Or, Illegal use of hands

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Ms LL

- 40 y/o RH F
- Long h/o intermittent neck pain
  - Muscular, bilateral, exacerbated by movement, tender
- Presented to her chiropractor on 4/15/03
- No memory until waking in hospital
- Had a *new* neck pain
  - Sharp, right-sided, non-tender
Ms LL

- Examination on admission – agitated, R-homonymous hemianopsia
- MRI – large L-PCA stroke and multiple cerebellar infarcts
- MRI neck and MRA – R-vertebral dissection
Ms LL

- Residual deficit
  - R-HH
  - Visuospatial and temporal difficulties
  - Able to work as electrician
  - Trying to return to softball

- Engaged in litigation with chiropractor
DISSECTION

Latin dis- “apart”, secare “to cut”

Not from Greek prefix di, “twice” or “double”
Arterial dissection
Dissection of a carotid artery:
Cross section

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Patient characteristics

- Males and females
- Average age 40s
- Conventional vascular risk factors are not common (e.g. hypertension)
- Trauma
  - usually neck torsion
  - dissection at C1-C2 level
- Spontaneous
  - “Spontaneous vertebral artery dissections, especially those associated with fibromuscular dysplasia, tend to occur proximally and are frequently bilateral.” *Neurology* 1988; 38: 987-989
Symptoms of vertebral artery dissection


- **Pain**
  - ~50% or more - the rest have *no pain*
  - Neck and head
  - Either both sides or on the side of the dissection
  - Does not occur on the opposite side of the neck alone

- **Stroke**
  - ~80%
  - Wallenberg’s syndrome in up to 43%
  - No delay or several weeks later

- **No symptoms**
How does an arterial dissection cause a stroke?

BLOOD CLOT TRAVELS DOWNSTREAM AND BLOCKS BLOOD FLOW IN SMALLER DIAMETER BRANCHES

BLOOD CLOTS FORM WITHIN ARTERY WALL AND EXPOSED FRAGMENTS CAN BECOME DISLODGED

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Why might there be an association between chiropractic manipulation of the cervical spine and vertebral dissection?
Anatomy of the neck arteries
from Gray’s Anatomy

Vertebral artery
Carotid artery
Vertebral artery segments

C2 vertebra

C6 vertebra
Figure 1. The vertebral artery between C1 and C2 is subject to the stress of stretch when the neck is vigorously rotated and extended.
Vertebral artery is stretched during manipulation of head.
SCIENCE and PRACTICE of CHIROPRACTIC with ALLIED SCIENCES
by JOE SHELBY RILEY, M.D., M.S., P.H.D., F.A.S., D.M.T., D.P., D.O., D.C., PH.C
Copyright 1919.

“One hand of operator is placed under chin of patient; the other hand is placed back of patient’s head, around the occiput and against the atlas. Operator then brings a moderate force to pull upward, turns patient’s head toward her until the slack is all out, when with a sudden twisting thrust the adjustment is made.”
Is chiropractic complementary or alternative?
Complementary and alternative medicine, as defined by NCCAM, is a group of diverse medical and health care systems, practices, and products that are not presently considered to be part of conventional medicine. While some scientific evidence exists regarding some CAM therapies, for most there are key questions that are yet to be answered through well-designed scientific studies—questions such as whether these therapies are safe and whether they work for the diseases or medical conditions for which they are used.
NCCAM: Definitions

- **Complementary** medicine is used together with conventional medicine.
  - E.g. aromatherapy for discomfort following surgery

- **Alternative** medicine is used in place of conventional medicine.
  - E.g. a special diet for cancer instead of surgery, radiation, or chemotherapy recommended by a conventional doctor
Dawkins on Alternative Medicine

Richard Dawkins, 1st holder Charles Simonyi Chair in the Public Understanding of Science at Oxford University
Top Growth Areas in the Outpatient Market

Solucient LLC report

FIGURE 4: Three-Year Trend of Spinal Chiropractic Manipulation Charges

<table>
<thead>
<tr>
<th>Data Year</th>
<th>Medicare Charges</th>
<th>Commercial Charges</th>
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<tbody>
<tr>
<td>1999</td>
<td>$465,680,289</td>
<td>$983,844,498</td>
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<tr>
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Where did chiropractic come from?
DD Palmer
1845-1913

1845 - Born in Ontario

1865 – Left factory work, moved to Iowa

1865 – 1895 – Fishmonger, beekeeper, grocery store owner, school teacher, phrenologist, “Magnetic healer”

1895 – 1st chiropractic success

1897 – Opened Palmer Infirmary and Chiropractic Institute.

~1900 – Unsuccessful businesses in California

1906 – Returns to Iowa – convicted of practicing medicine without a license – serves 23 days of 105 day sentence, fined $350

1907 - Shegataro Morikubo DC, one of 1st students, arrested

Judge and jury find not guilty of practicing medicine, practicing chiropractic!

1913 – Dies in California
“One question was always uppermost in my mind in my search for the cause of disease. I desired to know why one person was ailing and his associate, eating at the same table, working in the same shop, at the same bench, was not. Why? What difference was there in the two persons that caused one to have pneumonia, catarrh, typhoid or rheumatism, while his partner, similarly situated, escaped? Why? This question had worried thousands for centuries and was answered in September, 1895.”
Palmer’s first patient,
September 18, 1895

“Harvey Lillard, a janitor, in the Ryan Block, where I had my office, had been so deaf for 17 years that he could not hear the racket of a wagon on the street or the ticking of a watch. I made inquiry as to the cause of his deafness and was informed that when he was exerting himself in a cramped, stooping position, he felt something give way in his back and immediately became deaf. An examination showed a vertebra racked from its normal position. I reasoned that if that vertebra was replaced, the man's hearing should be restored. With this object in view, a half-hour's talk persuaded Mr. Lillard to allow me to replace it. I racked it into position by using the spinous process as a lever and soon the man could hear as before. There was nothing "accidental" about this, as it was accomplished with an object in view, and the result expected was obtained. There was nothing "crude" about this adjustment; it was specific, so much so that no Chiropractor has equaled it.”

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Palmer’s first conclusion

I am the originator, the Fountain Head of the essential principle that disease is the result of too much or not enough functioning. 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 physical vegetative function ~ growth of intellectual and physical ~ together, with the science, art and philosophy ~ Chiropractic. It is now being followed, more or less, by 2,000 Chiropractors, and its use is being attempted by several other methods. It was I who combined the science and art and developed the principles thereof. I have answered the time-worn question ~ what is life?
BJ Palmer
1881-1961

- 1900 – Works as a “hypnotic subject” in a traveling vaudeville show
- 1902 – Takes over school
- 1907 – Renames school Palmer School of Chiropractic
BJ Palmer 1881-1961

- Marries
- Promotes and defends PSC
- Founds Universal Chiropractors’ Association (legal defense)
- Favors flamboyant outfits
Students and faculty “pack the courtroom” in Montezuma, Iowa for State of Iowa vs. Corwin, March 1910.
Publishes ad in PSC’s *The Chiropractor* and inside the lid of “The Chiropractor” brand of cigars, 1910

- Muscular BJ Palmer at center standing on the globe
- Davenport IA at the center
- Reaching out to the sick
- Casting out death (carrying black MD bag of poisons)
BJ Palmer
1881-1961

- 1919 – Buys 2\textsuperscript{nd} ever commercial radio license and 1\textsuperscript{st} west of the Mississippi
  - Call letters “WOC” for “wonders of chiropractic”

- 1928 – Buys his 2\textsuperscript{nd} in Des Moines
  - WHO for “with hands only”
Palmer Mansion and “A Little Bit O’ Heaven”

- Chinese antiquities
- Indian art
- Knives, sabers, swords
- Scholarly collection of primitive phallic symbols
- Alaskan totem poles
- Live alligators
- The most popular tourist site in Davenport