

"Chiropractic is the most significant nonscientific health-care delivery system in the United States."

*--William T. Jarvis, Ph.D.*

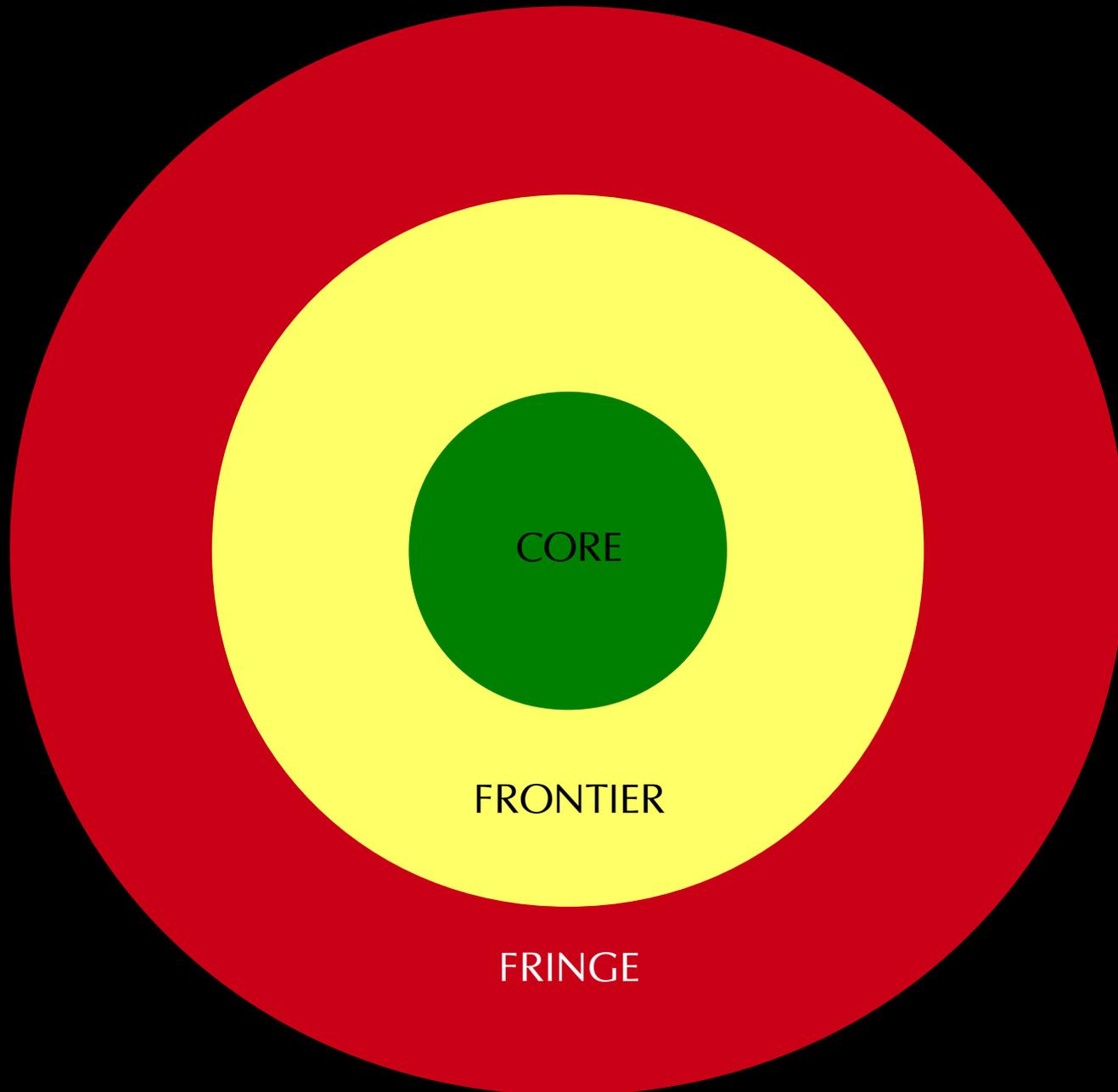
"No supportive evidence is found for the chiropractic subluxation being associated with any disease process or of creating suboptimal health conditions requiring intervention. Regardless of popular appeal this leaves the subluxation construct in the realm of unsupported speculation. This lack of supportive evidence suggests the subluxation construct has no valid clinical applicability."

*-- Timothy Merz, Lon Morgan, Lawrence Wyatt, and Leon Greene. Three of them are chiropractors, and the fourth is a Ph.D. in physical education. Their analysis and conclusions were published as "An epidemiological examination of the subluxation construct using Hill's criteria of causation" in "Chiropractic and Osteopathy" in 2009.*

# “Alternative Medicine” - Chiropractic -

Supplementary Material for  
CFB3333/PHY3333/KNW2333

Professors John Cotton, Randy Scalise, and Stephen Sekula



- CORE
  - Laws of Physics
  - Laws of Chemistry
  - Theory of Natural Selection (Biology)
  - Germ Theory of Disease (Biology)
  - Plate tectonics (Earth Science)

A Depiction of Science  
Thanks to Eugenie Scott

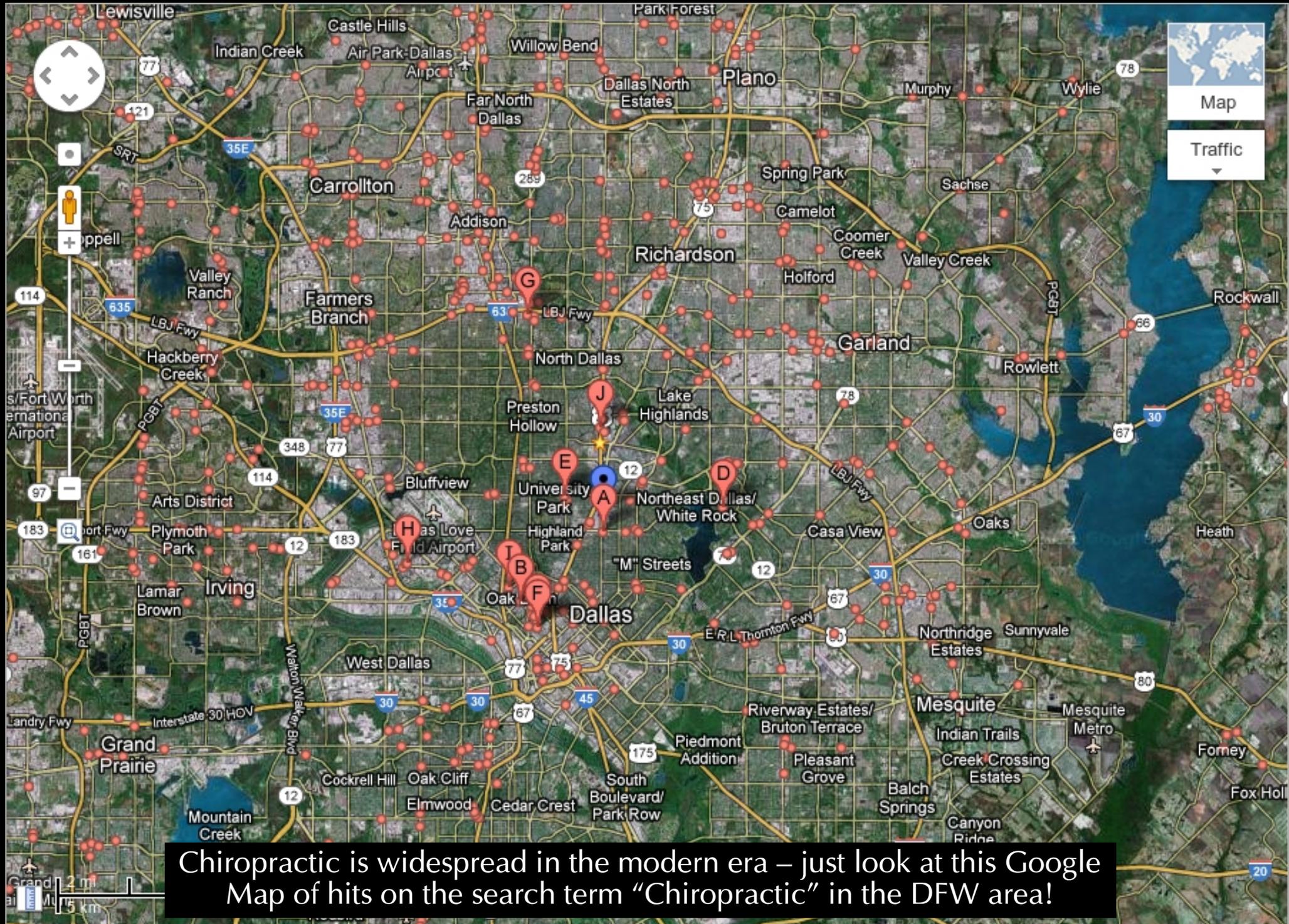
# CHIROPRACTIC: DEFINITION

The claim that all disease arises from misalignment of the spine (called “subluxations”) and fixing the misalignment can cure disease.

### Recent Definitions of Chiropractic

Date	Definition/description (quotes)	Source (Ref.)
1998	A system of healthcare...which is based on the belief that the nervous system is the most important determinant of a person's state of health.	Segen <sup>1</sup>
1994	A drugless, non-invasive manual form of outpatient treatment for musculoskeletal, functional and other chronic disorders.	Oths <sup>2</sup>
1996	A therapeutic system based on the premise that structure and function in the human body are closely related and, in particular, the relationship between the spinal column and the nervous system is the most important.	Lott <sup>3</sup>
1998	A system of healing based on the belief that health is maintained when the spinal column is in its proper position and the nervous system is not impinged.	Bimonte <sup>4</sup>
1998	Chiropractic...is based on the body's ability to heal itself. Central to improving the body's ability to heal itself, chiropractors assert, is the removal, or correction, of malalignments of the spine (called subluxations) through the use of spinal manipulation (called spinal adjustments).	Shekelle <sup>5</sup>
1998	The medical profession that specializes in manual therapy and especially spinal manipulation.	Kaptchuk <sup>6</sup>
1999	A health profession concerned with the diagnosis, treatment and prevention of mechanical disorders of the musculoskeletal system and the effects of these disorders on the function of the nervous system and general health. There is an emphasis on manual treatments, including spinal manipulation or adjustment.	World Federation of Chiropractic <sup>7</sup>
1999	A profession which specializes in the diagnosis, treatment and overall management of conditions which are due to mechanical dysfunction of the joints, particularly those of the spine, and their effects on the nervous system.	British Chiropractic Association <sup>8</sup>
1999	A branch of the healing arts which is concerned with human health and disease processes.	American Chiropractic Association <sup>9</sup>
2000	A branch of the healing arts...based on the premise that good health depends, in part, upon a normally functioning nervous system.	Sportelli <sup>10</sup>
2000	The chiropractic is not a technique. It is a health care profession, it has an exclusive body of information which teaches, certifies, polices, purveys and sometimes attempts to validate.	Halder <sup>11</sup>
2003	A form of health care that focuses on the relationship between the body's structure, primarily of the spine and function.	NCCAM <sup>12</sup>

*Table of recent definitions from Ernst, Edzard. "Chiropractic: A Critical Evaluation." Journal of Pain and Symptom Management. Vol. 35, Issue 5. May 2008. Pages 544-562*



Chiropractic is widespread in the modern era – just look at this Google Map of hits on the search term "Chiropractic" in the DFW area!

# Claim and Assessment

- Claim: chiropractors can identify spinal misalignment and by adjusting them eliminate all disease (not limited to back problems).
  - as with homeopathy, acupuncture, and other “alternative medical systems,” there are more claimed cures than gold-standard scientific tests of the cure. This is a red flag.
- Tests:
  - Gold-standard medical testing: randomized, double/single-blinded, placebo-controlled (sham chiropractic), large-statistics trials

*Ernst, Edzard. "Chiropractic: A Critical Evaluation." Journal of Pain and Symptom Management. Vol. 35, Issue 5. May 2008. Pages 544-562*

**Systematic Reviews of (Chiropractic) Spinal Manipulation**

First Author (Year)	Interventions	Condition	n	Meta-analysis	Overall result <sup>a</sup>	Comment
Assendelft et al. (2004) <sup>137</sup>	Any type of SM	Low back pain	39	Yes	No evidence that SM is superior to other standard treatments for acute or chronic low back pain	Also included RCTs of mobilization
Gross et al. (2004) <sup>138</sup>	Any type of SM and mobilization	Neck problems	33	Yes	...evidence did not favor SM/ mobilization done alone	Combined with exercise, SM was beneficial
Fernandez-de-las-Penas et al. (2006) <sup>139</sup>	All types of manual therapies (3 trials of spinal manipulation)	Tension type headache (TTH)	6	No	"...no rigorous evidence that manual therapies have a positive effect on the evolution of TTH"	2 RCTs were of high quality but generated contradictory results
Ernst (2003) <sup>140</sup>	Chiropractic SM	Neck pain	4	No	The notion that chiropractic SM is more effective than conventional exercise...was not supported by rigorous trial data	Included only RCTs of chiropractic SM.

*Ernst, Edzard. "Chiropractic: A Critical Evaluation." Journal of Pain and Symptom Management. Vol. 35, Issue 5. May 2008. Pages 544-562*

Proctor et al. (2001) <sup>141</sup>	Any type of SM	Primary and secondary dysmenorrhea	5	No	There is no evidence that SM is effective	4 of the 5 RCTs were of high velocity, low amplitude thrusts
Husereau et al. (2003) <sup>142</sup>	Any type of SM	Infantile colic	4	No	No convincing evidence	Most trials were of low methodological quality
Balon and Mior (2004) <sup>143</sup>	Chiropractic care	Asthma/allergy	6	No	No evidence to support the use of chiropractic SM	4 of the 6 trials tested SM; 3 of these studies were negative
Reid and Rivett (2005) <sup>144</sup>	Manual therapy mainly manipulation and mobilization	Cervicogenic dizziness	9	No	...there is limited evidence at present to support the use of manual therapy in treating cervicogenic dizziness.	Only one of the trials was randomized.

This table includes all indications for which systematic reviews are available. If for any indication more than one systematic review exists, the most recent one was chosen.

*n* = number of trials included, SM = spinal manipulation, RCT = randomized clinical trial.

<sup>a</sup>Quote from authors' conclusions.

# Cervicogenic Dizziness Treatment

Last Updated: Mar 21, 2011 | By Ron Rogers



Cervicogenic dizziness is one of numerous types of dizziness, and is the result of some mechanical disturbance in the neck. Since cervicogenic dizziness responds favorably to chiropractic care, determining whether you have this type can help guide you toward an appropriate treatment. Dr. Don Fitz-Ritson, in his 1991 article, "Assessment of Cervicogenic Vertigo" (References 1), introduced a new method for evaluating dizziness. It is relatively safe and easy to screen yourself at home for cervicogenic dizziness, using this simple test.

## Making the Assessment

### Step 1

Determine whether your dizziness is worse with movement. If the dizziness occurs regardless of position or motion, it is less probable that it is coming from your neck.

## PEOPLE ARE READING



Exercises for Cervical Dizziness



Neck Exercises for Arthritis & Dizziness



Symptoms of Cervical Pain in the Neck

Advertisement

## Related Searches

Ready to lose weight?  
All you need to achieve your goal in 2014.

Age	Weight
Age	Lbs

LiveStrong.com hosts this article on cervicogenic dizziness, which makes the fallacious claim that chiropractic care treats the condition favorably. Watch out for dangerous nonsense. It hides everywhere.

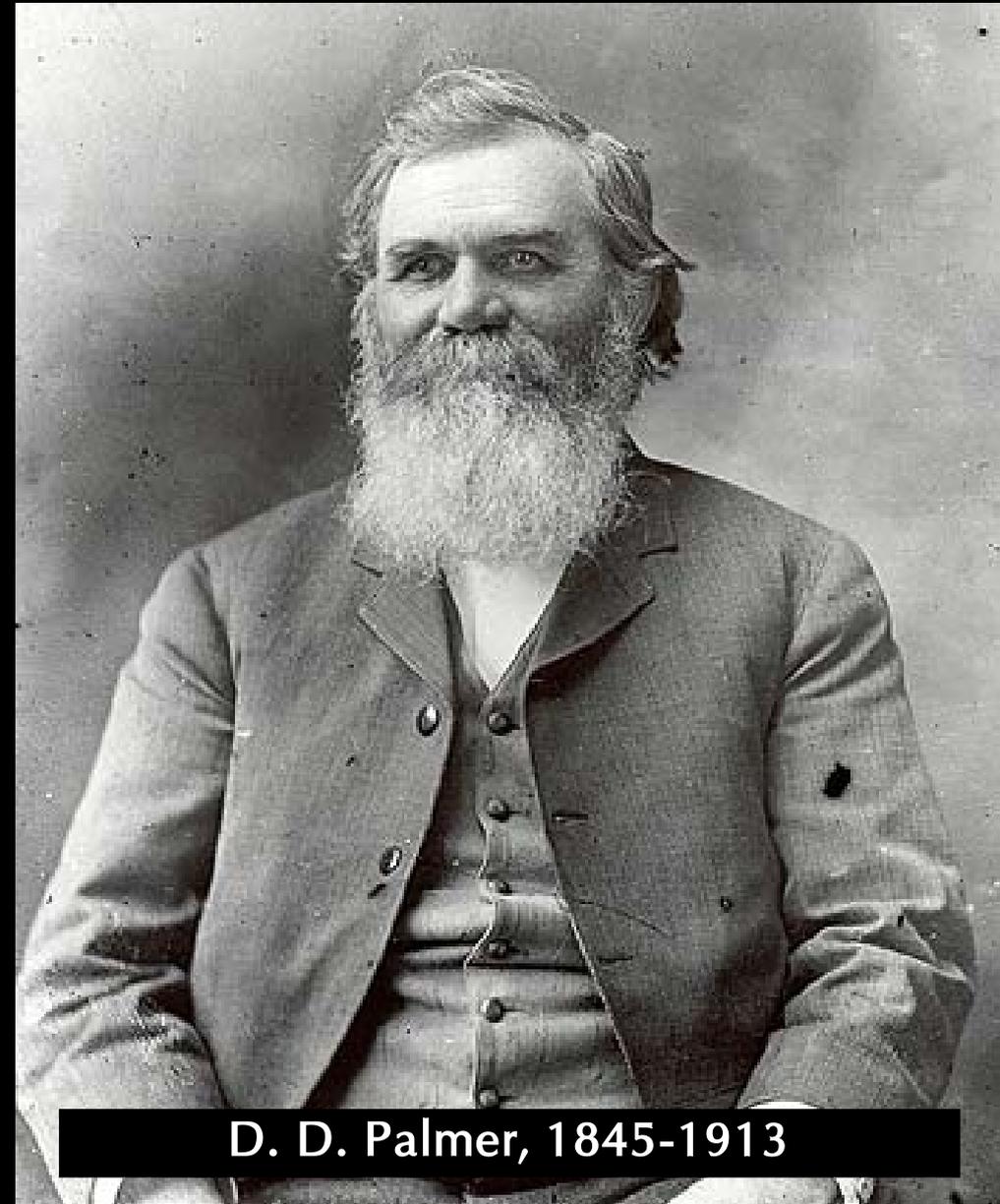
# Things to Keep in Mind:

If there is no evidence for your claim, there is no need to a complex causal explanation – there is no effect, and thus no need for a cause, and thus no need for an explanation.

So where did Chiropractic come from?

# Daniel David (D. D.) Palmer

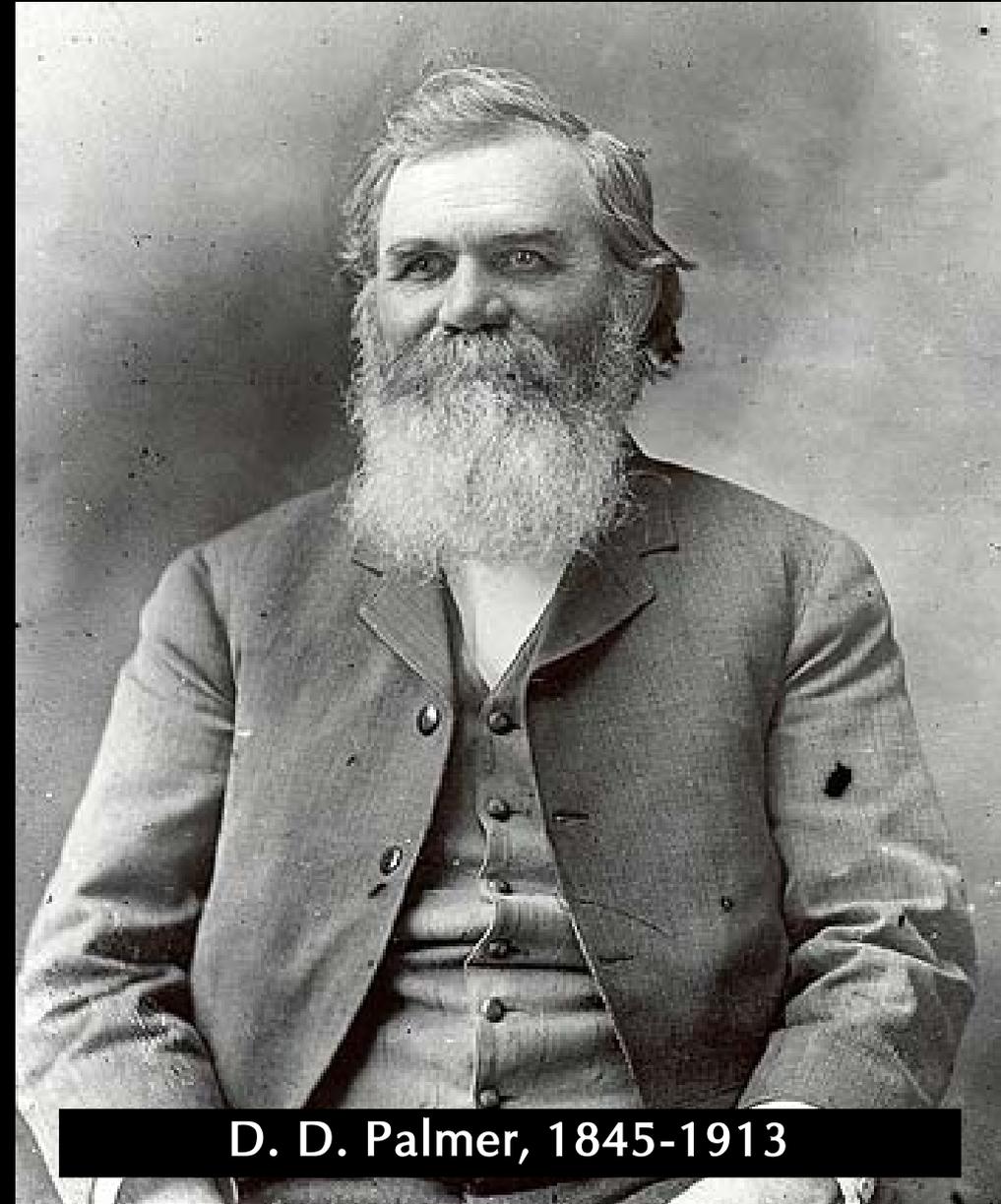
- Held various jobs
  - beekeeper, school teacher, green grocer
- Got into magnetic healing in the mid-1880s
  - Burlington and Davenport, Iowa



D. D. Palmer, 1845-1913

# Daniel David (D. D.) Palmer

- Harvey Lillard
  - janitor at Palmer's building
  - deaf since an accident 17 years earlier
  - had a lump on his back
  - Palmer reasoned the lump was the cause of the deafness and popped it back in. Palmer claimed this cured Lillard's hearing problem.
- Sample size of 1 led to the creation of Chiropractic
  - no serious science done until 1980s-1990s!



D. D. Palmer, 1845-1913

“I am the originator, the Fountain Head of the essential principle that disease is the result of too much or not enough functioning [sic]. I created the art of adjusting vertebrae, using the spinous and transverse processes as levers, and named the mental act of accumulating knowledge, the cumulative function, corresponding to the vegetative function — growth of intellectual and physical-together, with the science, art and philosophy — Chiropractic. It was I who combined the science and art and developed the principles thereof. I have answered the question — what is life?”

-- *D. D. Palmer, “The Science, Art and Philosophy of Chiropractic.” Reprint of 1910 edition. Portland, Oregon: Portland Printing House, 1966.*

# Bartlett Joshua (B.J.) Palmer

- Son of D. D. Palmer
- Known as the “developer” of Chiropractic
- D. D. Palmer had established a school for Chiropractic in Davenport, Iowa, and trained B. J. in the practice.
- The Germ Theory of Disease was well established by this point, but rejected by Chiropractic



B. J. Palmer, 1882-1961

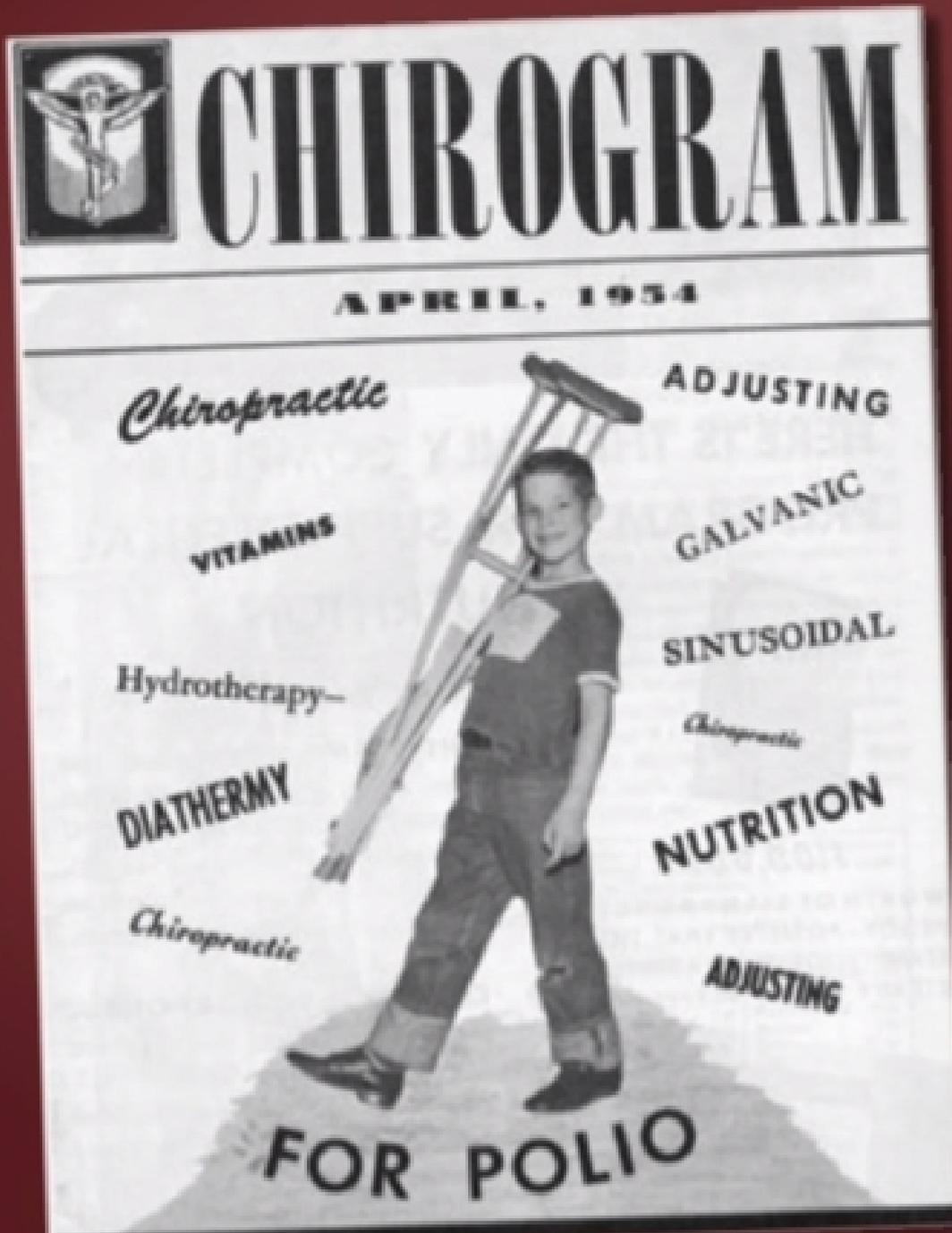
# Bartlett Joshua (B.J.) Palmer

- *“Vaccine virus, or other poisons will not permanently affect the patient when the Chiropractor keeps the vertebrae in proper position.”  
-- B. J. Palmer*

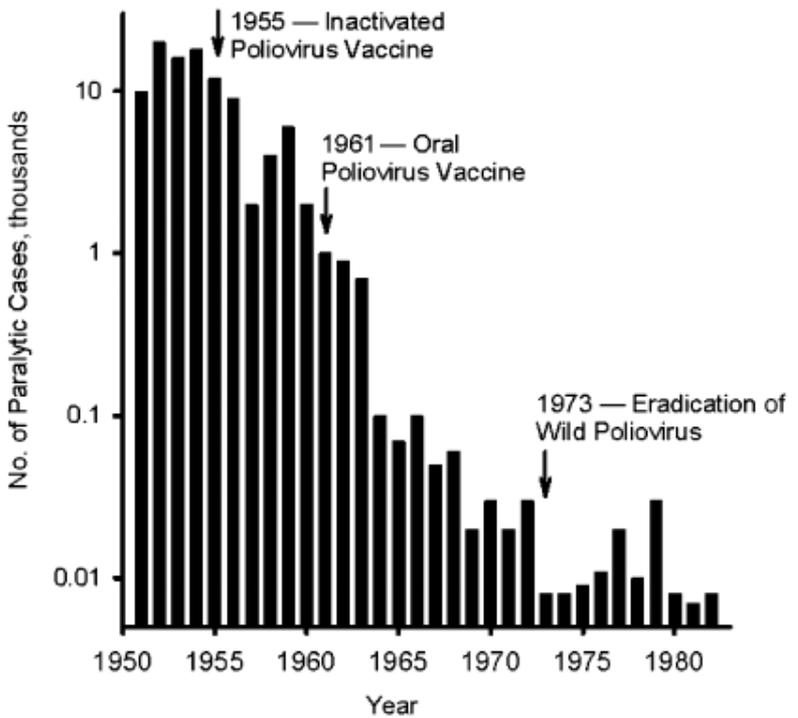
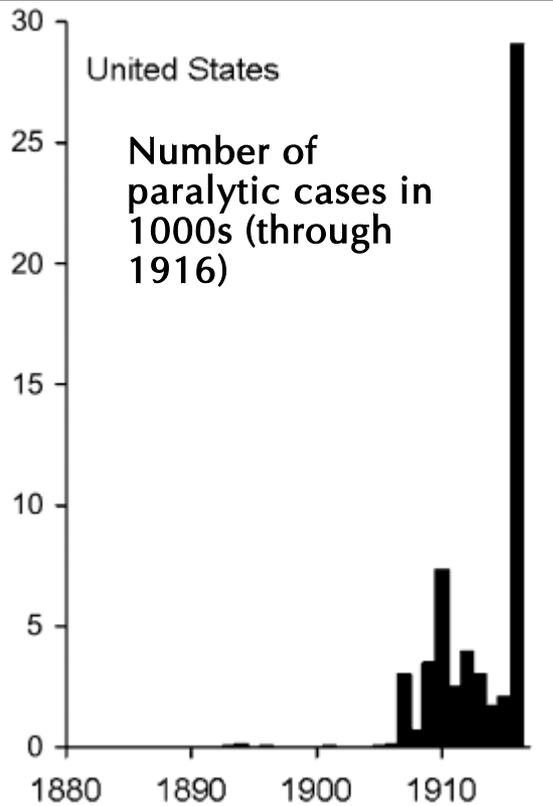
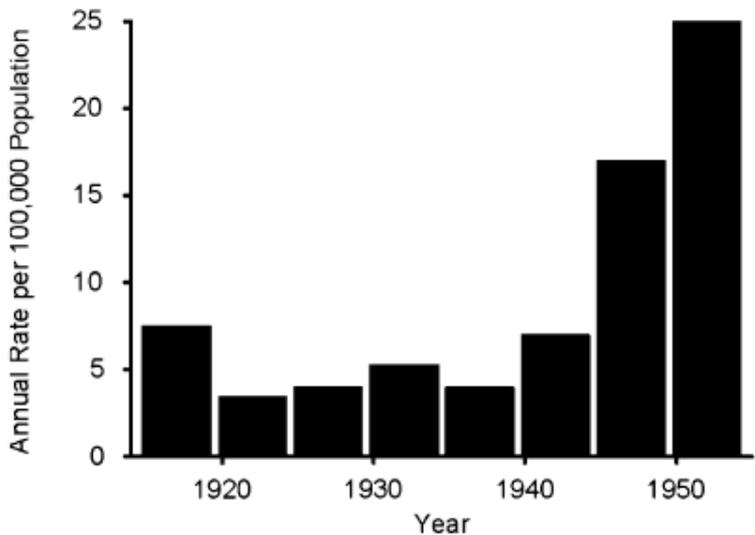


B. J. Palmer, 1882-1961

## Examples of conflict with the Germ Theory of Disease – Polio and the Polio Vaccine



- This flyer is from the Los Angeles Chiropractic Association
- Chiropractors believed they more than anyone else could treat the physical symptoms associated with polio (fever, sore throat, fatigue, meningitis with stiffness, paralysis, etc.)
- It is important to note that with minimal supportive care, about 60% of polio victims recover on their own.



## Examples of conflict with the Germ Theory of Disease – Polio and the Polio Vaccine

- The polio vaccine was introduced in 1955 – Chiropractors actively opposed the “March of Dimes” effort to develop and distribute the vaccine.
- In 1959, once the vaccine had taken effect, Chiropractic organizations were claiming that the vaccine had been a failure.

# Modern Chiropractic and Vaccination

- Many Chiropractors still actively or passively oppose vaccination
  - e.g. of 503 Chiropractors surveyed in Alberta, Canada, about a third reported that their patients raised, or they themselves raised, immunization issues.
  - Of those cases, 68% of the time the Chiropractor advised against immunization.

# American Chiropractic Association

*VACCINATION Resolved, that the American Chiropractic Association (ACA) recognize and advise the public that: Since the scientific community acknowledges that the use of vaccines is not without risk, the American Chiropractic Association supports each individual's right to freedom of choice in his/her own health care based on an informed awareness of the benefits and possible adverse effects of vaccination. The ACA is supportive of a conscience clause or waiver in compulsory vaccination laws thereby maintaining an individual's right to freedom of choice in health care matters and providing an alternative elective course of action regarding vaccination. (Ratified by the House of Delegates, July 1993, Revised and Ratified June 1998).*

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Note what the position statement says and what it does not say

- It never recommends vaccination (*avoids the germ theory of disease*)
- It only talks about "risks of vaccination" - but all medical interventions carry risk, so this is a red herring.
- Supports individual right to choose, without mention of right of community to be protected against disease. They transform a science/medical issue into a values/morality issue.

# To Be A Chiropractor

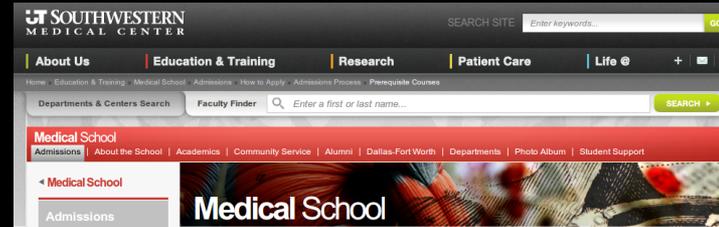


## Prerequisites:

- 90 semester hours (24 in the sciences, including lab), GPA of at least 2.75/4.0
- no undergrad degree required
- (by comparison, SMU's Pre-Health suggested program requires 60 credit-hours of physics, chemistry, and math, including lab work. Med schools won't even consider you without this AND a Bachelor's Degree)

## Program

- 3 1/3 calendar years
- WHO recommends 1000 hours of clinical training, but it's not clear what Palmer requires. 1000 hours is about 1/2 a normal work year.



## Prerequisites:

- Biology: 12 lecture hours and 2 lab hours (minimum), C or better
- Chemistry: 16 credit hours (8 inorganic and 8 organic), C or better,
- Math: 3 credit hours
- Physics: 8 credit hours, including lab
- Any course for non-science majors doesn't count
- Acceptable performance on MCAT
- Prior experience in healthcare (e.g. shadowing a medical practitioner)

## Program

- 4 years
- Followed by residency of several years (seeing multiple patients per shift for those years)

# FAQ

- Isn't "Chiropractic" just "sports medicine"? After all, my sports team has a chiropractor on staff.
  - No, they are not the same. "Sports Medicine" (a branch of "Physical Therapy") is proper use of physiology and science-based medicine to diagnose and treat sports-injury related problems. Many Chiropractors mix sports medicine into their practice. These "mixers" - blending legit medicine with their unscientific practices – are obfuscating their purpose.

# FAQ

- What is the difference between Chiropractic and Osteopathy?
  - Osteopaths also have a religious belief system at the core of their practice
  - However, Osteopaths go to med school, then have 6 months (or so) of “Osteopathic Manipulative Medicine” (created by Andrew Taylor Still).
  - Studies of Osteopaths suggest that <10% of practicing Osteopaths ever use OMM in their practice. They use this as an alternate route through Medical School.

# FAQ

- There are so many Chiropractors. If what they do is fake, how do we fix this mess?
  - First answer: I don't know. It's a huge problem. It won't be easily solved.
  - Second answer: there are some ideas out there...
    - for those serious about actual medicine, find ways to re-enter them into a real medical school program so they can become licensed physicians
    - transition them from the religious system of Palmer to the evidence- and science-based systems of physiology, physical therapy, sports medicine, etc.

# More Resources

- Busse, J. et al. "Chiropractic Antivaccination Arguments." *Journal of Manipulative and Physiological Therapeutics*. Vol. 28. Issue 5. June 2008. Pages 367-373.
- <http://www.skepdic.com/chiro.html>