightheadedness or disequilibrium.

Cervicogenic vertigo and chiropractic, managing a single case - a case report. Cagle P, *Journal of the American Chiropractic Association* May 1995 p.83-84.

Case study of a 71 year-old woman who had "sudden onset of severe disabling vertigo." From the abstract: "The patient tried standard medical care for almost a year with very little relief. Then, she went for chiropractic care. The cervical adjustments she received resolved the vertigo."

This short paper includes a well-written section on the causes of vertigo, and discusses the theories of cervicogenic vertigo's causes.

Treatment of vertigo: a case report. Keith K. Et al. *Chiropractic* Dec. 89;2(4):95-96. Correction of vertigo under chiropractic cares.

Cervicogenic vertigo: a report of three cases. Cote P, Mior SA, Fritz-ritson, D. *J of the Canadian Chiropractic Assoc*, 1991; 35:89-94.

Case #1: A 65-year-old man with a 20-year history of vertigo. Motion palpation revealed a C1-C2 dysfunction; adjusted 8 times over a three-week period. The patient reported complete relief with no return of symptoms at 18-month follow-up.

Case #2: A 62-year-old man with a 10 year history of vertigo associated with neck pain, headache, interscapular pain, and occasional nausea. C1-2 fixation was adjusted. After the first visit patient stated the vertigo was gone but some neck pain persisted. At six year follow up the patient complained of occasional exacerbations of vertigo (approximately once per year) that were quickly relieved by upper cervical adjustment.

Case #3: 30-year-old female with headache, neck pain and dizziness following auto accident. Likely TMJ involvement. Upper cervical and thoracic adjustments in conjunction with soft tissue work for the TMJ. After one month, the patient no longer complained of dizziness or headache. At 3 year, follow up the patient reported only one recurrence of vertigo, which was resolved after chiropractic visit.

Visceral (Internal organ) Disease

The intimate relationship between the spine/nervous system and health has been a part of healing for thousands of years and has been the basis of chiropractic since its inception.

Scientific discoveries continue to dissolve the borders between the different body systems: between the mind and the body, and between body matter and body energy. We are rediscovering the ancient wisdom that we are holistic beings, and that true healing must not ignore this relationship.

One paper dealing with this relationship is: **Thalamic Neuron Theory: Theoretical Basis for the Role Played by the Central Nervous System (CNS) in the Causes and Cures of All Diseases** by T.-N. Lee. in *Medical Hypothesis* 1994 43, 285-302.

From the Abstract: The Thalamic Neuron Theory (TNT) postulates that the central nervous system (CNS) is involved in all disease processes, as the CNS not only processes incoming physical and chemical information from the periphery, it also sends out physiological commands to the periphery in order to maintain homeostasis for the entire body. Inherent in its capacity to learn and adapt (i.e. to habituate) is the CNS' ability to learn to be sick (pathological habituation) by looking in certain deranged central neural circuitries, leading to chronic disease states. These pathologically habituated states can be reversed by dehabituation through manipulation or modulation of the abnormal neural circuits by physical means (physical neuromodulation) like acupuncture, or chemical means (chemoneuromodulation) such as Chinese medicine, homeopathy or other modern medical techniques in a repetitious manner to mimic the habituation process....the entire CNS functions like a composite homunculus which controls the physiological functions of the entire body. TNT further postulates that the master homunculus takes the shape of a curled up embryo with its large head buried close to its pelvic region, with its chain in the homun-

culus represents acupuncture points in the periphery. The neuronal chain itself represents a meridian and Chi is nothing more than the phenomenon of neurotransmissions... Many difficult to explain clinical observations in modern medicine, Chinese herbal medicine, acupuncture and homeopathy can now be adequately explained using TNT. Based on this model, new therapeutic techniques can be launched to combat a whole host of intractable diseases.

The relationship between health and the neuro-musculoskeletal system has been explored by Professor Irvin M. Korr, Ph.D. Among his many papers: **Osteopathic principles for basic scientists** (*Journal of the American Osteopathic Association*, July 1987, 87(7)) is a must read for all chiropractors and chiropractic students. This short (less than 3 pages) article reflects a lifetime of researching human physiology and well describes the empirical or vitalistic therapeutic philosophy from which chiropractic, osteopathy, acupuncture and homeopathy spring as opposed to the mechanistic or rationalist therapeutic philosophy of orthodox medicine.

The most thorough discussion of the vitalist/empirical versus the mechanistic/rationalist approach through history is found in the work of Harris L. Coulter, Ph.D.: **Divided Legacy A History of the Schism in Medical Thought** Vols. 1-4 (Washington, DC: Center for Empirical Medicine and Berkeley, CA: North Atlantic Books).

Dr. Coulter, a medical historian, writes of the ancient/modern philosophical split as only a master could. Fluent in nearly a dozen languages, Dr. Coulter reviews original writings to take the reader on a 2,500 year historical journey through the world of healing.

An early twentieth century study correlating visceral disease to spinal column distortions was by Henry Winsor, M.D.

Winsor was inspired by chiropractic and osteopathic literature to dissect human and animal cadavers to see if there was a relationship between any diseased internal organs discovered on autopsy and the vertebrae associated with the nerves that went to the organs. As he wrote: "The object of these necropsies [dissections] was to determine whether any connection existed between minor curvatures of the spine, on the one hand, and diseased organs on the other; or whether the two were entirely independent of each other."

The University of Pennsylvania gave Dr. Winsor permission to carry out his experiments. In a series of three studies, he dissected a total of seventy-five human and twenty-two cat cadavers. The following are Dr. Winsor's results:

"221 structures other than the spine were found diseased. Of these, 212 were observed to belong to the same sympathetic [nerve] segments as the vertebrae in curvature. Nine diseased organs belonged to different sympathetic segments from the vertebrae out of line. These figures cannot be expected to exactly coincide . . . for an organ may receive sympathetic filaments from several spinal segments and several organs may be supplied with sympathetic [nerve] filaments from the same spinal segments."

In other words, there was nearly a 100% correlation between "minor curvatures" of the spine and diseases of the internal organs. Let us examine some of these disease categories:

Stomach Diseases: All nine cases of spinal misalignment in the mid-dorsal area had stomach disease.

Lung Disease: All twenty-six cases of lung disease had spinal misalignments in the same spinal area.

Liver Disease: All thirteen cases of liver disease had misalignments in the same spinal area.

Gallstones: All five cases with gallstone disease were associated had spinal misalignments in the same spinal area.

Pancreas: All three cases with pancreas disease had spinal misalignments in the same spinal area.

Spleen: All eleven cases with spleen disease had spinal misalignments in the same area.

Kidney: All seventeen cases with kidney disease had the same area out of alignment.

Prostate and Bladder Disease: All eight cases with prostate and bladder disease had the lower back vertebrae misaligned.

Uterus: The two cases with uterine conditions had the second lumbar misaligned.

Heart Disease: All twenty cases with heart and pericardium conditions had the upper five thoracic vertebrae misaligned.

Winsor summarized his research in two studies: **The Evidence of the Association, in Dissected Cadavers, of Visceral Disease with Vertebrae Deformities of the Same Sympathetic Segments.** Winsor H. Sympathetic segmental disturbances—II. *The Medical Times*, Nov. 1921, 49:267-271 and **The Prevalence of minor curvatures and deformities of the spine in man. Also in other vertebrates.** appeared in *The Medical Times*, Oct.1921, pp.237-239.

Osteophytes of the spine compressing the sympathetic trunk and splanchnic nerves in the thorax. Nathan H. *Spine*, 1987;12:527-532.

A wide variety of visceral symptoms may originate from vertebral osteophytes compressing sympathetic nerves.

In this study the presence of osteophytes compressing sympathetic structures (sympathetic nerves, sympathetic trunk nerves and ganglia, rami communicantes) in the thorax was found in 655 (65.5%) of 1000 cadavers. In 60.4% of the affected cases, compression was on the right side, and in 36.9%, it was bilateral, although the right side was more severely affected. In 2%, compression was on the left side only.

According to the authors, this could account for a wide variety of visceral symptoms seen in the elderly population.

Paraspinal Autonomic Ganglion Distortion Due to Vertebral Body Osteophytosis: A Cause of Vertebrogenic Autonomic Syndromes? *JMPT*, Volume 15, Number 9, November/December, 1992. According to Lynton G.F. Giles, D.C., Ph.D, Division of Science and Technology, Griffith University, Brisbane, Australia.

Recent scientific studies have suggested that a relationship may exist between abnormal vascular changes and neural tissue degenerative changes within the intervertebral foramen, and these findings may well go far toward explaining what has been observed by chiropractors, osteopaths and medical manipulators that, following

spinal manipulation for spinal pain of mechanical origin, some patients report having noted relief from visceral dysfunction....

Effects of a chiropractic adjustment on changes in pupillary diameter: A model for evaluating somatovisceral response. Briggs L., Boone WR. *JMPT*, 1988; 11:181-189.

Author's abstract: The relationship between a cervical chiropractic adjustment in subluxated vs. unsubluxated subjects and autonomic response monitored as change in pupillary diameter was evaluated in 15 subjects.

The results indicate that:

- a) a successful adjustment elicits either a parasympathetic or sympathetic response;
- b) the vertebral level at which the adjustment is administered has undetectable specificity for the parasympathetic or sympathetic input to the pupil;
- c) unsubluxated subjects generally exhibit no change in pupillary diameter following a sham adjustment and
- d) subluxated subjects exhibit variable readjustment pupillary diameters with significant pupillary diameter changes in response to an adjustment. These data suggest that autonomic input to the pupil may be influenced by subluxation, as well as the magnitude and direction of the force exerted during the chiropractic adjustment. An anatomic pathway through which the observed responses may occur is proposed.

Dr. Koren: This work is significant for a number of reasons. The sympathetic and parasympathetic nervous systems (autonomic nervous system) are in a state of dynamic balance to permit the body to maintain homeostasis so it may adapt to its environment. Also, the spinal analysis located specific subluxations and the adjustment was specific, that is a certain vertebrae was adjusted after it was determined to be subluxated. While an obvious requisite for chiropractic care and research, such a procedure is often, absent in the chiropractic research literature. Instead non-specific "manipulations" are too often performed, irrespective of whether the involved segment was truly subluxated or merely compensating for subluxations located elsewhere.

Spinovisceral reflexes evoked by noxious and innocuous stimulation of the lumbar spine. Budgell B. Hotta H. Sato A. *JMPT* 3:122-131, 1995.

There is a wealth of anecdotal evidence that biomechanical disorders of the spine can affect the functions of visceral organs. However, although some relevant work has been performed on peripheral joints, there is a striking paucity of research concerning the spinovisceral reflexes, which are hypothesized to cause or facilitate visceral symptomatology accompanying spinal complaints. In the present study, both saline (0.9% NaCl) and capsaicin, a potent chemical algescic were injected into the lumbar interspinous ligaments and facet (zygapophyseal) joints to make Wistar rats generate reflex cardiovascular responses. Responses elicited from the interspinous ligaments and facet joints differed in both qualitative and quantitative terms. In particular, in central nervous system (CNS)-intact animals, noxious chemical stimulation of the interspinous ligaments caused a pronounced elevation of mean arterial pressure (MAP) and a prolonged depression of sciatic nerve blood flow (NBF).

Effects of a chiropractic adjustment on changes in pupillary diameter: a model for evaluating somatovisceral response. Biggs L, Boone WR. *JMPT*, 1988; 11: 181-189.

The relationship between a cervical chiropractic adjustment, in subluxated vs. unsubluxated subjects is explored. Autonomic response was monitored as changes in pupillary diameter. There were 15 subjects. Pupillary diameter was shown to change significantly following adjustment in those having a subluxation complex. Controls without subluxation were given a sham treatment (massage). They exhibited no pupillary change on follow-up.

Lantz CA: The vertebral subluxation complex. *International Review of Chiropractic.* Sep/Oct 1989 pages 37-61.

Korr IM (ed): The neurobiologic mechanisms in manipulative therapy. (Plenum Press: New York) 1978.

Leach RA: The Chiropractic Theories. Williams and Wilkins. Baltimore, MD. 1980.
Cauwenbergs P: Vertebral subluxation and the anatomic relationships of the autonomic nervous system. In Gatterman M (ed): **Foundations of Chiropractic Subluxation.** (Mosby-Year Book, Inc.: St. Louis) 1995.

Wiles MR, Diakow P. Chiropractic and visceral disease: a brief survey. *J Can Chiro Assoc* 1982; 26:65-68.

Wiles MR: Visceral disorders related to the spine. In Gatterman M (ed): **Chiropractic Management of Spine Related Disorders.** (Williams and Wilkins: Baltimore, MD) 1990.

Dr. Koren comments: Irvin Korr, Ph.D. has researched the possible mechanisms of spinal distortions causing disease. Korr discusses increased firing of the sympathetic nervous system - or facilitation of sympathetic pathways leading to "high sympathetic tone." This reminds us of D.D. Palmer's statement: "life is an expression of proper tone." Indeed, his book, *The Chiropractors Adjuster* Palmer was "founded on tone."

Korr described sympathetic facilitations as being caused by "lesioned" segments of the spinal cord (the osteopaths like to use the term spinal lesion.) This increase in sympathetic firing of the nerves to viscera and blood vessels that go to the viscera "May alter organ and tissue responses to hormones, infectious agents, and blood components. It alters cellular metabolism and may eventually lead to serious pathologic changes." Korr IM: The Andrew Taylor Still memorial lecture: research and practice — a century later. *J Am Osteopath Assoc* 1974 73(5):362.

The reflex effects of spinal somatic nerve stimulation on visceral function. Proceedings of the scientific symposium of the World Chiropractic Congress. May 4-5, 1991. Toronto, Canada. Sato has shown evidence that mechanical pressure applied to rat spines caused alterations in blood pressure, pulse rate, renal and adrenal sympathetic nerve activity.

The reflex effects of spinal somatic nerve stimulation on visceral function. Sato A. *JMPT*, Jan. 1992, 15(1). **From the abstract:** “This paper studies somatovisceral reflex responses in the cardiovascular organ, gastrointestinal tract, urinary bladder and adrenal medulla in anesthetized animals after eliminating emotional factors following somatic sensory stimulations....”

Viscerosomatic reflexes: A review. Beal MC. *JAOA*, 1985; 85:786-801.

From the author’s abstract: “The concept of viscerosomatic reflexes is presented and supporting documentation from the basic and clinical sciences is reviewed. The somatic manifestations of visceral disease, including their autonomic segmental reference sites, are described. Also discussed are the palpatory findings that are consistent with diagnosis of a viscerosomatic reflex, as well as their predictive value. In addition, the principles and results of manipulative treatment for visceral disease, as well as the effect of surgery on viscerosomatic findings are reviewed.” The study of viscerosomatic reflexes is reviewed from an osteopathic perspective. The rationale for manipulative therapy in visceral disease is discussed.

The above two papers deal with one of the more researched mechanisms of somato-visceral stimulation, the reflex. Originally pioneered by Irvin Korr, Ph.D., the concept of the spinal cord reflex following adverse afferent sensory bed stimulation (one of the components of the vertebral subluxation complex) is one of the more popular somato-visceral mechanisms discussed today.

Pathogenesis of visceral disease following vertebral lesions. Burns L, Chandler, LC, Rice RW. Chicago, *American Osteopathic Association*, 1948, pp.226-233.

Neurologic basis for the practice of medicine by Speransky. This classic text discusses the role that the C.N.S. plays in the organism’s defense against disease. Among his experiments, Speransky, working with animal models to lesion the nerves going to the viscera, observed the formation of disease processes in various internal organs.

Man’s nervous system and disease. Wolf HG. *Archives of Neurology*, Sept. 1961, 5:17-25. Discussion of the nervous system relates to all categories of disease. The term psychosomatic is an artificial one and should be properly investigated in relation to the nervous system.

New perspectives in medicine: the role of the nervous system in disease. Wright HM. *JAOA*, Aug. 1963,62:1057-1063. Discussion of the relationship between every organ and tissue of the body and its anatomical and physiological relationship to the neuromusculoskeletal system. Disease is not a local entity but the manifestation of a breakdown in our homeostatic mechanisms. Also discussed is manipulative therapy’s role in eliminating critical impediments to the function of the nervous system.

Functional considerations of spinal manipulative therapy. Brunarski D. *ACA Journal of Chiropractic*, May 1980,14: S-63. A good literature review documenting research on the relationship between visceral disease and the nervous system.

Orthopedic Medicine - A New Approach to Vertebral Manipulations by Robert Maigne, M.D. Translated and edited by W.T. Liberson, M.D., Ph.D., Professor Physical Medicine and Rehabilitation, Abraham Lincoln Medical School, University of Illinois, Chicago, then also Vice President, North American Academy of Manipulative Medicine. Published by Charles C. Thomas: Springfield, IL, 1972. Robert Maigne, the French leader in the science of “manipulations,” was founder of the French Society of Manual Medicine, President of the International Federation of Manual Medicine, Director of Physical Medicine and Rehabilitation Service, Hotel Dieu Hospital, Paris, and lectured on the Faculty of the affiliated University of Paris School of Medicine. Conditions, from a medical perspective, which Maigne claims responds to “manipulations” include: “maintenance treatment, cervical pain/Barre-Lieou Syndrome/Vertigo(p.160 and pp.192-193), discal sciatica (p.162), cervico-osteoarthritis (p. 207), headache (pp.181-182), migraine (pp.188-189), “functional reactions” including constipation, digestive pains, pseudo-ulcers, asthma, false asthma in infants and mastodynia (pain in breast) (p.164 and p.153-155).

Mobilization of the Spine by G.P. Grieve. “All those experienced in manipulation can report numerous examples of migrainous headaches, disequilibrium, subjective visual disturbances, feelings of retro-orbital pressure, dysphagia, heaviness of a limb, extrasegmental paraesthesia, restriction of respiratory excursion, abdominal nausea and the cold sciatic leg being relieved by manual or mechanical treatment of the vertebral column.” P. 22-23.

“While these effects are noted, and the underlying mechanisms investigated with the purpose of understanding better what we do, they are insufficient reason to put the cart before the horse. In other words, the prime impulse for physical treatment of the vertebral column is properly vertebral column disorder, and not visceral disorder. GP Grieve Mobilization of the Spine, Churchill Livingstone, London/New York, 4th edition, 1984. P.22-23.

Functional Disorders of Internal Organs Due to Vertebral Lesions, Kunert W

“...lesions of the spinal column...are perfectly capable of simulating, accentuating or making a major contribution to organic diseases. There can...be no doubt that the state of the spinal column does have a bearing on the functional status of the internal organs.” Functional Disorders of Internal Organs Due to Vertebral Lesions, Kunert W (1965) CIBA Symposium 13(3): 85-96.

Commission of Inquiry into Chiropractic. Chiropractic in New Zealand. “A number of medical experts told the Commission that the results chiropractors and their patients claimed in Type O (organic) cases were unlikely to be the results of spinal manual therapy...However, at the same time no medical expert was prepared to say that such results were impossible, simply because knowledge of neurophysiology had not advanced to a point where the possibility of such results from spinal manual therapy-however remote he might

think they were-could positively be excluded.” Commission of Inquiry into Chiropractic. Chiropractic in New Zealand. Government Printer, Wellington, New Zealand, 1979 P.57-58.

Manipulative Therapy in Rehabilitation in Locomotor Systems by Karel Lewit, MUDr. Doc., Dsc. Butterworths: London and Boston (1985). This Czechoslovakian M.D. is one of the most famous medical manipulators of Eastern Europe. Some quotes from his text include “...There are both somatic and autonomic responses to pain...The somatic response consists mainly of muscle spasm...at the central level it may affect respiration, the cardiovascular or the digestive system. These central effects are understandable for pain is also a stress factor.” (p. 2).

“...There is a strong case to be made for manipulative treatment (for the purpose of prevention) in children, physically very exposed individuals, etc.” (p. 182 and p. 350). “Manipulative treatment is indicated if there is movement restriction (blockage) of a joint or a spinal mobile segment, and if this is considered relevant to the patient’s symptoms...No specific disease or complaint need be indicated for manipulation (headache, lumbago, etc.) but only a pathogenic lesion (i.e. lesion) which should, however, be relevant to the patient’s problem.” (p.178). Other conditions that Lewit mentions are tonsillitis, respiratory problems, heart disease, digestive problems, gynecological disorders, migraine, vertigo/dizziness. Pp. 336-342).

Lewit also sees manipulation as valuable for health maintenance: “The possibility of indicating manipulation for the purpose of prevention must also be considered. True, manipulation is indicated only if we think the movement restriction is clinically relevant...there is a strong case to be made for manipulative treatment, for example, in children, physically very exposed individuals, etc.” (P.182).

Vision/Glaucoma

Changes in eyesight associated with upper cervical specific chiropractic. Kessinger, Robert. Abstracts from the 14th annual upper cervical spine conference Nov 22-23, 1997 Life University, Marietta, Ga. Pub. In *Chiropractic Research Journal*, Vol. 5, No.1, Spring 1998. A study was conducted on 65 patients in the private office setting at Kessinger Specific Chiropractic Clinic in Cape Girardeau, MO, to assess the influence of upper cervical specific chiropractic care on eyesight. Subjects’ eyesight was examined via Snellen Eye Chart with standard testing procedures. A before and after study was performed with a six-week program of upper cervical specific chiropractic care. The study included patients who had no previous history of specific chiropractic care and were eight years old and older. This study indicates significant objective changes in eyesight.

Changes in visual acuity in patients receiving upper cervical specific chiropractic care. Kessinger R, Boneva D. *JVSR* 1998.

Sixty-seven subjects who had not experienced chiropractic care, ranging in ages from 9 to 79. They were evaluated in each eye before and six weeks after receiving chiropractic care.

Evaluation showed improvements in percent change in distance visual acuity (% DVA) following upper cervical specific chiropractic care at distance “typically” associated with less than normal, normal and better than normal vision, with no correlation between upper cervical vertebral “listing.”

Chiropractic care of a pediatric glaucoma patient: a case study. Conway, CM, *Journal of Clinical Chiropractic Pediatrics* Vol. 2, No.2 1997.

This study addresses the reduction of infections as well as the restoration of normal intraocular pressure to the patient using chiropractic adjustments and nutritional therapy.

A 17-month-old Caucasian female with glaucoma and chronic sinus infections. The parent stated that the child had been born with glaucoma and had 13 eye surgeries before she was 15 months old. The girl also has recurrent sinus infections, which led to eye infections so severe that she had been hospitalized twice. The girl was also scheduled for adenoid surgery in less than one month of presentation to the chiropractic. Mother as told the surgery had a 70% change of helping the sinus infections.

Child had a long history of antibiotic use along with other medications. Mother stated the birth was a “fast birth” from onset of labor to delivery was about 7 hours.

Child was adjusted using a hand held adjusting instrument and craniosacral technique was also performed.

Results: Two months prior to seeking chiropractic care she was placed under general anesthesia to get intraocular pressure readings of 21 in the right eye and 28 in the left eye. After one month of chiropractic care her intraocular pressure was measured as 17 R and 15 L. Adenoid surgery was cancelled. After 4 months of care, the intraocular pressure was 14 R and 11 L. Today the subject is 3 years old, is seen every two to four months and rarely has a cold or flu symptoms. Her intraocular pressure is normal and she is off all medications.

Subluxation location and correction by Stephen R. Goldman, D.C. *Today's Chiropractic* July/August 1995 p.70-74.

Case Study No. 1

“A 2-year old child had a medical diagnosis of ‘developmental communication disorder.’ He was non-responsive to any external stimuli, even to receiving an injection...did not respond to sound or touch...Chiropractic analysis revealed an axis subluxation.

“On the third visit, when I walked into the room, he began to cry. That was the first time that he responded to anything happening around him. By the sixth adjustment, he started to follow certain commands and stopped making repeated hand motions. He started to talk after the 12th office visit. At present, he has an extensive vocabulary and is slightly hyperactive; he is probably making up for lost time.”

Case Study No. 3

A 77-year-old woman, diagnosis by a neuro-ophthalmic specialist was ocular myothenia (symptom of blurred vision and double vision on and off during day)

Chiropractic analysis: Axis subluxation. By the ninth visit, all symptoms had disappeared. Presently under maintenance care with no recurrence of problem.

The eye, the cervical spine, and spinal manipulative therapy: a review of the literature. Terrett, A.G. and Gorman, R. Frank. *Chiropractic Technique* Vol. 7, No. 2, May 1995.

From the abstract:

Practitioners of spinal manipulative therapy (SMT) note that after SMT, patient occasionally state that their vision has improved. Visual improvement is mentioned by patients more commonly than the appearance of reports in the literature would suggest.

Various ocular effects of SMT have appeared in the literature. These have included changes in visual acuity, oculomotor function, intraocular pressure, and pupillary size.

This paper reviews the literature regarding connections between the eye, the cervical spine, and SMT with a view to future research in this area.

Various theories that have been proposed are briefly discussed.

Gorman, an ophthalmologist and Terrett a chiropractor have collaborated to produce an excellent article on the subject of vision and chiropractic (or, as they insist on calling it, SMT). They have searched the literature and found 12 journal articles from 1964 to 1992 describing the experiences of 187 patients with visual changes after cervical spinal care. They have rated these articles, discuss them, and discuss a dozen dramatic case histories from the literature. Conditions included in this study are blurred, decreased vision, contraction of visual fields, spots before eyes, oculomotor (eye muscle) dysfunctions (diplopia, nystagmus, visual fatigue etc.), pupillary changes, ptosis, eye pains, dry eye, tearing eye, distention of eye and others.

Interestingly, Gorman believes that chiropractic adjustments rejuvenate the brain and that the improvements in vision and eye conditions are merely a side effect of overall improved brain function. (See mental health and chiropractic earlier in this book.)

The Prospective Treatment of Visual Perception Deficit By Chiropractic Spinal Manipulation: A Report on Two Juvenile Patients. Stephens D., Gorman RF., *Chiropractic Journal of Australia*. 1996; 26:82-86.

One 14-year old girl and one 8-year old girl suffered from tunnel vision (constricted visual fields). After seven visits (once a week) the 14 year old's visual acuity went from 20/50 in both eyes to 20/25 in both eyes. The 8-year old was 20/25 in both eyes before care and 20/25 right eye; 20/30 left eye after care.

Does "normal" vision improve with spinal manipulation? Stephens, D. and Gorman M. *JMPT* 1996; 19:415-8.

From the abstract: A 22-year-old man suffered from a painful neck. His vision was in the normal range as measured by computerized static perimetry. His visual fields were tested before and after a normal office spinal manipulation. After this procedure, there was a measurable rise in the visual sensitivity of both eyes.

The step phenomenon in the recovery of vision with spinal manipulation: a report on two 13-year-olds treated together. Stephens D, Gorman F, Bilton D. *JMPT* Nov. 1997; 20(9), pp: 628-33.

Two 13-year-old female cousins with constricted visual fields and diminished visual acuities were given spinal adjustments. After seven spinal adjustments, the girls had recovery of normal vision. The change in visual function after spinal adjustments has been called the "step phenomenon." There is an indication that spinal adjustments may have an effect on brain function.

Treatment of visual field loss by spinal manipulation: a report on 17 patients. Stephens D, Mealing D, Pollard H, et al. *Journal of the Neuromusculoskeletal System*, summer 1998; 6(2), pp. 53-66.

Seventeen consecutive patients ranging from 9-52 years old who had concentric narrowing of the visual fields were given outpatient chiropractic spinal adjustments.

Complete recovery of the visual fields occurred in 11 patients who completed the course of chiropractic treatments.

Monocular Scotoma and spinal manipulation: the step phenomenon. R. Frank Gorman, *Journal of Manipulative and Physiological Therapeutics* 1996; 19:344-9.

From the abstract: To discuss a case history wherein microvascular spasm of the optic nerve was treated by spinal manipulation. A 62-year-old man who developed a scotoma in the vision of the right eye during chiropractic treatment.

Intervention and Outcome: Spinal manipulation treatment was continued with total resolution of the scotoma. The rate of recovery of the scotoma was mapped using computerized static perimetry. These measurements showed that significant recovery occurred at each spinal manipulation treatment, producing a stepped graph.

From the conclusion: This case history suggests that spinal manipulation can affect the blood supply of localized areas of brain tissue. More important is the converse implication, that microvascular abnormality of the brain is caused by spinal derangement.

The author added: "Spinal manipulation can affect the function of the optic nerve in some patients presumably by increasing vascular perfusion."

The treatment of visual perception defect by spinal manipulation. A prospective study of twelve consecutive patients. 24th Annual Scientific Congress of the Royal Australian College of Ophthalmologists 1992 Nov 1-6.

Effects of a chiropractic adjustment on changes in pupillary diameter: a model for evaluating somatovisceral response. Biggs L, Boone WR. *JMPT*, 1988; 11: 181-189.

In this paper the relationship between a cervical chiropractic adjustment, in subluxation vs. un-subluxated subjects, and autonomic response monitored as change in pupillary diameter was evaluated in 15 subjects. Pupillary diameter was shown to change significantly following manipulation in those shown to have a subluxation complex by a battery of chiropractic texts. Controls without subluxation were given a sham treatment (massage) to differentiate a placebo or nonspecific effect. They exhibited no pupillary change on follow-up.

Ocular dysfunction associated with whiplash injury. Brown S, *Aust. J Physiother* 1995;41:55-6

Abstract: Ocular and visual signs and symptoms have been reported to have been associated with whiplash, but there was no scientific study which had investigated these anecdotal reports. This study investigated several aspects of the ocular function of whiplash subjects,

non-specific injured neck injury subjects and a control group. Results indicated that visual accommodation (focusing), visual convergence and aspects of pupil function were significantly affected in the whiplash subjects only.

Study on cervical visual disturbance and its manipulative treatment. Zhang C, Wang Y, Lu W, et al. *J Trad Chinese Medicine*, 1984; 4:205-210.

“Determination of blood flow by x-ray in 18 of our cases shows that blood flow of the cerebral hemispheres greatly improves after manipulative treatment. The same is true in similar animal tests.”

Study on cervical visual disturbance and its manipulative treatment. Changjiand I, Yici W, Wenquin L et al. *Journal of Traditional Chinese Medicine* 1984 4:205.

This is a report on 114 cases of patients with cervical spondylosis who had associated visual disorders. Visual improvement was noted following “manipulative treatment” in 83% of these cases. Furthermore, of the 54 cases followed up for a minimum of six months, 91% showed a stable therapeutic effect. Cases of blind eyes regaining vision were included in the report.

The treatment of presumptive optic nerve ischemia by spinal manipulation. Gorman RF. *JMPT* 1995 18 (3): 172.

A case report where a 62 year old male with a 1 week history of monocular visual defect experienced dramatic visual improvement after a week of “spinal manipulation.” “Spinal manipulation can affect the function of the optic nerve in some patients presumably by increasing vascular perfusion.”

The common cold, pattern sensitivity and contrast sensitivity. Smith AP, et al. *Psychological Medicine*, 1992; 22:487-494.

This evidence indicates a possible link between vertebral subluxation complex, susceptibility to the common cold and vision sensitivity.

Monocular visual loss after closed head trauma: immediate resolution associated with spinal manipulation. R. Frank Gorman. *Journal of Manipulative and Physiological Therapeutics*. Vol. 18, No.3, June 1995.

The author, a medical doctor has been investigating spinal care and its relationship to vision, mental health, emotional wellness and overall health. This article discusses the case history of a 9-year old child complaining of headaches and blurred vision. Her visual fields were constricted and she had a history of recurrent abdominal pain, headaches and “red eyes.” The author practices manipulation under anesthesia. After two manipulations “For a year after the spinal treatment, the patient had a much better demeanor and was generally free of troublesome headaches and ocular symptoms. Hypotheses regarding the pathogenesis of this condition (visual problems and recovery after manipulation) are discussed.

Neuro-ophthalmological findings in closed head injuries. *J Clinic Neuroophthalmol* 1991; 11:272-7.

Among its findings is the fascinating revelation regarding vision and trauma: “Visual loss after closed head trauma has been reported to occur in 35% of such injuries.”

“**A Dangerous Twist**” (a video recording) “60 minutes” TCN Channel 9, 1986. An Australian TV show discussing the effects of spinal manipulation on vision.

Visual recovery following chiropractic intervention. Gilman G, Bergstrand J. *Journal of Behavioral Optometry* 1990; 1:73-74.

A 75-year-old man experienced a blow to the head resulting from a fall. He felt headaches and dizziness but the next morning woke up completely blind. Three months later the patient was referred to a chiropractor who found C1-C2 subluxation. It was hypothesized that this subluxation could explain the blindness, if it caused sufficient irritation to the superior cervical ganglion which gives rise to the postganglionic sympathetic innervation to the blood vessels of the optic nerve, including the retina itself. The cervical adjustment would relieve irritation to the ganglion and restore normal circulation to the optic nerve. After 11 chiropractic adjustments over a 3-month period, the patient’s vision returned. As the authors noted: “Behavioral optometrists have often been interested in the work of chiropractors and the resulting vision changes.”

Chiropractic adjustments and esophoria: a retrospective study and theoretical discussion. Schutte B, Teese H, Jamison J: *J Aust Chiro Assoc* Dec 1989 19(4): 126.

A retrospective review of 12 children with esophoria (deviation of a visual axis towards that of the other eye when fusion is prevented - Dorlands Medical Dictionary, 24th edition), concluding that such patients may respond to cervical spine adjustments.

Early pathogenesis following vertebral strain. Burns L. *JAOA*, Oct. 1946 P.103.

Spinal strains are produced in experimental animals. Histologic changes occur in the spinal tissues, heart, kidneys, stomach and the eye.

A pilot study of applied kinesiology in helping children with learning disabilities.

Mathews MO, Thomas E, *British Osteopathic Journal* Vol. X11 1993, Ferreri CA (1986) “Most children showed significant gains in visual perceptual organization. Some made significant gains in other important skills such as short-term auditory memory. Significant improvements were observed both at home and at school with regard to motivation, attitude and performance.” Reports from treatment included: “Dyslexia teacher says he no longer needs help.” “No more thumb sucking.” “Asthma much better on the whole.”

An observer’s view of the treatment of visual perception by spinal manipulation. A survey of 16 patients. Gorman RF. Sydney, Australia, 1991 (published privately).

Four ophthalmologists examined 12 patients before and after spinal manipulation. In all cases the vision improved (either the visual field and/or visual acuity). Non-visual difficulties also improved: “spine hump straightening out, arm movement improved,” “feels more positive and a lot happier. Does not wake up in the morning tired. More outgoing and talkative.”

The side effects of the chiropractic adjustment. Arno Burnier, D.C. *Chiropractic Pediatrics* Vol. 1 No. 4 May 1995.

S. S. Female age 17. Physical problem: Headaches, acne and “coca cola” eye glasses for nearsightedness.

Chiropractic result: Within three months of care was symptom free and no longer needed glasses. Resulting remained consistent for two years (lost touch after moving away).

Presenting Vertebral Subluxation: Axis posterior, D1/D2 PIR, D12/L1 Pl.

Original Adjustment: Meningeal contact on sacrum double notch, structural manual adjustment of D1/D2 in lateral flexion and extension, D12/L1 in extension and axis in extension supine with a spinous contact.

Whiplash and Accident Postconcussion Syndrome (PCS) and Whiplash Syndrome (WS)

Long term damage to the spine and head is especially common in auto accidents. Doctors of chiropractic have for years recognized the need for neuro-structural integrity in these areas and that most victims of automobile injuries do not fully recover under medical care - they may continue to have problems for years after the accident. This is especially the case of those who have whiplash and concussion injuries. This of course underscores the need for chiropractic care for accident victims. New medical terms acknowledging the chronicity and incomplete healing of accident victims have recently arisen. The terms used are: Postconcussion Syndrome (PCS), Whiplash Syndrome (WS), Post Whiplash Syndrome (PWS), Mild Traumatic Brain Injuries (MTBI), and mild head injury (MHI).

A multiple parameter assessment of whiplash injury patients undergoing subluxation based chiropractic care: a retrospective study. McCoy HG and McCoy M. *Journal of Vertebral Subluxation Research* Vol 1, No 3, 1997

From the Abstract: A retrospective study was conducted of 57 subjects who had experienced and acceleration/deceleration (whiplash) injury.... Collectively, in association with subluxation-based chiropractic care, the subject population showed significant increases in cervical flexion and extension, muscle strength, and a decrease in the neck pain disability index. Atlas/axis and Jackson's angles varied inversely from presentation to MCI...longer durations of care were correlated with the lower ratios (fewer adjustments/week), while shorter durations of care to reach MCI were correlated to higher ratios of average adjustments/week.

Chiropractic treatment of cervical radiculopathy caused by a herniated cervical disc. Brouillette DL, Gurske, DT. *Journal of Manipulative and Physiologic Therapeutics*, Feb 1994; 17(2): 119-123.

A case study of a 60-year-old woman with a MRI documented herniated cervical disc. Symptoms included deep, constant, burning ache in the left arm, and severe neck and left shoulder pain. Under chiropractic care the patient's pain, numbness and grip-strength returned to normal within 5 months.

Cervical spondylotic radiculopathy treated with the MERIC technique: a case report. Gemmell, HA. *Chiropractic Technique*, Feb 1994; 6(1): 14-16.

Case of an annular disc protrusion with nerve root compression at level C-5 of a 69-year-old white male is presented.

From the abstract: Patient exhibited toothache-like pain over the left upper trapezius and deltoid muscles with an absent biceps reflex, decreased sensation to pinprick in the C5 dermatome, and a weak deltoid muscle. The patient was successfully treated over 26 days and eight treatments using MERIC adjustments and supportive therapy. He remained pain free, without neurological signs, at the 4-month follow-up.

Soft tissue injuries of the cervical spine: a 15-year follow-up. Squires B, Gargan MF, Bannister GC. *J of Bone and Joint Surgery* (British Edition), 1996; (70B), pp955-57.

Ten and fifteen years after the original accident patients continued to complain of neck pain, back pain, headaches and/or dizziness.

This is the study of 40 patients with a whiplash injury assessed an average of 15.5 years after the injury and shows that whiplash symptoms may remain for years without resolution. The most common complaint was neck pain, followed by back pain, headaches and dizziness.

Psychological disturbances were seen in 52% of the patients. Between 10 and 15 years after their initial injuries, only 18% of the patients demonstrated significant improvement.

Twenty-eight percent showed deterioration.

Post whiplash syndrome. Bogduk, N. *Australian Family Physician* Vol. 23, No. 12 December 1994 Pp. 2303-2307.

From the introduction: “Whiplash is a poorly understood problem that attracts accusations of malingering and compensation neurosis. Recent research has revealed a variety of occult lesions that can be responsible for the chronic pain and suffering after whiplash; however, appropriate diagnostic techniques are still either lacking or not widely used. While there are reasonable options for acute management there is no proven therapy for the chronic situation.”

This article, from one of the world’s leading anatomists, and cervical spine researchers observes that the medical approach to whiplash “Is based on fashion and faith”(p.2306). In discussing the “core of patients who do not recover” Professor Bogduk describes medicine’s failure to help these people as the fault of a “system that denies the problem, discourages research and puts the blame for the problem on the patients who suffer it.” (P. 2307).

Course of attention and memory after common whiplash: a two-years prospective study with age, education and gender pair-matched patients. Di Stefano G and Radanov BP *Acta Neurol Scand* 1995; 91: 346-352.

From the abstract: Attentional functional and memory of common whiplash patients were evaluated during the first two years after experiencing injury....All (117) patients had a similar socioeconomic background, all being injured in automobile accidents and fully covered by insurance plans. Two years following initial trauma, 21 patients remained symptomatic. When compared with matched controls, the 21 symptomatic patients had no memory impairment but did have attention functional (difficult of follow-up of tasks with divided attention).

Comment: Some studies have documented attention deficits in symptomatic whiplash patients as well as memory loss while other studies have not. This paper reviews the value of the studies done by others in this field and found them to have designs that were “insufficient.” The chiropractic interest in this subject is more than that of the neuromusculoskeletal condition of whiplash, but of the brain function that is affected by presumed subluxations of the cervical spine. This work should be read in concert with Gorman’s and Zhang’s papers in the Improved Brain Function section of this report.

Late outcome of mild head injury: results from a controlled postal survey. Bohnen N, Vanzutphen W, Twijnstra A et al. *Brain Injury* 8(8): 701-708, 1994.

In this study, a postal questionnaire was sent to a population of (mild head injury) MHI patients 1 to 5 years post accident and a control group to measure subjective and psychological complaints, distresses and discomforts often mentioned by MHI patients. Interesting, the distresses and symptoms of the MHI group were indistinguishable from the non-MHI, however the MHI group's symptoms were significantly more severe. [TK: One hypothesis is that subluxation patterns that most people in the population have, are made much worse as a result of trauma. In other words, the patients were more "in pattern" or their subluxations were more severe as a result of their accident.]

The conclusion from the abstract was interesting: "The results support the hypothesis that MHI may not ever be completely reversible."

Post-traumatic headache. *Journal of Neuropsychiatry and Clinica. Neuroscience* 6(3): 229-236, 1994.

From the abstract: (PTH). The most common symptom following head injury, PTH is paradoxically most severe after mild head injury. Although most cases resolve within 6-12 months, many patients have protracted or even permanent headache. Because PTH generally has no objective findings, it is often controversial whether the symptom is "real," "psychogenic," or "fabricated." Despite persisting beliefs by physicians, attorneys, and insurers that PTH resolves upon legal settlement, recent studies have shown that "permanent" PTH is usually present several years after a legal settlement. Often PTH affects family life, recreation, and employment. Patients require education and support as well as appropriate evaluation and treatment.

Visceral diseases as a sequela of brain damages. *Vestnik Rossiiskoi Akademii Meditsinskikh Nauk* (1): 12-15, 1994.

From the abstract: In the late period following mild closed brain injury, diseases of the viscera and the body's systems develop as a result of diffuse lesions in the brain regions. Experimental studies have shown that this is associated with impaired self-regulatory mechanisms responsible for energy metabolic processes in the brain.

Comment from Dr. Koren: This is a very "chiropractic" paper in its approach and acknowledgment of the relationship between visceral conditions and general health and self-regulatory or homeostatic mechanisms. Of course, the authors did not check their patients for the vertebral subluxation complex either in the spine, cranium or pelvis.

Relationship between early somatic, radiological, cognitive and psychosocial findings and outcome during a one-year follow-up in 117 patients suffering from common whiplash. *Br J Rheumatol* 1994; 33:442-8.

Initial examinations of 117 whiplash patients was performed a few days after the accident, and 3, 6 and 12 months afterwards. After one year 28 patients (24% of total) were symptomatic. Poor improvements were associated with severity of injury, previous history of head trauma and headache, sleep disturbance immediately after accident, nervousness, and reduced speed of information processing.

Considerations in the rehabilitation of cervical myofascial injury, *Canadian Family Physician*, Vol. 32, Sept. 1986. About 10-15% of motor vehicle cervical injuries fails to achieve a functional recovery 2-3 years after the accident.

Whiplash injuries: their long-term prognosis and its relationship to compensation

Hodgson, S.P., *Neuro-Orthopedics* 7, 1989. 62% of the people injured in a whiplash soft-tissue trauma will have continued complaints between 10 and 15 years after the date of the accident.

PET and SPECT in whiplash syndrome: a new approach to a forgotten brain? Otte A, Ettlin TM, Nitzsche EU, Wachter K, Hoegerle S, Simon GH, Fierz L, Moser E, Mueller-Brand J. *J Neurol Neurosurg Psychiatry* 1997; 63:368-372.

From the abstract: Whiplash associated disorders are a medicolegally controversial condition becoming increasingly worrisome to the western world. This study was designed to evaluate perfusion and glucose metabolism in [the] whiplash brain.

Comments: Whiplash patients have traditionally reported a number of symptoms that are related to brain function – i.e. loss of memory, vision changes, emotional changes. This study involved six patients suffering from whiplash syndrome and 12 normal controls. They gave everyone chemicals that reveal brain function when viewed by specialized equipment (PET and SPECT) which is similar to a CAT scan for the brain. In the patient group, there was “significant hypometabolism” or decreased brain function and hypoperfusion or decreased blood in the parieto-occipital regions on the right and left side compared to the control group.

But most revealing was the authors’ statement as to the possible cause of the brain changes after they ruled out direct injury to the brain and brain structures: “It is hypothesized that parieto-occipital hypometabolism may be caused by activation of nociceptive afferent nerves from the upper cervical spine.”

Chronic cervical zygapophysial joint pain after whiplash: a placebo-controlled prevalence study. Lord, WM, Barnsley L, Wallis BJ, Bogduk N. *Spine* 1996; 21:1737-45.

This double-blind placebo-controlled trial implicates the facet joints as the most common pain source from whiplash type injury. It builds on other research pointing to the same source of whiplash pain.