

Chiropractic treatment techniques

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Chiropractors primarily use manipulation ("adjustment") of the spine as a treatment. Such treatments trace back to ancient China, Greece and Egypt.^[1] It gained popularity in the late 19th century, with the development of osteopathic and chiropractic medicine in North America.^[2]

Spinal manipulation (*SMT*) became more popular in the 1980s.^[3] It includes manipulation and massage to "adjust" the spine and related tissues,^[4] and is a primary basis of chiropractic.^[5] Systematic reviews have not found evidence that chiropractic manipulation is effective for any medical condition, with the possible exception of treatment for lower back pain.^[6] The safety of manipulation, particularly on the cervical spine has been debated.^[7] Adverse results, including death, are rare.^{[8][9]} Chiropractors may use exercise and other treatments and advice.^[5]

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Interventions

Skilled, specific hands-on techniques, including manipulation and mobilization, are used to diagnose and treat soft tissues and joint structures, to reduce pain and to increase range of motion and general health.^[10]

The approach is generally conservative, and treatment may include:

- manual procedures, including spinal or joint manipulation or mobilization, soft-tissue and reflex techniques;
- exercise, and other active care;
- psychosocial aspects of patient management;
- patient education on spinal health, posture, nutrition and lifestyle modifications;
- emergency treatment and acute pain management;
- other supportive measures, including the use of back supports and orthotics;
- recognition of the limitations of chiropractic care, and of the need for referral to other health professionals.

Chiropractors may also use exercise and other conservative treatments and advice.^[5]

Manual and manipulative therapy

The Chinese used such techniques more than 3000 years ago. Hippocrates also used such techniques^[1] as did the ancient Egyptians and other cultures.

In the late 19th century in North America, therapies including osteopathy and chiropractic became popular.^[2] Spinal manipulation gained mainstream recognition during the 1980s.^[3]



Lumbar, cervical and thoracic chiropractic spinal manipulation

In this system, hands are used to manipulate, massage or otherwise influence the spine and related tissues.^[4] It is the most common and primary intervention used in chiropractic care.^[5]

Effectiveness

Neuromusculoskeletal disorders

Treatment is usually for neck or low back pain and related disorders.^[11]

For acute low back pain, low quality evidence has suggested no difference between real and sham spine manipulation,^[12] and moderate quality evidence has suggested no difference between spine manipulation and other commonly used treatments, such as medication and physical therapy.^{[12][13][14]}

National guidelines vary; some recommend the therapy for those who do not improve with other treatment.^[15] It may be effective for lumbar disc herniation with radiculopathy,^{[16][17]} as effective as mobilization for neck pain,^[18] some forms of headache,^{[19][20][21]} and some extremity joint conditions.^{[22][23]} A 2011 Cochrane review found strong evidence that suggests there is no clinically meaningful difference between spinal manipulation therapy and other treatments for reducing pain and improving function for chronic low back pain.^[24] A 2008 review found that with the possible exception of back pain, chiropractic manipulation has not been shown to be effective for any medical condition.^{[6][25]}

Non-musculoskeletal disorders

The use of spinal manipulation for non-musculoskeletal is controversial. It has not been shown to be effective for asthma, headache, hypertension, or dysmenorrhea.^[14] There is no scientific data that supports the use of SMT for idiopathic adolescent scoliosis.^{[26][27]}

Cost-effectiveness

Spinal manipulation is generally regarded as cost-effective treatment of musculoskeletal conditions when used alone or in combination with other treatment approaches.^[28] Evidence supports the cost-effectiveness of using spinal manipulation for the treatment of sub-acute or chronic low back pain whereas the results for acute low back pain were inconsistent.^[29]

Safety

All treatments need a thorough medical history, diagnosis and plan of management. Chiropractors, must rule out contraindications to any treatments, including adverse events.

Relative contraindications, such as osteoporosis are conditions where increased risk is acceptable in some situations and where mobilization and soft-tissue techniques may be treatments of choice. Most contraindications apply to the manipulation of the affected region.^[30]

While safety has been debated,^[7] and serious injuries and deaths can occur and may be under-reported,^[8] these are generally rare and spinal manipulation is relatively safe^[12] when employed skillfully and appropriately.^[9]

Adverse events are believed to be under-reported^[31] and appear to be more common following high velocity/low amplitude manipulation than mobilization.^[32] Mild, frequent and temporary adverse events occur in SMT which include temporary increase in pain, tenderness and stiffness.^[7] These effects generally are reduced within 24–48 hours^[33] Serious injuries and fatal consequences, especially to SM in the upper cervical region, can occur.^[34] but are regarded as rare when spinal manipulation is employed skillfully and appropriately.^[30]

The relationship to stroke has been debated. Stroke is statistically associated with both general practitioner and chiropractic services in persons under 45 years of age, and these associations may be related to preexisting conditions.^{[35][36][37]} Weak to moderately strong evidence supports causation (as opposed to statistical association) between cervical manipulative therapy and vertebrobasilar artery stroke.^[38] A 2012 review found that there is not enough evidence to support a strong association or no association between cervical manipulation and stroke.^[39] A 2008 review found chiropractic are more commonly associated with serious related adverse effects than other professionals following manipulation and concluded that the risk of death from manipulations to the neck outweighs the benefits.^[8]

Techniques

According to the American Chiropractic Association the most frequently used techniques by chiropractors are Diversified technique 95.9%, Extremity manipulating/adjusting 95.5%, Activator Methods 62.8%, Gonstead technique 58.5%, Cox Flexion/Distracton 58.0%, Thompson 55.9%, Sacro Occipital Technique [SOT] 41.3%, Applied Kinesiology 43.2%, NIMMO/Receptor Tonus 40.0%, Cranial 37.3%, Manipulative/Adjustive

Instruments 34.5%, Palmer upper cervical [HIO] 28.8%, Logan Basic 28.7%, Meric 19.9%, and Pierce-Stillwagon 17.1%.^[40] Koren Specific Technique (KST) is a chiropractic technique was created around 2004.^[41] There are about 200 chiropractic technique, but there is a mostly overlap between them, and many techniques involve slight changes of other techniques.^[42]

Diversified technique

Diversified technique is a non-proprietary and eclectic approach to spinal manipulation that is commonly used by chiropractors.^[43] The technique, as it is applied today, is largely attributed to the work of Joe Janse, D.C.^{[44][43]} Diversified is the most common spine manipulation technique used by chiropractors, with approximately 96% of chiropractors using it for approximately 70% of their patients.^{[45][46]} Diversified is also the technique most preferred for use during future practice by chiropractic students.^[47] Diversified is the only spine manipulation technique taught in Canadian chiropractic programs.^[48] Like many chiropractic and osteopathic manipulative techniques, Diversified is characterized by a high-velocity, low-amplitude thrust.^[43] is considered the most generic chiropractic manipulative technique and is differentiated from other techniques in that its objective is to restore proper movement and alignment of spine and joint dysfunction.^[43]

Atlas Orthogonal technique

Atlas Orthogonal Technique is an upper cervical chiropractic treatment technique created by Roy Sweat, DC.^[49] It is a technique which uses a percussion instrument in attempts to adjust what is perceived to be a subluxation of the atlas vertebra, the top vertebra in the cervical spine. It is based on the teachings of B. J. Palmer, who advocated the Hole-In-One version of spinal adjustment. It is primarily used by straight chiropractors. Referring to the origins of upper cervical techniques, Dan Murphy, DC, DABCO, wrote: "Over the past 100 years, the practice of chiropractic has branched into dozens of specialty techniques. However, historically, for a third of this time, from the 1930s into the 1960s, the predominant practice of chiropractic involved primarily the upper cervical spine."^[50]

Extremity manipulating/adjusting

Activator methods

The Activator Method Chiropractic Technique (AMCT) is a chiropractic treatment method and device created by Arlan Fuhr as an alternative to manual manipulation of the spine or extremity joints. The device is categorized as a mechanical force manual assisted (MFMA) instrument which is generally regarded as a softer chiropractic treatment technique.

The activator is a small handheld spring-loaded instrument which delivers a small impulse to the spine. It was found to give off no more than 0.3 J of kinetic energy in a 3-millisecond pulse. The aim is to produce enough force to move the vertebrae but not enough to cause injury.^[51]

The AMCT involves having the patient lie in a prone position and comparing the functional leg lengths. Often one leg will seem to be shorter than the other. The chiropractor then carries out a series of



Activator V Chiropractic Adjusting Instrument

muscle tests such as having the patient move their arms in a certain position in order to activate the muscles attached to specific vertebrae. If the leg lengths are not the same, that is taken as a sign that the problem is located at that vertebra. The chiropractor treats problems found in this way moving progressively along the spine in the direction from the feet towards the head.^[51]

Although prone "functional leg length" is a widely used chiropractic tool, it is not a recognized anthropometric technique, since legs are often of unequal length, and measurements in the prone position are not entirely valid estimates of standing X-ray differences.^[52] Measurements in the standing position are far more reliable.^[53] Another confounding factor is that simply moving the two legs held together and leaning them imperceptibly to one side or the other produces different results.^[54] Fuhr claims that properly trained doctors show good interexaminer reliability.^[51]

In 2003, the National Board of Chiropractic Examiners found that 69.9% of chiropractors used the technique, and 23.9% of patients received it.^[55] The majority of U.S. chiropractic schools and some schools in other countries teach the AMCT method, and an estimated 45,000 chiropractors worldwide use AMCT or some part of the technique.^[51]

There have been a number of studies of AMCT, including case reports, clinical studies and controlled trials, but there are still unanswered questions. A few low-quality studies have suggested that the activator may be as effective as manual adjustment in treatment of back pain.^[51] A single high-quality study has suggested that activator-assisted manipulation directed by leg-length testing was significantly inferior to manual spinal manipulation guided by palpation and was more similar to the use of paracetamol for the treatment of low back pain.^[56]

Graston technique

Graston Technique (GT) is a trademarked therapeutic method for diagnosing and treating disorders of the skeletal muscles and related connective tissue. The method employs a collection of six stainless steel instruments of particular shape and size, which are used by practitioners to rub^[57] patients' muscles in order to detect and resolve adhesions in the muscles and tendons.^[58] Practitioners must be licensed by the parent corporation (Graston Technique, LLC.) in order to use the Graston Technique trademark or the patented instruments.^[59]

Several examples of Graston treatment have been used in contact sports where scars and contusions are common.^[60] However, the Graston Technique has not been rigorously scientifically tested and its evidence basis and assumptions are considered questionable at best. There are no high quality clinical trials that validate the efficacy of the Graston Techniques.^[61]

Koren Specific Technique

Koren specific technique (KST) is a technique developed by Tedd Koren.^[62] While the technique is associated with chiropractic techniques, Koren has variously described it as an "analysis protocol" or "healthcare protocol".^[62] KST may use their hands, or they may use an electric device known as an "ArthroStim" for assessment and



adjustments.^[63] KST can use different postures.^[41] The insurers Aetna,^[63] NHS Leeds West CCG,^[64] North Dakota Department of Human Services,^[65] and The Ohio State University^[66] cover other chiropractic techniques but exclude KST from coverage because they consider it to be "experimental and investigational."^{[63][64][65][66]} Aetna's policy states there is a lack of efficacy regarding this method.^[63]

Cox Flexion/Distractio

Thompson technique

Gonstead technique

The Gonstead technique is chiropractic method that had been developed by Clarence Gonstead since 1923.^[67] The technique focuses on hands-on adjustment and is claimed to expand "*standard diversified technique*" by implementing additional instrumentation including X-rays, Gonstead Radiographic Parallel, a measuring device, and the development of Nervo-Scope,^[68] a device said to detect the level of neurophysiologic activity due to the existence of vertebral subluxation based on changes in skin temperature.^[69] Heat detector devices are unreliable and lack scientific evidence.^[69] The technique gained popularity in the 1960s.^[70] About 28.9% of patients have been treated with the Gonstead technique.^[71]





Trigenics Technique

Trigenics is a neurological-based manual or instrument-assisted assessment and treatment system^[72] developed and patented by Allan Oolo Austin,^[73] DC, DO, CCSP, CCRD. The technique originally began as a chiropractic technique, but is now practiced by osteopaths, physiotherapists and massage therapists.^[73] The technique is relatively infrequently used by chiropractors compared to other chiropractic techniques such as Diversified, Trigger point therapy and Activator.^[74]

References

- Swedlo DC (2002). "The historical development of chiropractic" (PDF). In Whitelaw WA. *Proc 11th Annual History of Medicine Days*. Faculty of Medicine, The University of Calgary. pp. 55–58. Archived from the original (PDF) on 2008-06-25. Retrieved 2008-05-14.
- Keating JC Jr (2003). "Several pathways in the evolution of chiropractic manipulation". *J Manipulative Physiol Ther*. **26** (5): 300–21. doi:10.1016/S0161-4754(02)54125-7. PMID 12819626.
- Francis RS (2005). "Manipulation under anesthesia: historical considerations". International MUA Academy of Physicians. Retrieved 2008-07-06.
- Winkler K, Hegetschweiler-Goertz C, Jackson PS, et al. (2003). "Spinal manipulation policy statement" (PDF). American Chiropractic Association. Retrieved 2008-05-24.
- Christensen MG, Kollasch MW (2005). "Professional functions and treatment procedures" (PDF). *Job Analysis of Chiropractic*. Greeley, CO: National Board of Chiropractic Examiners. pp. 121–38. ISBN 1-884457-05-3. Retrieved 2014-09-06.
- Ernst E (2008). "Chiropractic: a critical evaluation". *J Pain Symptom Manage*. **35** (5): 544–62. doi:10.1016/j.jpainsymman.2007.07.004. PMID 18280103.
- Ernst, E (Jul 2007). "Adverse effects of spinal manipulation: a systematic review". *Journal of the Royal Society of Medicine*. **100** (7): 330–8. doi:10.1258/jrsm.100.7.330. ISSN 0141-0768. PMC 1905885 ​. PMID 17606755. Lay summary – *Med News Today* (2 July 2007).
- E Ernst (2010). "Deaths after chiropractic: a review of published cases". *Int J Clinical Practice*. **64** (8): 1162–1165. doi:10.1111/j.1742-1241.2010.02352.x. PMID 20642715.

9. World Health Organization (2005). "WHO guidelines on basic training and safety in chiropractic" (PDF). ISBN 92-4-159371-7. Retrieved 2008-02-29.
10. Gatterman MI, Hansen DT (1994). "Development of chiropractic nomenclature through consensus". *J Manipulative Physiological Therapeutics*. **17** (5): 302–309.
11. Hawk C, Long CR, Boulanger KT (2001). "relevance of nonmusculoskeletal complaints in chiropractic practice: report from a practice-based research program.". *J Manipulative Physiol Ther*. **24** (3): 157–169. doi:10.1067/mmt.2001.113776. PMID 11313611.
12. Rubinstein SM; Terwee CB; Assendelft WJ; de Boer MR; van Tulder MW (Sep 2012). "Spinal manipulative therapy for acute low-back pain.". *Cochrane Database Syst Rev*. **12** (9): CD008880. doi:10.1002/14651858.CD008880.pub2. PMID 22972127.
13. Dagenais S, Gay RE, Tricco AC, Freeman MD, Mayer JM (2010). "NASS Contemporary Concepts in Spine Care: Spinal manipulation therapy for acute low back pain". *Spine J*. **10** (10): 918–940. doi:10.1016/j.spinee.2010.07.389. PMID 20869008.
14. Bronfort G, Haas M, Evans R, Leininger B, Triano J (2010). "Effectiveness of manual therapies: the UK evidence report". *Chiropractic & Osteopathy*. **18** (3): 3. doi:10.1186/1746-1340-18-3. PMC 2841070. PMID 20184717.
15. Koes, BW; van Tulder, M; Lin, CW; Macedo, LG; McAuley, J; Maher, C (December 2010). "An updated overview of clinical guidelines for the management of non-specific low back pain in primary care.". *European Spine Journal*. **19** (12): 2075–94. doi:10.1007/s00586-010-1502-y. PMID 20602122.
16. Leininger B, Bronfort G, Evans R, Reiter T (2011). "Spinal manipulation or mobilization for radiculopathy: a systematic review". *Phys Med Rehabil Clin N Am*. **22** (1): 105–25. doi:10.1016/j.pmr.2010.11.002. PMID 21292148.
17. Hahne AJ, Ford JJ, McMeeken JM (2010). "Conservative management of lumbar disc herniation with associated radiculopathy: a systematic review". *Spine*. **35** (11): E488–504. doi:10.1097/BRS.0b013e3181cc3f56. PMID 20421859.
18. Gross A, Miller J, D'Sylva J, Burnie SJ, Goldsmith CH, Graham N, Haines T, Brønfort G, Hoving JL (2010). "Manipulation or mobilisation for neck pain: a Cochrane Review". *Manual Therapy*. **15** (4): 315–333. doi:10.1016/j.math.2010.04.002. PMID 20510644.
19. Chaibi A, Tuchin PJ, Russell MB (2011). "Manual therapies for migraine: a systematic review". *J Headache Pain*. **12** (2): 127–33. doi:10.1007/s10194-011-0296-6. PMC 3072494. PMID 21298314.
20. Bronfort G, Nilsson N, Haas M, et al. (2004). Brønfort G, ed. "Non-invasive physical treatments for chronic/recurrent headache". *Cochrane Database Syst Rev* (3): CD001878. doi:10.1002/14651858.CD001878.pub2. PMID 15266458.
21. Posadzki, P; Ernst, E (June 2011). "Spinal manipulations for the treatment of migraine: a systematic review of randomized clinical trials.". *Cephalalgia : an international journal of headache*. **31** (8): 964–70. doi:10.1177/0333102411405226. PMID 21511952.
22. Brantingham JW, Globe G, Pollard H, Hicks M, Korporaal C, Hoskins W (2009). "Manipulative therapy for lower extremity conditions: expansion of literature review". *J Manipulative Physiol Ther*. **32** (1): 53–71. doi:10.1016/j.jmpt.2008.09.013. PMID 19121464.
23. Pribicevic, M.; Pollard, H.; Bonello, R.; De Luca, K. (2010). "A Systematic Review of Manipulative Therapy for the Treatment of Shoulder Pain". *Journal of Manipulative and Physiological Therapeutics*. **33** (9): 679–689. doi:10.1016/j.jmpt.2010.08.019. PMID 21109059.
24. Rubinstein SM, van Middelkoop M, Assendelft WJ, de Boer MR, van Tulder MW (June 2011). "Spinal manipulative therapy for chronic low-back pain: an update of a Cochrane review". *Spine (Systematic review)*. **36** (13): E825–46. doi:10.1097/BRS.0b013e3182197fe1. PMID 21593658.
25. Singh S, Ernst E (2008). "The truth about chiropractic therapy". *Trick or Treatment: The Undeniable Facts about Alternative Medicine*. W.W. Norton. pp. 145–90. ISBN 978-0-393-06661-6.
26. Everett CR, Patel RK (2007). "A systematic literature review of nonsurgical treatment in adult scoliosis". *Spine*. **32** (19 Suppl): S130–4. doi:10.1097/BRS.0b013e318134ea88. PMID 17728680.
27. Romano M, Negrini S (2008). "Manual therapy as a conservative treatment for adolescent idiopathic scoliosis: a systematic review". *Scoliosis*. **3** (1): 2. doi:10.1186/1748-7161-3-2. PMC 2262872. PMID 18211702.
28. Michaleff ZA, Lin CW, Maher CG, van Tulder MW (2012). "Spinal manipulation epidemiology: Systematic review of cost effectiveness studies". *J Electromyogr Kinesiol*. **22**: 655–662. doi:10.1016/j.jelekin.2012.02.011. PMID 22429823.
29. Lin CW, Haas M, Maher CG, Machado LA, van Tulder MW (2011). "Cost-effectiveness of guideline-endorsed treatments for low back pain: a systematic review". *European Spine Journal*. **20** (7): 1024–1038. doi:10.1007/s00586-010-1676-3. PMC 3176706. PMID 21229367.

30. Anderson-Peacock E, Blouin JS, Bryans R, et al. (2005). "Chiropractic clinical practice guideline: evidence-based treatment of adult neck pain not due to whiplash" (PDF). *J Can Chiropr Assoc.* **49** (3): 158–209. PMC 1839918  PMID 17549134. and Anderson-Peacock E, Bryans B, Descarreaux M, et al. (2008). "A Clinical Practice Guideline Update from The CCA•CFCREAB-CPG" (PDF). *J Can Chiropr Assoc.* **52** (1): 7–8. PMC 2258235  PMID 18327295.
31. Ernst E, Posadzki P (2012). "Reporting of adverse effects in randomised clinical trials of chiropractic manipulations: a systematic review". *N Z Med J.* **125** (1353): 87–140. PMID 22522273.
32. Hurwitz EL, Morgenstern H, Vassilaki M, Chiang LM (July 2005). "Frequency and clinical predictors of adverse reactions to chiropractic care in the UCLA neck pain study". *Spine.* **30** (13): 1477–84. doi:10.1097/01.brs.0000167821.39373.c1. PMID 15990659.
33. Gouveia LO, Castanho P, Ferreira JJ (2009). "Safety of chiropractic interventions: a systematic review". *Spine.* **34** (11): E405–13. doi:10.1097/BRS.0b013e3181a16d63. PMID 19444054.
34. Thiel HW, Bolton JE, Docherty S, Portlock JC (2007). "Safety of chiropractic manipulation of the cervical spine: a prospective national survey". *Spine.* **32** (21): 2375–8. doi:10.1097/BRS.0b013e3181557bb1. PMID 17906581.
35. Hurwitz EL, Carragee EJ, van der Velde G, et al. (2008). "Treatment of neck pain: noninvasive interventions: results of the Bone and Joint Decade 2000–2010 Task Force on Neck Pain and Its Associated Disorders". *Spine.* **33** (4 Suppl): S123–52. doi:10.1097/BRS.0b013e3181644b1d. PMID 18204386.
36. Paciaroni M, Bogousslavsky J (2009). "Cerebrovascular complications of neck manipulation". *Eur Neurol.* **61** (2): 112–8. doi:10.1159/000180314. PMID 19065058.
37. Cassidy, JD; Boyle, E; Côté, P; He, Y; Hogg-Johnson, S; Silver, FL; Bondy, SJ (15 Feb 2008). "Risk of vertebrobasilar stroke and chiropractic care: results of a population-based case-control and case-crossover study.". *Spine.* **33** (4 Suppl): S176–83. doi:10.1097/BRS.0b013e3181644600. PMID 18204390.
38. Miley ML, Wellik KE, Wingerchuk DM, Demaerschalk BM (2008). "Does cervical manipulative therapy cause vertebral artery dissection and stroke?". *Neurologist.* **14** (1): 66–73. doi:10.1097/NRL.0b013e318164e53d. PMID 18195663.
39. Haynes MJ, Vincent K, Fischhoff C, Bremner AP, Lanlo O, Hankey GJ. (2012). "Assessing the risk of stroke from neck manipulation: a systematic review". *International Journal of Clinical Practice.* **66** (10): 940–947. doi:10.1111/j.1742-1241.2012.03004.x. PMC 3506737  PMID 22994328.
40. "Chiropractic Techniques" (PDF). American Chiropractic Association. August 2003. Archived from the original (PDF) on April 6, 2008.
41. "Lake Mills Family Chiropractic practices new method". *AlbertLeaTribune.* October 15, 2009.
42. "Chiropractic in Canada". Canadian Chiropractic Association.
43. *Technique Systems in Chiropractic* - Cooperstein & Gleberzon
44. Cooperstein R. "On Diversified Chiropractic Technique". *Journal of Chiropractic Humanities.*
45. Christensen MG, Kollasch MW (2005). "Professional functions and treatment procedures" (PDF). *Job Analysis of Chiropractic.* Greeley, CO: National Board of Chiropractic Examiners. pp. 121–38. ISBN 1-884457-05-3. Archived from the original (PDF) on 2008-10-02. Retrieved 2008-08-25.
46. Chiropractic Techniques (http://acatoday.org/pdf/PDR/ChiropracticTechniques - American Chiropractic Association
47. Sikorski DM, KizhakkeVeettil A, Tobias GS (2016). "The influence of curricular and extracurricular learning activities on students' choice of chiropractic technique.". *The Journal of Chiropractic Education.* **30** (1): 30–36. doi:10.7899/JCE-15-6. PMC 4770993  PMID 26655282.
48. Mykietiuk C, Wambolt M, Pillipow T, Mallay C, Gleberzon BJ (2009). "Technique Systems used by post-1980 graduates of the Canadian Memorial Chiropractic College practicing in five Canadian provinces: a preliminary survey". *Journal of The Canadian Chiropractic Association.* **53** (1): 32–39.
49. Atlas orthogonal chiropractic program (https://books.google.com/books?id=EGTzHAAACAAJ), Roy W. Sweat, DC
50. Eriksen K. Upper Cervical Subluxation Complex. A review of the chiropractic and medical literature (https://books.google.com/books?id=2oJ9cf6uyZMC). LWW, 2004; p. vii
51. Fuhr, Arlan W.; J. Michael Menke (February 2005). "Status of Activator Methods Chiropractic Technique, Theory, and Practice". *Journal of Manipulative and Physiological Therapeutics.* **28** (2): e1–e20. doi:10.1016/j.jmpt.2005.01.001. PMID 15800504. Retrieved 2008-08-18.
52. D W Rhodes, E R Mansfield, P A Bishop, J F Smith. The validity of the prone leg check as an estimate of standing leg length inequality measured by X-ray. (http://lib.bioinfo.pl/pmid:7595107) *J Manipulative Physiol Ther.* ;18 (6):343-6

53. Hanada E, Kirby RL, Mitchell M, Swuste JM (Jul 2001). "Measuring leg-length discrepancy by the "iliac crest palpation and book correction" method: reliability and validity". *Arch Phys Med Rehabil.* **82** (7): 938–42. doi:10.1053/apmr.2001.22622.
54. Keeping Your Spine In Line (http://www.pbs.org/saf/1210/features/spine.htm), Adjusting the Joints (http://www.pbs.org/saf/1210/segments/1210-3.htm), and Video (http://www.pbs.org/saf/1210/video/watchonline.htm), Alan Alda, PBS, Scientific American Frontiers. Video discusses Activator and leg length
55. Christensen MG, Kollasch MW (2005). "Professional functions and treatment procedures" (PDF). *Job Analysis of Chiropractic*. Greeley, CO: National Board of Chiropractic Examiners. pp. 121–38. ISBN 1-884457-05-3. Retrieved 2008-08-25.
56. Schneider, M; et al. (2015). "Comparison of spinal manipulation methods and usual medical care for acute and subacute low back pain: a randomized clinical trial.". *Spine.* **40** (4): 209–217. PMID 25423308.
57. Zachary Lewis (2012). "Graston Technique gives muscles a sharp workout: Stretching Out".
58. *About the Graston Technique*, retrieved 2008-10-11
59. US 5231977 (https://worldwide.espacenet.com/textdoc?DB=EPODOC&IDX=US5231977), Graston, "Tools and method for performing soft tissue massage", issued 3 August 1993
60. Lauzon, L (2013-03-15). "Joe Lauzon chooses the Graston Technique for combat injury treatment". lutamma.com. Retrieved 2013-03-15.
61. Hall, H (2009-12-29). "The Graston Technique – Inducing Microtrauma with Instruments". sciencebasedmedicine.org. Retrieved 2010-01-09.
62. Editorial Board (29 January 2009). "Koren Specific Technique Not Chiropractic? WFC Alleges "Serious Professional Misconduct" ". *Dynamic Chiropractic*. Retrieved 29 March 2016.
63. "Chiropractic Services - Policy". *Aetna*. Retrieved 29 March 2016.
64. NHS Leeds West CCG Assurance Committee (2014-01-02). "Complementary and Alternative Therapies Evidence Based Decision Making Framework" (PDF). *leedswestccg.nhs.uk*. Retrieved 2015-06-30.
65. "Provider Manual for Chiropractic Services" (PDF). *North Dakota Department of Human Services*. State of North Dakota.
66. "Chiropractic Policy" (PDF). The Ohio State University Health Plan. 1 April 2016. Retrieved 14 April 2016.
67. Kevin P. McNamee (1 January 1997). *The Chiropractic College Directory, 1997-98*. K M Enterprises. ISBN 978-0-945947-04-2.
68. Anderson M. D. Robert Anderson M. D.; Robert Anderson (October 2009). *The Back Door to Medicine: An Embedded Anthropologist Tells All*. iUniverse. pp. 59–. ISBN 978-1-4401-7289-2.
69. "The Nervo-Scope". *www.quackwatch.org*. Retrieved 2016-05-02.
70. "Technique Summary: Gonstead Technique". *ChiroACCESS*. 2010-02-08. Retrieved 2015-07-01.
71. Cooperstein, Robert (2003). "Gonstead Chiropractic Technique (GCT)". *Journal of Chiropractic Medicine.* **2** (1): 16–24. doi:10.1016/S0899-3467(07)60069-X. ISSN 1556-3707. PMC 2646953 . PMID 19674591.
72. Cooperstein R, Gleberzon B. Technique systems in chiropractic. Churchill Livingstone. 2004 (http://www.amazon.ca/Technique-Systems-Chiropractic-Robert-Cooperstein/dp/0443074135)
73. "TRIGENICS® Miracles in Movement". *Trigenics*. Retrieved 28 October 2015.
74. Gleberzon,, Brian; Stuber, Kent (2013). "Frequency of use of diagnostic and manual therapeutic procedures of the spine taught at the Canadian Memorial Chiropractic College: A preliminary survey of Ontario chiropractors. Part 1 – practice characteristics and demographic profiles" (PDF). *J Can Chiropr Assoc.* **57** (1): 32–41. Retrieved 28 October 2015.

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