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Medical Errors

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“Dr. McCoy, you need to dial down your passion because some people interpret it as a micro-aggression”



“I’d love to wear a rainbow every day and tell the world that everything’s okay”




#yoloacres

Medical Errors

Failure to Diagnose



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Cultural Authority

Strategic Competitive Advantage

Vertebral Subluxation

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Spectrum of Care

- Pathogenic
- Therapeutic
- Salutogenic
- Non-therapeutic
- Meta-therapeutic

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Pathogenic Model

Studies origins of disease

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ther·a·peu·tic

/ˌTHerəˈpyo͞odik/

adjective

1. of or relating to the healing of disease.
   "diagnostic and therapeutic facilities"
   synonyms: healing, curative, remedial, medicinal, restorative, salubrious, health-giving, tonic, reparative, corrective, beneficial, good, salutary
   "the therapeutic effects of acupuncture"

noun

1. the branch of medicine concerned with the treatment of disease and the action of remedial agents.
2. a treatment, therapy, or drug.
   "current therapeutics for asthma"

Non-Therapeutic

Medical Dictionary

nontherapeutic

adj | non·ther·a·peu·tic | \-ˌther-ə-'p(y)üt-ik\

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Medical Definition of NONTHERAPEUTIC

: not relating to or being therapy <*nontherapeutic* procedures>

ICA Representative Assembly
MOTION for RESOLUTION

Resolution on "Chiropractic Medicine"

WHEREAS, The Mission of the ICA is "To advance chiropractic throughout the world as a distinct health care profession predicated upon its unique philosophy, science, and art", ***and***

WHEREAS, the ICA's Vision is to "To empower humanity in the expression of maximum health, wellness and human potential through universal chiropractic expression and utilization." ***and***

WHEREAS, it is a major objective of the ICA to, "Maintain and promote chiropractic's unique identity as a *non-therapeutic*, drugless and surgical-free health science, based on its fundamental principles and philosophy.", ***and***

***RESOLVED,* That** the ICA, representing the ICA membership, as well as the majority of doctors of chiropractic maintains, in order to fortify and maintain the unique identity of the chiropractic profession,

1. The term "medicine" cannot and should not be used in conjunction with or to describe in any way, the practice of chiropractic.
2. Prescriptive rights for drugs and or injectables falls under the practice of medicine and have not and should not be included in the scope of chiropractic practice for the safeguarding of both the profession and of the practicing doctors, as well as for the safety of the public.
3. The ICA should create a statement to promote a drugless profession and should aggressively oppose the utilization of the term "chiropractic medicine" and "injectable" language in any future legislative and or regulatory efforts on a jurisdiction level.

Salutogenic Model

Studies origins of health

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SALUTOGENESIS VS. PATHOGENESIS

Pathogenesis Basics AND Salutogenesis Basics

- **What causes diseases?**
- **About Avoiding Problems**
- **Disease/Illness an anomaly**
- **Reactive - Absence of Disease**
- **Treat Disease**
- **Against pain or loss**
- **Prepares one to live**

- **What causes Health?**
- **About Approaching Potential**
- **Inherently flawed, entropy**
- **Proactive - Presence of Health**
- **Go Get Health**
- **For Gain or Growth**
- **Discover how to live fully**



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Meta-Therapeutic

- Experiential
- Awareness
- Intuition
- Spirituality
- Religion

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Meta-Therapeutic

"Health levels will be at their optimum when the environment brings out autonomous, personal, responsible, coping behavior."

Ivan Illich

Medical Nemesis

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Meta-Therapeutic

"Optimum health seems to occur when an individual no longer seems fixated upon whether it is present or not."

Kenneth Pelletier Ph.D

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REORGANIZATIONAL HEALING AS AN INTEGRALLY INFORMED FRAMEWORK FOR INTEGRAL MEDICINE

Simon Senzon, Donald Epstein, and Dan Lemberger

ABSTRACT Reorganizational Healing (ROH) is explored as an integrally informed methodological framework to be utilized within the emerging field of Integral Medicine. ROH assists individuals to discover who they are in their current situation, symptom, life challenge, or life evolution. Transformation and awakening are accessed in ROH in terms of the individual's readiness to change as well as various energetic typologies of change and resource availability (biological, emotional, mental, and spiritual). Developing an ROH map assists both healer and patient in understanding how they change; what energetic intelligences are available as resources; and what "season" one is in, in terms of discovery, transformation, awakening, or integration. The history of ROH, which has developed over the past 30 years, is also recounted.

KEY WORDS behavior change; Integral Theory, holistic practice; medicine, reorganizational healing



Practice of Chiropractic – Florida

(9)(a) “Practice of chiropractic medicine” means a noncombative principle and practice consisting of the science, philosophy, and art of the adjustment, manipulation, and treatment of the human body in which **vertebral subluxations** and other malpositioned articulations and structures that are **interfering with the normal generation, transmission, and expression of nerve impulse between the brain, organs, and tissue cells of the body, thereby causing disease, are adjusted, manipulated, or treated, thus restoring the normal flow of nerve impulse which produces normal function and consequent health by chiropractic physicians using specific chiropractic adjustment or manipulation techniques** taught in chiropractic colleges accredited by the Council on Chiropractic Education. No person other than a licensed chiropractic physician may render chiropractic services, chiropractic adjustments, or chiropractic manipulations.

Practice of Chiropractic – Florida

- (b) Any chiropractic physician who has complied with the provisions of this chapter may examine, analyze, and diagnose the human living body and its diseases by the use of any physical, chemical, electrical, or thermal method; use the X ray for diagnosing; phlebotomize; and use any other general method of examination for diagnosis and analysis taught in any school of chiropractic.
- (c)1. Chiropractic physicians may adjust, manipulate, or treat the human body by manual, mechanical, electrical, or natural methods; by the use of physical means or physiotherapy, including light, heat, water, or exercise; by the use of acupuncture; or by the administration of foods, food concentrates, food extracts, and items for which a prescription is not required and may apply first aid and hygiene, but chiropractic physicians are expressly prohibited from prescribing or administering to any person any legend drug except as authorized under subparagraph 2., from performing any surgery except as stated herein, or from practicing obstetrics.

Practice of Chiropractic – Florida

(e) The term “chiropractic medicine,” “chiropractic,” “doctor of chiropractic,” or “chiropractor” shall be synonymous with “chiropractic physician,” and each term shall be construed to mean a practitioner of chiropractic medicine as the same has been defined herein.

Chiropractic physicians may analyze and diagnose the physical conditions of the human body to determine the abnormal functions of the human organism and to determine such functions as are abnormally expressed and the cause of such abnormal expression.

Practice of Chiropractic – Florida

(f) Any chiropractic physician who has complied with the provisions of this chapter is authorized to analyze and diagnose abnormal bodily functions and to adjust the physical representative of the primary cause of disease as is herein defined and provided. As an incident to the care of the sick, chiropractic physicians may advise and instruct patients in all matters pertaining to hygiene and sanitary measures as taught and approved by recognized chiropractic schools and colleges.

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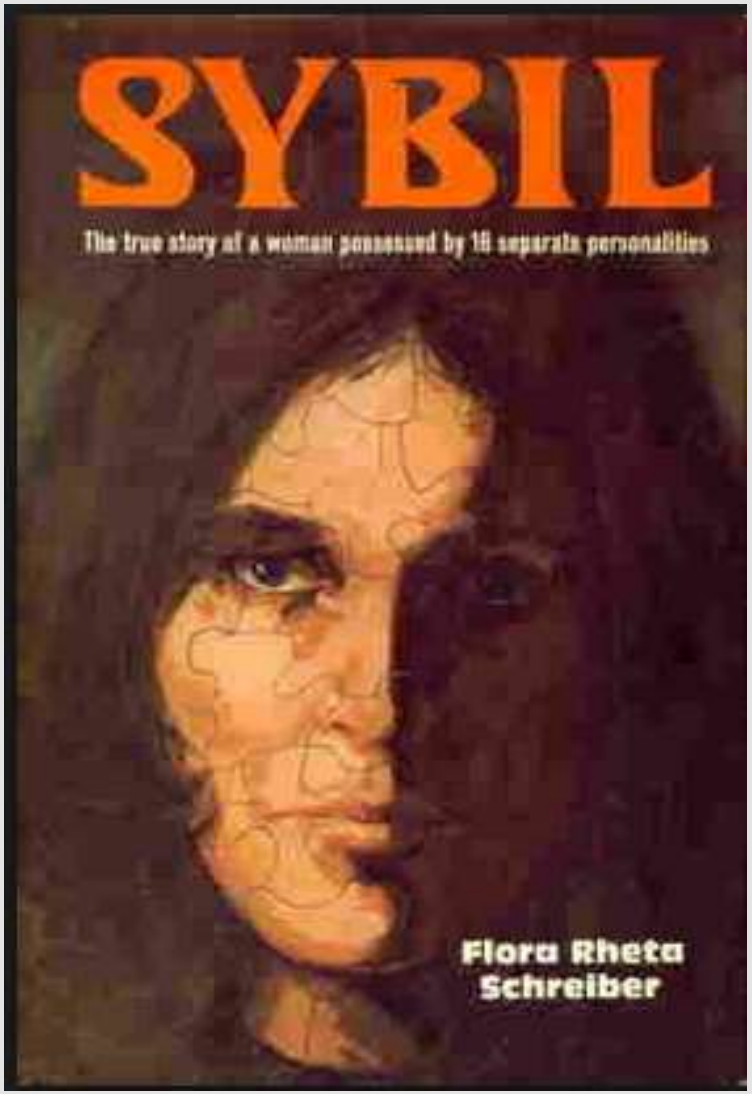
Pathogenetic Model

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Differential Diagnosis



Multiple Personality Disorder



Does Disease Exist?

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Disease and Diagnosis

Value-Dependent Realism

by William E. Stempsey, S.J.

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An Action-Theoretic Approach

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P&M PHILOSOPHY AND MEDICINE 40

The Ethics of Diagnosis

Edited by José Luis Peset and Diego Gracia

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FRAMING DISEASE



Studies in Cultural History

Charles E. Rosenberg
AND
Janet Golden
EDITORS

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Sickness & Health in America

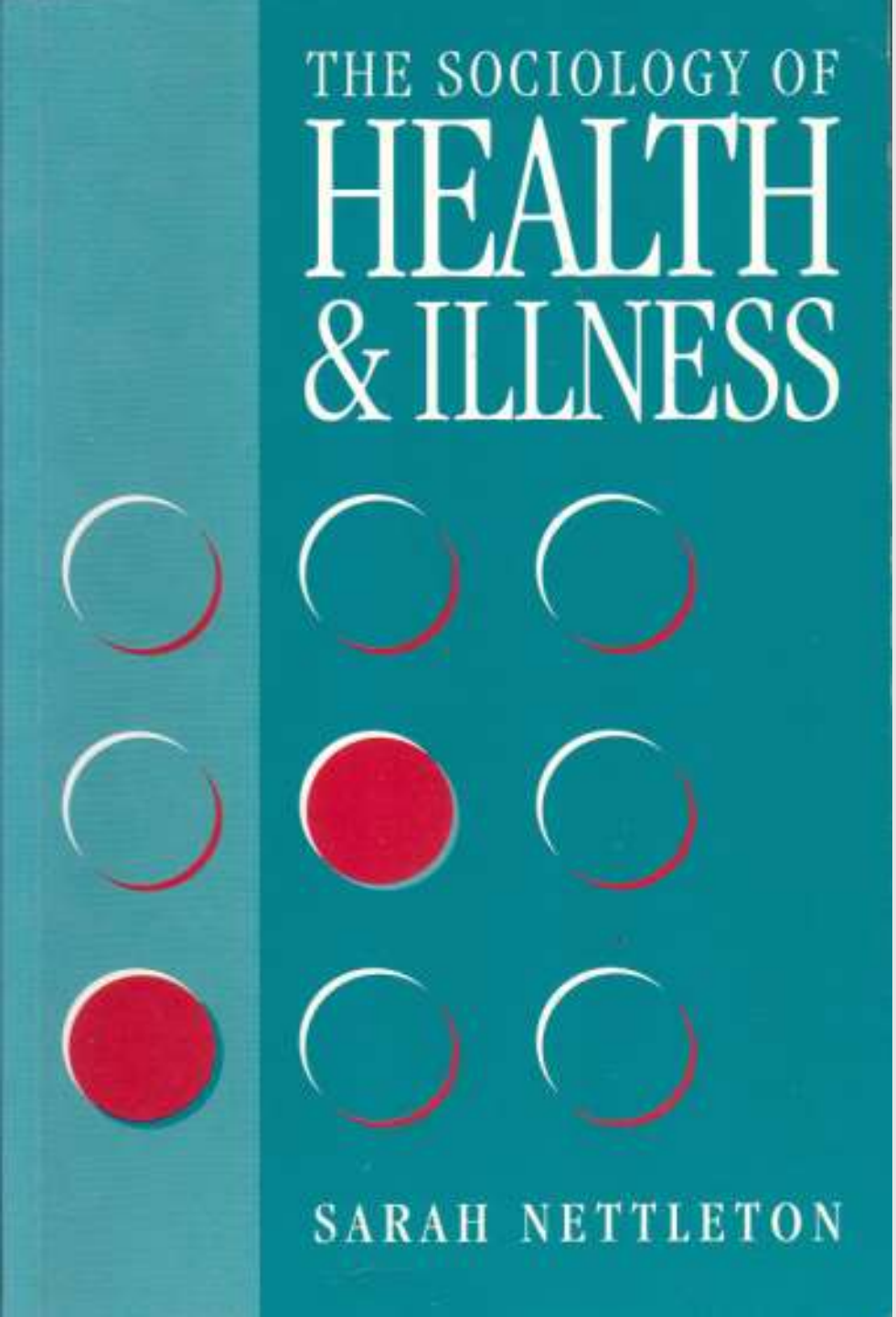
READINGS IN THE HISTORY OF MEDICINE AND PUBLIC HEALTH

Edited by Judith Walzer Leavitt & Ronald L. Numbers



Second Edition, revised

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HEALTH & ILLNESS



THE LAY PERSPECTIVE

MICHAEL CALNAN

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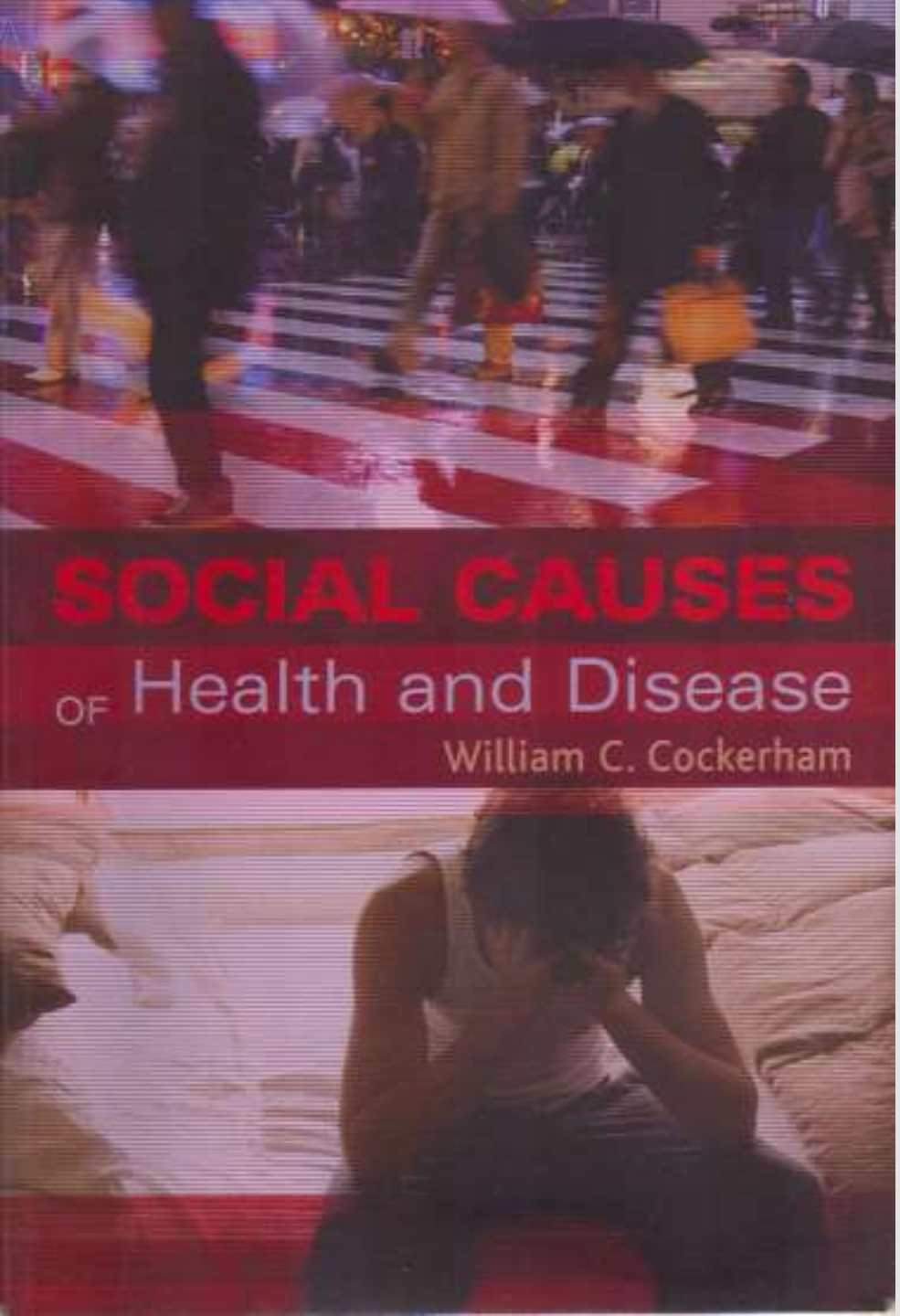
Evaluation in health promotion

Principles and perspectives



WHO Regional Publications
European Series, No. 92

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Diagnosis

Differential Diagnosis and the Diagnostic Reasoning Process – Key Points

Matthew McCoy DC, MPH
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ChiroFutures Malpractice Program

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Diagnosis

Diagnosis can be defined as the process of using the history, physical examination, laboratory, imaging studies, and other tests to identify the disease responsible for the patient's complaint.

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Diagnosis as Treatment Warrant

Determining the disease responsible for the patient's complaints allows a clinician to make more informed decisions regarding treatment options and to provide more accurate information to the patient regarding prognosis.

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Diagnostic Reasoning

It is suggested that there are four types of reasoning used by physicians during the diagnostic process.

The appropriateness of each type is dependent on the situation.

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Diagnostic Reasoning

1. Algorithmic Reasoning
2. Pattern-recognition Reasoning
3. Exhaustive Reasoning
4. Hypotheticodeductive Reasoning

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Algorithmic Reasoning

Refers to the practice of using flowcharts and algorithms to make a diagnosis. This approach is useful for conditions in which the information collected from patients is discrete and accurate.

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Pattern-Recognition Reasoning

A very efficient style of diagnosis because of the “instant recognition” of signs or symptoms usually associated with a disease.

Pattern-recognition may be used to diagnose common or rare conditions in which a distinctive set of symptoms suggest a diagnosis.

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Exhaustive Reasoning

Appropriate for uncommon presentations of illness, and is used when the other modes of decision-making have failed.

Exhaustive reasoning is often used at tertiary care centers after a patient has received a basic evaluation.



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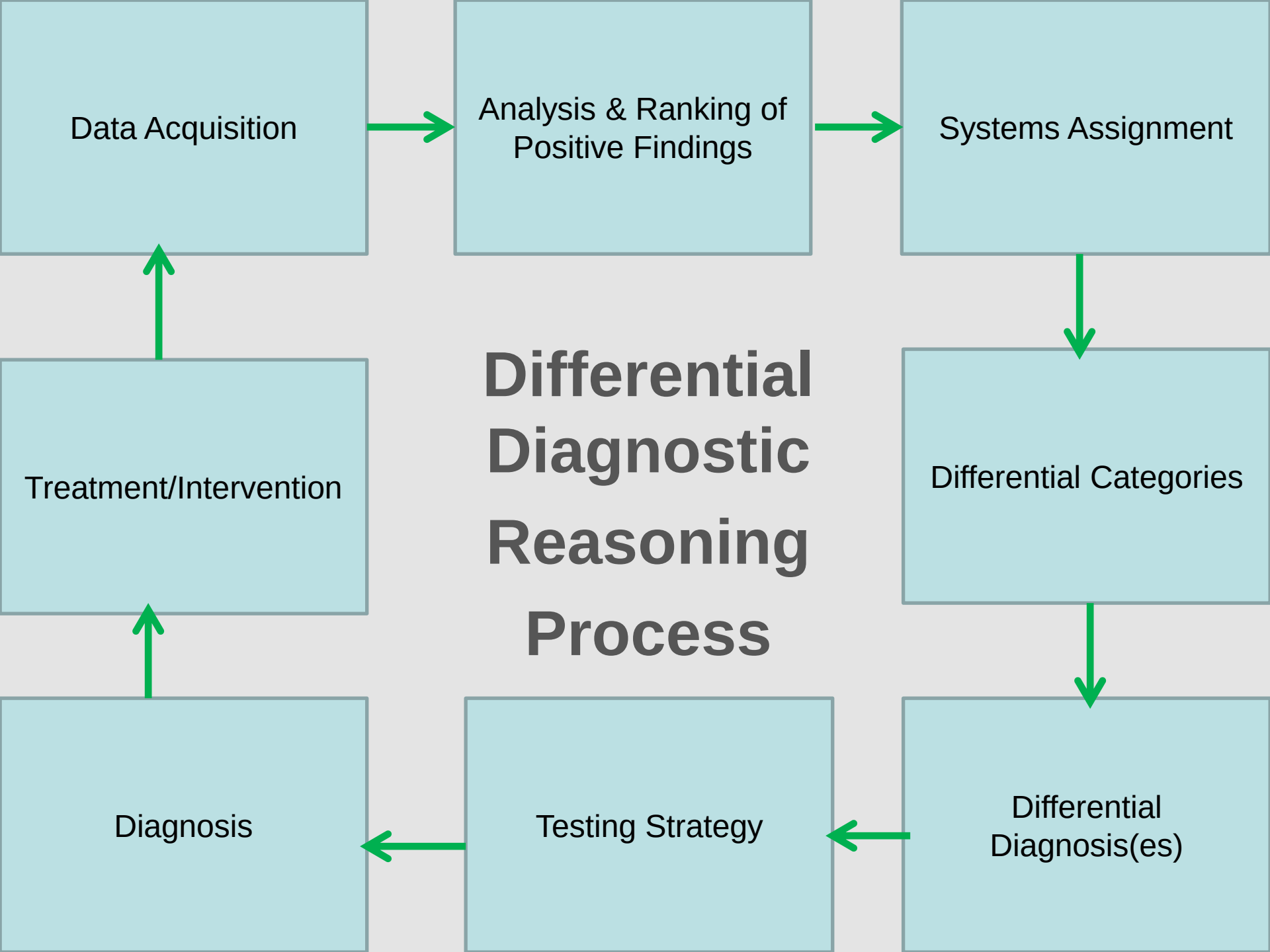
Hypotheticodeductive

The process by which hypotheses are generated and rejected as additional data are collected.

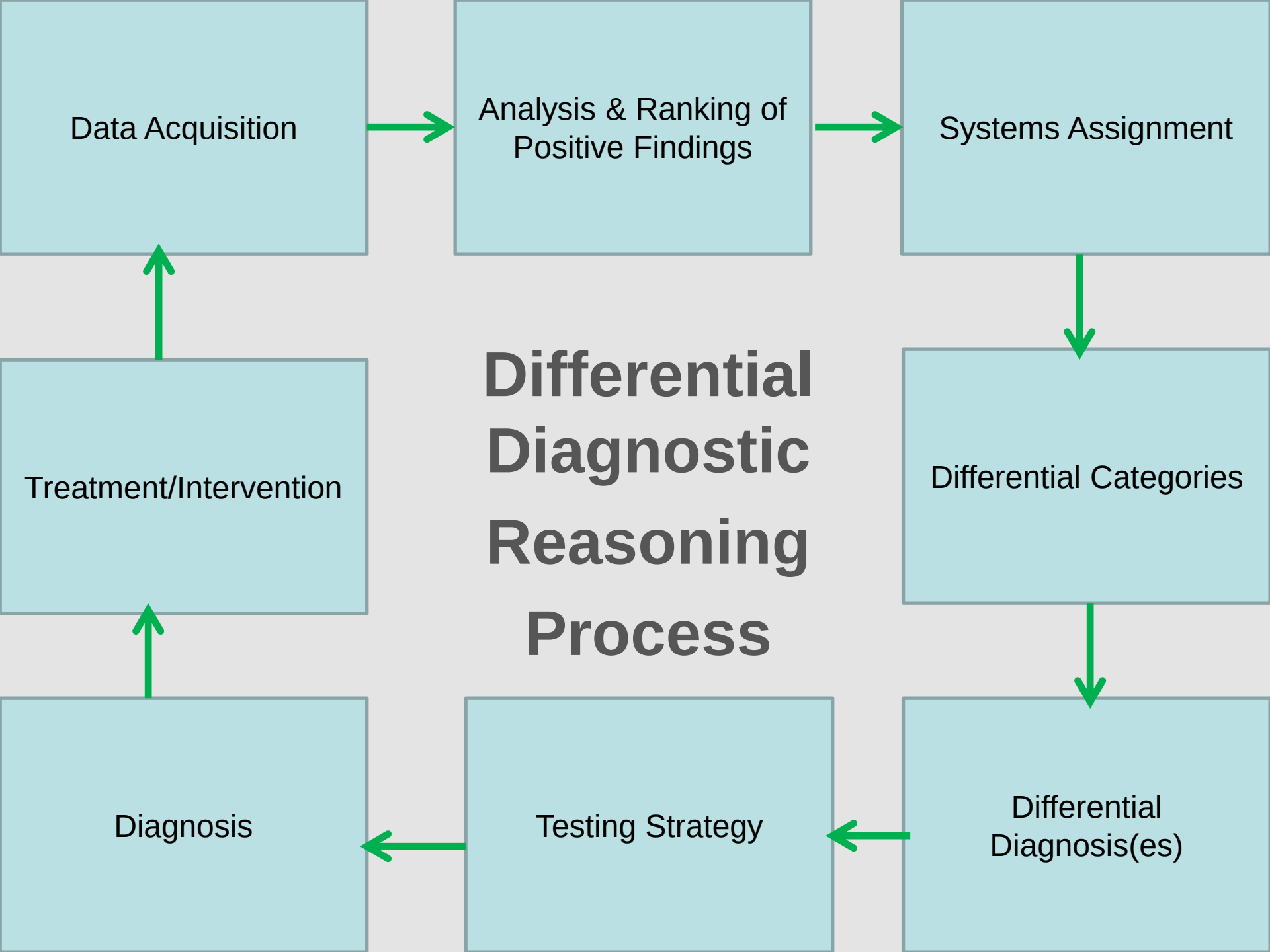
This process involves proposing a differential diagnosis, gathering information, asking questions, and using the additional information to refine the differential diagnosis, and continuing with this process until a final diagnosis is obtained.

The hypotheticodeductive method of reasoning is thought of as the preferred method; however, as indicted, the appropriateness of the reasoning method depends on the circumstances.

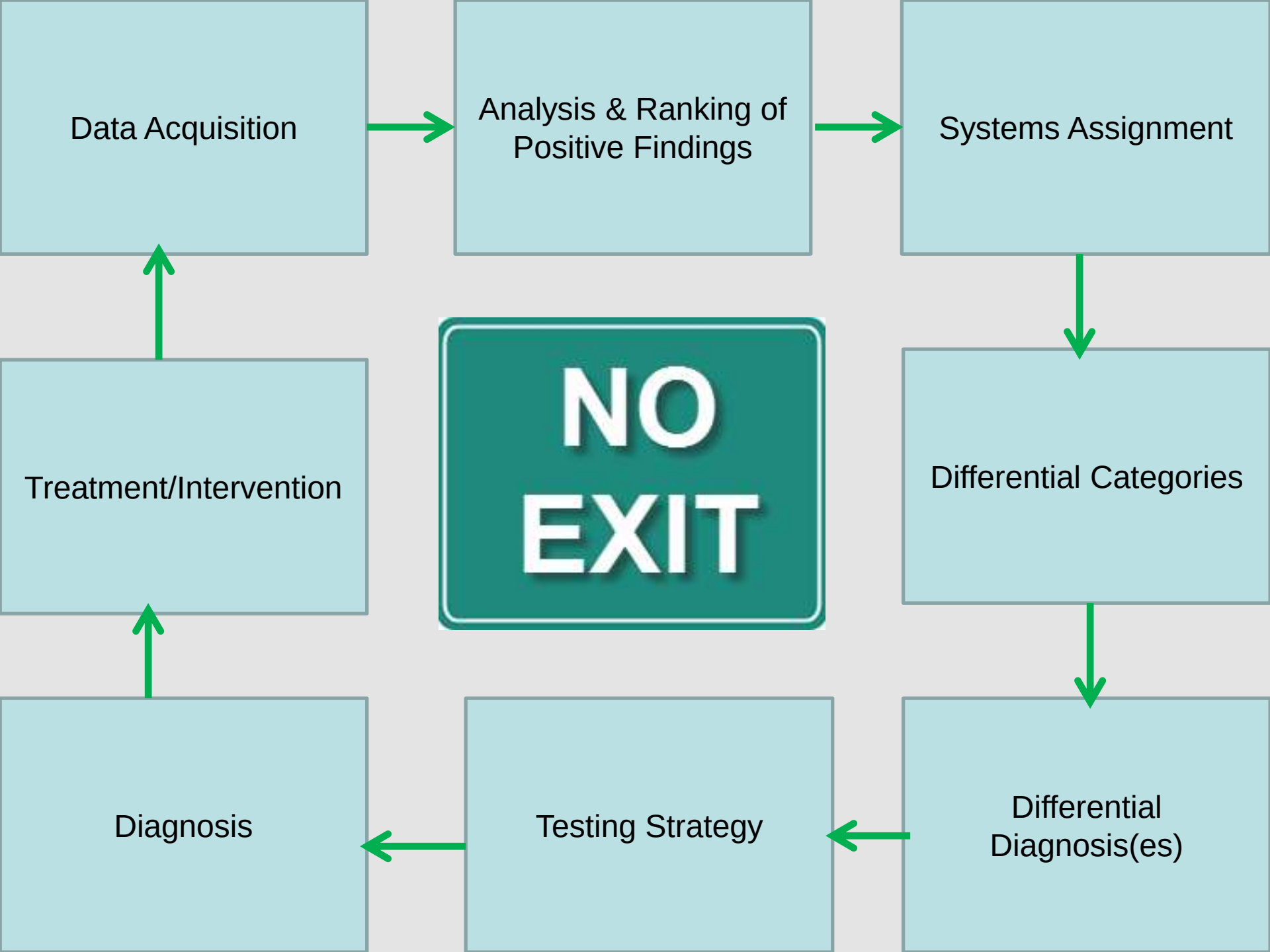
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Data Acquisition
Analysis & Ranking of Positive Findings
Systems Assignment
Differential Diagnostic Reasoning Process
Treatment/Intervention
Differential Categories
Diagnosis
Testing Strategy
Differential Diagnosis(es)


DIFFERENTIAL
DIAGNOSIS
HIGHWAY
9304

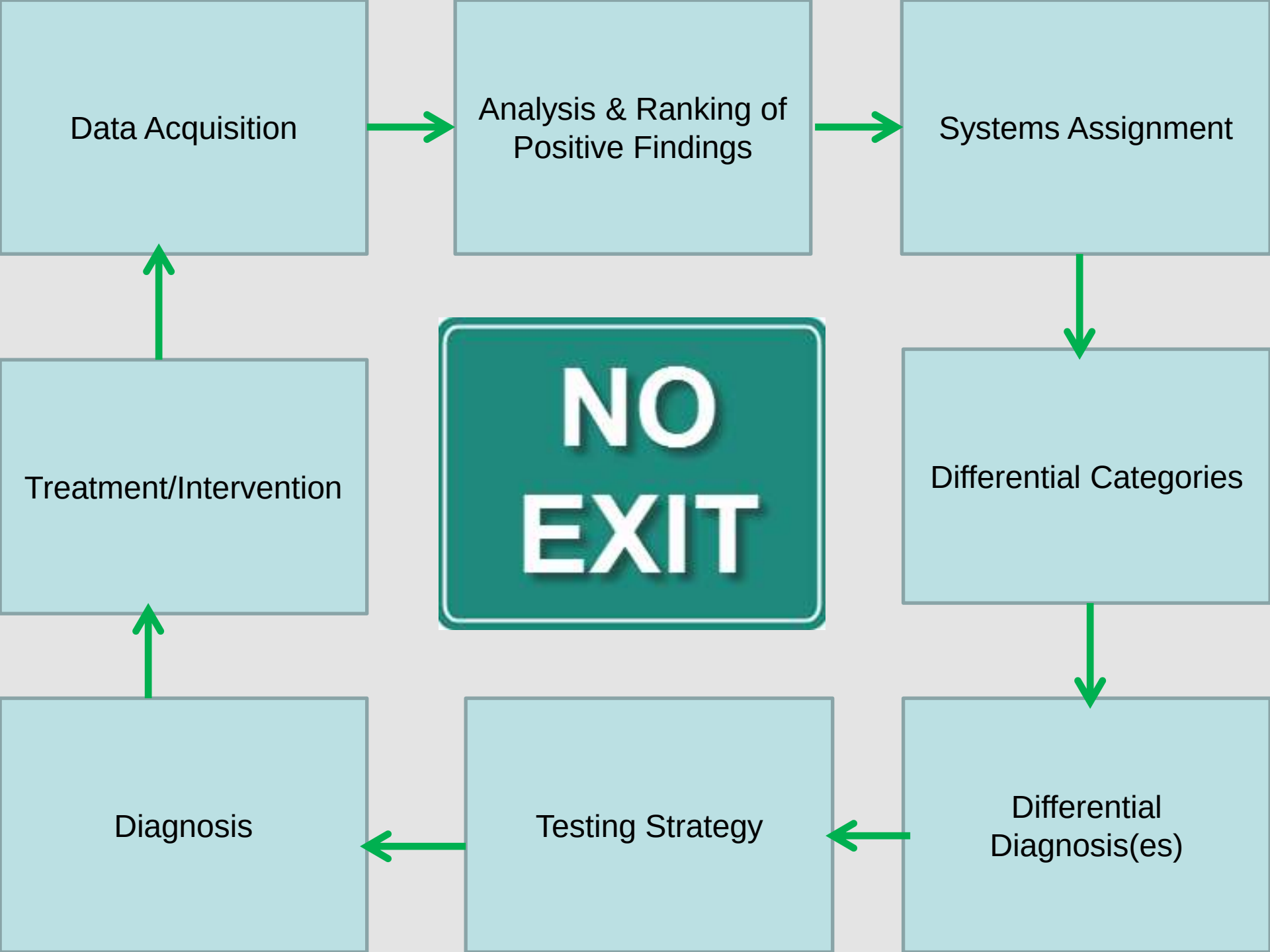

Data Acquisition
Analysis & Ranking of Positive Findings
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Testing Strategy
Differential Diagnosis(es)


DIFFERENTIAL
DIAGNOSIS
HIGHWAY
NO EXITS!
9304


Data Acquisition
Analysis & Ranking of Positive Findings
Systems Assignment
Treatment/Intervention
NO EXIT
Differential Categories
Diagnosis
Testing Strategy
Differential Diagnosis(es)




TOONCES
THE CAT
WHO COULD
DRIVE A CAR


Data Acquisition
Analysis & Ranking of Positive Findings
Systems Assignment
Treatment/Intervention
NO EXIT
Differential Categories
Diagnosis
Testing Strategy
Differential Diagnosis(es)

Decision Making Tools/Skills

What is/are your diagnostic hypothesis(es)?

VALUE Judgments

- Triage
- Physiological Systems
- VINDICATE
- Anatomical Sites

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Body Systems

- HEENT
- Endocrine
- Cardiovascular
- Urogenital
- Gastrointestinal
- Nervous
- Musculoskeletal
- Endocrine

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Differential Categories

VINDICATE



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VINDICATE

- **V**ascular
- **I**nflammatory
- **N**eoplasm
- **D**egenerative
- **I**nfection
- **C**ongenital
- **A**llergic/Autoimmune
- **T**raumatic
- **E**ndocrine/Metabolic

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Triage

Does this patient belong in my office right now?

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Anatomical Sites

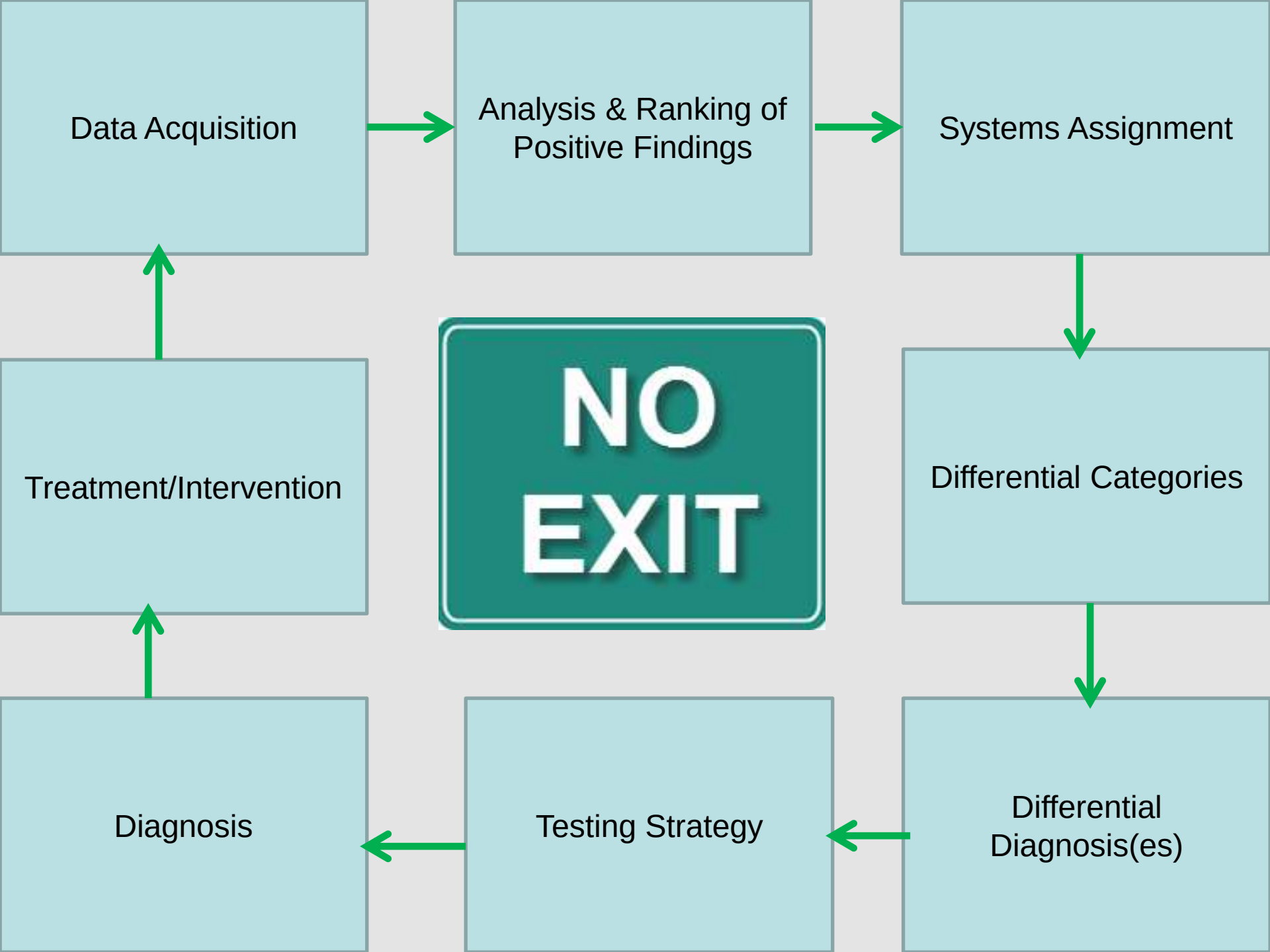
What is the source of the ADVERSE AFFERENT?

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Ominous vs. Likely

- Cancer
- Fracture
- Infection
- Vascular

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Data Acquisition
Analysis & Ranking of Positive Findings
Systems Assignment
Treatment/Intervention
NO EXIT
Differential Categories
Diagnosis
Testing Strategy
Differential Diagnosis(es)

History

Mary is a 28-year-old pregnant female who has been under your care for some time even before her pregnancy. Her last visit was 3 weeks ago and she returns today complaining of neck pain.

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History

What are the most relevant questions you would ask this patient initially?

(List five).



Working Diagnosis

Based upon the above history, what is your diagnostic hypothesis?

- Triage
- Physiological Systems
- Anatomic Sites
- VINDICATE

List the five most likely and your rationale for each.

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VINDICATE

- Vascular
- Inflammatory
- Neoplasm
- Degenerative
- Infection
- Congenital
- Allergic/Autoimmune
- Traumatic
- Endocrine/Metabolic

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Examination

List the five most relevant exam procedures that you would definitely perform in this case and what possible positive signs you would be looking for and their indications? (be specific; name the specific test, what you would expect if positive and what a positive test indicates).

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Part 2 – More Data…

Mary is a 28-year-old pregnant female who has been under your care for some time even before her pregnancy. Her last visit was 3 weeks ago and she returns today complaining of neck pain.

Upon further questioning, the patient states, "My ear feels clogged up and I had some dizziness this morning." The patient is fully oriented and normal conversationally although she appears nervous. Her neurological examination is grossly within normal limits.

Update Diagnosis

Based on the updated history and exam findings, what conditions would be in your working differential diagnosis now?

(Include your rationale)

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Part 3- Results of Further Testing

Further testing included and revealed the following:

Brain MRI

> “Small infarction present in the medial right cerebellar hemisphere. There are some ill-defined small areas (2-3) of ischemia present in the lateral left cerebellar hemisphere. Impression: Small relatively acute infarcts of the cerebellar hemispheres.”

Carotid & Vertebral MRA

> “The arch and great vessels originating from the arch are widely patent. The origins of the vertebral arteries are well seen. I do not see any evidence of a dissection of the vertebral or internal carotid arteries. They are widely patent. The vertebral arteries are symmetric bilaterally. The common carotid, internal and external carotid arteries are widely patent in the neck without evidence of stenosis.”

Update Diagnosis

7. Based upon all the information provided, what is your working diagnosis now?

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Stroke

Anatomical Sites Involved

Based upon the information you have thus far, what are the anatomical sites involved in this patient?

(Be as specific as possible)

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Pathophysiology

8. Explain the pathophysiology of this condition.

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Care Plan

9. What is the recommended management for this patient?



Theory of Causation

You've been asked by plaintiff's attorney to opine on how the chiropractor's adjustment caused the strokes.



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Review of Case…



History

- Loss of consciousness?
- Bilateral or unilateral symptoms? (Unilateral neurologic dysfunction)
- Visual disturbances?
- Was the onset and progression gradual or sudden?
- Do the symptoms fluctuate?
- Any loss of balance/falling?
- Difficulty with Speech?
- Cranial nerve signs?
- Nausea/vomiting?
- Cloudy consciousness?
- Changes in gait or movement/motor problems/involuntary movements/weakness?
- Sensory disturbance – parasthesias?
- Unilateral
- Stroke in Evolution vs. Completed stroke

More History…

- Ipsilateral facial dysesthesia (pain and numbness) - Most common symptom
- Dysarthria or hoarseness (cranial nerves [CN] IX and X)
- Ipsilateral limb or trunk numbness (cuneate and gracile nuclei)
- Ipsilateral loss of taste (nucleus and tractus solitarius)
- Hiccups
- Vertigo
- Nausea and vomiting
- Diplopia or oscillopsia (image movement experienced with head motion)
- Dysphagia (CN IX and X)
- Disequilibrium
- Contralateral weakness or paralysis (pyramidal tract)
- Contralateral numbness (medial lemniscus)

Differential Diagnosis

- Thrombosis
  - Myocardial infarct
  - Atrial fibrillation

- Seizures
- Neoplasm
- Migraine
- Meniere's disease
- Vertigo
- TIA

Examination

- Neurological examination
  - *Mental Status Examination*
  - *Motor/Sensory/Reflex*
  - *Cranial Nerves*
- Cardiovascular examination

Exam Findings

- Limb or truncal ataxia
- Nystagmus
- Ipsilateral Horner syndrome in as many as one third of patients with VAD (ie, impairment of descending sympathetic tract)
- Ipsilateral hypogeusia or ageusia (ie, diminished or absent sense of taste)
- Ipsilateral impairment of fine touch and proprioception
- Contralateral impairment of pain and thermal sensation in the extremities (ie, spinothalamic tract)
- Lateral medullary syndrome

- Cerebellar findings may include the following:

  - Nystagmus
  - Medial medullary syndrome
  - Tongue deviation to the side of the lesion (impairment of CN XII)
  - Contralateral hemiparesis
  - Ipsilateral impairment of fine touch and proprioception (nucleus gracilis)
  - Internuclear ophthalmoplegia (lesion of the medial longitudinal fasciculus)

Further Work-up

Lab: Findings are non-specific

- Leukocytes may be transiently increased
- Sugar may be slightly decreased
- Protein may be elevated

Imaging

- Brain MRI
- Carotid and Vertebral MRA to rule out dissection
- Angiography to rule out dissection
- CT to differentiate ischemia from hemmorhage

Imaging - CT

- CT scanning
  - CT scan is useful in identifying patients with the complication of subarachnoid hemorrhage.
  - Absence of hemorrhage, as demonstrated by CT scan, is a prerequisite for instituting anticoagulant therapy.

Imaging - Angiography

- Four-vessel cerebral angiography
  - Prior to development of noninvasive techniques such as MRI and Doppler ultrasound, cerebral angiography was the criterion standard in diagnosing VAD. These noninvasive techniques are supplanting angiography as the imaging techniques of choice for patients in whom VAD is suspected.
  - The characteristic angiographic finding in a dissected vertebral artery is the string or "string and pearl" appearance of the stenotic vessel lumen.
  - Because of the high incidence (up to 40% in some series) of multiple extracranial cervical artery dissections occurring simultaneously in the same patient, 4-vessel angiography is the angiographic technique of choice in all patients with potential CAD or VAD.

Imaging – MRI/MRA

- Magnetic resonance imaging
  - MRI detects both the intramural thrombus and intimal flap that are characteristic of VAD.
  - Hyperintensity of the vessel wall seen on T1-weighted axial images is considered by some to be pathognomonic of VAD.
- Magnetic resonance angiography
  - Magnetic resonance angiography (MRA) can identify abnormalities that are characteristic of the disturbed arterial flow seen in VAD. These include the presence of a pseudolumen and aneurysmal dilation of the artery.
  - MRI and MRA are less sensitive than cerebral angiography for the detection of VAD, although they probably have equivalent specificity.
  - Cerebral angiography is indicated when clinical suspicion is high but MRI/MRA has failed to isolate the lesion.

Imaging - Other

- Vascular duplex scanning
  - Duplex sonography of the vertebral arteries demonstrates abnormal flow in 95% of patients with VAD.
  - Ultrasonographic signs specific to VAD (eg, segmental dilation of the vessel, eccentric channel) are detectable in only 20% of patients.
- Transcranial Doppler
  - Transcranial Doppler is approximately 75% sensitive to the flow abnormalities seen in VAD.
  - It is useful also in detecting high-intensity signals (HITS), which are characteristic of microemboli propagating distally as a result of the dissection.
  - HITS are associated with symptomatic ischemic symptoms both in VAD and in other types of cerebrovascular disease.

Pathophysiology

- An expanding hematoma in the vessel wall is the root lesion in VAD. This intramural hematoma can arise spontaneously or as a secondary result of minor trauma, through hemorrhage of the vasa vasorum within the media of the vessel. It also can be introduced through an intimal flap that develops at the level of the inner lumen of the vessel.
- This intramural hemorrhage can evolve in a variety of ways, resulting in any of the following consequences:
- The hematoma may seal off and, if sufficiently small, remain largely asymptomatic.
- If the dissection is subintimal, the expanding hematoma may partially or completely occlude the vertebral artery or one of its branches. Extensive dissections (those that extend intracranially and involve the basilar artery) result in infarctions of the brain stem, cerebellum or, rarely, the spinal cord. Subintimal dissections also may rupture back into the vertebral artery, thus creating a false lumen (pseudolumen).
- Subadventitial dissections tend to cause pseudoaneurysmal dilation of the vertebral artery, which may compress adjacent neurologic structures. These subadventitial dissections are prone to rupture through the adventitia, resulting in subarachnoid hemorrhage.
- The intimal disruption and low flow states that arise in VAD create a thrombogenic milieu in which emboli may form and propagate distally. This results in transient ischemia or infarction.

Management

- Anticoagulants (except in completed stroke)
- Physiotherapy etc
- Occupational therapy
- Counseling



CERTIFIED COPY OF DEATH CERTIFICATE

TYPE OR PRINT IN PERMANENT BLACK INK

5138
LOCAL FILE NUMBER

Health

CERTIFICATE OF DEATH

146
STATE FILE NUMBER

DECEDENT

1. NAME (First / Middle / Last)	2. SEX (M / F)	3. DEATH DATE (Mo., Day, Yr.)
[redacted]	Male	5/22/2003

4. AGE LAST BIRTHDAY (Yrs)	5. UNDER 1 YEAR (MOS / DAYS)	6. UNDER 1 DAY (HOURS / MINS)	7. BIRTHDATE (Mo., Day, Yr.)	8. BIRTHPLACE (City, State or Foreign Country)	9. WAS DECEDENT EVER IN U.S. ARMED FORCES? (Yes / No)	10. COUNTY OF DEATH
55			03/15/1948	[redacted] MN	Yes	[redacted]

11. CITY, TOWN OR LOCATION OF DEATH	12. PLACE OF DEATH — ☒ BOX FOR PLACE THEN GIVE ADDRESS OR INSTITUTION NAME 1. ☐ HOME 2. ☐ IN TRANSPORT 3. ☐ EMERG. RM/OUT PTH 4. ☒ HOSP. 5. ☐ NUR HOME 6. ☐ OTHER PLACE	13. SMOKING IN LAST 15 YEARS? (Yes / No)
Tukwila	Highline Specialty Center	Yes

14. MARITAL STATUS — Married, Never married, Widowed, Divorced (Specify)	15. SURVIVING SPOUSE (If wife, give maiden name)	16. SOCIAL SECURITY NO.	17. DECEDENT'S EDUCATION (Specify only highest grade completed)	
			Elementary/Secondary (0-12)	College (1-4 or 5+)
Married	[redacted]	[redacted]	12	

18. USUAL OCCUPATION (Give kind of work done during most of working life. DO NOT USE RETIRED)	19. KIND OF BUSINESS OR INDUSTRY	20. Was Decedent of Hispanic origin or descent? (Specify Yes or No. If Yes, specify Cuban, Mexican, Puerto Rican, etc.) (Yes / No) Specify:	21. RACE (Specify)
Receiving Clerk	Retail	No	Caucasian

22. RESIDENCE — NUMBER AND STREET	23. CITY/TOWN, OR LOCATION	24. INSIDE CITY LIMITS? (Yes / No)	25. COUNTY	25a. LENGTH OF RES. IN CO.	26. STATE	27. ZIP CODE
[redacted]	[redacted]	No	[redacted]	25yrs	[redacted]	[redacted]

PARENTS / SPOUSE

28. FATHER'S NAME — FIRST, MIDDLE, LAST	29. MOTHER'S NAME — FIRST, MIDDLE, MAIDEN SURNAME
[redacted]	[redacted]

30. INFORMANT — NAME	31. MAILING ADDRESS — STREET OR RFD NO.	CITY OR TOWN	STATE	ZIP
[redacted]	[redacted]	[redacted]	[redacted]	[redacted]

DISPOSITION

32. BURIAL, CREMATION, REMOVAL, OTHER (Specify)	33. DATE (Mo., Day, Yr.)	34. CEMETERY/CREMATORY — NAME	35. LOCATION — CITY/TOWN, STATE
Cremation	05/29/2003	[redacted]	[redacted]

36. FUNERAL DIRECTOR SIGNATURE	37. NAME OF FACILITY	38. ADDRESS OF FACILITY
[redacted]	[redacted]	[redacted]

CERTIFIER

TO BE COMPLETED ONLY BY CERTIFYING PHYSICIAN

39. TO THE BEST OF MY KNOWLEDGE, DEATH OCCURRED AT THE TIME, DATE AND PLACE AND WAS DUE TO THE CAUSE(S) STATED.

SIGNATURE AND TITLE
X

TO BE COMPLETED ONLY BY MEDICAL EXAMINER OR CORONER

43. ON THE BASIS OF EXAMINATION AND/OR INVESTIGATION, IN MY OPINION DEATH OCCURRED AT THE TIME, DATE AND PLACE AND WAS DUE TO THE CAUSE(S) STATED.

SIGNATURE AND TITLE
X [redacted]

40. DATE SIGNED (Mo., Day, Yr.)	41. HOUR OF DEATH (24 Hrs.)	44. DATE SIGNED (Mo., Day, Yr.)	45. HOUR OF DEATH (24 Hrs.)
		May 23, 2003	2156 h

42. NAME AND TITLE OF ATTENDING PHYSICIAN IF OTHER THAN CERTIFIER (Type or Print)	46. PRONOUNCED DEAD (Mo., Day, Yr.)	47. HOUR PRONOUNCED DEAD (24 Hrs.)
	May 22, 2003	2156 h

48. NAME AND [redacted] OF CERTIFYING PHYSICIAN, MEDICAL EXAMINER OR CORONER (Type or Print)
Associate Medical Examiner [redacted]

49. ME/CORONER FILE NUMBER [redacted]

CAUSE OF DEATH

50. ENTER THE DISEASES, INJURIES, OR COMPLICATIONS WHICH CAUSED THE DEATH:

		INTERVAL BETWEEN ONSET AND DEATH
IMMEDIATE CAUSE (Final disease or condition resulting in death).	a. Resolving bronchopneumonia with pulmonary edema	
DO NOT ENTER THE MODE OF DYING, SUCH AS CARDIAC OR RESPIRATORY ARREST, SHOCK, OR HEART FAILURE. LIST ONLY ONE CAUSE ON EACH LINE. Sequentially list conditions, if any, leading to immediate cause. Enter UNDERLYING CAUSE (Disease or injury which initiated events resulting in death) LAST.	DUE TO, OR AS A CONSEQUENCE OF: b. Pontine infarct	
	DUE TO, OR AS A CONSEQUENCE OF: c. Occlusion of vertebral-basilar arteries	
	DUE TO, OR AS A CONSEQUENCE OF: d.	

51. OTHER SIGNIFICANT CONDITIONS — CONDITIONS CONTRIBUTING TO DEATH BUT NOT RESULTING IN THE UNDERLYING CAUSE GIVE ABOVE:	52. AUTOPSY? (Yes / No)	53. WAS CASE REFERRED TO MEDICAL EXAMINER OR CORONER? (Yes / No)
Arteriosclerotic cardiovascular disease	Yes	Yes

54. ACC, SUICIDE, HOM., UNDET., OR PENDING INVEST. (Specify)	55. INJURY DATE (Mo., Day, Yr.)	56. HOUR OF INJURY (24 Hrs.)	57. DESCRIBE HOW INJURY OCCURRED:
Complication of Therapy	10/12/2002	0930 h	Suffered stroke following chiropractic manipulation

58. INJURY AT WORK? (Yes / No)	59. PLACE OF INJURY — AT HOME, FARM, STREET, FACTORY, OFFICE BLDG, ETC. (Specify)	INJURY LOCATION — STREET OR RFD NO., CITY/TOWN, STATE
No	[redacted]	[redacted]

61. RECORD AMENDMENT (Registrar use only) ITEM / DOCUMENTARY EVIDENCE / REVIEWED BY / DATE	62. REGISTRAR'S SIGNATURE	63. DATE RECEIVED (Mo., Day, Yr.)
	X [redacted]	MAY 29 2003

DOH 110-008 (Rev. 7/01) (5/99)

WARNING: ALTERATIONS OR PHOTOCOPIES ARE NOT ACCEPTED BY THE OFFICIAL

CERTIFIED COPY OF DEATH CERTIFICATE

TYPE OR PRINT IN PERMANENT BLACK INK

5138
LOCAL FILE NUMBER

Washington State Department of Health

CERTIFICATE OF DEATH

146
STATE FILE NUMBER

DECEDENT

1. NAME (First / Middle / Last)	2. SEX (M / F)	3. DEATH DATE (Mo, Day, Yr)
[redacted]	Male	5/22/2003

4. AGE LAST BIRTHDAY (Yrs)	5. UNDER 1 YEAR (MOS / DAYS)	6. UNDER 1 DAY (HOURS / MINS)	7. BIRTHDATE (Mo, Day, Yr)	8. BIRTHPLACE (City, State or Foreign Country)	9. WAS DECEDENT EVER IN U.S. ARMED FORCES? (Yes / No)	10. COUNTY OF DEATH
55			03/15/1948	[redacted] MN	Yes	[redacted]

11. CITY, TOWN OR LOCATION OF DEATH	12. PLACE OF DEATH — ☒ BOX FOR PLACE THEN GIVE ADDRESS OR INSTITUTION NAME 1.☐ HOME 2.☐ IN TRANSPORT 3.☐ EMERG. RM/OUT PTN 4.☒ HOSP. 5.☐ NUR HOME 6.☐ OTHER PLACE	13. SMOKING IN LAST 15 YEARS? (Yes / No)
Tukwila	Highline Specialty Center	Yes

14. MARITAL STATUS — Married, Never married, Widowed, Divorced (Specify)	15. SURVIVING SPOUSE (If wife, give maiden name)	16. SOCIAL SECURITY NO.	17. DECEDENT'S EDUCATION (Specify only highest grade completed)	
			Elementary/Secondary (0-12)	College (1-4 or 5+)
Married	[redacted]	[redacted]	12	

18. USUAL OCCUPATION (Give kind of work done during most of working life. DO NOT USE RETIRED)	19. KIND OF BUSINESS OR INDUSTRY	20. Was Decedent of Hispanic origin or descent? (Ancestry) (Specify Yes or No. If Yes, specify Cuban, Mexican, Puerto Rican, etc.) (Yes / No) Specify:	21. RACE (Specify)
Receiving Clerk	Retail	No	Caucasian

22. RESIDENCE — NUMBER AND STREET	23. CITY/TOWN, OR LOCATION	24. INSIDE CITY LIMITS? (Yes / No)	24A. COUNTY	25B. LENGTH OF RES. IN CO.	26. STATE	27. ZIP CODE
[redacted]	[redacted]	No	[redacted]	25 yrs	[redacted]	[redacted]

PARENTS

28. FATHER'S NAME — FIRST, MIDDLE, LAST	29. MOTHER'S NAME — FIRST, MIDDLE, MAIDEN SURNAME
[redacted]	[redacted]

DISPOSITION

30. INFORMANT — NAME	31. MAILING ADDRESS — STREET OR RFD NO.	CITY OR TOWN	STATE	ZIP
[redacted]	[redacted]	[redacted]	[redacted]	[redacted]

32. BURIAL, CREMATION, REMOVAL, OTHER (Specify)	33. DATE (Mo, Day, Yr)	34. CEMETERY/CREMATORY — NAME	35. LOCATION — CITY/TOWN, STATE
Cremation	05/29/2003	[redacted]	[redacted]

36. FUNERAL DIRECTOR SIGNATURE	37. NAME OF FACILITY	38. ADDRESS OF FACILITY
X [redacted]	[redacted]	[redacted]

CERTIFIER

TO BE COMPLETED ONLY BY CERTIFYING PHYSICIAN

39. TO THE BEST OF MY KNOWLEDGE, DEATH OCCURRED AT THE TIME, DATE AND PLACE AND WAS DUE TO THE CAUSE(S) STATED.

SIGNATURE AND TITLE
X

40. DATE SIGNED (Mo., Day, Yr)

41. HOUR OF DEATH (24 Hrs.)

42. NAME AND TITLE OF ATTENDING PHYSICIAN IF OTHER THAN CERTIFIER (Type or Print)

TO BE COMPLETED ONLY BY MEDICAL EXAMINER OR CORONER

43. ON THE BASIS OF EXAMINATION AND/OR INVESTIGATION, IN MY OPINION DEATH OCCURRED AT THE TIME, DATE AND PLACE AND WAS DUE TO THE CAUSE(S) STATED.

SIGNATURE AND TITLE
X [redacted]

44. DATE SIGNED (Mo., Day, Yr)
May 23, 2003

45. HOUR OF DEATH (24 Hrs.)
2156 h

46. PRONOUNCED DEAD (Mo., Day, Yr)
May 22, 2003

47. HOUR PRONOUNCED DEAD (24 Hrs.)
2156 h

48. NAME AND [redacted] PHYSICIAN, MEDICAL EXAMINER OR CORONER (Type or Print)
Associate Medical Examiner [redacted]

48. ME/CORONER File Number
[redacted]

50. ENTER THE DISEASES, INJURIES, OR COMPLICATIONS WHICH CAUSED THE DEATH:

INTERVAL BETWEEN ONSET AND

CERTIFIER

X

40. DATE SIGNED (Mo., Day, Yr)	41. HOUR OF DEATH (24 Hrs.)	44. DATE SIGNED (Mo., Day, Yr)	45. HOUR OF DEATH (24 Hrs.)
		May 23, 2003	2156 h
42. NAME AND TITLE OF ATTENDING PHYSICIAN IF OTHER THAN CERTIFIER (Type or Print)		46. PRONOUNCED DEAD (Mo., Day, Yr)	47. HOUR PRONOUNCED DEAD (24 Hrs.)
		May 22, 2003	2156 h

48. NAME AND [redacted] PHYSICIAN, MEDICAL EXAMINER OR CORONER (Type or Print)

Associate Medical Examiner [redacted]

49. ME/CORONER File [redacted]

CAUSE OF DEATH

50. ENTER THE DISEASES, INJURIES, OR COMPLICATIONS WHICH CAUSED THE DEATH:

		INTERVAL BETWEEN ONSET AND DEATH
IMMEDIATE CAUSE (Final disease or condition resulting in death). DO NOT ENTER THE MODE OF DYING, SUCH AS CARDIAC OR RESPIRATORY ARREST, SHOCK, OR HEART FAILURE. LIST ONLY ONE CAUSE ON EACH LINE. Sequentially list conditions, if any, leading to immediate cause. Enter UNDERLYING CAUSE (Disease or injury which initiated events resulting in death) LAST.	a. Resolving bronchopneumonia with pulmonary edema	
	DUE TO, OR AS A CONSEQUENCE OF: b. Pontine infarct	
	DUE TO, OR AS A CONSEQUENCE OF: c. Occlusion of vertebral-basilar arteries	
	DUE TO, OR AS A CONSEQUENCE OF: d.	

51. OTHER SIGNIFICANT CONDITIONS — CONDITIONS CONTRIBUTING TO DEATH BUT NOT RESULTING IN THE UNDERLYING CAUSE GIVE ABOVE:

Arteriosclerotic cardiovascular disease

52. AUTOPSY? (Yes / No): Yes

53. WAS CASE REFERRED TO MEDICAL EXAMINER OR CORONER? (Yes / No): Yes

54. ACC., SUICIDE, HOM., UNDET., OR PENDING INVEST. (Specify)	55. INJURY DATE (Mo., Day, Yr.)	56. HOUR OF INJURY (24 Hrs.)	57. DESCRIBE HOW INJURY OCCURRED:
Complication of Therapy	10/12/2002	0930 h	Suffered stroke following chiropractic manipulation

58. INJURY AT WORK? (Yes / No)	59. PLACE OF INJURY — AT HOME, FARM, STREET, FACTORY, OFFICE BLDG., ETC. (Specify)	60. LOCATION — STREET OR RFD NO., CITY/TOWN, STATE
No	[redacted]	[redacted]

61. RECORD AMENDMENT (Registrar use only)

ITEM	DOCUMENTARY EVIDENCE	REVIEWED BY	DATE

62. REGISTRAR'S SIGNATURE: X [signature]

63. DATE RECEIVED (Mo., Day, Yr.): MAY 29 2003

DOH-110-009 (Rev. 7/81) (formerly DHS-1)

[redacted] STATISTICS. CERTIFIED COPIES MUST HAVE THE OFFICIAL

CONFIDENTIAL
DO NOT COPY

[redacted] Medical Examiner

R.C.W. 68.50.105

AUTOPSY REPORT

[redacted]

PATHOLOGICAL DIAGNOSES:

1. Cystic pontine infarct with occlusion of vertebral-basilar arteries

2. Bronchopneumonia, resolving

3. Arteriosclerotic cardiovascular disease with severe coronary atherosclerosis and cerebral atherosclerosis
   a. Acute plaque hemorrhage of cerebral artery

OPINION:

The cause of death in this 55 year old man is attributed pneumonia due to a pontine infarct that occurred recently following chiropractic manipulation. In addition, there was arteriosclerotic cardiovascular disease with cerebral atherosclerosis and an acute hemorrhage into the plaque which may have contributed to death. The manner of death is classified as complication of therapy in view of the temporal relationship of the chiropractic manipulation and pontine infarct in the distribution of the vertebral basilar circulation.

LIVER:	Mild non-specific triaditis; early bridging fibrosis.
KIDNEY:	Interstitial fibrosis with focal lymphocytes.
BRAIN (VERTEBRAL BASILAR ARTERIES):	Atherosclerosis with acute hemorrhage into plaque.
(HIPPOCAMPUS):	No diagnostic abnormality.
(PONS):	Areas of pallor, hemosiderin, gliosis, and macrophages consistent with infarct.

DECLARATION OF [redacted] D.C.

I, [redacted] declare and state as follows:

1. I am a chiropractor, certified by the National Board of Chiropractic Examiners in 1986. I am currently Chief of Chiropractic Medical Group, Group Health Cooperative (Group Health), [redacted] I have been with Group Health since 1989. I am a member of the National Association of Chiropractic Medicine; National Council Against Health Fraud, Inc.; Diplomate, American Board of Quality Assurance and Utilization Review Physicians; and Diplomate of the American College of Forensic Physicians.

In addition to my training and experience as a chiropractor physician, I have served as a consultant and/or submitted publications to: (a) the media (for example, 20/20, ABC; Consumers Digest; Inside Edition, Fox TV Network; Consumer Reports; Newsday Magazine; Shape Magazine; Glamour Magazine; Kiplinger Magazine; Men's Health; Wall Street Journal); and (b) government and industry (for example, the National Insurance Crime Bureau; Federal Bureau of Investigation, Division of Health Care Fraud; Mississippi State Medical Association, testimony before the Mississippi Senate Subcommittee for Public Health; Pascagoula, Mississippi Public Schools).

2. I was contacted by [redacted], attorney, and asked whether I would be willing to review certain materials related to the chiropractic treatment provided by [redacted], D.C. to [redacted]. I agreed to do so and was provided with and have reviewed the following:

- Dr. [redacted] chiropractic office chart for [redacted]
- Selected portions of [redacted] medical records at Highline Hospital;
- Deposition of [redacted];
- Death Certificate of [redacted]; and
- Medical Examiners Report of [redacted]

3. I was asked by Mr. [redacted] to address the following issues:

(A) Whether [redacted] D.C., exercised that degree of skill, care and learning expected of a reasonably prudent chiropractor in the State of Washington, under the same or similar circumstances, during her treatment of [redacted] from August 12, 1999 to October 11, 2002? My opinion, set forth in more detail in paragraph 5 below, is that Dr. [redacted] failed to exercise that degree of skill, care and learning expected of a reasonably prudent chiropractor. In summary, it is my opinion that there was absolutely no indication for Dr. [redacted] to perform any type of cervical manipulation on [redacted] on October 11, 2002.

stem/cerebellar stroke suffered by Mr. [redacted] is of the distribution and type that has been reported as resulting from vertebral artery dissection following cervical adjustment. It is my opinion that on a more likely than not basis the cervical adjustment performed by Dr. [redacted] on October 11, 2002 was the probable cause of the right pontine and cerebellar stroke suffered by Mr. [redacted]

(C) Whether I would be willing to address generally the risk and incidence of vertebral artery dissection (with or without accompanying stroke) and the causal relationship between cervical chiropractic manipulation and injury to the vertebral artery? Please see paragraph 6.

4. According to Dr. [redacted] records and her deposition, she first saw Mr. [redacted] on August 12, 1999. Mr. [redacted] was experiencing right leg pain. Dr. [redacted] commenced chiropractic treatment on Mr. [redacted] which included routine total spine manipulation. In January of 2001, Dr. [redacted] referred Mr. [redacted] for MRI of the lumbar spine because he was experiencing severe radiating pain into his left buttock and calf. This MRI disclosed the existence of a "[s]mall left sided L5-S1 herniated nucleus pulposus with inferior extrusion of disc material" and "[l]eft L4-S5 disc protrusion into the neural foramen". Dr. [redacted] continued chiropractic treatment on Mr. [redacted] which included routine total spine manipulation.

Following the commencement of chiropractic therapy on August 12, 1999 and up to October 11, 2002, Dr. [redacted] adjusted Mr. [redacted] spine approximately 130 times. Her spinal adjustments were routinely total spine adjustments, including manual adjustment of the neck. During the course of chiropractic treatment, Mr.

[redacted] overriding symptoms were low back and leg pain. During the approximately 130 chiropractic visits with Dr. [redacted], Mr. [redacted] complained of neck pain on one occasion, February 6, 2002, approximately 10 months prior to the October 11, 2002 visit.

The two primary goals of chiropractic care are to restore mobility to the spine and reduce pain. Chiropractic care, when undertaken with a clear plan and goal, can be an effective means of treating muscular-skeletal pain. I am critical of Dr. [redacted] chriopractic treatment of Mr. [redacted] neck for a number of reasons.

First, Dr. [redacted] never documented a clear plan of treatment of Mr [redacted]. As far as I can tell from the records, even when Mr. [redacted] complaints regarding lower back and leg pain changed, there was no change in the chiropractic care provided by Dr. [redacted]

Second, Dr. [redacted] testified that one of the reasons that she routinely adjusted Mr. [redacted] neck was because of sublaxation in the cervical spine. There is no scientific evidence that supports the notion that sublaxation is a disease entity that indicates either the need for or potential benefit from chiropractic adjustment. In the absence of pain and immobility, there is no scientific or rational basis to perform any type of chiropractic adjustment to a patient's neck.

Third, Dr. [redacted] admitted in her deposition that Mr. [redacted] complained of neck pain on only one occasion out of approximately 130 visits. Her explanation of the purpose of her routine adjustment of Mr. [redacted] neck, when his overriding complaint was low back and leg pain, was "[t]o regain normal biomechanics of the entire spine". Just as there is no scientific evidence that sublaxation is a disease entity that

indicates a need for treatment, there is no scientific evidence that supports the view that a person with low back and leg pain will benefit from adjustment of the neck. The neck adjustments were not only not indicated, but they placed Mr. [redacted] at risk of serious neurologic injury. The simple saw that "if it isn't broke, don't fix it" applies to the reasonable practice of chiropractic medicine. If the patient complains of lower back and leg pain, and does not complain of neck pain, there is no scientific basis to adjust the neck and no potential that the patient will benefit from a neck adjustment.

Fourth, Dr. [redacted] shows a lack of scientific knowledge associated with neck adjustments and the potential for serious injury from these adjustments.

Dr. [redacted] testified that the type of "lateral" cervical adjustment she performed could not cause injury to the vertebral artery. She later testified that "I recognize that rotation causes more stress to the vertebral artery; lateral flexion, less stress, but there is no evidence that those maneuvers can cause injury to the artery." Dr. [redacted] testimony is contrary to extensive scientific literature and knowledge, which establishes that chiropractic adjustment of the neck is a risk factor for injury to the vertebral artery and can lead to stroke.

Dr. [redacted] also testified that her adjustment could not have caused injury to Mr. [redacted] vertebral artery because "any injury to the vertebral artery, that patient would experience immediate symptoms". It is well documented in the scientific literature that, although symptoms may occur immediately following an adjustment to the neck, the onset of symptoms may be delayed by hours, days, or even weeks following the adjustment.

In summary, the routine chiropractic adjustment of the neck, over a three year period on approximately 130 occasions, for a patient whose overriding complaint was lower back and leg pain, falls below the standard of care for a reasonably prudent chiropractor. There is no scientific evidence to support the view that Mr. [redacted] would benefit from neck adjustments, and there is scientific evidence that such adjustments placed him at risk for serious neurologic injury. In the absence of complaints of pain and immobility of the neck, the chiropractic neck adjustments performed by Dr. [redacted] on Mr. [redacted] were unnecessary chiropractic therapy. Mr. [redacted] was placed at risk with no basis for to support the view that he would benefit from adjustment of his neck.

It is also my opinion that the standard of care requires that a chiropractor, before proceeding with adjustments to a patient's neck, has an obligation to fully inform his/her patient of the risk of injury to the vertebral artery and stroke. Dr. [redacted] testified that she did not tell Mr. [redacted] that there was a potential for stroke with adjustments of his neck.

5. Mr. [redacted] suffered, sequentially, what in my opinion are the most disastrous consequences of injury to the vertebral artery – locked in syndrome and death. Mr. [redacted] experience highlights the potential severity of risk a patient is exposed to when he or she undergoes adjustment of the neck.

The undisputable fact is that nobody knows with what frequency there is injury to the vertebral artery during chiropractic neck manipulation. Diagnosed cases of dissection which result in stroke are underreported, and the overwhelming probablility is that there are many injuries to the vertebral artery that do not result in transient

ischemic attacks or strokes. As acknowledged by Dr. [redacted] the consequences of injury to the vertebral artery runs the gamut from (a) no neruologic symptoms to (b) transient ischemic attacks to (c) strokes of varying magnitude and disability.

Cervical manipulation must be appreciated by a reasonably prudent chiropractor as different from lumbar and thoracic manipulation. There are significant differences in the anatomy of the spine and its adjacent structures at the various levels, and the cervical spine and adjacent structures are particularly vulnerable to injury. A case in point is the vertebral artery as it winds its tortuous route through the cervical vertebrae. A reasonably prudent chiropractor must be aware of the risks associated with cervical manipulation, and should not undertake cervical manipulation without: (a) clear indications for therapy (pain and immobility); (b) advising the patient that there is a risk, of unknown magnitude, for injury to a major artery to the brain, and that injury to that artery can result in stroke; and (c) the stroke suffered can result in death or serious permanent disability.

I declare under penalty of perjury under the laws of the State of Washington that the foregoing is true and correct.

EXECUTED at [redacted] Wisconsin, this 18 day of November, 2003.

[redacted] D.C.

relationship?

Q. (By Mr. [redacted] Yes.

A. From my knowledge of what's been spoken about in the profession.

Q. The chiropractic profession?

A. Yes.

Q. Have you ever read any medical literature regarding the relationship between cervical manipulative therapy and injury to the vertebral artery?

A. No.

Q. By my count, it appears that, from 1999 through October 11th, 2002, you treated Mr. [redacted] on approximately 130 occasions. On October 11th, 2002, was Mr. [redacted] complaining of headache?

A. No.

Q. On October 11th, 2002, was he complaining of neck pain?

A. No.

Q. Was he complaining on that date of any shoulder pain?

A. No.

Q. Was he complaining of any pain in his upper extremities?

A. No.

Q. Why did you do an adjustment on his neck on October 11, 2002?

A. From my evaluation and examination of [redacted] prior to that

date, we had -- from my findings of the examination, it had revealed that Dan's neck, mid back, and low back were all involved in the presenting symptoms that he had, and that's why I adjusted his neck.

Q. Did you routinely adjust his neck --

A. Yes.

Q. -- in those 130 visits?

A. Yes.

Q. Now, when was the -- when was the exam or evaluation that you performed done? What was the date?

A. Well, are we talking about the daily evaluations that -- or specific progress evaluations?

Q. Well, I'm not going to hold you to the exact number, but we will just call it approximately 130 visits.

From what I can tell, you adjusted Mr. Brown's neck on every occasion; is that correct?

A. Yes.

Q. And I assume you had a reason for adjusting his neck.

A. Yes.

Q. And you told me that the reason for adjusting his neck was that your exam and evaluation prior to that date revealed that his neck, mid, and low back -- I assume you mean spine -- were involved in his complaints.

A. Not involved in his complaints, involved in my findings.

A. That he had a loss of normal cervical lordosis, that his entire cervical spine was off 4 millimeters to the right side.
Q. Was what to the right side?
A. Off from the center. That he had some degenerative joint disease at C-4.
Q. Okay. Anything else?
A. That he had lateral disc wedge at C-1, C-2, and an inferior Atlas on the right.
Q. Anything else?
A. No.
Q. Did he ever complain of neck pain?
A. Ever in the entire --
Q. Let me ask it this way. On how many occasions out of the 130 visits did he complain of neck pain?
A. It appears from my notes that he complained of neck pain one time.
Q. When was that?
A. When he presented to my clinic on February 6, 2002.
Q. So you've described the x-ray findings that were done -- the x-ray findings of February 2002 as a basis for cervical adjustment.

Were there examination findings that supported, in your opinion, cervical adjustments on [redacted]

A. Exam findings revealed taut and tender fibers in the

A. Yes.
Q. What was your therapy directed at his cervical spine intended to accomplish?
A. To regain normal biomechanics of the entire spine.
Q. Was it your opinion that examination and x-ray findings in [redacted] neck were contributing to his low back and right leg pain?
A. Yes.
Q. In what way?
A. The spine functions as a unit, as one whole unit. If there is anterior translation of the head forward, bending of the upper body or rotation of the upper body, when you stand or sit and you are fighting gravity, those conditions are going to impose increased conditions in the lower back.
Q. Were you treating [redacted] neck for subluxation?
A. Yes.
Q. Do you ascribe to the chiropractic philosophy that subluxation is a treatable entity?
A. Yes.
Q. Is there any other -- strike that.
So if we -- were there -- were you treating [redacted] neck for anything other than subluxation?
A. Meaning?
Q. Well, I mean, what was your goal?

A. My goal is to restore normal function in the person's body and spine.

Q. Your philosophy is that, by correcting or treating subluxation in the neck, that's going to have a positive impact upon the pain in his lower back and leg; is that correct?

A. I was treating the spine in its entirety.

Q. So you are addressing the subluxation?

A. Correct.

Q. Other than addressing the subluxation, this full spine treatment philosophy, were there other reasons for doing cervical adjustments on [redacted]

A. I'm not sure I'm understanding what you are asking me.

Q. Well, you weren't treating pain in [redacted]neck with your cervical adjustments; correct?

A. Correct.

Q. But you nonetheless felt that it was necessary from a chiropractic standpoint to make adjustments to [redacted] neck; correct?

A. From my standpoint.

Q. Okay. And the reason was because there was subluxation in the neck?

A. Yes.

Q. Were there any other reasons?

A. Well, there were associated soft tissue reasons.

Q. And that has to do with the tenderness in the ligaments?
A. Muscle, ligaments.
Q. Did you ever have a conversation with [redacted] about the potential risks of adjusting his cervical spine?
A. Can you be more specific?
Q. Yes. Did you ever tell him that there was a potential for stroke and even death with adjustments with his cervical spine?
A. No.

MS. [redacted]. Do you need a break?

MR. [redacted] Sorry, that's another thing. This is not a marathon. In fact, let's take a five-minute break.

(Recess.)

THE WITNESS: As far as publications go, I don't subscribe or endorse to any one in particular, but I do read a lot of information on the Internet.

Q. [redacted] Okay. Do you have Internet sites that you frequent?
A. None in particular.
Q. Like Chiroweb?
A. No.

[redacted]

OBJECTIVE

		DATE 8-12 (NI) Ex ReEx	DAT NI ReEx	DATE NI Ex ReEx	DATE NI Ex ReEx	DA NI ReEx
VITALS	HEIGHT *	5'10"				
	WEIGHT *					
	BLOOD PRESSURE *					
	PULSE *	58/49 // 55/73	68/45 // 60/67			

A-ROMS	C	T	L	C	TL	C	TL	C	TL	C	TL	C	TL
FLEXION	50	40	60										
EXTENSION	60		25										
L. LATERAL	45	10	25										
R. LATERAL	45	10	25										
L. ROTATION	80												
R. ROTATION	80												

P-R ROMS		LEFT	RIGHT	LEFT	RIGHT	LEFT	RIGHT	LEFT	RIGHT	LEFT	RIGHT
PASS. ROM (lig)											
ACT. ROM (myo)											
REFLEX	C5-6 BICEPS R										
	C7-8 TRICEPS R										
	C5-6 RADIAL R										
	L2-4 PATELLOR R										
	S1-2 ACHILLES R										
DERMATOMES	C5-LAT. ARM N										
	C6-LAT. FOREARM N										
	C7-MID. FINGER N										
	C8-MED. FOREARM N										
	T1-MED. ARM N										
	T2-AXILLA N										
	L3-MED. KNEE N										
	L4-MED. LEG/FOOT N										
	L5-SUP. FOOT N										
	S1-LAT FOOT/LEG N										
CERVICAL	CERV COMP AXIAL C										
	CERV COMP L C										
	CERV FOMP R C										
	MAX. FOR COMPR. J										
	DISTRACTION D										
	SOTO HALL T										
	SHOULDER DEPR. L U										
	SHOULDER DEPR. R U										
TOS	ADSON-SCALENE A										
	COSTOCLAVICULAR A										
	WRIGHTS A										
SHOULDER	CORACOID PRESS										
	DUGAS										
	SUPRASPINATUS										
ELBOW	MILLS										
	KAPLANS										
WRIST	PHALENS										
	TINELS										
LUMBAR SCIATIC	LASEGUE SITTING S										
	LASEGUE TEST X										
	BRAGGARD										
	FAJERSZTAJN										
	ELY L										
DISC	DEJERINE TRIAD										
	MINORS SIGN										
	KEMPS Z										
S-I	ABDUCTION STRESS										
	GAENSLENS										
	ILIAC COMP.										
HIP	ALLIS H										
	GUAVAINS H										
	LAGUERRE H										
	PATRICK P										
KNEE	ANTERION DRAW										
	POSTERIOR DRAW										
	APLEY										
	McMURRAY										

AREA	DATE 4-1 NI Ex ReEx TEND	SPASM	ALG	EMG	DATE 5-1 NI Ex ReEx TEND	SPASM	ALG	EMG	DATE NI Ex ReEx TEND	SPASM	ALG	EMG
C1												
2												
3												
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TRAP												
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CALF												

	DATE NI Ex ReEx	DATE NI Ex ReEx	DATE NI Ex ReEx
C1			
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TRAP			
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10			
11			
12			
L1			
2			
3			
4			
5			
LSI			
RSI			
GLUT			
HAM			
CALF			

ADDITIONAL TESTS

Name [redacted] Goal 9 Max 35 mins Ded mat, yes Daily ____ 1/wk ____ M ____ Th ____

Phone H ____ DOI ____ Used 30 Supply ____ Co-Pay ____ 3/wk ____ 2/mo ____ T ____ F ____

Phone W ____ DOE ____ Co-Pay 10 $ PT $5.00 copay 2 w/k ____ Mo ____ W ____ S ____

	HA	NBP	MBP	LBP	NS	BS	UNRESTR.	TO TOL.	RESTR.	NO ACTIV.	ICE	C-PILL	L-SUPP	EXERCISE	INTER. RES.	SPINOUS	SPASM	↓ROM	MFTP	OTHER JNT.	EXAM ORTHO	CONF	ACT	ADJ.	REFER.	Pt. Rx	CRYO MASS	INTERSEG Txn	ICE	ISCHEMIC	EXERCISE	THER MASS	DTT-VIB	ADD 15	FT	RESTR	OW	RTW	ICE	C-PILL	L-CUSH	L-SUPP	D	WK	MO	PRN
8.12				Y N																																									
NI - Ex - ReEx - CONF																																													
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Current Risk Issues

- HIPAA
- Your vaccination status
- Your staff's vaccination status
- Your patient's vaccination status
- Public Health Law

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Current Risk Issues

- Vascular related complaints
- Pregnant women
- Fainting
- Table issues
- Children

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Vascular Endothelial Damage via SARS-COV-2 “Spike” Protein and its Relationship to Promoting Thrombosis (Clot Formation)

Amy Haas DC, Ph.D

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Vascular Endothelial Damage via SARS-COV-2 “Spike” Protein and its Relationship to Promoting Thrombosis (Clot Formation)

Amy Haas DC, Ph.D



AGGRAVATING	MITIGATING


MEDIUM
LOW
HIGH
RISK

AAP: Kids with COVID-19 may need ECG before returning to sports

INFECTIOUS DISEASES IN CHILDREN

By Ken Downey Jr.

ADD TOPIC TO EMAIL ALERTS

+ Source/Disclosures

In updated guidance, the AAP said some children with COVID-19 may need an ECG before they return to playing sports, based on growing evidence that SARS-CoV-2 infection can severely damage the heart.

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Kids Returning to Sports After COVID-19

Posted on September 15, 2021



If your child has a positive COVID-19 test, notify their pediatrician. The doctor can advise how long they need to wait before returning to exercise or sports. This will be based on how severe their COVID-19 symptoms are, and whether they develop signs of multisystem inflammatory syndrome in children (MIS-C), myocarditis (inflamed heart muscle), or other post-COVID conditions:

- Children and teens with no symptoms or mild symptoms of COVID-19, and no symptoms of MIS-C need to be screened with questions about specific heart symptoms. A child with a positive heart screening will need an EKG and referral to a pediatric cardiologist for possible additional cardiac tests.
- Those with moderate symptoms and no signs of MIS-C should not exercise until their symptoms are gone and they are seen by their doctor for a cardiac screening, complete physical exam and EKG. Moderate symptoms are considered to be 4 or more days of fever over 100.4 F, a week or more of muscle aches, chills or fatigue, or a non-ICU hospital stay.
- Children who were very sick from COVID-19 or diagnosed with MIS-C must be treated as though they have an inflamed heart muscle (myocarditis). They should not exercise or compete for 3 to 6 months. A pediatric cardiologist should examine these children before they are allowed to return to exercise or competition, with a schedule of gradually increasing activity.

Monthly Archives

November 2021
October 2021
September 2021
August 2021
February 2021
January 2021
June 2020
March 2020
January 2020
November 2019
October 2019
August 2019
July 2019
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April 2019
February 2019
January 2019
November 2018
October 2018
September 2018
August 2018
July 2018
June 2018
May 2018

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This form should be placed into the athlete's medical file and should *not* be shared with schools or sports organizations. The Medical Eligibility Form is the only form that should be submitted to a school or sports organization.

Disclaimer: Athletes who have a current Preparticipation Physical Evaluation (per state and local guidance) on file should not need to complete another History Form.

■ PREPARTICIPATION PHYSICAL EVALUATION (Interim Guidance)

HISTORY FORM

Note: Complete and sign this form (with your parents if younger than 18) before your appointment.

Name: _____ Date of birth: _____

Date of examination: _____ Sport(s): _____

Sex assigned at birth (F, M, or intersex): _____ How do you identify your gender? (F, M, or other): _____

Have you had COVID-19? (check one): □ Y □ N

Have you been immunized for COVID-19? (check one): □ Y □ N If yes, have you had: □ One shot □ Two shots □ Three shots □ Booster date(s) _____

List past and current medical conditions. _____

Have you ever had surgery? If yes, list all past surgical procedures. _____

Medicines and supplements: List all current prescriptions, over-the-counter medicines, and supplements (herbal and nutritional).

Do you have any allergies? If yes, please list all your allergies (ie, medicines, pollens, food, stinging insects).

Patient Health Questionnaire Version 4 (PHQ-4)

Over the last 2 weeks, how often have you been bothered by any of the following problems? (Circle response.)

	Not at all	Several days	Over half the days	Nearly every day
Feeling nervous, anxious, or on edge	0	1	2	3
Not being able to stop or control worrying	0	1	2	3
Little interest or pleasure in doing things	0	1	2	3
Feeling down, depressed, or hopeless	0	1	2	3

(A sum of ≥3 is considered positive on either subscale [questions 1 and 2, or questions 3 and 4] for screening purposes.)

GENERAL QUESTIONS (Explain "Yes" answers at the end of this form. Circle questions if you don't know the answer.)	Yes	No
1. Do you have any concerns that you would like to discuss with your provider?		
2. Has a provider ever denied or restricted your participation in sports for any reason?		
3. Do you have any ongoing medical issues or recent illness?		
HEART HEALTH QUESTIONS ABOUT YOU	**Yes**	**No**
4. Have you ever passed out or nearly passed out during or after exercise?		
5. Have you ever had discomfort, pain, tightness, or pressure in your chest during exercise?		
6. Does your heart ever race, flutter in your chest, or skip beats (irregular beats) during exercise?		
7. Has a doctor ever told you that you have any heart problems?		
8. Has a doctor ever requested a test for your heart? For example, electrocardiography (ECG) or echocardiography.		

HEART HEALTH QUESTIONS ABOUT YOU (CONTINUED)	Yes	No
9. Do you get light-headed or feel shorter of breath than your friends during exercise?		
10. Have you ever had a seizure?		
HEART HEALTH QUESTIONS ABOUT YOUR FAMILY	**Yes**	**No**
11. Has any family member or relative died of heart problems or had an unexpected or unexplained sudden death before age 35 years (including drowning or unexplained car crash)?		
12. Does anyone in your family have a genetic heart problem such as hypertrophic cardiomyopathy (HCM), Marfan syndrome, arrhythmogenic right ventricular cardiomyopathy (ARVC), long QT syndrome (LQTS), short QT syndrome (SQTS), Brugada syndrome, or catecholaminergic polymorphic ventricular tachycardia (CPVT)?		
13. Has anyone in your family had a pacemaker or an implanted defibrillator before age 35?		

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This form should be placed into the athlete's medical file and should *not* be shared with schools or sports organizations. The Medical Eligibility Form is the only form that should be submitted to a school or sports organization.

Disclaimer: Athletes who have a current Preparticipation Physical Evaluation (per state and local guidance) on file should not need to complete another examination.

PREPARTICIPATION PHYSICAL EVALUATION (Interim Guidance)

PHYSICAL EXAMINATION FORM

Name: _____ Date of birth: _____

PHYSICIAN REMINDERS

1. Consider additional questions on more-sensitive issues.
   - Do you feel stressed out or under a lot of pressure?
   - Do you ever feel sad, hopeless, depressed, or anxious?
   - Do you feel safe at your home or residence?
   - Have you ever tried cigarettes, e-cigarettes, chewing tobacco, snuff, or dip?
   - During the past 30 days, did you use chewing tobacco, snuff, or dip?
   - Do you drink alcohol or use any other drugs?
   - Have you ever taken anabolic steroids or used any other performance-enhancing supplement?
   - Have you ever taken any supplements to help you gain or lose weight or improve your performance?
   - Do you wear a seat belt, use a helmet, and use condoms?
2. Consider reviewing questions on cardiovascular symptoms (Q4–Q13 of History Form).

EXAMINATION		
Height: Weight:		
BP: / (/) Pulse: Vision: R 20/ L 20/ Corrected: ☐ Y ☐ N		
COVID-19 VACCINE		
Previously received COVID-19 vaccine: ☐ Y ☐ N		
Administered COVID-19 vaccine at this visit: ☐ Y ☐ N If yes: ☐ First dose ☐ Second dose ☐ Third dose ☐ Booster date(s)		
MEDICAL	**NORMAL**	**ABNORMAL FINDINGS**
Appearance • Marfan stigmata (kyphoscoliosis, high-arched palate, pectus excavatum, arachnodactyly, hyperlaxity, myopia, mitral valve prolapse [MVP], and aortic insufficiency)		
Eyes, ears, nose, and throat • Pupils equal • Hearing		
Lymph nodes		
Heart* • Murmurs (auscultation standing, auscultation supine, and ± Valsalva maneuver)		
Lungs		
Abdomen		
Skin • Herpes simplex virus (HSV), lesions suggestive of methicillin-resistant *Staphylococcus aureus* (MRSA), or tinea corporis		
Neurological		
MUSCULOSKELETAL	**NORMAL**	**ABNORMAL FINDINGS**
Neck		
Back		
Shoulder and arm		
Elbow and forearm		
Wrist, hand, and fingers		
Hip and thigh		
Knee		
Leg and ankle		
Foot and toes		
Functional • Double-leg squat test, single-leg squat test, and box drop or step drop test		

* Consider electrocardiography (ECG), echocardiography, referral to a cardiologist for abnormal cardiac history or examination findings, or a combination of those.

Name of health care professional (print or type): _____ Date: _____

Address: _____ Phone: _____

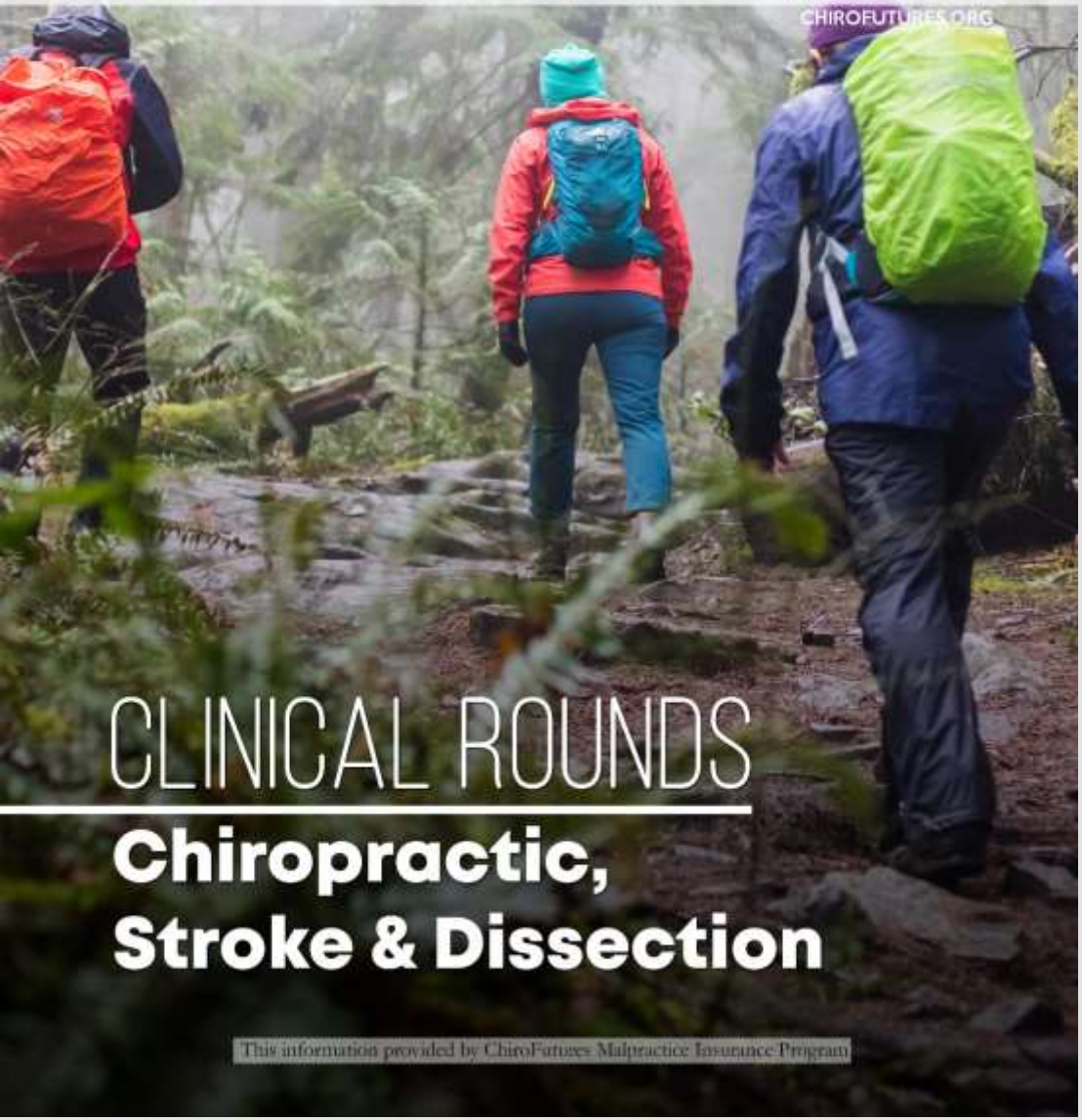
Signature of health care professional: _____, MD, DO, NP, or PA

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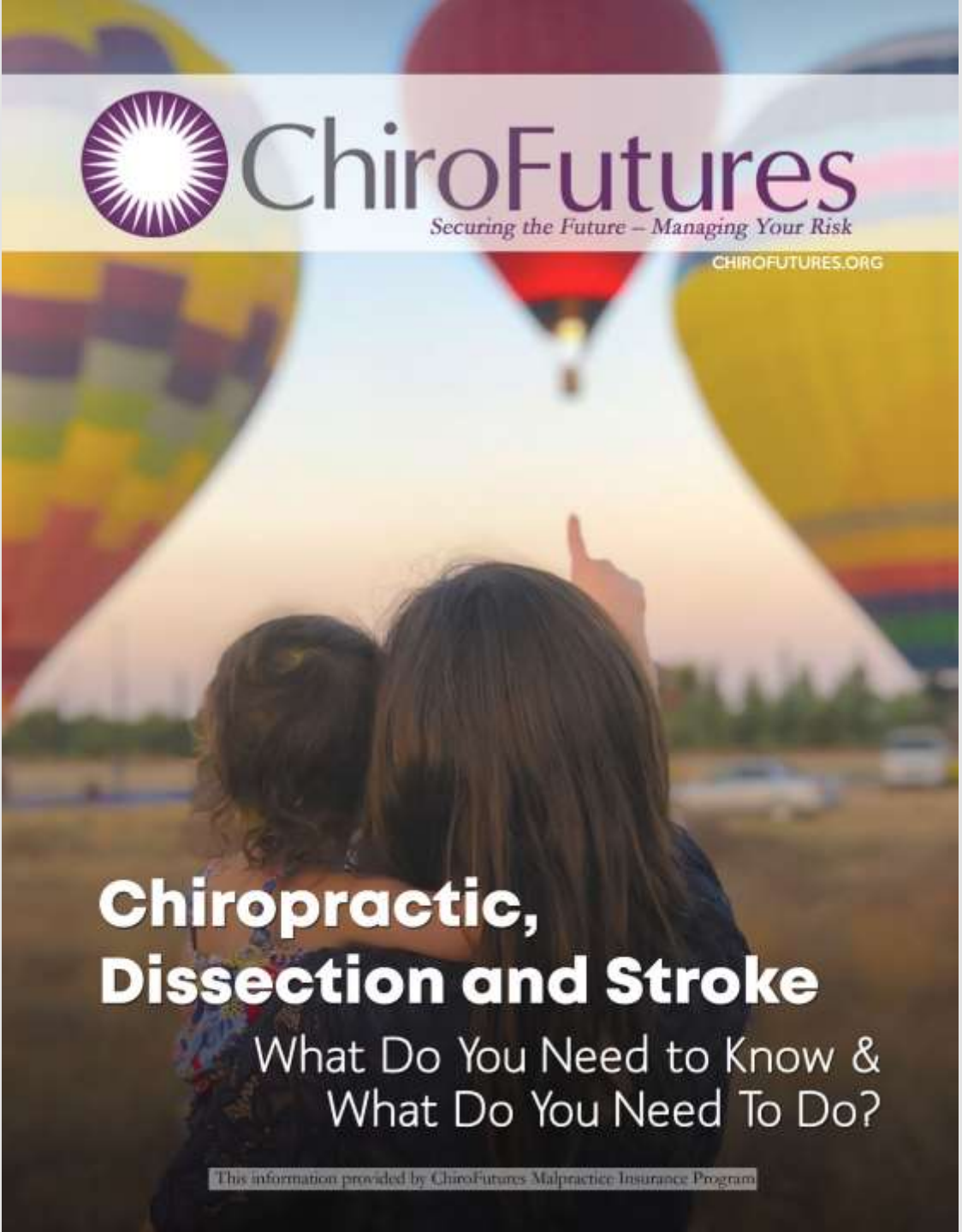
Securing the Future – Managing Your Risk



CLINICAL ROUNDS

Chiropractic, Stroke & Dissection

This information provided by ChiroFutures Malpractice Insurance Program


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Securing the Future – Managing Your Risk
CHIROFUTURES.ORG
Chiropractic,
Dissection and Stroke
What Do You Need to Know &
What Do You Need To Do?
This information provided by ChiroFutures Malpractice Insurance Program

A risk should be disclosed if a reasonable patient, in what the doctor knows or should know to be the patient's position, would be likely to attach significance to the risk or cluster of risks in deciding whether to forego the proposed therapy. Patients and doctors must make this decision based upon appropriate information.

You need to be aware of the clinical issues surrounding a potential dissection or cerebrovascular accident. In our experience, claims that chiropractors caused a stroke are really a timing issue – this is known as temporality. In other words, the patient was already in the midst of a dissection or stroke or was going to have one anyway and just so happened to have seen a chiropractor during that time frame.

The good news is that this is exactly where you can reduce the risk that you will be accused of causing the event and perhaps help your patient avoid the devastating consequences of a dissection or stroke. You probably remember being told over and over again in school and in continuing education programs that you always need to be considering cancer, infection and fracture in patients presenting to you for care – especially if those patients are in pain. Add one more critical item to that list: *vascular problems.*

When you have a patient come in to see you complaining of head, face and/or neck pain (especially pain that is different or more severe than they have had before), take an alternate approach.

"There is no human, experimental evidence that chiropractic adjustments or neck manipulations are causally related to strokes"



History & Examination

You need to differentiate this pain from the garden variety mechanical neck pain and/or cervicogenic headache. This patient could be presenting a potential dissection or impending stroke.

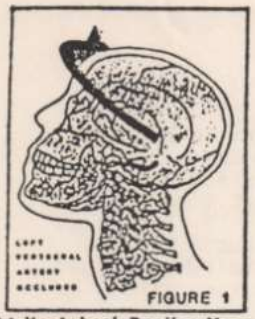
History

If the history and examination lead you to suspect even the outside possibility of a dissection or stroke – **DO NOT** adjust or manipulate the patient – call 911, get them to a hospital, have them lay down and monitor the patient while you wait. Don't give them anything to eat or drink and do not allow them to go home if they improve while laying there. Same goes if they have stroke like symptoms after a treatment.

You are better safe than sorry to order an MRA and an MRI to rule out dissection and stroke. As a chiropractor your number one goal is to help people. Many patients come to see you with neck pain and headaches. You feel confident you can help them. In some cases those complaints are secondary to vascular problems that may already be in process. Recognize this so you can make sure your patient gets the right care.

If those complaints are coupled with history and/or physical exam findings that suggest dissection or stroke: **Stop, Look and Listen** more intently and **err on the side of caution**.





Right Vertebral-Basilar Maneuver

Head and NECK
rotated and then hyperextended
Figure 1 and Figure 2



Left Vertebral-Basilar Maneuver

Stethoscope

Subclavian Artery

Right Brachial Artery Blood Pressure

Left Brachial Artery Blood Pressure

Right Radial Artery Pulse Strength

Left Radial Artery Pulse Strength

Major Locations of Thrombus and/or Thromboembolic Formation and Bruit

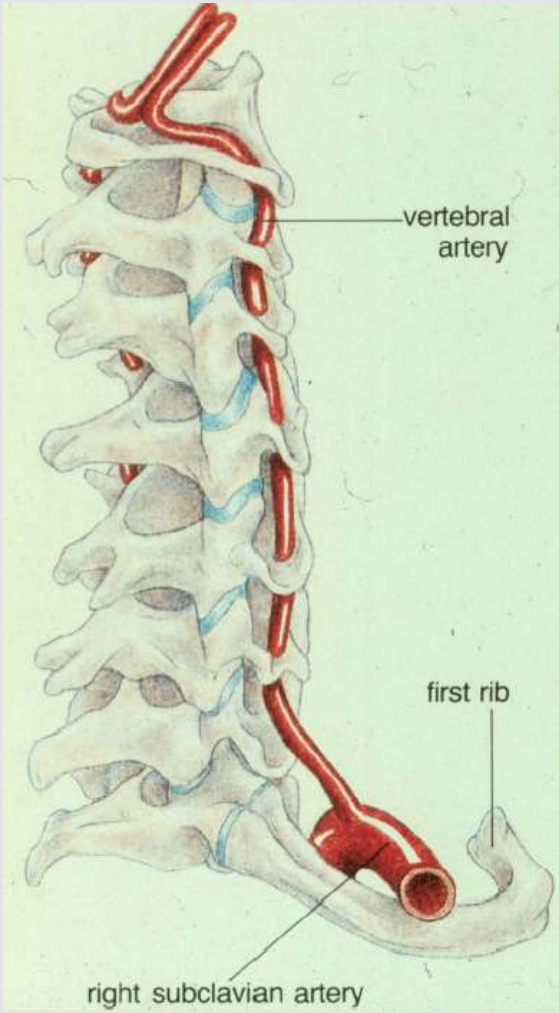
GEORGE'S CEREBROVASCULAR CRANIOCERVICAL FUNCTIONAL TEST FOR ISCHEMIA

ILLUSTRATOR: DR. LARRY JOHN SIGULINSKY

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http://kfor.com/2014/11/03/30-year-old-dies-after-visit-to-the-chiropractor/

The Cervical Spine, Chiropractic and Stroke



Sorting Fact from Fiction

Matthew McCoy DC, MPH
CEO & Co Founder
ChiroFutures Risk Purchasing Group
Phone: 800.219.9090 FAX: 800.219.9619
drmccoy@chirofutures.org

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Goals & Objectives

- Don’t want this to happen to one of your patients
- Don’t want this to happen to you
- Causation issues (It’s complex)
- How to recognize it
- What to do about it



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Do Adjustments Cause Strokes?



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AHA/ASA Scientific Statement

Cervical Arterial Dissections and Association With Cervical Manipulative Therapy

A Statement for Healthcare Professionals From the American Heart Association/American Stroke Association

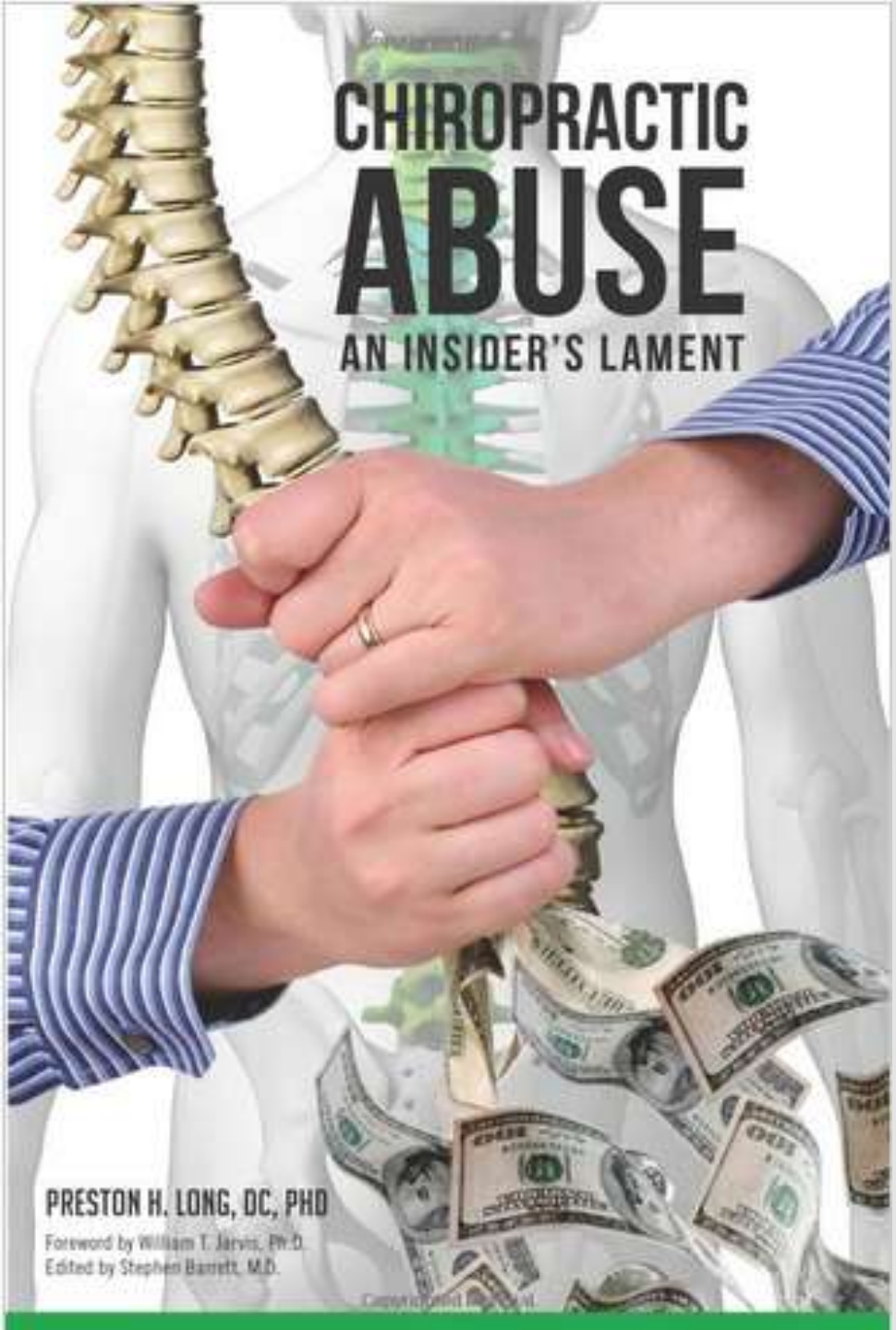
Endorsed by the American Association of Neurological Surgeons and Congress of Neurological Surgeons

José Biller, MD, FAHA, Chair; Ralph L. Sacco, MS, MD, FAHA, Co-Chair;
Felipe C. Albuquerque, MD; Bart M. Demaerschalk, MD, MSc; Pierre Fayad, MD, FAHA;
Preston H. Long, DC, PhD; Lori D. Noorollah, MD; Peter D. Panagos, MD, FAHA;
Wouter I. Schievink, MD; Neil E. Schwartz, MD, PhD; Ashfaq Shuaib, MD, FAHA;
David E. Thaler, MD, PhD, FAHA; David L. Tirschwell, MD, MSc;
on behalf of the American Heart Association Stroke Council

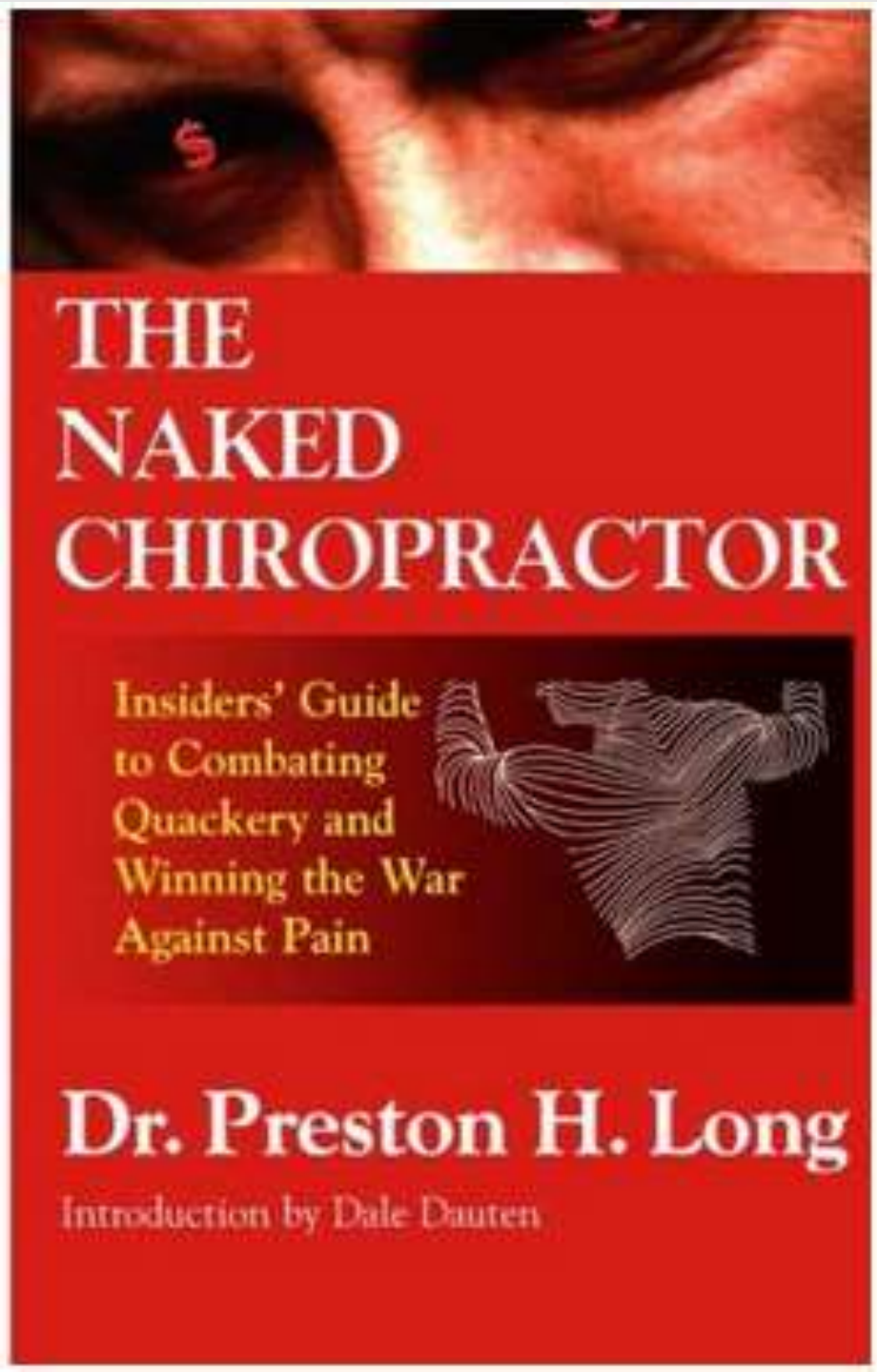
Purpose—Cervical artery dissections (CDs) are among the most common causes of stroke in young and middle-aged adults. The aim of this scientific statement is to review the current state of evidence on the diagnosis and management of CDs and their statistical association with cervical manipulative therapy (CMT). In some forms of CMT, a high or low amplitude thrust is applied to the cervical spine by a healthcare professional.

Methods—Members of the writing group were appointed by the American Heart Association Stroke Council's Scientific Statements Oversight Committee and the American Heart Association's Manuscript Oversight Committee. Members were assigned topics relevant to their areas of expertise and reviewed appropriate literature, references to published clinical and epidemiology studies, morbidity and mortality reports, clinical and public health guidelines, authoritative statements, personal files, and expert opinion to summarize existing evidence and to indicate gaps in current knowledge.

Results—Patients with CD may present with unilateral headaches, posterior cervical pain, or cerebral or retinal ischemia (transient ischemic or strokes) attributable mainly to artery–artery embolism, CD cranial nerve palsies, oculosympathetic palsy, or pulsatile tinnitus. Diagnosis of CD depends on a thorough history, physical examination, and targeted ancillary investigations. Although the role of trivial trauma is debatable, mechanical forces can lead to intimal injuries of the



Chiropractic Abuse is a very important and timely contribution to the critical evaluation of chiropractic. It provides a most valuable perspective on the education, training, thinking, misunderstandings, wrongdoings and unethical behaviours of chiropractors. Anyone who consults a chiropractor or is considering doing so should study it thoroughly. Preston Long has been a chiropractor himself, and therefore his authority and expertise cannot be undermined by labeling him an outsider. His thoughtful insights and hands-on experiences reflect the very heart of chiropractic. It is this fact that makes this book unique. It would be nice to think that his outstanding and in many ways constructive criticism might contribute to a much-needed and long overdue reformation of chiropractic; but I would not hold my breath. -- Edzard Ernst, MD, PhD.



"As you will discover in the pages of this book, alternative medicine practitioners are very adept at patient solicitation, "education" of their particular technique and engendering patient satisfaction. The benefits patients experience from alternative medicine derive more from the way a treatment is presented than from the treatment itself. From an alternative medicine provider's point of view, getting you to accept convoluted logic and believe in the value of your treatment is nearly half the battle in resolving your problem."



Preston H. Long, D.C., Ph.D., is a licensed chiropractor who resides near Phoenix, Arizona. He is also an associate professor at Bryan University, where he teaches in the master's program in applied health informatics. He is certified by the State of Arizona in physical medicine modalities and therapeutic procedures and was certified by the Association of Fraud Examiners, the National Association of Disability Evaluating Professionals, and the National Board of Forensic Examiners.

Dr. Long's professional career has spanned nearly 30 years. In addition to treating patients, he has testified at roughly 200 trials; performed more than 10,000 chiropractic record reviews and 2,000 independent medical examinations; and has served as a consultant to the Federal Bureau of Investigation, the U.S. Department of Justice, and the city attorney offices of Phoenix, Tempe, and Chandler, Arizona. In 2000, he was listed in Marquis Who's Who in Medicine and Healthcare.

Dr. Long received his bachelor of arts degree from Cardinal Stritch University in 1981, his chiropractic degree from Cleveland Chiropractic College in 1984, and his doctorate degree in health services from Walden University in 2002. From 1985 through 1987, he maintained allied courtesy staff privileges at Scottsdale Community Hospital and served as a medical staffing reviewer. In 2005, the Arizona Supreme Court appointed him to a three-year term on the Foster Care Review Board. In 2009, he was awarded the Chiropractor of the Year Award by Victims of Chiropractic Abuse (VOCA) for "outstanding commitment to protect the rights and health of chiropractic patients." He has been an editorial board member of the Journal of Quality Health Care and has authored two other books--The Naked Chiropractor (2002) and The Preston Protocol for Back Pain (2006)--and several articles in scientific journals.

Disclosures

Writing Group Disclosures

Writing Group Member	Employment	Research Grant	Other Research Support	Speakers' Bureau/ Honoraria	Expert Witness	Ownership Interest	Consultant/ Advisory Board	Other
José Biller	Loyola University Chicago, Stritch School of Medicine	None	None	None	None	None	None	None
Ralph L. Sacco	University of Miami, Miller School of Medicine	None	None	None	None	None	None	None
Felipe C. Albuquerque	Barrow Neurosurgical Associates	None	None	None	None	None	None	None
Bart M. Demaerschalk	Mayo Clinic	None	None	None	None	None	None	None
Pierre Fayad	University of Nebraska Medical Center	AGA Medical*; NINDS*; Yale University*	None	None	None	None	Allergan*	None
Preston H. Long	Evidence-Based Health Services, Inc	None	None	None	None	None	None	None
Lori D. Noorollah	HCA Midwest	None	None	None	None	None	None	Husband is a chiropractor†
Peter D. Panagos	Washington University	None	None	None	None	None	None	None
Wouter I. Schievink	Cedars-Sinai Medical Center	None	None	None	None	None	None	None
Neil E. Schwartz	Stanford University	None	None	None	None	None	None	None
Ashfaq Shuaib	University of Alberta	None	None	None	None	None	None	None
David E. Thaler	Tufts Medical Center	Tufts CTSI grant*; Tufts University "Tufts Collaborates" grant*	None	None	Expert witness testimony in malpractice case†	None	None	None
David L. Tirschwell	University of Washington	None	None	None	None	None	None	None

Methods

Writing group members were nominated by the committee chair and co-chair on the basis of their previous work in relevant topic areas and were approved by the American Heart Association (AHA) Stroke Council's Scientific Statement Oversight Committee and the AHA's Manuscript Oversight Committee. At the AHA's invitation, the American Chiropractic Association designated a representative to participate in the development of this paper but who elected not to be named. All members of the writing group had the opportunity to comment on and approved the final version of this document. The document underwent extensive AHA internal peer review, Stroke Council Leadership review, and Scientific Statements Oversight Committee review before consideration and approval by the AHA Science Advisory and Coordinating Committee.

Informed Consent

"We strongly believe that patients should be informed of this association before undergoing neck manipulation."

Dr. Jose Biller, chair of neurology at Loyola University Chicago Stritch School of Medicine.

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Stroke/Dissection Landscape

- Long term patients
- Dramamine
- Homeless
- Family history (50 yr old male)
- Relationships – MD's
- Relationships – Imaging
- Protocol – Hx, exam, referral, imaging
- Aggravating/Mitigating factors
- George's Test

Stroke Health Home
- Stroke Health News
- Stroke Health Reference
- Stroke Health Videos
- Stroke Community
- Find an Emergency Doctor

Stroke Guide
1. Overview & Facts
2. Symptoms & Types
3. Diagnosis & Tests
4. Treatment & Care
5. Living & Managing
6. Support & Resources

Related to Stroke
- Atrial Fibrillation
- Cholesterol Management
- Heart Disease
- Heart Failure
- High Blood Pressure

Stroke Health Center

- High Blood Pressure and Stroke
- Stroke Symptoms
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Chiropractic Manipulation of Neck: Stroke Risk?

American Heart Association releases statement saying risk may be increased if artery wall is torn

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WebMD News from HealthDay

By Dennis Thompson

HealthDay Reporter

THURSDAY, Aug. 7, 2014 (HealthDay News) -- Getting your neck adjusted by a chiropractor or osteopathic doctor may be associated with an increased risk of stroke, according to a scientific statement released Thursday by the American

Could Chiropractic Manipulation of Your Neck Trigger a Stroke?

American Heart Association releases statement saying risk may be increased if artery wall is torn



By Dennis Thompson
HealthDay Reporter

THURSDAY, Aug. 7, 2014 (HealthDay News) -- Getting your neck adjusted by a chiropractor or osteopathic doctor may be associated with an increased risk of stroke, according to a scientific statement released Thursday by the American Heart Association.

The energetic thrusts and rotations sometimes used in neck manipulation may cause a small tear in the artery walls in the neck, a condition called cervical artery dissection, the statement noted.

Cultural Authority

The chiropractic community is aware of the association between neck manipulation and stroke, which is an issue that has simmered for about five years now, said Keith Overland, immediate past president of the American Chiropractic Association and a doctor of chiropractic in Norwalk, Conn.

But Overland said that the evidence remains mixed and inconclusive.

"Two studies that have come out recently said that there is no evidence that the force or direction utilized in cervical manipulation reaches the threshold of stretching the arteries to the point that they can be damaged," he said, adding that professionals who perform neck adjustments apply force that is "no greater than what people can do in activities of daily life."

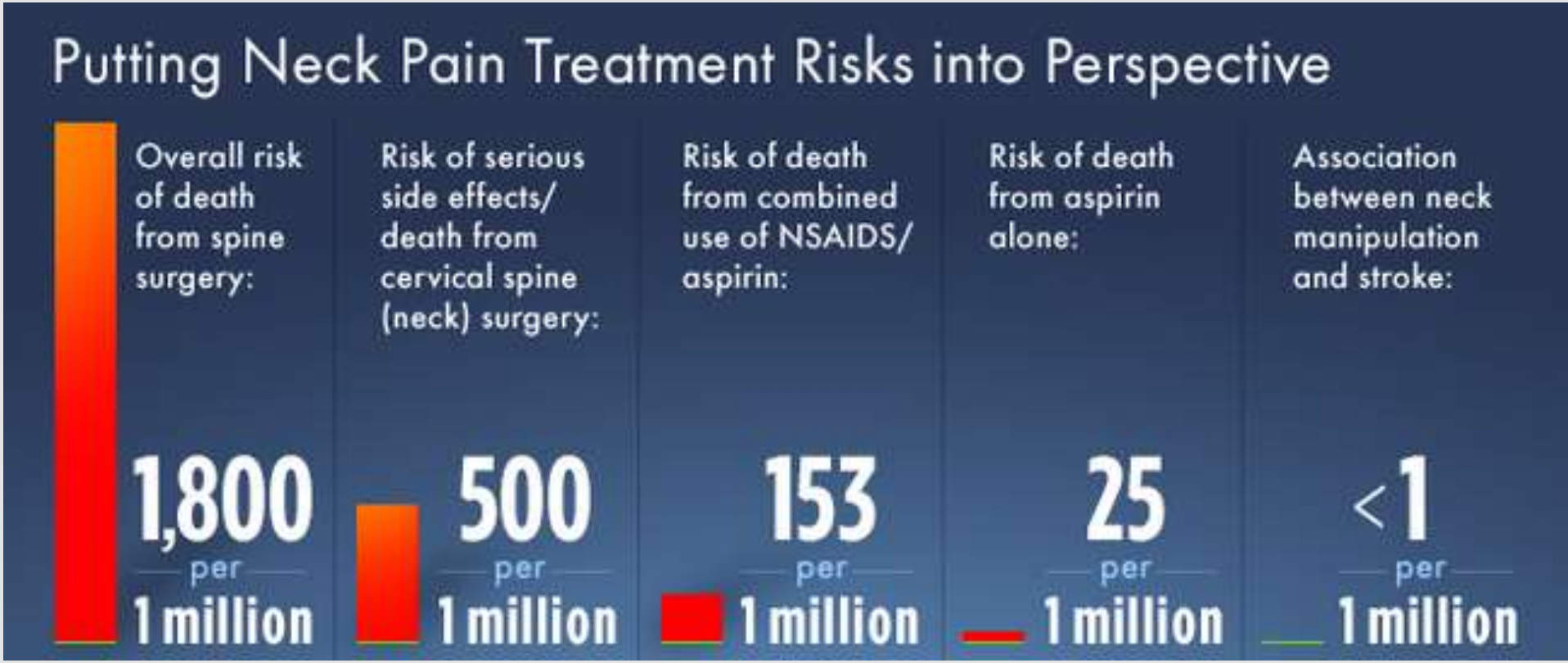
Overland added that neck manipulation is associated with many fewer stroke deaths than other common medical treatments for neck pain.

Neck manipulation is associated with about one death per 1 million people due to cervical artery dissection, he said.

By comparison, nonsteroidal anti-inflammatory drugs (NSAIDs) cause 153 stroke deaths per 1 million people, narcotic medications cause 53 stroke deaths per 1 million people, and spinal surgery of the neck causes 500 stroke deaths per 1 million people, Overland said.

Huh?

“Overland agreed, adding that chiropractors should discuss the potential stroke risk of neck manipulation with any patient who has other risk factors for stroke, such as cardiovascular disease, family history of stroke or severe headaches.”


Putting Neck Pain Treatment Risks into Perspective
Overall risk of death from spine surgery:
1,800
per
1 million
Risk of serious side effects/ death from cervical spine (neck) surgery:
500
per
1 million
Risk of death from combined use of NSAIDS/ aspirin:
153
per
1 million
Risk of death from aspirin alone:
25
per
1 million
Association between neck manipulation and stroke:
<1
per
1 million

ORIGINAL RESEARCH

RISK OF STROKE AFTER CHIROPRACTIC SPINAL MANIPULATION IN MEDICARE B BENEFICIARIES AGED 66 TO 99 YEARS WITH NECK PAIN

James M. Whedon, DC, MS,[a] Yunjie Song, PhD,[b] Todd A. Mackenzie, PhD,[c] Reed B. Phillips, DC, PhD,[d] Timothy G. Lukovits, MD,[e] and Jon D. Lurie, MD, MS[f]

ABSTRACT

Objective: The purpose of this study was to quantify risk of stroke after chiropractic spinal manipulation, as compared to evaluation by a primary care physician, for Medicare beneficiaries aged 66 to 99 years with neck pain.
Methods: This is a retrospective cohort analysis of a 100% sample of annualized Medicare claims data on 1 157 475 beneficiaries aged 66 to 99 years with an office visit to either a chiropractor or primary care physician for neck pain. We compared hazard of vertebrobasilar stroke and any stroke at 7 and 30 days after office visit using a Cox proportional hazards model. We used direct adjusted survival curves to estimate cumulative probability of stroke up to 30 days for the 2 cohorts.
Results: The proportion of subjects with stroke of any type in the chiropractic cohort was 1.2 per 1000 at 7 days and 5.1 per 1000 at 30 days. In the primary care cohort, the proportion of subjects with stroke of any type was 1.4 per 1000 at 7 days and 2.8 per 1000 at 30 days. In the chiropractic cohort, the adjusted risk of stroke was significantly lower at 7 days as compared to the primary care cohort (hazard ratio, 0.39; 95% confidence interval, 0.33-0.45), but at 30 days, a slight elevation in risk was observed for the chiropractic cohort (hazard ratio, 1.10; 95% confidence interval, 1.01-1.19).

ORIGINAL RESEARCH

Reduction in Arterial Blood Pressure Following Adjustment of Atlas to Correct Vertebral Subluxation: A Prospective Longitudinal Cohort Study

Scott R. Torns D.C.[1]

ABSTRACT

Objective: This investigation was a placebo-control, randomized, prospective longitudinal cohort study to examine the long term effect Atlas Orthogonal (AO) upper cervical chiropractic care has on arterial blood pressure (ABP).

Methods: Twenty participants were computer randomized into a placebo-control group and a therapeutic group. All participants were examined radiographically, and coordinate values were calculated for Atlas dysfunction per AO Technique. The therapeutic group received an AO adjustment while controls received a sham adjustment. Pre and post therapeutic intervention ABP values were recorded for each participant. Subsequent measures for ABP were again recorded at one week, two weeks, four weeks, and lastly, six weeks after intervention. The Atlas was adjusted utilizing an AO Adjusting Instrument. No adverse reactions were recorded in either group.

ABSTRACT

Objective: This investigation was a placebo-control, randomized, prospective longitudinal cohort study to examine the long term effect Atlas Orthogonal (AO) upper cervical chiropractic care has on arterial blood pressure (ABP).

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Results: The therapeutic group demonstrated significant lowering of both their systolic and diastolic values. Improvements in systolic values continued to be statistically significant at six weeks. The effect on the diastolic values failed to reach significance after four weeks. There were no statistically significant differences detected in the systolic or diastolic values of the control group.

Conclusions: This investigation provides further evidence connecting upper cervical chiropractic care and ABP regulation. While the exact mechanism remains in question, data suggests an appropriate dose may be one upper cervical chiropractic visit per month for patients that suffer from high ABP.

Keywords: *Atlas, high blood pressure, hypertension, Atlas Orthogonal, upper cervical chiropractic, nonsurgical antihypertensive therapy*

ORIGINAL RESEARCH

Atlas Vertebra Realignment and Arterial Blood Pressure Regulation in 42 Subjects

Scott Torns, DC[1]

ABSTRACT

Objective: To investigate the effect of the Atlas Orthogonal (AO) upper cervical adjustment on arterial blood pressure (ABP).

Methods: Forty-two patients in a private chiropractic practice met and participated in the study. Upon radiological examination, coordinate values were recorded per AO Technique. Pre and post adjustment ABP measurements were recorded for the following groups: Hypotensive, Normotensive, Pre-Hypertensive, Stage One Hypertensive, and Stage Two Hypertensive. Atlas was adjusted utilizing the AO technique. No adverse events were recorded.

Results: Pre-Hypertensive, Stage One Hypertensive, and Stage Two Hypertensive groups had a statistically significant decrease in ABP. There was an increase in ABP in the Hypotensive group.

ABSTRACT

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Results: Pre-Hypertensive, Stage One Hypertensive, and Stage Two Hypertensive groups had a statistically significant decrease in ABP. There was an increase in ABP in the Hypotensive group.

Conclusion: These findings suggest realignment of the atlas does not simply lower ABP but may also be part of a systemic homeostatic mechanism not yet completely understood. The same adjustment that decreased hypertensive ABP measurements also increased hypotensive ABP measurements to more normal levels. Exploration into the potential cause of these observed effects is also discussed.

Keywords: *Atlas, upper cervical, hypertension, blood pressure, chiropractic, antihypertensive therapy*

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ORIGINAL ARTICLE

Atlas vertebra realignment and achievement of arterial pressure goal in hypertensive patients: a pilot study

G Bakris[1], M Dickholtz Sr[2], PM Meyer[1], G Kravitz[1], E Avery[1], M Miller[3], J Brown[3], C Woodfield[4] and B Bell[3]

[1]*Department of Preventive Medicine, Rush University Hypertension Center, Chicago, IL, USA;* [2]*Chiropractic Health Center, Chicago, IL, USA;* [3]*Barrington Family Medical Clinic, Barrington, IL, USA and* [4]*Atlas Research Foundation, Barrington, IL, USA*

Anatomical abnormalities of the cervical spine at the level of the Atlas vertebra are associated with relative ischaemia of the brainstem circulation and increased blood pressure (BP). Manual correction of this mal-alignment has been associated with reduced arterial pressure. This pilot study tests the hypothesis that correcting mal-alignment of the Atlas vertebra reduces and maintains a lower BP. Using a double blind, placebo-controlled design at a single center, 50 drug naïve ($n=26$) or washed out ($n=24$) patients with Stage 1 hypertension were randomized to receive a National Upper Cervical Chiropractic (NUCCA) procedure or a sham procedure. Patients received no antihypertensive meds during the 8-week study duration. The primary end point was changed in systolic and diastolic BP comparing baseline and week 8, with a 90% power to detect an 8/5 mm Hg difference at week 8 over the placebo group. The study cohort had a mean age 52.7 ± 9.6 years, consisted of 70% males. At week 8, there were differences in systolic BP (−17 ± 9 mm Hg, NUCCA versus −3 ± 11 mm Hg, placebo; $P<0.0001$) and diastolic BP (−10 ± 11 mm Hg, NUCCA versus −2 ± 7 mm Hg; $P=0.002$). Lateral displacement of Atlas vertebra (1.0, baseline versus 0.04° week 8, NUCCA versus 0.6, baseline versus 0.5°, placebo; $P=0.002$). Heart rate was not reduced in the NUCCA group (−0.3 beats per minute, NUCCA, versus 0.5 beats per minute, placebo). No adverse effects were recorded. We conclude that restoration of Atlas alignment is associated with marked and sustained reductions in BP similar to the use of two-drug combination therapy.

Journal of Human Hypertension (2007) **21,** 347–352.
doi:10.1038/sj.jhh.1002133; published online 2 March 2007



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Research on Cardiovascular Risk & Vertebral Subluxation



A compilation of literature that explores the role that subluxation-centered chiropractic care may have in relation to risk factors associated with cardiovascular disease. These include potential effects on inflammatory markers, immune system response, psychological and physiological stress.

CLICK HERE FOR SUBSCRIPTION SPECIALS & GET COMPLETE ACCESS

Reduction in Arterial Blood Pressure Following Adjustment of Atlas to Correct Vertebral Subluxation: A Prospective Longitudinal Cohort Study
Scott Torns, DC
Journal of Upper Cervical Chiropractic Research ~ August 11, 2014 ~ Pages 54-60

Atlas Vertebra Realignment and Arterial Blood Pressure Regulation in 42 Subjects
Scott Torns DC
Journal of Upper Cervical Chiropractic Research ~ Issue 2 ~ April 24, 2012 ~ Pages 40-45

Atlas Vertebra Realignment and Achievement of Arterial Pressure Goal in Hypertensive Patients: A Pilot Study
George L. Bakris, M.D, Marshall Dickholtz Sr. D.C., Peter Meyer, Ph.D, Glenda Kravitz, M.S Elizabeth Avery, MS, Martha Miller BA, Jonathan Brown, D.C, C. Woodfield, Joseph Bruce M. Bell, M.D, Jason Haas
Journal of Vertebral Subluxation Research ~ October 29, 2007 ~ Pages 1-9

The Impact of Chiropractic Adjustments on Intracranial Blood Flow: A Pilot Study

Research on Cardiovascular Risk & Vertebral Subluxation

https://vertebralsubluxation.sharepoint.com/Pages/cardiovascular.aspx

IN MEMORIAM



Laurie Jean Mathiasen
Apr 23, 1977 – Feb 7, 1998
Our heart and our soul

Laurie died needlessly, at age 20, of a stroke caused by the dangerous, unwarranted practice of chiropractic neck manipulation. This useless twisting of the neck is performed on everyone from newborn babies to senior citizens as a panacea for all disease. It is being done to people like Laurie, who never had neck pain, by people who have been granted the title "doctor" by politicians. Laurie was misled into thinking that chiropractors are doctors. They are not!

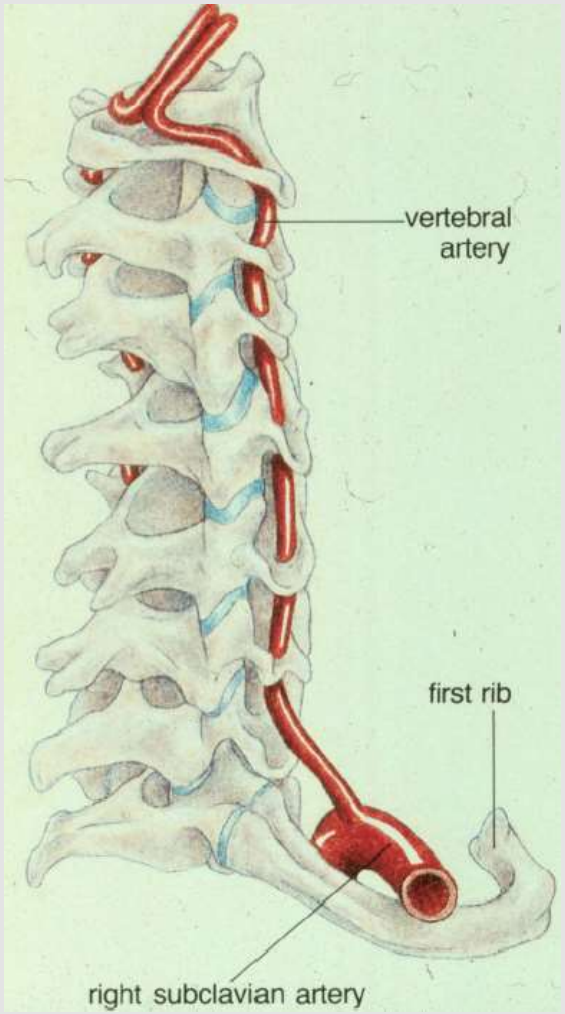
We salute the provinces that refuse to pay for chiropractic services and expect Saskatchewan, Alberta and Manitoba will follow the others in recognizing that government support misleads people into thinking that chiropractic treatment is safe and effective. The government of Alberta has paid out over 40 million dollars for babies and children to have their spines manipulated. In the words of Canadian Paediatricians, this is "ineffective and useless". How can Alberta's Minister of Health, Iris Evans, support such quackery?

Our hearts go out to other families in Canada whose loved ones have experienced stroke and death due to chiropractic neck manipulation. For information that could save your life, contact Canada wide: neck911@sprint.ca – British Columbia: www.faact.com – Alberta: neck911alberta@shaw.ca – Ontario: neck911ontario@rogers.com and in Saskatchewan: neck911@sasktel.net.

Loved and missed forever. Mum, Andrew, Jennifer and Nick.

We also lovingly remember your Dad together with you in Heaven.

Complexity



"An arterial dissection is probably the endpoint of a complex and possibly heterogenous group of vasculopathies developing under the influence of various genetic and environmental factors"

Brandt T, Grond G. Spontaneous cervical artery dissection: from risk factors toward pathogenesis. Stroke 2002;33(3):657-658

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Case # 1 - Hx



Mary is a 48-year-old female who has been under your care for some time (130 visits). She was adjusted by your associate yesterday and returns today requesting to see you. She tells you that yesterday's adjustment was "not like all the others" and that she has had neck pain ever since the adjustment yesterday.

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Case 1 - Dx



Based upon the above history, what is/are your working differential diagnosis(es)?

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Case # 1 – Add'l Hx

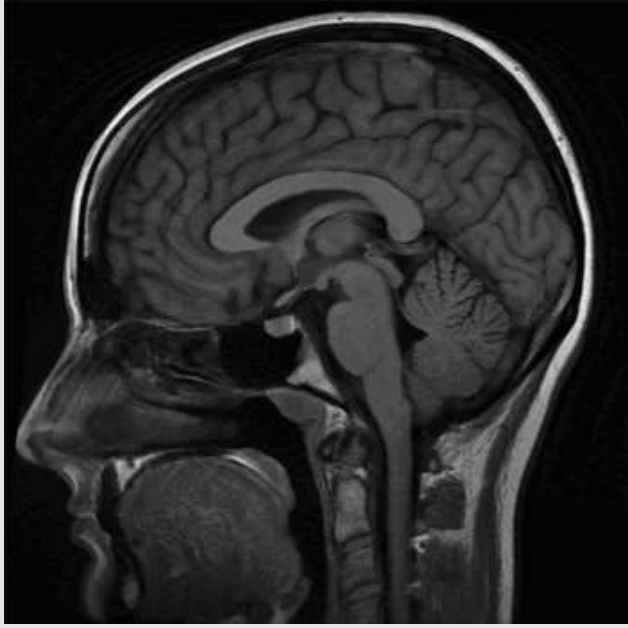


Upon further questioning, the patient states, "I have some fullness in my ear and I had some dizziness this morning."

The patient is fully oriented and normal conversationally although she appears nervous. Her neurological examination is grossly within normal limits.

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Case # 1 - Imaging



Further testing included and revealed the following:

Brain MRI

> “Small infarction present in the medial right cerebellar hemisphere. There are some ill-defined small areas (2-3) of ischemia present in the lateral left cerebellar hemisphere. Impression: Small relatively acute infarcts of the cerebellar hemispheres.”

Carotid & Vertebral MRA

> “The arch and great vessels originating from the arch are widely patent. The origins of the vertebral arteries are well seen. I do not see any evidence of a dissection of the vertebral or internal carotid arteries. They are widely patent. The vertebral arteries are symmetric bilaterally. The common carotid, internal and external carotid arteries are widely patent in the neck without evidence of stenosis.”

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Theory of Causation

You've been asked by plaintiff's attorney to opine on how the chiropractor's adjustment caused the strokes.



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Malpractice



1. Somebody has to get hurt
2. Has to be a violation of the standard of care

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CERTIFIED COPY OF DEATH CERTIFICATE

TYPE OR PRINT IN PERMANENT BLACK INK

LOCAL FILE NUMBER

CERTIFICATE OF DEATH

DECEDENT

1. NAME — First: [redacted] Middle: [redacted] Last: [redacted]
2. SEX (M / F): Male
3. DEATH DATE (Mo., Day, Yr.)
4. AGE LAST BIRTHDAY (Yrs.): 55
5. IF UNDER 1 YEAR: MOS. / DAYS
6. IF UNDER 1 DAY: HOURS / MINS.
7. BIRTHDATE (Mo., Day, Yr.): 03/15/1948
8. BIRTHPLACE (City, State or Foreign Country): [redacted] MN
9. WAS DECEDENT EVER IN U.S. ARMED FORCES? (Yes / No): Yes
10. COUNTY OF DEATH: [redacted]
11. CITY, TOWN OR LOCATION OF DEATH
12. PLACE OF DEATH — ☒ BOX FOR PLACE THEN GIVE ADDRESS OR INSTITUTION NAME: 1. ☐ HOME 2. ☐ IN TRANSPORT 3. ☐ EMERG. INPATIENT FTN ☒ EMERG. 4. ☐ NUR. HOME 5. ☐ OTHER PLACE
13. SMOKING IN LAST 15 YEARS? (Yes / No): Yes
14. MARITAL STATUS — Married, Never married, Widowed, Divorced (Specify): Married
15. SURVIVING SPOUSE (If wife, give maiden name): [redacted]
16. SOCIAL SECURITY NO.: [redacted]
17. DECEDENT'S EDUCATION (Specify only highest grade completed): Elementary/Secondary (0-12): 12; College (1-4 or 5+):
18. USUAL OCCUPATION (Give kind of work done during most of working life. DO NOT USE RETIRED): Receiving Clerk
19. KIND OF BUSINESS OR INDUSTRY: Retail
20. Was Decedent of Hispanic origin or descent? (Yes / No. If Yes, specify Cuban, Mexican, Puerto Rican, etc.): (Yes / No) Specify: No
21. RACE (Specify): Caucasian
22. RESIDENCE — NUMBER AND STREET: [redacted]
23. CITY/TOWN, OR LOCATION: [redacted]
24. WITHIN CITY LIMITS? (Yes / No): No
25. COUNTY: [redacted]
26. LENGTH OF STAY IN COUNTY: 25 yrs
27. STATE: [redacted]
28. ZIP CODE: [redacted]

PARENTS (Decedent)

29. FATHER'S NAME — FIRST, MIDDLE, LAST: [redacted]
30. MOTHER'S NAME — FIRST, MIDDLE, MAIDEN SURNAME: [redacted]
31. INFORMANT — NAME: [redacted]
32. MAILING ADDRESS — STREET OR RFD NO.: [redacted] CITY OR TOWN: STATE: ZIP:

DISPOSITION

33. BURIAL, CREMATION, REMOVAL, OTHER (Specify): Cremation
34. DATE (Mo., Day, Yr.)
35. CEMETERY/CREMATORY — NAME: [redacted]
36. LOCATION — CITY/TOWN, STATE: [redacted]
37. NAME OF FACILITY: [redacted]
38. ADDRESS OF FACILITY: [redacted]

CERTIFIER

TO BE COMPLETED ONLY BY CERTIFYING PHYSICIAN

39. TO THE BEST OF MY KNOWLEDGE, DEATH OCCURRED AT THE TIME, DATE AND PLACE AND WAS DUE TO THE CAUSE(S) STATED.
SIGNATURE AND TITLE: X
40. DATE SIGNED (Mo., Day, Yr.)
41. HOUR OF DEATH (24 hr.)

TO BE COMPLETED ONLY BY MEDICAL EXAMINER OR CORONER

42. ON THE BASIS OF EXAMINATION AND/OR INVESTIGATION, IN MY OPINION DEATH OCCURRED AT THE TIME, DATE AND PLACE, AND WAS DUE TO THE CAUSE(S) STATED.
SIGNATURE AND TITLE: X [redacted]
43. DATE SIGNED (Mo., Day, Yr.)
44. HOUR OF DEATH (24 hr.): 2156 h
45. PRONOUNCED DEAD (Mo., Day, Yr.)
46. HOUR PRONOUNCED DEAD (24 hr.): 2156 h
47. NAME AND TITLE OF ATTENDING PHYSICIAN IF OTHER THAN CERTIFIER (Type or Print)
48. NAME AND ADDRESS OF PHYSICIAN, MEDICAL EXAMINER OR CORONER (Type or Print): Associate Medical Examiner [redacted]
49. MEDICORONER'S NUMBER: [redacted]

CAUSE OF DEATH

50. ENTER THE DISEASES, INJURIES, OR COMPLICATIONS WHICH CAUSED THE DEATH:

IMMEDIATE CAUSE (Final disease or condition resulting in death):
a. Resolving bronchopneumonia with pulmonary edema — INTERVAL BETWEEN ONSET AND DEATH:
DUE TO, OR AS A CONSEQUENCE OF:
b. Pontine infarct — INTERVAL BETWEEN ONSET AND DEATH:
DUE TO, OR AS A CONSEQUENCE OF:
c. Occlusion of vertebral-basilar arteries — INTERVAL BETWEEN ONSET AND DEATH:
DUE TO, OR AS A CONSEQUENCE OF:
d. — INTERVAL BETWEEN ONSET AND DEATH:

DO NOT ENTER THE MODE OF DYING, SUCH AS CARDIAC OR RESPIRATORY ARREST, SHOCK, OR HEART FAILURE. LIST ONLY ONE CAUSE ON EACH LINE. Sequentially list conditions, if any, leading to immediate cause. Enter UNDERLYING CAUSE (Disease or injury which initiated events resulting in death) LAST.

51. OTHER SIGNIFICANT CONDITIONS — CONDITIONS CONTRIBUTING TO DEATH BUT NOT RESULTING IN THE UNDERLYING CAUSE GIVEN ABOVE: Arteriosclerotic cardiovascular disease
52. AUTOPSY (Yes / No): Yes
53. WAS CASE REFERRED TO MEDICAL EXAMINER OR CORONER? (Yes / No): Yes
54. ACC, SUICIDE, HOM., UNDET., OR PENDING INVEST. (Specify): Complication of Therapy
55. INJURY DATE (Mo., Day, Yr.)
56. HOUR OF INJURY (24 hr.): 0930 h
57. DESCRIBE HOW INJURY OCCURRED: Suffered stroke following chiropractic manipulation
58. INJURY AT WORK? (Yes / No): No
59. PLACE OF INJURY — AT HOME, FARM, STREET, BLDG. ETC. (Specify): [redacted]
60. LOCATION — CITY/TOWN, STATE: [redacted]

61. RECORD AMENDMENT (Registrar use only) — ITEM / DOCUMENTARY EVIDENCE / REVIEWED BY / DATE:
62. DATE RECEIVED (Mo., Day, Yr.)

(1/99)

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A copy of my *curriculum vitae* is attached as Exhibit A.

2. I was contacted by, attorney, and asked whether I would be willing to review certain materials related to the chiropractic treatment provided by D.C. to I agreed to do so and was provided with and have reviewed the following:

- chiropractic office chart for
- Selected portions of medical records at Hospital;
- Deposition of
- Death Certificate of and
- Medical Examiners Report of

3. I was asked by to address the following issues:

(A) Whether D.C., exercised that degree of skill, care and learning expected of a reasonably prudent chiropractor in the State of under the same or similar circumstances, during treatment of from . to ? My opinion, set forth in more detail in paragraph 5 below, is that failed to exercise that degree of skill, care and learning expected of a reasonably prudent chiropractor. In summary, it is my opinion that there was absolutely no indication for to perform any type of cervical manipulation on on

(B) Whether I could state, on a more likely than not basis, the probable cause of the right pontine and cerebellar stroke suffered by in In summary, my opinion is that the type of brain

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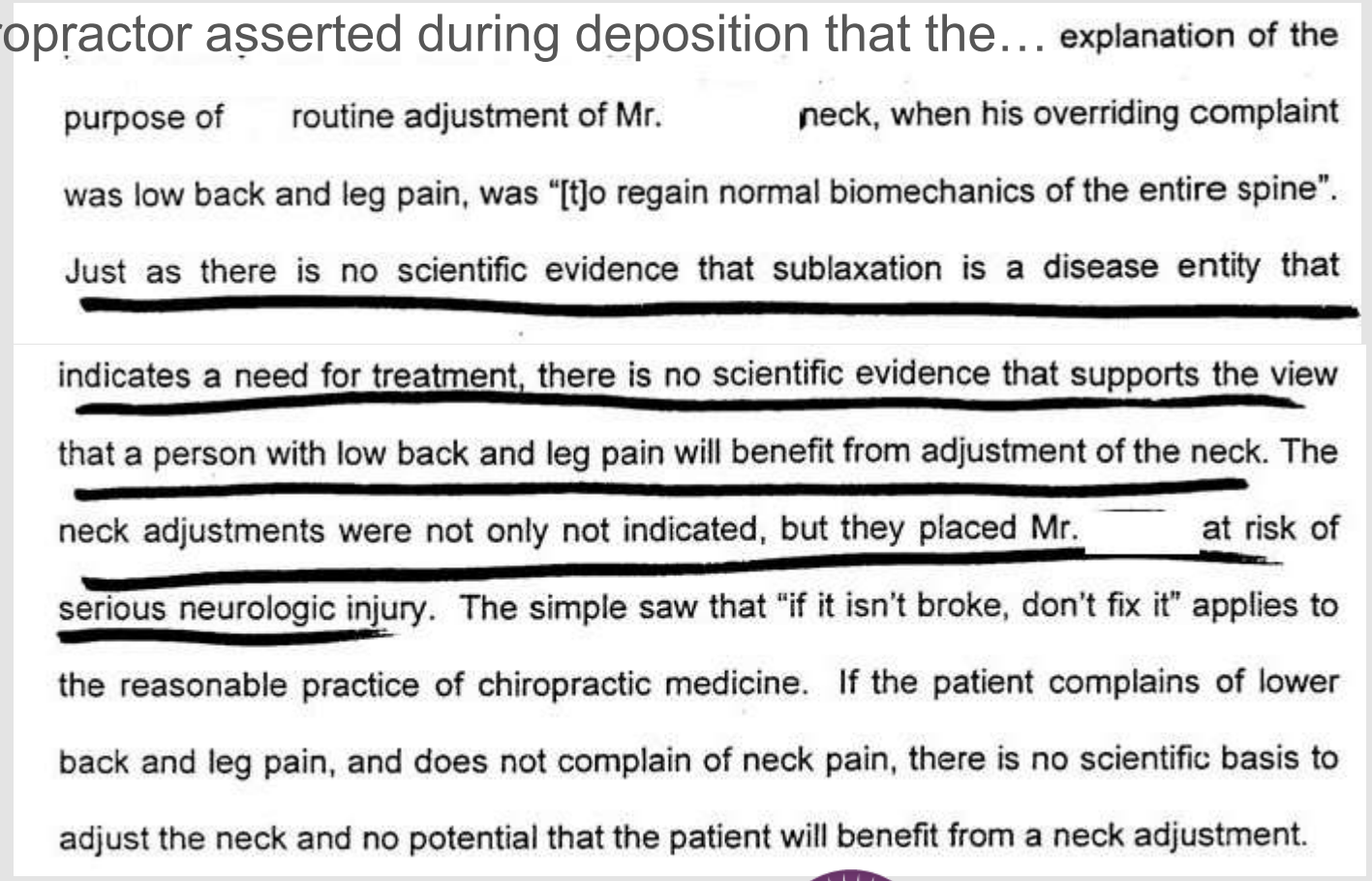
No Scientific Evidence

Second, Dr. testified that one of the reasons that routinely adjusted Mr. neck was because of sublaxation in the cervical spine. There is no scientific evidence that supports the notion that sublaxation is a disease entity that indicates either the need for or potential benefit from chiropractic adjustment. In the absence of pain and immobility, there is no scientific or rational basis to perform any type of chiropractic adjustment to a patient's neck.

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Neck Bone Connected to Back Bone?

The chiropractor asserted during deposition that the…



explanation of the purpose of routine adjustment of Mr. neck, when his overriding complaint was low back and leg pain, was "[t]o regain normal biomechanics of the entire spine". Just as there is no scientific evidence that sublaxation is a disease entity that indicates a need for treatment, there is no scientific evidence that supports the view that a person with low back and leg pain will benefit from adjustment of the neck. The neck adjustments were not only not indicated, but they placed Mr. at risk of serious neurologic injury. The simple saw that "if it isn't broke, don't fix it" applies to the reasonable practice of chiropractic medicine. If the patient complains of lower back and leg pain, and does not complain of neck pain, there is no scientific basis to adjust the neck and no potential that the patient will benefit from a neck adjustment.

ChiroFutures

In summary, the routine chiropractic adjustment of the neck, over a three year period on approximately 130 occasions, for a patient whose overriding complaint was lower back and leg pain, falls below the standard of care for a reasonably prudent chiropractor. There is no scientific evidence to support the view that Mr. would benefit from neck adjustments, and there is scientific evidence that such adjustments placed him at risk for serious neurologic injury. In the absence of complaints of pain and immobility of the neck, the chiropractic neck adjustments performed by Dr on Mr. were unnecessary chiropractic therapy. Mr. was placed at risk with no basis for to support the view that he would benefit from adjustment of his neck.

It is also my opinion that the standard of care requires that a chiropractor, before proceeding with adjustments to a patient's neck, has an obligation to fully inform his/her patient of the risk of injury to the vertebral artery and stroke. Dr testified that she did not tell Mr. that there was a potential for stroke with adjustments of his neck.

Do Adjustments Cause Strokes?



ChiroFutures

Smith et al

CME

Spinal manipulative therapy is an independent risk factor for vertebral artery dissection

W.S. Smith, MD, PhD; S.C. Johnston, MD, PhD; E.J. Skalabrin, MD; M. Weaver, MS; P. Azari; G.W. Albers, MD; and D.R. Gress, MD

Abstract—*Objective:* To determine whether spinal manipulative therapy (SMT) is an independent risk factor for cervical artery dissection. *Methods:* Using a nested case-control design, the authors reviewed all patients under age 60 with cervical arterial dissection (n = 151) and ischemic stroke or TIA from between 1995 and 2000 at two academic stroke centers. Controls (n = 306) were selected to match cases by sex and within age strata. Cases and controls were solicited by mail, and respondents were interviewed using a structured questionnaire. The medical records of interviewed patients were reviewed by two blinded neurologists to confirm that the patient had stroke or TIA and to determine whether there was evidence of arterial dissection. *Results:* After interview and blinded chart review, 51 patients with dissection (mean age 41 ± 10 years; 59% female) and 100 control patients (44 ± 9 years; 58% female) were studied. In univariate analysis, patients with dissection were more likely to have had SMT within 30 days (14% vs 3%, $p = 0.032$), to have had neck or head pain preceding stroke or TIA (76% vs 40%, $p < 0.001$), and to be current consumers of alcohol (76% vs 57%, $p = 0.021$). In multivariate analysis, vertebral artery dissections were independently associated with SMT within 30 days (OR 6.62, 95% CI 1.4 to 30) and pain before stroke/TIA (OR 3.76, 95% CI 1.3 to 11). *Conclusions:* This case-controlled study of the influence of SMT and cervical arterial dissection shows that SMT is independently associated with vertebral arterial dissection, even after controlling for neck pain. Patients undergoing SMT should be consented for risk of stroke or vascular injury from the procedure. A significant increase in neck pain following spinal manipulative therapy warrants immediate medical evaluation.

NEUROLOGY 2003;60:1424–1428

Rothwell Study

Original Contributions

Chiropractic Manipulation and Stroke
A Population-Based Case-Control Study

Deanna M. Rothwell, MSc; Susan J. Bondy, PhD; J. Ivan Williams, PhD

Background and Purpose—Several reports have linked chiropractic manipulation of the neck to dissection or occlusion of the vertebral artery. However, previous studies linking such strokes to neck manipulation consist primarily of uncontrolled case series. We designed a population-based nested case-control study to test the association.

Methods—Hospitalization records were used to identify vertebrobasilar accidents (VBAs) in Ontario, Canada, during 1993–1998. Each of 582 cases was age and sex matched to 4 controls from the Ontario population with no history of stroke at the event date. Public health insurance billing records were used to document use of chiropractic services before the event date.

Results—Results for those aged <45 years showed VBA cases to be 5 times more likely than controls to have visited a chiropractor within 1 week of the VBA (95% CI from bootstrapping, 1.32 to 43.87). Additionally, in the younger age group, cases were 5 times as likely to have had ≥3 visits with a cervical diagnosis in the month before the case's VBA date (95% CI from bootstrapping, 1.34 to 18.57). No significant associations were found for those aged ≥45 years.

Conclusions—While our analysis is consistent with a positive association in young adults, potential sources of bias are also discussed. The rarity of VBAs makes this association difficult to study despite high volumes of chiropractic treatment. Because of the popularity of spinal manipulation, high-quality research on both its risks and benefits is recommended. (*Stroke*. 2001;32:1054-1060.)

Key Words: case-control studies ■ chiropractic ■ complications ■ vertebrobasilar stroke

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Risk of Vertebrobasilar Stroke and Chiropractic Care

Results of a Population-Based Case-Control and Case-Crossover Study

J. David Cassidy, DC, PhD, DrMedSc,*†‡ Eleanor Boyle, PhD,* Pierre Côté, DC, PhD,*†‡§ Yaohua He, MD, PhD,* Sheilah Hogg-Johnson, PhD,†§ Frank L. Silver, MD, FRCPC,¶|| and Susan J. Bondy, PhD†

Study Design. Population-based, case-control and case-crossover study.

Objective. To investigate associations between chiropractic visits and vertebrobasilar artery (VBA) stroke and to contrast this with primary care physician (PCP) visits and VBA stroke.

Summary of Background Data. Chiropractic care is popular for neck pain and headache, but may increase the risk for VBA dissection and stroke. Neck pain and headache are common symptoms of VBA dissection, which commonly precedes VBA stroke.

Methods. Cases included eligible incident VBA strokes admitted to Ontario hospitals from April 1, 1993 to March 31, 2002. Four controls were age and gender matched to each case. Case and control exposures to chiropractors and PCPs were determined from health billing records in the year before the stroke date. In the case-crossover analysis, cases acted as their own controls.

Results. There were 818 VBA strokes hospitalized in a population of more than 100 million person-years. In those aged <45 years, cases were about three times more likely to see a chiropractor or a PCP before their stroke than controls. Results were similar in the case control and case crossover analyses. There was no increased association between chiropractic visits and VBA stroke in those older than 45 years. Positive associations were found between PCP visits and VBA stroke in all age groups. Practitioner visits billed for headache and neck complaints were highly associated with subsequent VBA stroke.

Conclusion. VBA stroke is a very rare event in the population. The increased risks of VBA stroke associated with chiropractic and PCP visits is likely due to patients with headache and neck pain from VBA dissection seeking care before their stroke. We found no evidence of excess risk of VBA stroke associated chiropractic care compared to primary care.

Key words: vertebrobasilar stroke, case control studies, case crossover studies, chiropractic, primary care, complications, neck pain. **Spine 2008;33:S176–S183**

Neck pain is a common problem associated with considerable comorbidity, disability, and cost to society.[1–5] In North America, the clinical management of back pain is provided mainly by medical physicians, physical therapists and chiropractors.[6] Approximately 12% of American and Canadian adults seek chiropractic care annually and 80% of these visits result in spinal manipulation.[7,8] When compared to those seeking medical care for back pain, Canadian chiropractic patients tend to be younger and have higher socioeconomic status and fewer health problems.[6,8] In Ontario, the average number of chiropractic visits per episode of care was 10 (median 6) in 1985 through

STATE OF CONNECTICUT
CONNECTICUT BOARD OF CHIROPRACTIC EXAMINERS

IN RE:	PETITION FOR DECLARATORY RULING CONCERNING WHETHER THE RISK AND/OR POSSIBILITY OF THE OCCURRENCE OF A STROKE OR CERVICAL ARTERY DISSECTION AS A SIDE EFFECT SHOULD BE ADDRESSED WHEN A CHIROPRACTIC PHYSICIAN OBTAINS INFORMED CONSENT FROM A PATIENT PRIOR TO THE PERFORMANCE OF A JOINT MOBILIZATION, MANIPULATION, OR ADJUSTMENT OF THE CERVICAL SPINE
PETITIONER:	CONNECTICUT CHIROPRACTIC ASSOCIATION, INC.

DECLARATORY RULING
MEMORANDUM OF DECISION

Based on the all foregoing and after a careful review of all of the written evidence and testimony, the Board concludes that the standard of care for Connecticut chiropractors does not require that chiropractors inform patients that a stroke or cervical artery dissection is a risk or side effect of joint mobilization, manipulation, or adjustment of the cervical spine when securing informed consent to such treatment. However, even though stroke or cervical artery dissection has not been established as a risk or side effect of chiropractic adjustments, chiropractors will not be in violation of the standard of care if they chose to discuss these issues with their patients.

Risk Perception





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IN THE SUPERIOR COURT OF COUNTY
STATE OF

[redacted]

Plaintiffs,

v.

[redacted] CHIROPRACTIC CENTER, P.C.,

Defendants.

JURY TRIAL DEMANDED

CIVIL ACTION
FILE NO [redacted]

PLAINTIFFS' FIRST AMENDED AND RECAST COMPLAINT

COME NOW [redacted] and [redacted] Plaintiffs in the above-styled civil action, and file their First Amended and Recast Complaint against Defendants as follows:

PARTIES AND JURISDICTION

1.

Plaintiffs [redacted] and [redacted] are citizens of the State of [redacted] and reside [redacted]. At all times relevant to this action, Plaintiffs have been lawfully married.

2.

Defendant [redacted] P.C. ([redacted]) is subject to the jurisdiction of this Court and may be served as provided by law.

STATEMENT OF FACTS

5.

Plaintiffs reallege and incorporate by reference paragraphs 1 through 4 above as if they were fully restated verbatim herein.

6.

On November Plaintiffs sought chiropractic treatment at the Clinic in [redacted]

7.

When they arrived at the Clinic, they presented a "Free Examination" card, which Defendants had distributed throughout the community to try and attract new patients.

8.

On the back of the "Free Examination" card appeared the words "IT'S A MIRACLE" in large, bold print.

9.

Defendants distributed the "Free Examination/It's A Miracle" cards in the community to attract new patients by communicating the message that chiropractic treatment can lead to "miraculous" results.

10.

At the November appointment, [redacted] presented with complaints of headache, neck and shoulder pain, and hip pain, which Ms. [redacted] reported to have begun when she "slept wrong."

11.

Defendant [redacted] an employee and agent of [redacted], saw Ms. [redacted] at the [redacted] Clinic, and obtained a written patient history from Ms. [redacted]

12.

The patient history indicated [redacted] had a history of frequent, severe headaches.

13.

The patient history indicated [redacted] had a history of pressure or pain in the head.

14.

The patient history indicated [redacted] had a history of high blood pressure.

15.

The patient history indicated [redacted] had complaints of "frequently feel faint."

16.

At the November 12, 2007, appointment, [redacted] reported that she was taking birth control.

17.

Defendant [redacted] did not complete the Initial Clinical Examination Form.

18.

Defendant [redacted] did not perform any Neurologic and Vascular Screening on [redacted]

19.

Defendant [redacted] did not obtain [redacted] informed consent prior to rendering treatment.

20.

Defendant [redacted] never informed [redacted] of the risks associated with cervical

21.

Vascular injury and stroke is a recognized risk of cervical manipulation.

22.

Defendan[redacted] never informed[redacted] of the availability of alternative treatments for her complaints.

23.

From November through January Defendan[redacted] performed approximately 25 cervical manipulations on Ms[redacted] her husband[redacted] *and* her 2-year-old little girl[redacted]

24.

According to Defendan[redacted] chart fo[redacted] the manipulations did little or nothing to reduce Ms[redacted] complaint of headache.

25.

On January , Dr[redacted] performed a cervical manipulation on[redacted] in which used excessive force.

26.

Immediately following the cervical manipulation,[redacted] screamed in pain and informed Dr[redacted] that she felt severe head pain and dizziness.

27.

Dr[redacted] did not advis[redacted] to immediately seek medical attention, but instead, advised her to go home and "put ice on [her] neck."

COUNT ONE

PROFESSIONAL NEGLIGENCE

30.

Plaintiffs reallege and incorporate by reference paragraphs 1 through 29 above as if they were fully restated verbatim herein.

31.

Defendant Dr. [redacted] was required and obligated to provide care to Plaintiff [redacted] that complied with the standard of care and skill of such persons generally under the same or similar circumstances.

32.

While providing care to Plaintiff [redacted] Defendant Dr. [redacted] violated the standard of care and skill exercised by chiropractors and chiropractic clinics generally under the same or similar circumstances as those surrounding Plaintiff [redacted]

33.

More specifically, the care given to Plaintiff fell below the standard of minimum care and treatment required of chiropractors generally under like circumstances as reflected in the Affidavit of [redacted] attached to Plaintiffs' Complaint for Damages and incorporated herein by reference.

Plaintiff suffered serious injuries and damages, including physical injuries, medical expenses, lost wages and capacity to work, and mental and physical pain and suffering. These injuries are permanent, and, in the future, Plaintiff [redacted] will suffer physical injuries, medical and other necessary expenses, lost wages and capacity to work, and mental and physical pain and suffering.

35.

As a direct and proximate result of Defendant [redacted] professional negligence, Plaintiff is entitled to an award of special damages, including medical expenses in an amount to be shown at trial, and general damages, all in an amount in excess of Ten Thousand Dollars ($10,000.00).

36.

This claim is for professional malpractice under

Pursuant to Plaintiff has attached to the Complaint for Damages, the Affidavit of [redacted] D.C., an expert chiropractic witness competent to testify in this matter, which sets forth specifically at least one of the negligent acts and omissions by the Defendant Dr. [redacted] which forms the basis of this complaint against this Defendant for malpractice and sets forth the factual basis for such claims as set forth in this Complaint.

COUNT THREE

FRAUD

39.

Plaintiffs reallege and incorporate by reference paragraphs 1 through 38 above as if they were fully restated verbatim herein.

40.

Defendant [redacted] P.C. and Defendant [redacted] made numerous false representations to Plaintiffs, including the following:

a. Defendants falsely represented that chiropractic care is a "Miracle" and can result in miraculous results;

b. Defendants falsely represented that Plaintiffs and their 2-year-old daughter all had a disease process afflicting their spines, or "subluxations" in the jargon of the chiropractic community;

c. Defendants falsely represented that Plaintiffs needed x-rays to confirm the presence of "subluxations", thereby unnecessarily exposing Plaintiffs to high levels of radiation;

d. Defendants falsely represented that Plaintiffs and their 2-year-old daughter all had a disease process afflicting their spines - "subluxations" - and recommended unnecessary and dangerous cervical manipulations to treat their disease, for which Defendants charged a fee;

41.

Defendants knew, or in the alternative, should have known that the above representations were false when they were made.

42

Defendants made the above false representations with the intention to induce Plaintiffs to utilize their chiropractic "services" and to return for follow up appointments for which they were charged a fee.

43.

Plaintiffs justifiably relied upon the false representations made by Defendants.

44.

Both Plaintiffs have suffered financial damages as a result of the false representations and unnecessary "treatments", and Plaintiff [redacted] has suffered permanent physical damage as alleged herein.

COUNT FOUR

EXEMPLARY DAMAGES

45.

Plaintiffs reallege and incorporate by reference paragraphs 1 through 44 above as if they were fully restated verbatim herein.

46.

The actions of Defendants, as alleged herein, show willful misconduct, wantonness and/or that entire want of care, which would raise the presumption of a conscious indifference to the consequences of their actions. Accordingly, Plaintiffs seeks exemplary damages pursuant to

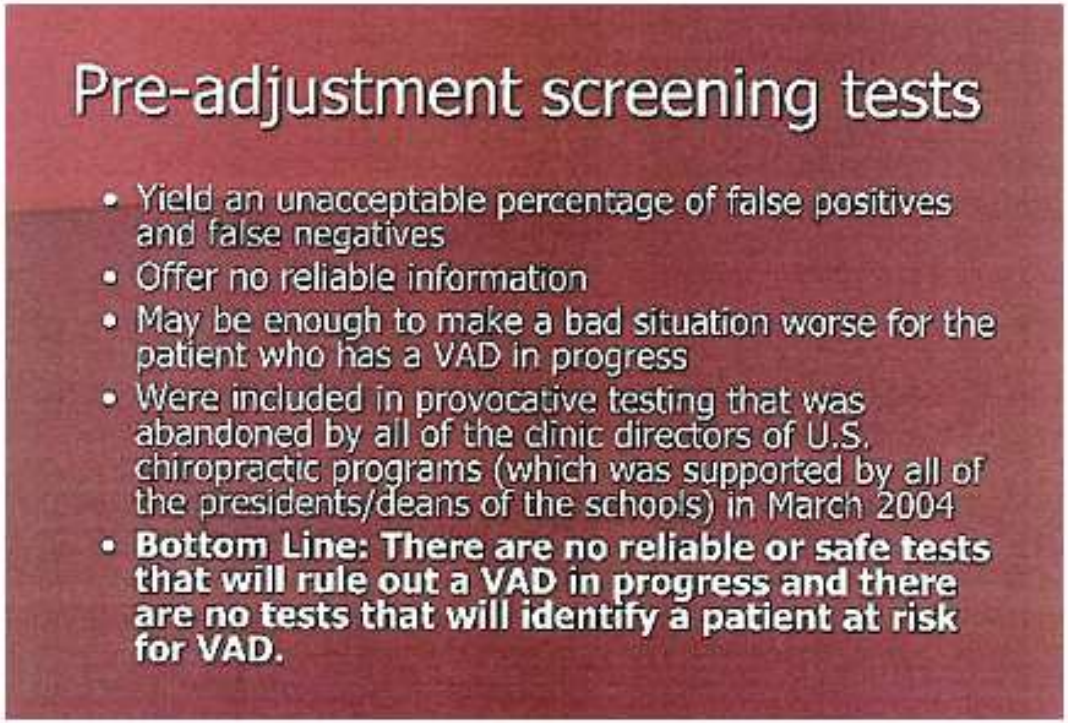
George’s Test

George's Test

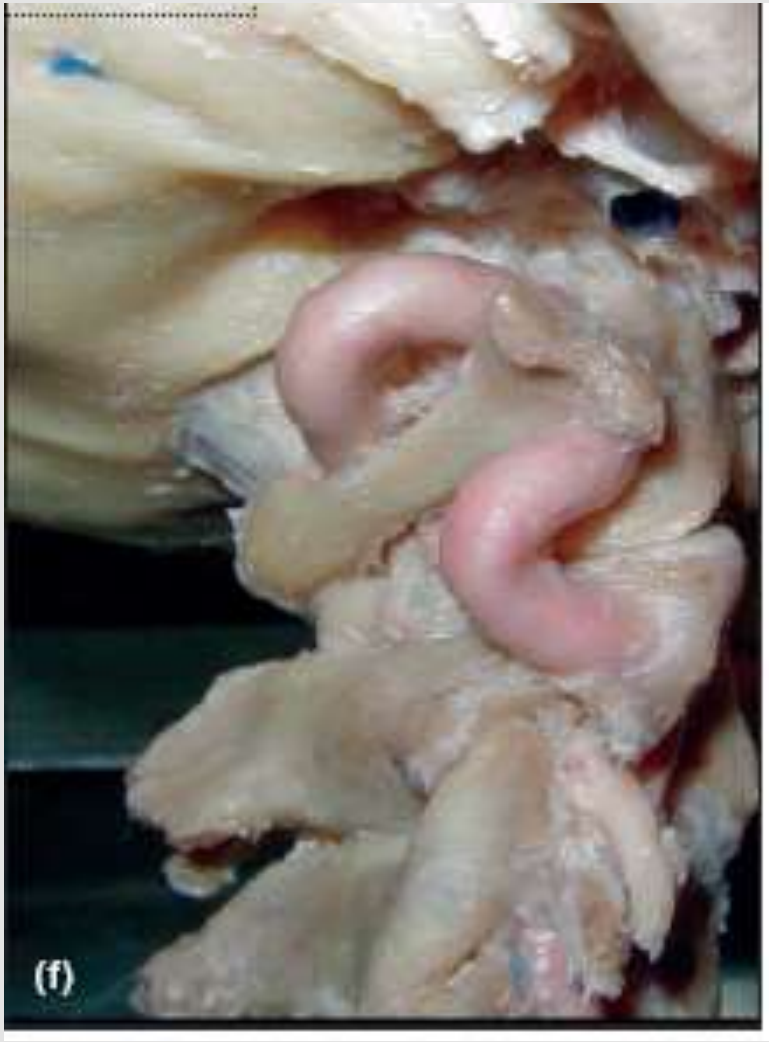
For many years it was thought that George's Test was a viable testing procedure to help screen for patients who may be at greater risk for vertebral artery dissection following cervical spine adjusting. The fullness of time and the advancing accumulation of literature have changed that perspective and today the perspective on the test is that its use has the potential to cause more harm than good,.

In March 2004, the Clinic Directors of all the chiropractic schools and programs in the United States recommended to the presidents and/or deans of the institutions and program that they support a move to discontinue the use of George's Test and similar provocative testing in this setting. This position was supported by the presidents and deans.

Subsequently the Association of Chiropractic Colleges, due to the importance of this entire area of discussion, formed and charged a committee to develop a lecture addressing the subject of cervical spine adjusting and vertebral artery issues. The committee was Chaired by Dr. Gerry Clum of Life Chiropractic College West.



Anatomy & Technique





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Technique



Already in Process

The majority of patients who develop symptoms of a vertebral artery dissection following chiropractic care were probably in the process of dissection when they presented for care.

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So What Do You Do?

Pay Attention!

Pay Attention!

Pay Attention!



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Five D's &Three N's

Five D's

- Dizziness
- Drop attacks
- Diplopia
- Dysarthria
- Dysphagia

Three N's

- Nausea
- Numbness
- Nystagmus

And…

Ataxia



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How Do I Know?



Clinical Judgment

Constellation of symptoms

Uniqueness of symptoms

Degree/severity of symptoms

And History, History, History, History….

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Other Things to Look for…

Slurring speech

Giddiness

Voice changes

Speech doesn't make sense

Inappropriate behaviors



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Red Flag…

I’ve never had anything like this before.



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New Complaints

People having dissections or about to tend to be complaining of new complaints especially neck, head, suboccipital, ear upper back, unilateral



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Case # 3

Immediately following a cervical spine adjustment the patient tells you they are dizzy…



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Action Steps?

Patient reporting new complaint of neck pain, trauma or no trauma. Never had anything like this and they have other neuro signs and symptoms

Consider referral for further evaluation to rule out dissection BEFORE adjusting.

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What If?



Monitor Vital Signs

Monitor neurological signs & symptoms

- Transient, limited and resolve quickly vs.
- Do not resolve or worsen…

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Don’t



- Don’t adjust the patient again
- Don’t adjust the other side
- Don’t send them to the hospital alone
- Don’t send them home alone
- Don’t let them go to the bathroom alone
- Don’t tell them this was a normal reaction

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Do…



- Call an Ambulance
- Monitor Vitals
- Monitor neuro signs and symptoms

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Time is of the Essence

You have 90 minutes



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Malpractice - Mitigation

1. The doctor recognized what was happening.
2. The doctor monitored and documented what happened following the event.
3. The doctor managed the event properly and timely
4. The Doctor did NOT readjust the patient
5. The doctor didn’t send the patient home unstable or without supervision
6. The doctor insisted the patient seek help
7. The doctor documented everything



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No Gold Standard?

Ultrasonography, computed tomographic angiography, and magnetic resonance imaging with magnetic resonance angiography are useful in the diagnosis of CD. Follow-up neuroimaging is preferentially done with noninvasive modalities, but we suggest that no single test should be seen as the gold standard.

Data on the effectiveness of CMT for neck pain are sparse and questionable.[73,80–85] The most recent Cochrane review consisting of some low-quality trials found that the effect of cervical manipulation was comparable to that of mobilization, which does not include a thrust.[80–82] Two studies, published

Clinical Presentation

With the increasing use of noninvasive imaging, CD is being diagnosed in many patients who present with subtle manifestations.[90,159,163–170] Most patients have at least 2 symptoms, although symptoms may occur in isolation and some CDs remain asymptomatic. Localized warning symptoms and signs are common and provide an opportunity to recognize and treat patients before cerebral ischemia occurs. Asymptomatic CDs are frequently encountered especially when investigating clinically symptomatic ones. This makes most estimates of the frequency of symptoms in CDs probable overestimates.

Causal Relationship

There is no human experimental evidence that chiropractic adjustments or neck manipulations are causally related to strokes.

The claims and statements that have been made and that have been interpreted by plaintiff attorneys and plaintiff experts to contend a link are based largely on case controlled studies.

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Case Control Studies

- A multitude of systematic distortions (biases) may effect the results and conclusions drawn from case-control studies.
- Other criteria must be used to determine whether an association is actually *causative* because an association, no matter how strong, does not prove causation.
- At this point in time due to the rarity with which VBA's occur, experimental evidence in humans and prospective cohort studies examining the hypothesis that chiropractic adjustments cause stroke - *do not exist*.
- If such studies were to be carried out they would take a number of years to complete and would require thousands of subjects because of the rarity of the occurrence.

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Risks & Informed Consent

Regarding advising on risks - a risk should be disclosed if a **reasonable patient** in what the doctor knows or should know to be the patient's position, would be likely to attach significance to the risk or cluster of risks in deciding whether to forego the proposed therapy.

Patients and doctors must make this decision based upon ***appropriate*** information. Since there is **no** human experimental evidence that chiropractic adjustments or neck manipulations are **causally** related to strokes, why would we require a doctor to suggest that such a risk exists?

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Informed Consent

We encourage and support a **shared decision making process** between us regarding your health needs. As a part of that process you have a right to be informed about the condition of your health and the recommended care and treatment to be provided to you so that you can make the decision whether or not to undergo such care with full knowledge of the known risks. This information is intended to make you better informed in order that you can knowledgably give or withhold your consent.

Chiropractic is based on the science which concerns itself with the relationship between structures (primarily the spine) and function (primarily of the nervous system) and how this relationship can affect the restoration and preservation of health.

Adjustments are made by chiropractors in order to correct or reduce spinal and extremity joint subluxations. **Vertebral subluxation** is a disturbance to the nervous system and is a condition where one or more vertebra in the spine is misaligned and/or does not move properly causing interference and/or irritation to the nervous system. The primary goal in chiropractic care is the removal and/or reduction of nerve interference caused by vertebral subluxation.

A chiropractic examination will be performed which may include spinal and physical examination, orthopedic and neurological testing, palpation, specialized instrumentation, radiological examination (x-rays), and laboratory testing.

The chiropractic adjustment is the application of a precise movement and/or force into the spine in order to reduce or correct vertebral subluxation(s). There are a number of different methods or techniques by which the chiropractic adjustment is delivered but are typically delivered by hand. Some may require the use of an instrument or other specialized equipment. In addition, physiotherapy or rehabilitative procedures may be included in the management protocol. Among other things, chiropractic care may reduce

Informed Consent

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Informed Consent

In addition to the benefits of chiropractic care and treatment, one should also be aware of the existence of some risks and limitations of this care. The risks are seldom high enough to contraindicate care and all health care procedures have some risk associated with them.

Risks associated with some chiropractic treatment may include soreness, musculoskeletal sprain/strain, and fracture. Risks associated with physiotherapy may include the preceding as well as allergic reaction and muscle and/or joint pain.

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Informed Consent

In addition there are reported cases of **stroke** associated with visits to medical doctors and chiropractors.

Research and scientific evidence does not establish a cause and effect relationship between chiropractic treatment and the occurrence of stroke; rather, recent studies indicate that patients may be consulting medical doctors and chiropractors when they are in the early stages of a stroke.

In essence, there is a stroke already in process. However, you are being informed of this reported association because a stroke may cause serious neurological impairment.

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Informed Consent

I have been informed of the nature and purpose of chiropractic care, the possible consequences of care, and the risks of care, including the risk that the care may not accomplish the desired objective.

Reasonable alternative treatments have been explained, including the risks, consequences and probable effectiveness of each. I have been advised of the possible consequences if no care is received. I acknowledge that no guarantees have been made to me concerning the results of the care and treatment.

I HAVE READ THE ABOVE PARAGRAPH. I UNDERSTAND THE INFORMATION PROVIDED. ALL QUESTIONS I HAVE ABOUT THIS INFORMATION HAVE BEEN ANSWERED TO MY SATISFACTION. HAVING THIS KNOWLEDGE, I KNOWINGLY AUTHORIZE

_____

TO PROCEED WITH CHIROPRACTIC CARE AND TREATMENT.

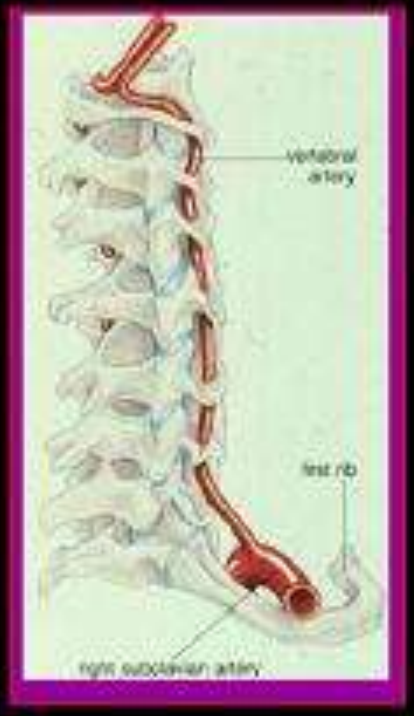


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Journal of Vertebral Subluxation Research

A PEER REVIEWED JOURNAL

Stroke and Chiropractic: *Sorting Fact from Fiction*



Special Issue - Stroke

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Postage Stamp Honors Crusader Against Chiropractic Malpractice Approved by US Postal Service

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Victims of Chiropractic Abuse (www.vocact.com) has released a stamp honoring the life and legacy of Linda Solsbury, the courageous activist who started the push for chiropractic reform.

Westville, CT (PRWEB) August 29, 2007 -- Victims of Chiropractic Abuse, Inc (VOCA) is proud to announce it has designed and released a stamp honoring the life and legacy of Linda Solsbury of New London. They are legitimate U.S. first-class postage stamps that can be used to mail any letter or package.

In 1985 Ms. Solsbury became mute and paralyzed as the result of chiropractic manipulation. However, with the use of only one hand and a computer along with the help of attending nurses and local politicians she was able to lead efforts in 1990 to get a law passed in Connecticut requiring chiropractors to carry malpractice insurance, which the chiropractor who ruined her life did not have.

Linda Solsbury died last year during an operation to relieve some of the effects of her injuries.

"This stamp honoring Linda will help our efforts to promote awareness of the health hazards of chiropractic neck manipulation to the many people who will send, receive, or see the stamp," said Janet Levy, President of VOCA. "Linda was a true hero who worked diligently to warn the public that chiropractic is not without risks and she was a comfort to many other victims through her extensive email communications."

Ms. Levy, along with hundreds of other people in the United States, suffered a stroke when a chiropractor dissected an artery in her neck.

For more information call 203-982-4575.

About Victims of Chiropractic Abuse, Inc:
Victims of Chiropractic Abuse, Inc. (VOCA), www.vocact.com, was incorporated in May of 2005 to promote awareness of chiropractic risks through advocacy and legislation. VOCA seeks to require chiropractors to obtain informed consent from patients prior to treatment and believes malpractice claims against chiropractic physicians should be made public, just as they are for medical physicians.

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Chiropractic Stroke Postage Stamp

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SPINE Volume 32, Number 21, pp 2375–2378
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Safety of Chiropractic Manipulation of the Cervical Spine

A Prospective National Survey

Haymo W. Thiel, DC, PhD,* Jennifer E. Bolton, PhD,* Sharon Docherty, PhD,* and Jane C. Portlock, PhD†

Study Design. Prospective national survey.

Objective. To estimate the risk of serious and relatively minor adverse events following chiropractic manipulation of the cervical spine by a sample of U.K. chiropractors.

Summary of Background Data. The risk of a serious adverse event following chiropractic manipulation of the cervical spine is largely unknown. Estimates range from 1 in 200,000 to 1 in several million cervical spine manipulations.

Methods. We studied treatment outcomes obtained from 19,722 patients. Manipulation was defined as the application of a high-velocity/low-amplitude or mechanically assisted thrust to the cervical spine. Serious adverse events, defined as "referred to hospital A&E and/or severe onset/worsening of symptoms immediately after treatment and/or resulted in persistent or significant disability/incapacity," and minor adverse events reported by patients as a worsening of presenting symptoms or onset of new symptoms, were recorded immediately, and up to 7 days, after treatment.

Results. Data were obtained from 28,807 treatment consultations and 50,276 cervical spine manipulations. There were no reports of serious adverse events. This translates to an estimated risk of a serious adverse event of, at worse ~1 per 10,000 treatment consultations immediately after cervical spine manipulation, ~2 per 10,000 treatment consultations up to 7 days after treatment and ~6 per 100,000 cervical spine manipulations. Minor side effects with a possible neurologic involvement were more common. The highest risk immediately after treatment was fainting/dizziness/light-headedness in, at worse ~16 per 1000 treatment consultations. Up to 7 days after treatment, these risks were headache in, at worse ~4 per 100, numbness/tingling in upper limbs in, at worse ~15 per 1000 and fainting/dizziness/light-headedness in, at worse ~13 per 1000 treatment consultations.

Conclusion. Although minor side effects following cervical spine manipulation were relatively common, the risk of a serious adverse event, immediately or up to 7 days after treatment, was low to very low.

Key words: safety, chiropractic, manipulation, cervical spine. Spine 2007;32:2375–2378

From the *Department of Research and Professional Development, Anglo-European College of Chiropractic, Bournemouth, United Kingdom; and †Department of Pharmacy and Biomedical Sciences, University of Portsmouth, Portsmouth, United Kingdom.

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The manuscript submitted does not contain information about medical device(s)/drug(s).

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Although it is generally assumed that serious complications following spinal manipulative therapy of the cervical spine, including neurologic deficit and stroke, are relatively uncommon, their exact incidence is unknown. Estimates vary between 1 serious adverse event in 200,000 manipulative neck treatments[1] to 1 in several million,[2] and 1 in 100,000 persons.[3] Most of these estimates come from case reports and retrospective studies, or from survey and medical claims data. In contrast to serious adverse events, relatively minor side effects of cervical spinal manipulation, such as neck pain, stiffness and soreness, headache, and tiredness are common in clinical practice.[4]

It is the risk, however, of serious adverse events following cervical spine manipulation that is of most concern, not only for patients and chiropractors, but also for general practitioners and hospital specialists considering referring patients for chiropractic treatment. Given the increasing popularity of complementary medicine,[5] including chiropractic, and the potential consequences of a serious adverse event, it is crucial that more evidence is available to inform clinicians and patients of the size of the risk. This is not only to balance any potential benefits but also to counteract any irrational condemnation of the treatment.

This study was therefore conducted to provide an estimate of the risk of adverse events following chiropractic manipulation of the cervical spine in a sample of U.K. chiropractors. As far as we are aware, it is the first, large-scale prospective study of its kind specifically designed to record serious and minor adverse events following chiropractic manipulation of the neck.

Materials and Methods

All registered chiropractors who were members of the British and Scottish Chiropractic Associations (1183 at the time) were invited to participate. Standardized forms, which had previously undergone peer-review and pilot testing, recorded details on treatment and outcomes in patients 16 years of age and older receiving chiropractic treatment in which at least 1 cervical spine manipulation was administered. Manipulation was

"This study provides further evidence of the risk of a serious adverse event following chiropractic manipulation of the neck."

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Alternative therapy for backache 'can kill or disable'

Robin McKie, science editor
Sunday September 23, 2007
The Observer

One of the most common 'alternative' treatments for backache is dangerous and can kill, says Britain's leading expert on complementary medicine, Professor Edzard Ernst.

Spinal manipulation, used by chiropractors to treat hundreds of thousands of patients a year, poses serious risks, he warns in a paper published in the Journal of the Royal Society of Medicine.

'[It] is associated with frequent, mild and transient adverse effects as well as with serious complications which can lead to permanent disability or death.'

Article continues

Spinal manipulation involves sharp thrusts against a patient's spine to push individual vertebrae beyond normal levels of stress. But Ernst says that such violent therapy can seriously damage the arteries running near the spine, triggering thrombosis or a stroke.

RESEARCH

A systematic review of systematic reviews of spinal manipulation

E Ernst P H Canter

J R Soc Med 2006;**99**:189–193

SUMMARY

Spinal manipulation is a popular form of manual therapy practised by chiropractors and other healthcare professionals. Much confusion exists about its effectiveness and even systematic reviews disagree in their conclusions. The aim of this review was therefore to evaluate the evidence from recent systematic reviews with a view to clearing some of the existing confusion. Electronic literature searches were carried out in 4 databases. All systematic reviews of the effectiveness of spinal manipulation published between 2000 and May 2005 were considered regardless of indication. Sixteen papers were included relating to the following conditions: back pain (n=3), neck pain (n=3) as well as one each for non-spinal pain, primary and secondary dysmenorrhoea, infantile colic, asthma, allergy, cervicogenic dizziness, and any medical problem. Collectively these data do not demonstrate that spinal manipulation is an effective intervention for any of these conditions, except for back pain where it is superior to sham manipulation but not better than conventional treatments. Considering the possibility of adverse effects, this review does not suggest that spinal manipulation is a recommendable

muscle strength, attenuation of alpha-motoneuron activity, enhanced proprioceptive behaviour, as well as release of beta-endorphins and substance P[3].

Spinal manipulation is popular. About 70 000 chiropractors are licensed in the US, 10 000 in Japan, 6000 in Canada, 2500 in Australia and 16 000 in the UK.[4] The costs associated with SM are substantial.[5] It is therefore desirable to define the effectiveness of this approach as closely as possible. Numerous systematic reviews of SM are available but they frequently arrive at vastly different conclusions. This article summarizes the evidence from recent systematic reviews and aims at clearing some of the existing confusion about the effectiveness of SM.

METHODS

Electronic literature searches were conducted to identify all systematic reviews of spinal manipulation for any indication. The search [Chiropract* OR spinal manipul* OR manual therap* OR osteopath*] AND [systematic ADJ review] was carried out in the following electronic databases: Medline, Embase, AMED, Cochrane Database. In those databases

Spinal manipulation 'has little effect on back pain'
The Independent – United Kingdom
http://news.independent.co.uk/uk/health_medical/article352839.ece

Chiropractors are offering 'worthless' form of treatment
The Times of London
http://www.timesonline.co.uk/article/0,,8122-2097779,00.html

Manipulation of the spine 'is of little use for treating any condition'
News.scotsman.com
http://news.scotsman.com/health.cfm?id=452562006

An expert has claimed that spinal manipulation can be dangerous.
Health.telegraph.com
http://www.telegraph.co.uk/health/main.jhtml?view=DETAILS&grid=P8&xml=/health/2006/03/23/hosteo21.xml

Junk medicine: spinal manipulation
The rules of science apply
The Times of London
http://www.timesonline.co.uk/article/0,,8123-2100577,00.html

Spinal manipulation by chiropractors no better than sham manipulation: Study
What is the Word - Maharashtra,India
http://www.whatistheword.com/story/Lifestyle_775.html

Spinal Manipulation Doesn't Work For Any Condition, New Research Finds
Medical News Today
http://www.medicalnewstoday.com/medicalnews.php?newsid=40315

Chiropractors defend therapy
IrishHealth.com

Adverse effects of spinal manipulation: a systematic review

http://www.medicalnewstoday.com/healthnews.php?newsid=75754

http://app.communicatorcorp.com/FileStorage/LinkedFiles/549/Adverse%20effects%20of%20spinal%20manipulation%20A%20systematic%20review_tmpDDD2.pdf?_ctId=LNjphE3jr8FkVGbv9xrXPpwui9i%2feitDTV%2fAAY7%2feco%3d

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Web MD

Spinal Manipulation Should Not Be Routinely Used, New Study Warns

Featured Article
Main Category: Bones / Orthopaedics News
Article Date: 02 Jul 2007 - 0:00 PDT

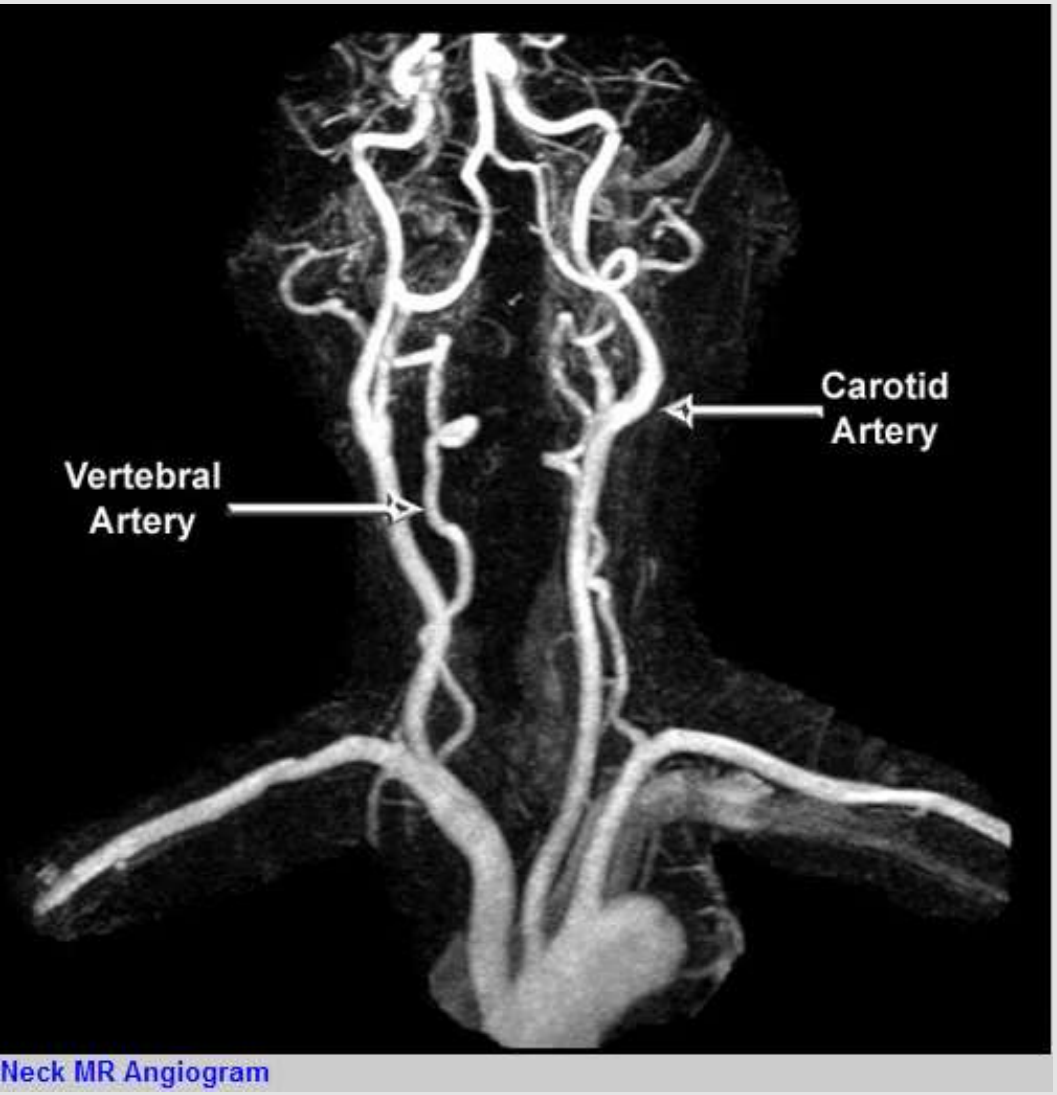
email to a friend | printer friendly | view / write opinions | rate article | newsletters

According to a study published in the *Journal of the Royal Society of Medicine*, spinal manipulation should not be used routinely. Routine use of spinal manipulation on the upper spine could result in serious complications, such as stroke, and even death.

Lead researcher Edzard Ernst, Professor of Complementary Medicine at Peninsular Medical School, Universities of Exeter and Plymouth, said "Even allowing for an extraordinarily high level of under-reporting, spinal manipulation has been associated with about 600 serious adverse events. In addition, it causes non-serious adverse effects in about 50 percent of all patients who use it. If any drug were linked to such rates of harm, I somehow doubt that it would still be on the market."

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Anatomy



Neck MR Angiogram

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Anatomy



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Anatomy



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Vertebral Artery Grooves

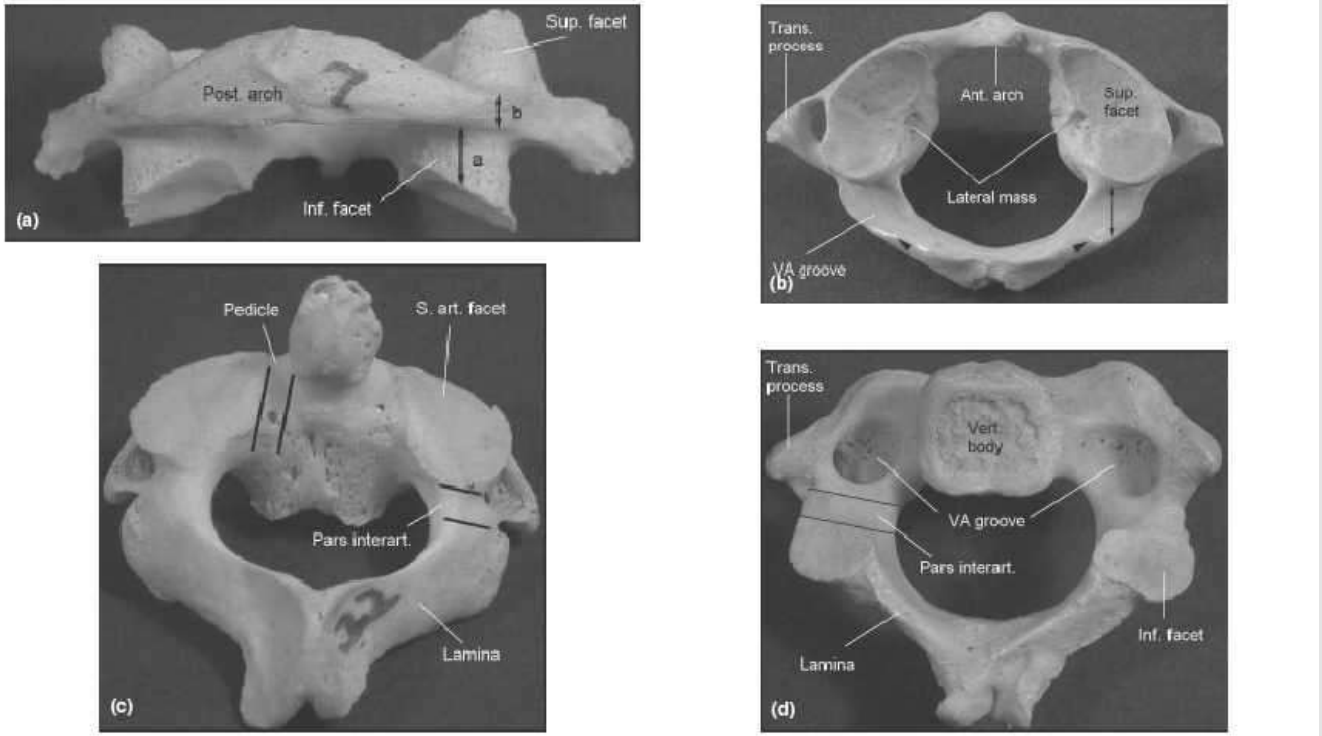
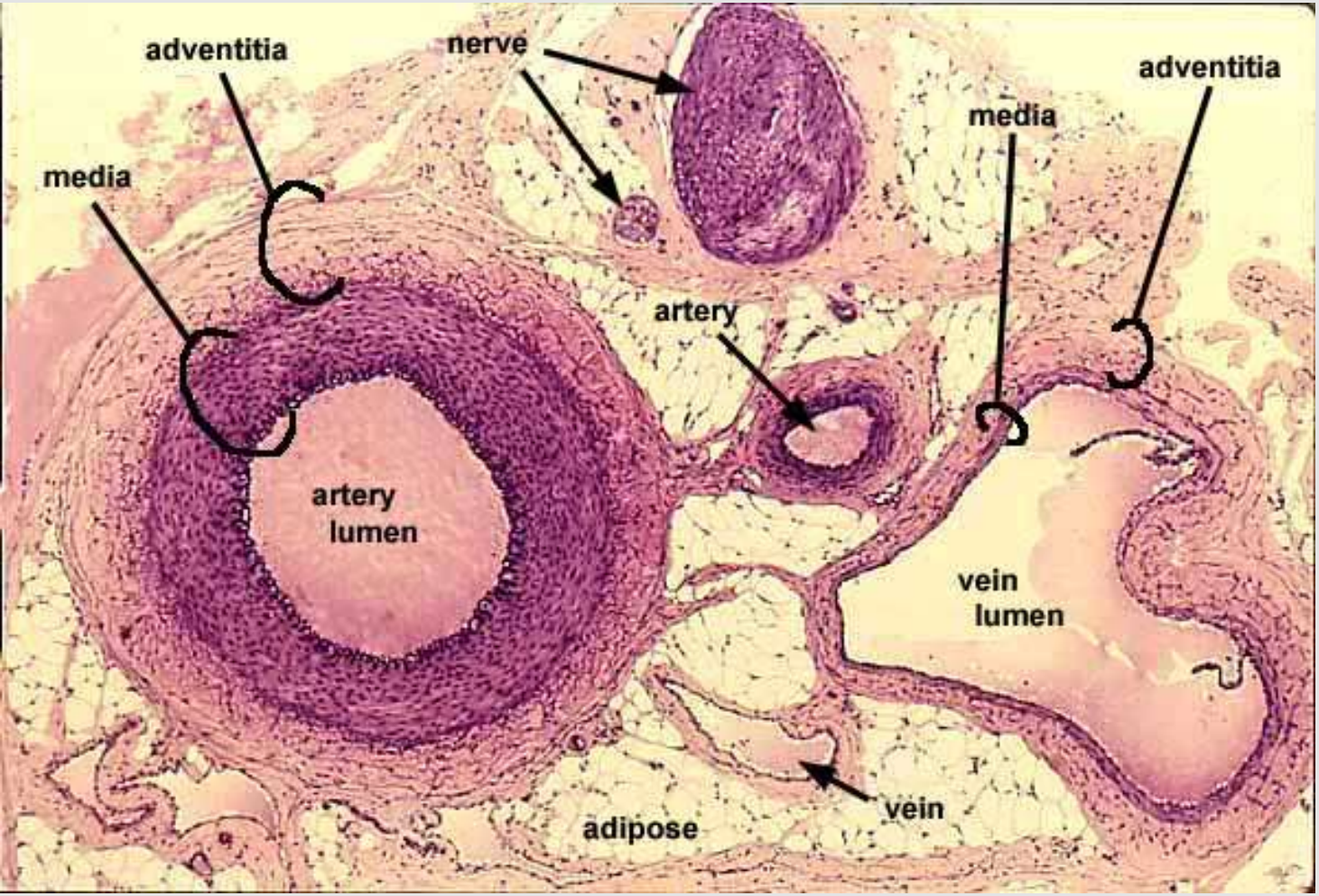


Figure 5: Dry C1-2 bone specimens: (a) The C1 vertebra is seen from its posterior aspect. Distance "a" indicates the height of the inferior facet under the posterior arch of C1. Distance "b" indicates the thickness of the lateral aspect of the posterior arch of the atlas separating the vertebral artery groove from the inferior articular facet. The superior and inferior articular facets are in the form of a pillar. The articular surfaces of the superior and inferior articular facets point medially. (b) The superior surface of the C1 bone. Arrow indicates the width of the vertebral artery groove on the lateral aspect of the posterior arch of the atlas. Note the most medial edge of the artery groove on the outer cortex (arrowheads). (c) The C2 vertebral bone as seen from the superior aspect. The pedicle, pars interarticularis, superior articular facet, laminae and the other components of the bone can be seen. (d) The inferior aspect of the C2 vertebra. The location of the pars interarticularis is seen in relationship to the vertebral artery groove on the inferior surface of the superior articular facet.

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Arteries – Three Layers

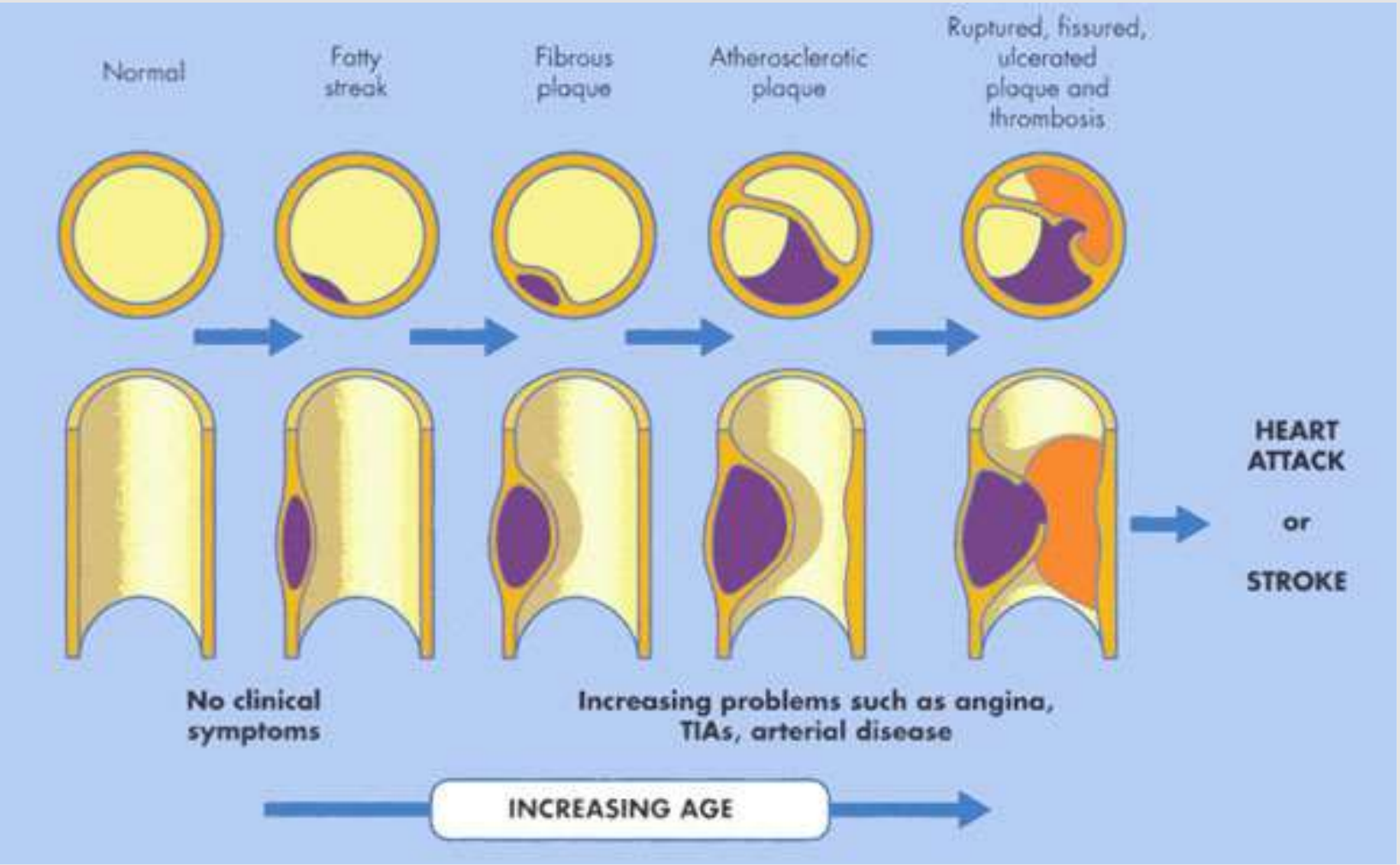


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Arterial Anatomy

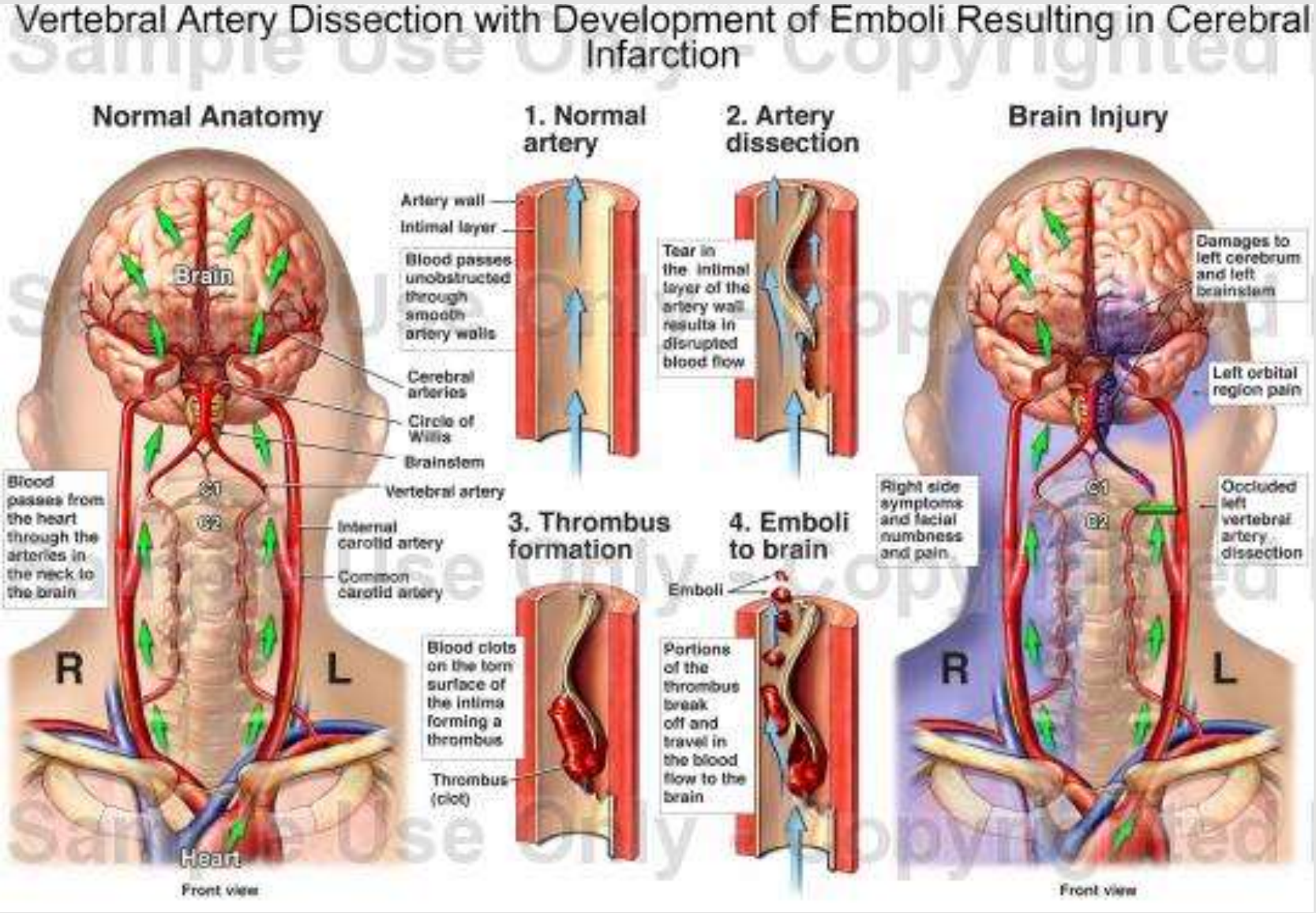
http://www.innerbody.com/image/card05.html

Arteries - Pathophysiology



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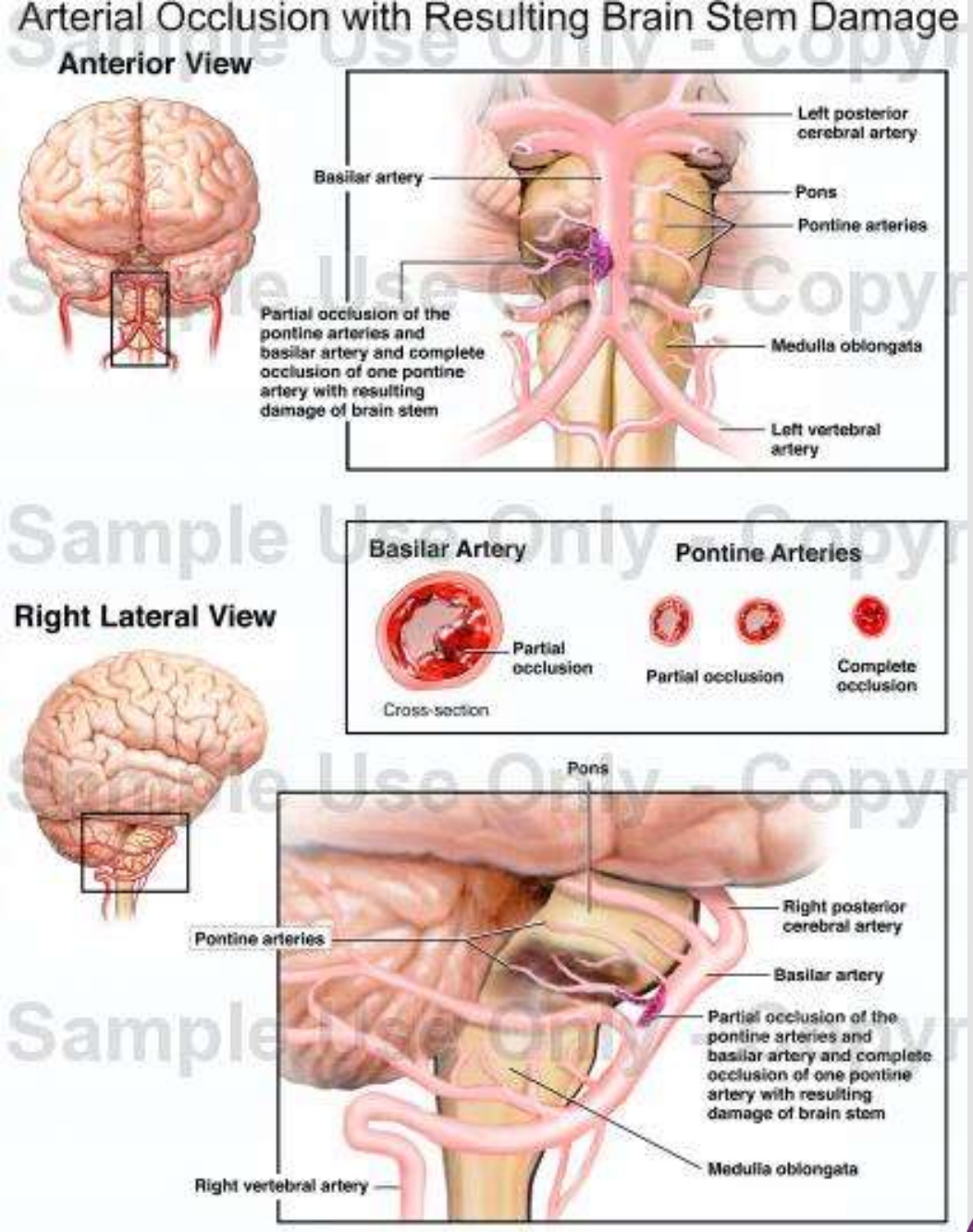
Vertebral Artery Dissection with Development of Emboli Resulting in Cerebral Infarction



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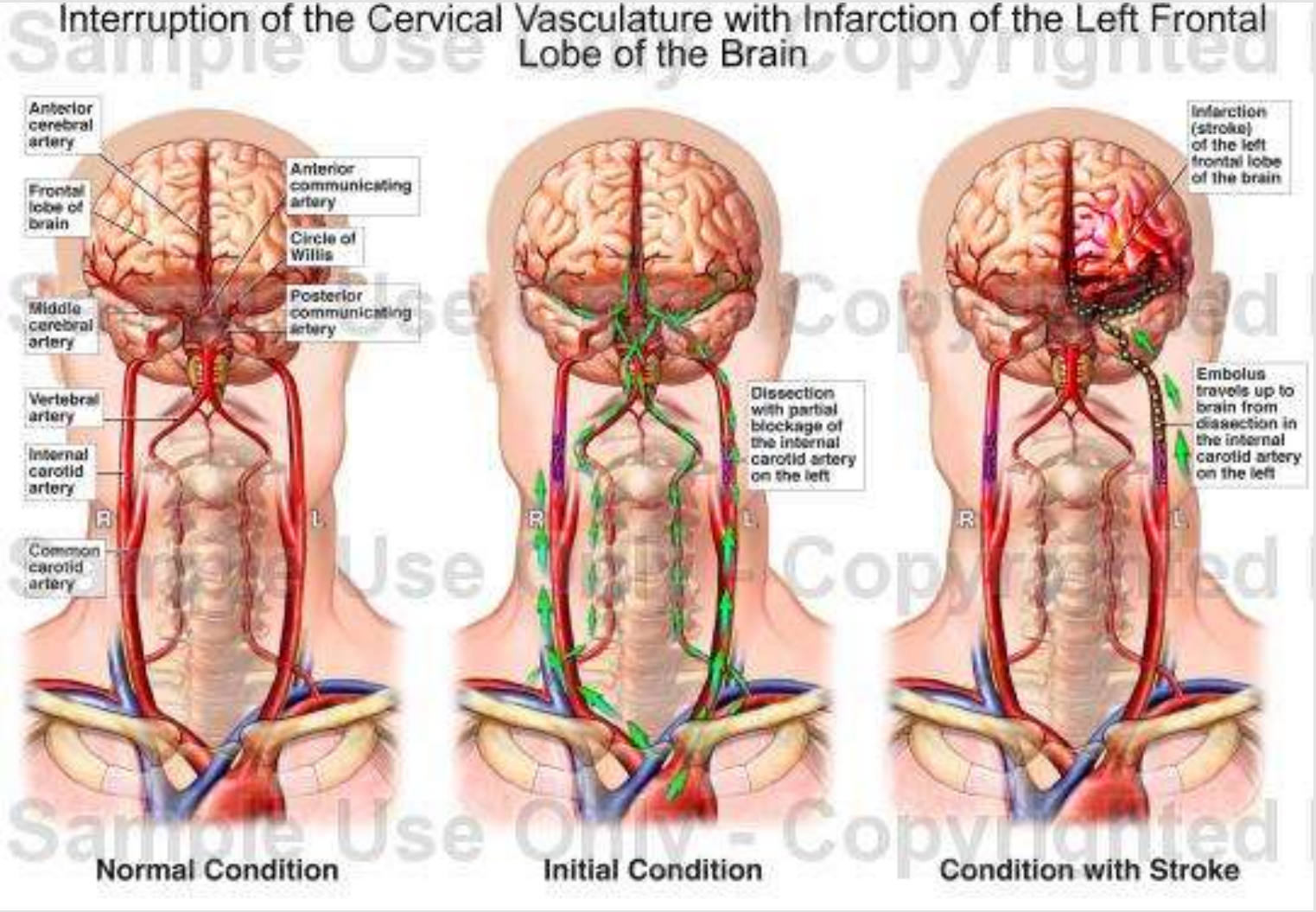
Brain Stem Damage



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Dissection



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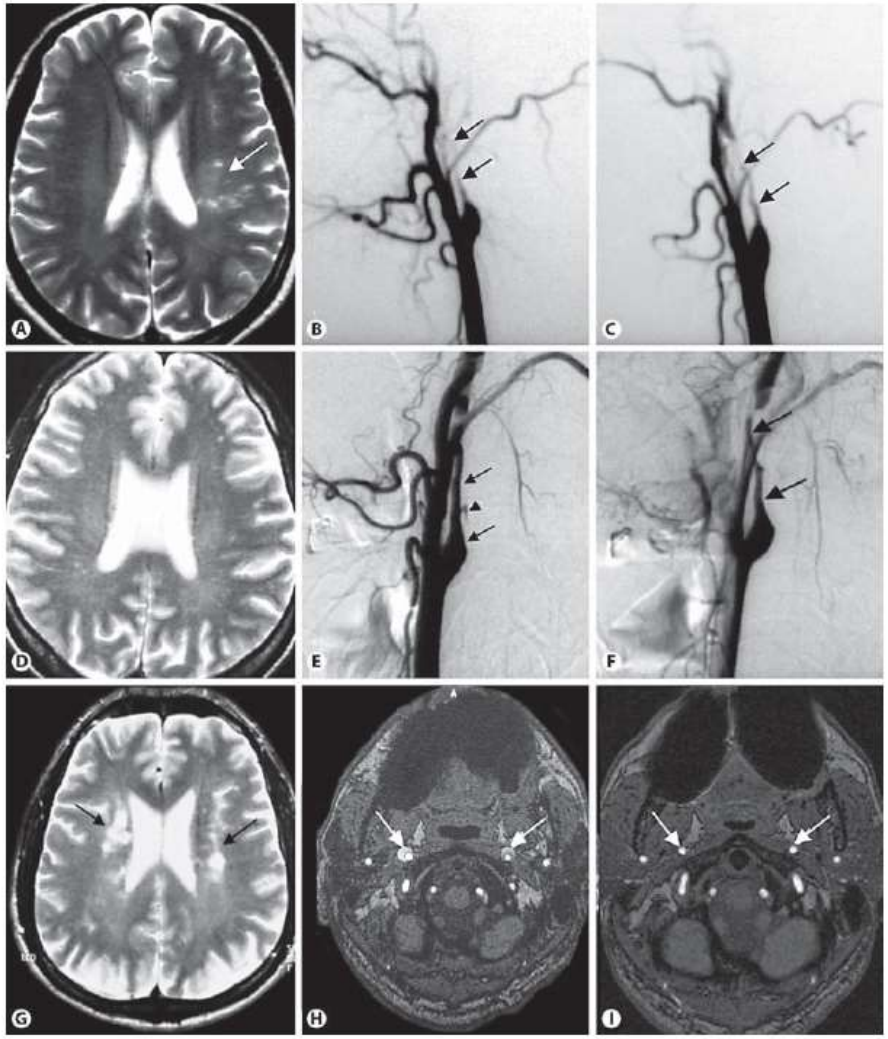


Fig. 1. **A–C** Case 1 presented bilateral hemisphere ischemic symptoms. **A** T_2-weighted brain MRI revealed high-intensity lesion in the left subcortical area owing to recent infarct (white arrow). **B** DSA demonstrated string-like stenosis in the left ICA (black arrows). **C** DSA demonstrated stenosis in the right ICA (black arrows). **D–F** Case 2 presented unilateral hemisphere ischemic symptoms. **D** Normal T_2-weighted brain MRI 5 days following the ischemic event. **E** DSA demonstrated segmental narrowing (black arrows) and aneurysm formation (arrowhead) at the left ICA. **F** DSA demonstrated segmental narrowing (black arrows) at the right ICA. **G–I** Case 3 presented brainstem-like ischemic symptoms. **G** T_2-weighted brain MRI showed bilateral subcortical infarcts (black arrows). **H** Axial MRA demonstrated intramural hematoma in bilateral ICAs (white arrows). **I** Follow-up axial MRA (7 months later) demonstrated complete resolution of intramural hematoma (white arrows).

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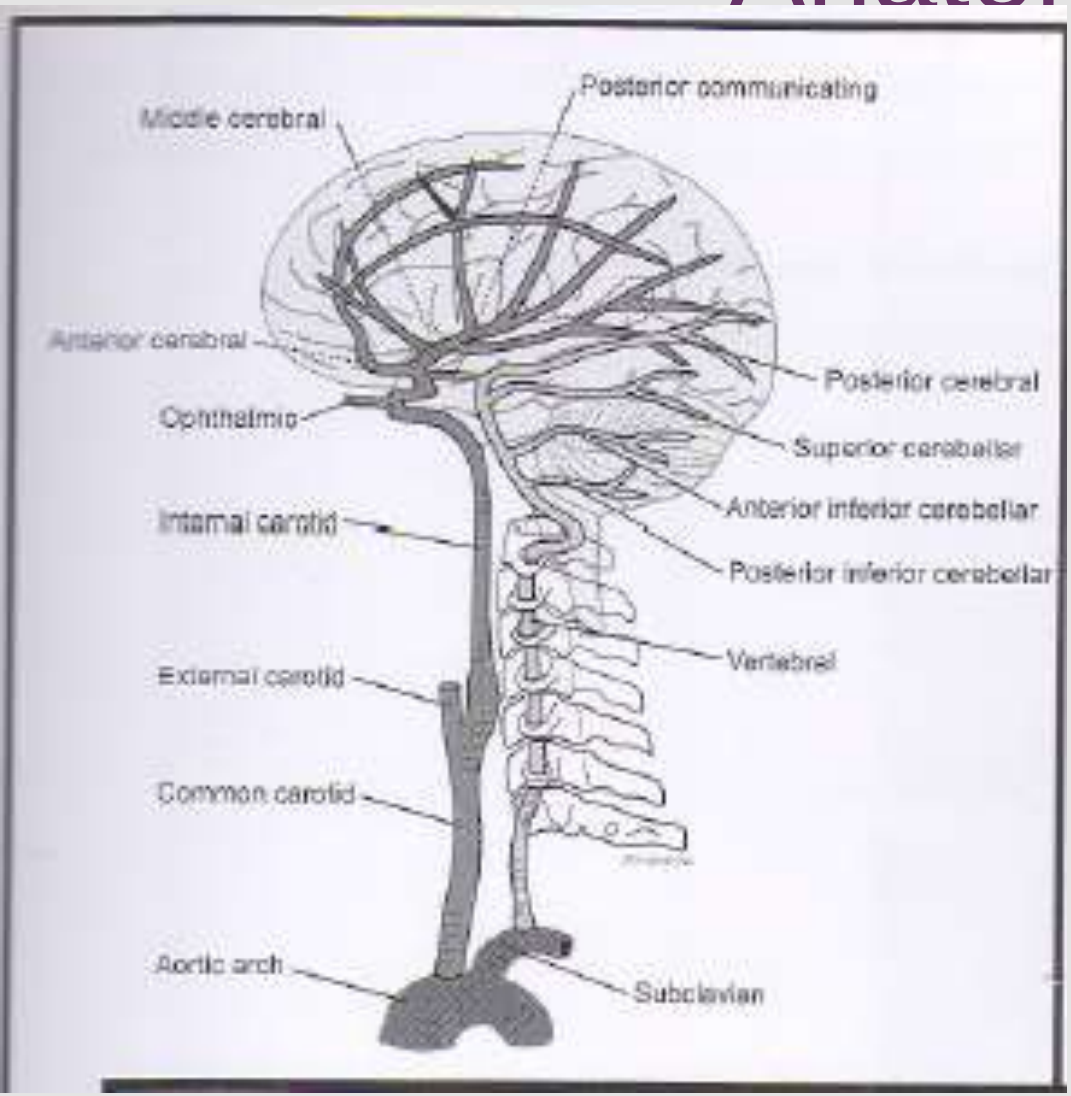


Angiogram - Internal Carotid Artery Dissection

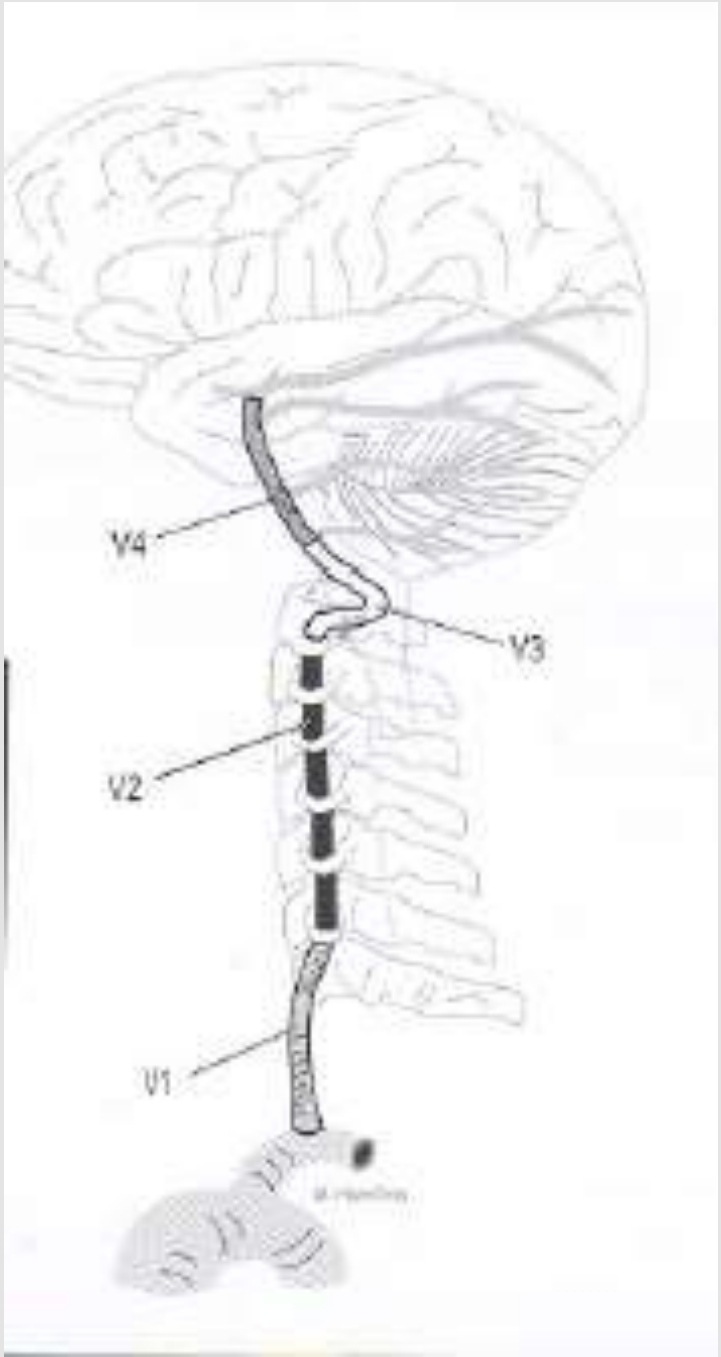
Showing gradual tapering

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Anatomy



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Vertebral Artery Segments

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Subluxation?

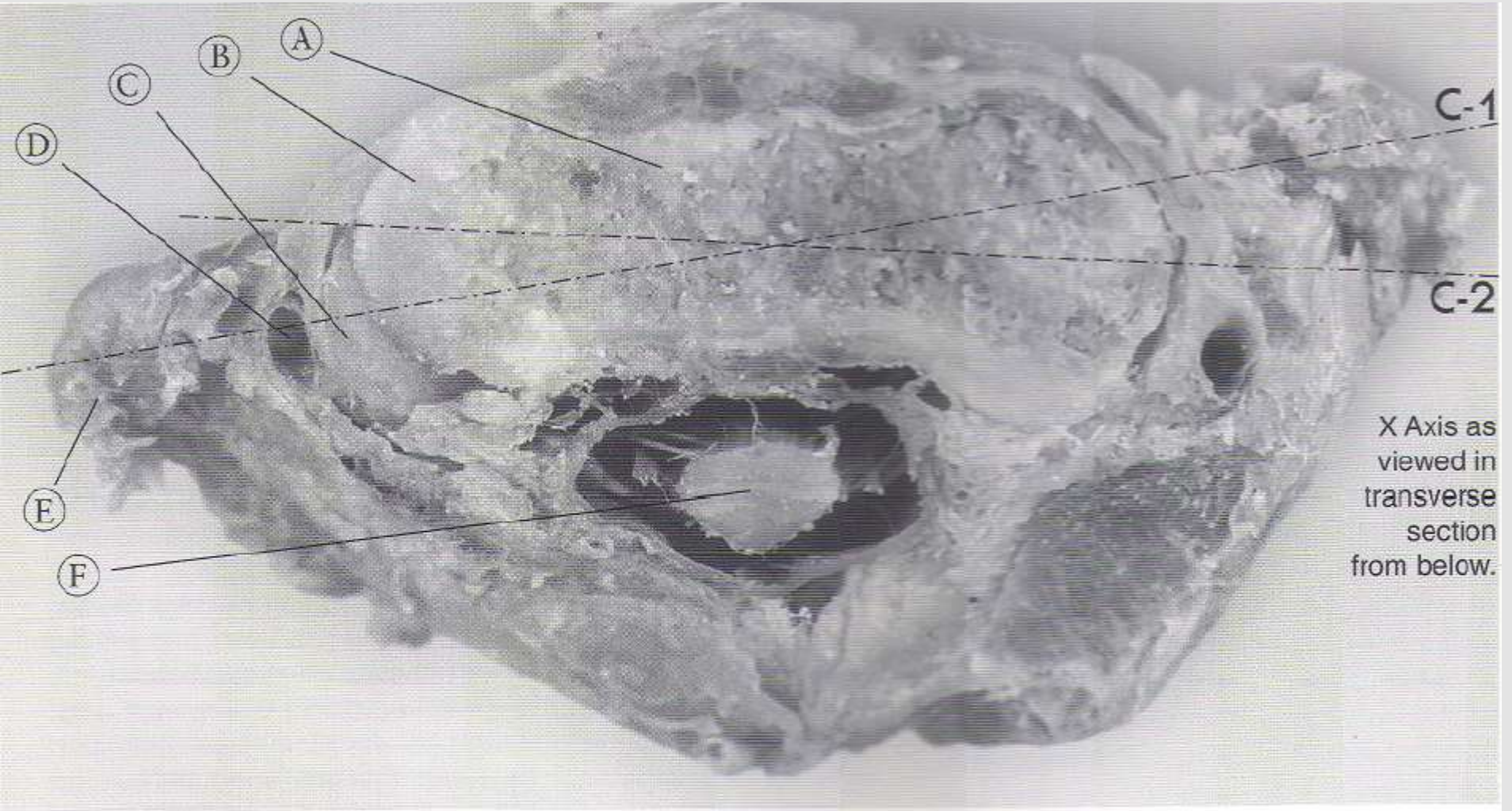


Figure 2-4
SUBLUXATION OF C1-2

Rotation of C1 to C2 with occlusion of the vertebral artery by C1 inferior facet.

(A) Body of C2
(B) Superior articulating facet of C2
(C) Inferior articulating facet of C1
(D) Vertebral artery
(E) Transverse process of C1
(F) Spinal cord

Biomechanics

http://www.upcspine.com/video/occiput_to_atlas.avi

http://www.upcspine.com/video/subluxation_kink.avi

http://www.upcspine.com/video/adjustment.avi

http://www.upcspine.com/video/CERVROT1.AVI

http://www.sherman.edu/research/anim/blair.html

Pathophysiology

Injury and inflammation occurs

- Arterial damage results from heritable or acquired conditions.

Clotting and thrombus formation occurs

- Arterial damage to the tunica intima leads to localized clotting and thrombus formation.
- Arterial flow changes result from histological changes and from mechanical changes in the vessel.

Emboli

- The thrombus at the site of arterial damage is usually the source of emboli causing an ischemic stroke from the vertebral artery.

Ischemia

- The extent of ischemia from an embolism is related to the size of the embolism, where it is and whether or not there is collateral circulation.

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Pathophysiology Summary

Intimal disruption

↓

Alteration of normal hemodynamics

↓

Creation of a thrombogenic environment

↓

Formation of a thrombus

↓

Generation of emboli.

↓

Ischemia/Infarction

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Epidemiology

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Epidemiology

Table 2. Hill's list of causal criteria

(1) experimental evidence
(2) strength of association,
(3) consistency,
(4) temporality (Appropriate time relationship)
(5) biologic gradient,
(6) coherence of evidence
(7) biological plausibility,
(8) specificity,
(9) analogy.

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Hill's Criteria

- **Experimental Data**: From laboratory or human experimentation
- **Association**: Odds Ratios
- **Consistency:** repeated observation of an association in different populations, in different countries, and under different circumstances.
- **Temporality:** Causative factor precedes the outcome
- **Biologic Gradient**: The presence of a unidirectional relationship (dose-response) between the exposure and outcome of interest.
- **Coherence of Evidence**: A cause-effect relationship does not conflict with what is known of the natural history of the harmful outcome.
- **Biologic Plausibility**: Plausible based on general biologic knowledge
- **Specificity**: Requires that a single cause lead to a single effect.
- **Analogy**: Very weak criterion

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Epidemiology - Causes of VAD

43% are spontaneous

31% associated with cervical manipulation

16% from minor “trivial” trauma

10% from major trauma

Haldeman. Spine 1999 Apr 15;24(8)

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Epidemiology – Causes of VAD

Most common cause of traumatic vertebrobasilar ischemia is motor vehicle accidents

Of 80 cases over 20 years at a single neurovascular practice:

- 70 were related to MVAs,
- 5 to industrial injuries,
- 5 associated with chiropractic.

Some of the cases that were related to chiropractic were also involved in MVAs which further confounded the issue.

Beaudry, Spence. The Canadian Journal of Neurological Sciences, Vol. 30(4) November 2003.

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Epidemiology – Incidence of VAD

For every 100,000 strokes of any origin there will be one stroke associated with a vertebral artery dissection

Dissections account for 10% - 25% of all ischemic strokes in young or middle aged people

Less than 5% result in death

75% have a good prognosis

Schievink, New England Journal of Medicine. March 2001

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Epidemiology – Incidence of VAD

- VAD and CAD account for 2.6 per 100,000
- Cervical dissections are the underlying etiology in 20% of ischemic strokes in patients 30-45 years of age
- Female to male ratio: 3:1
- Average age: VAD = 40, CAD = 47

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Epidemiology – Incidence of VAD

- 1 in 5,000 adjustments cause a stroke
- 1 in 20,000 adjustments cause a stroke
- 1.3 in 100,000 patients

Norris - SPONTADS

Vickers - BMJ, 1999

Rothwell - Stroke, 2001)

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Epidemiology – Incidence of VAD

- 1 in 1 million adjustments
- 1 in 2 million adjustments
- 1 in 5.85 million cervical spine adjustments

Hosek et al, JAMA, 1981
Klougart et al, JMPT, 1996
Carey et al, CMAJ, 2001

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Questions?



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Ethics

Failure to Diagnose



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Myron

Howl at the Moon



History

Myron is a 48 year old male who enters your office with complaints of back, leg, and neck pain along with pain down the left thigh and numbness into the hands and fingertips.

His pain diagram indicated a localized region of pain around his lower lumbar region, and midline in the cervical spine. The pain diagram also showed pain into the anterior thigh on the right and upper extremity into the fingers on the left. The symptoms are occurring daily now and worsen as he goes through the day. The patient is employed at the Soaring Eagle Casino emptying the change machines.

History

What are the most relevant questions you would ask this patient initially?

(List five).



Working Diagnosis

Based upon the above history, what is your diagnostic hypothesis?

- Triage
- Physiological Systems
- Anatomic Sites
- VINDICATE

List the five most likely and your rationale for each.

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VINDICATE

- Vascular
- Inflammatory
- Neoplasm
- Degenerative
- Infection
- Congenital
- Allergic/Autoimmune
- Traumatic
- Endocrine/Metabolic

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Examination

List the five most relevant exam procedures that you would definitely perform in this case and what possible positive signs you would be looking for and their indications? (be specific; name the specific test, what you would expect if positive and what a positive test indicates).

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Part 2 – More Data…

Myron is a 48 year old male who enters your office with complaints of back, leg, and neck pain along with pain down the left thigh and numbness into the hands and fingertips. His pain diagram indicated a localized region of pain around his lower lumbar region, and midline in the cervical spine. The pain diagram also showed pain into the anterior thigh on the right and upper extremity into the fingers on the left. The symptoms are occurring daily now and worsen as he goes through the day. The patient is employed at the Soaring Eagle Casino emptying the change machines.

Upon further questioning, Myron does not recall any specific lower back injury that set off his back problems though they have been getting progressively worse over the past 3 months. He recalls problems beginning at least six months ago. He has never been to a chiropractor and has not seen any other doctors for this problem. He also relates that the hand is now "always numb" and he's been dropping things.

He denies any unexplained weight loss and is in fact overweight (210 lbs), denies bowel or bladder dysfunction, or past history of cancer. He has a history of falling off the hood of car and landing on his back about 10 years ago, knee surgery 5 years ago from a work injury. He has a history of diabetes, hypertension, and asthma and has been treated in the past for an ulcer. He is a right-hand dominant, a smoker and drinks 6 beers a day. Myron denies any present or past history of any other health concerns and has no other concurrent symptoms. His family history is positive for hypertension, heart disease and cancer. His brother committed suicide.

Physical examination revealed a tall rather overweight male who had some difficulty walking. His blood pressure is 130/85. No neck bruit. CN's II – XII are grossly intact. Fundi benign. PERRLA. There is no muscle atrophy, fasiculations or significant segmental motor or sensory abnormality. Reflexes are highly brisk in the arms with some sustained clonus in the forearms. Lower extremities show considerable weakness with highly brisk reflexes in the legs and sustained clonus in the ankles. There is a Babinski sign bilaterally. Superficial abdominal reflexes are absent.

Update Diagnosis

Based on the updated history and exam findings, what conditions would be in your working differential diagnosis now?

(Include your rationale)

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Part 3- Results of Further Testing

A-P & Lateral Cervical X-ray/A-P & Lateral Lumbar X-ray

Cervical Spine MRI: There is large posterior spurring, particularly to the right of midline and accompanied diffuse posterior disc protrusion at the C3-4 disc level with resultant very severe spinal stenosis. There is flattening of the cervical cord at this level with hyperintensity of the cervical spinal cord on T2 weighted images immediately inferior to this level consistent with localized myelomalacia. There may be mild narrowing of especially the right C3-4 neural foramina as well. Mild to moderate degenerative narrowing of the right C4-5 neural foramen is suggested with, as well, mild diffuse posterior and uncovertebral spurring and disc protrusion at the C6-7 level with perhaps mild narrowing of the right C6-7 neural foramina as well primarily related to uncovertebral spurring. There is no evidence of syrinx formation. No other superimposed cervical disc herniation is noted and no other significant abnormalities identified.

MRI Brain: The brain is normal in appearance without mass lesion, mass effect, or abnormal contrast enhancement. No confluent areas of abnormal signal intensity are noted and the ventricles are of normal size.

EEG - Normal electroencephalogram

SSEP - The median nerve derived responses are fairly well defined, but show prolongation of N19 and P22. In addition, prolongation of N13-N19 and EP-N19 intervals are seen bilaterally.

The posterior tibial derived responses showed prolongation of P37 and N45 with prolongation to the upper limits of normal of L3-P37 bilaterally. The common peroneal nerve derived responses show prolongation of P-27 and N-35 with additional prolongation of L3-P27 and T12-P27 intervals bilaterally.

IMPRESSION: Abnormal study suggesting a central dispersion.

Update Diagnosis

7. Based upon all the information provided, what is your working diagnosis now?

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Anatomical Sites Involved

Based upon the information you have thus far, what are the anatomical sites involved in this patient?

(Be as specific as possible)

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Pathophysiology

8. Explain the pathophysiology of this condition.

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Care Plan

9. What is the recommended management for this patient?



Review of Case…



History

Clumsy or weak hands
Leg weakness or stiffness
Neck stiffness
Pain in shoulders or arms
Unsteady gait
Urinary hesitancy
Sensory disturbances
Crepitus in the neck

Differential Diagnosis

Amyotrophic lateral sclerosis
Extrinsic neoplasia (metastatic tumors)
Hereditary spastic paraplegia
Intrinsic neoplasia (tumors of spinal cord parenchyma)
Multiple sclerosis
Normal pressure hydrocephalus
Spinal cord infarction
Syringomyelia
Vitamin B12 deficiency
Disc

Differential Diagnosis: CSM vs. ALS

	CSM	ALS
Age	Older than 55	Older than 55
MRI findings	Spondylosis	Spondylosis
Fasciculations	Absent	Present
Atrophy of arms	Present	Present
Atrophy of legs	Absent	Present
Denervation	Absent	Present

Examination

Atrophy of the hand musculature
Hyperreflexia
Lhermitte's sign
Sensory loss

Ankle Clonus/Babinski

Loss of vibratory sense or proprioception in the extremities (especially the feet) can occur.

Superficial sensory loss may be asymmetric and persons are variably affected.

The sensory examination may be confounded by the presence of diabetes mellitus and a concurrent peripheral neuropathy.

Further Work-up

MRI

CT Myelogram

SSEP’s

Management

Pharmacologic

Surgical

Chiropractic (HVLA Vs. Other…)

Manipulation under anesthesia



PLAINTIFF'S NOTICE OF INTENT TO FILE CLAIM UNDER M.C.L. 600.2912(b)

TO: [redacted] D.C. [redacted] Chiropractic Health Center, P.C.
[redacted] D.C. **Resident Agent:** [redacted]
[redacted] MI [redacted] [redacted] MI [redacted]

This Notice is intended to apply to the above health care professional, entities, and/or facilities as well as their employees or agents, actual or ostensible, thereof, who were involved in the treatment and/or testing of the patient **Myron** [redacted]

A. FACTUAL BASIS FOR CLAIM:

On 2/28/00 Myron [redacted] went to the [redacted] Chiropractic Health Center, P.C. with complaints of back, leg, and neck pain along with pain down the left thigh and numbness into the left hand and fingertips. Radiographic studies of very poor quality were taken the same day but did demonstrate severe degenerative conditions involving both the C3-C4 levels, with prominent posterior degenerative changes and translation of the C3 vertebral unit upon the C4 vertebral unit. In addition, degenerative changes are present on the films at the C5-C6 and C6-C7 levels. A very limited pre-adjustment examination was carried out on 2/28/00. Mr. [redacted] underwent chiropractic adjustments upon his cervical spine beginning 2/28/00 through 3/20/00. Throughout this time Mr. [redacted] experienced an increase in neurologic symptoms which was diagnosed after an MRI of the cervical spine on 4/6/00 to include severe spinal stenosis at C3-C4 with compression and flattening of the spinal cord and myelomalacia at the same level. He was referred on a stat basis by Dr. Kamal [redacted] M.D., a neurologist, to Dr. Manoucher [redacted], M.D., a neurosurgeon where he was seen on 4/11/00. Dr. [redacted] scheduled a surgery on a stat basis the same day where Mr. [redacted] underwent an anterior cervical diskectomy, partial corpectomy at C3-C4, interbody fusion, and placement of an anterior cervical plate, all of which were necessary to decompress the cervical spine. Mr. [redacted] has been left with significant neurologic deficits.

B. THE APPLICABLE STANDARD OF CARE OR PRACTICE ALLEGED:

A thorough pre-adjustment examination with the focus on the described patterns of radiculopathy as documented in the initial pain diagrams and the chiropractic records of 2/28/00, was required to meet the standard of care. Obtaining

appropriate and good quality radiological studies and interpreting them accurately would be required to meet the standard of care. Finally, in light of Mr. [redacted] history, and in spite of the poor quality radiological studies and limited pre-adjustment examination, there was enough evidence to conclude that starting Mr. [redacted] on a series of chiropractic adjustments to the cervical spine was not in keeping with the standard of care. The records of the chiropractor in this case are also below accepted standards in that they are incomplete and do not justify employing chiropractic adjustment procedures to the cervical spine.

C. THE MANNER THE APPLICABLE STANDARD OF PRACTICE OR CARE WAS BREACHED:

The failure to conduct a thorough pre-adjustment examination. The failure to obtain good quality radiological studies of the cervical and lumbar spine. The failure to accurately interpret the radiological studies. Conducting a series of chiropractic adjustments to the cervical spine in light of this gentleman's history, symptoms, and radiological studies (although substandard). Substandard record keeping which does not demonstrate justification for employing chiropractic adjustment procedures to the cervical spine.

D. THE ACTION THAT SHOULD HAVE BEEN TAKEN TO ACHIEVE COMPLIANCE WITH THE STANDARD OF PRACTICE OR CARE:

Please see paragraph B and C above.

E. THE MANNER IN WHICH THE BREACH OF THE STANDARD OF PRACTICE OR CARE WAS THE PROXIMATE CAUSE OF THE INJURY CLAIMED IN THE NOTICE:

Starting and continuing chiropractic adjustments to the patient's cervical spine in light of the defects in the standard of care as outlined in paragraphs B and C above, caused a significant worsening in the patient's diagnosis and outcome.

F. THE NAMES OF OTHER HEALTH PROFESSIONALS, ENTITIES AND FACILITIES NOTIFIED:

[redacted] D.C.
[redacted], D.C.
[redacted] Chiropractic Health Center, P.C.

STATE OF MICHIGAN
IN THE CIRCUIT COURT FOR THE COUNTY OF [redacted]

MYRON [redacted]

Plaintiffs,

File No [redacted] -NH

vs.

Judge: THOMAS [redacted]

JAMES [redacted] D.C.,
FLOYD [redacted] D.C. and
[redacted] CHIROPRACTIC HEALTH CENTER, P.C.

Defendants.

Daniel [redacted]
Attorney for Plaintiff
[redacted]
[redacted] MI [redacted]
Telephone: (989) [redacted]
Facsimile: (989) [redacted]

A TRUE COPY
Karen A. Holcomb
KAREN A. HOLCOMB
MIDLAND COUNTY CLERK
CLERK OF THE 42ND CIRCUIT COURT

COMPLAINT, JURY DEMAND AND AFFIDAVIT OF MERIT

There is no other pending or resolved civil action arising out of the transaction or occurrence alleged in the Complaint.

Plaintiffs state as follows:

GENERAL ALLEGATIONS

1. Plaintiff is a resident of [redacted] County, Michigan.

2. That at all times relevant, Defendants James [redacted] D.C. ("Defendant [redacted]"), Floyd [redacted] D.C. ("Defendant [redacted]"), were chiropractors maintaining a practice in [redacted] County, Michigan.

3. That Defendant, [redacted] Chiropractic Health Center, P.C. ("Defendant PC") was and is a Michigan Professional Corporation duly organized and existing under and by virtue of the laws of the State of Michigan and was conducting business in the County of [redacted] State of Michigan.

4. That at all times relevant, Defendants [redacted] and [redacted] were employed or responsible to the "Defendant PC" and at all times relevant hereto were providing professional services within the course and scope of their duties with Defendant PC.

5. The amount in controversy substantially exceeds this court's minimum jurisdictional requirement of Twenty-Five Thousand Dollars ($25,000.00).

6. Plaintiff has complied with all statutory notice requirements including those found in MCL 600.2912(b).

FACTS

7. On February 28, 2000 Plaintiff went to Defendant PC with complaints of back, leg, and neck pain along with pain down the left thigh and numbness into the left hand and fingertips.

8. Defendant [redacted] ordered radiographic studies that same day.

9. The radiographic studies taken on February 28, 2000 were of poor quality but did not demonstrate severe degenerative conditions involving both the C3-C4 levels with prominent posterior degenerative changes and translation of the C3 vertebral unit upon the C4 vertebral unit.

10. The films taken on February 28, 2000 showed degenerative changes were present at C5-C6 and C6-C7 levels.

11. A pre-adjustment examination was carried out on March 1, 2000.

12. Plaintiff was told by Defendants [redacted] and [redacted] that he had multiple subluxations found throughout the cervical spine and a disoriented C5 disc.

13. Plaintiff underwent chiropractic adjustments upon his cervical spine beginning on or about March 1, 2000 through March 20, 2000 by Defendants [redacted] and [redacted]

14. On April 6, 2000, Plaintiff underwent an MRI of the cervical spine on the order of neurologist, Kamal [redacted] M.D.

15. On April 10, 2000, Dr. [redacted] referred the Plaintiff on a STAT basis to neurosurgeon Manoucher [redacted] M.D. who examined the Plaintiff and reached a clinical impression of cervical myelopathy and ordered an urgent decompression of the cervical spine which included anterior cervical diskectomy and interbody fusion, among other procedures, in an attempt to decompress and stabilize the cervical spine.

16. Plaintiff has been left with significant neurologic deficits and requires assistance for mobility and ambulation.

17. Plaintiff's current diagnosis is quadriparesis with spasticity.

18. Throughout the time in which Plaintiff was treated by Defendants and/or agents and/or employees, Plaintiff was encouraged to continue with chiropractic adjustments and/or spinal manipulation.

NEGLIGENCE AND MALPRACTICE

19. Plaintiff adopts by reference paragraphs 1 through 18 inclusive.

20. At all times relevant hereto, Defendants [redacted] and [redacted] held themselves out to the public and, in particular to the Plaintiff, as skilled and competent chiropractors, capable of reducing or eliminating pain.

21. Defendants [redacted] and [redacted] owed Plaintiff the duty to possess that reasonable degree of learning and skill that is ordinarily possessed by chiropractors in the chiropractic profession, and to use reasonable care and judgment in accordance

with chiropractic standards of care.

22. Defendants [redacted] and [redacted] breached the appropriate standard of care for the treatment of the Plaintiff.

23. Defendants [redacted] and [redacted] violated standards of care owed to the Plaintiff by committing the following acts and/or omissions constituting negligence and malpractice:

a. Failing to properly obtain x-rays of adequate quality and clarity sufficient to diagnose and determine the existence of spinal subluxations or misalignments indicating the necessity for chiropractic care;
b. Failing to properly read and interpret the x-ray films taken on February 28, 2000 to the extent such films indicated the presence of conditions not conducive to treatment by chiropractic methods;
c. Failing to conduct a thorough pre-adjustment examination with the focus on the Plaintiff's patterns of radiculopathy and complaints, including the initial pain diagrams which are part of Defendants' chiropractic records;
d. Conducting a series of chiropractic adjustments to the Plaintiff's cervical spine in light of his history, symptoms, and radiological studies;
e. Keeping substandard records of the chiropractic care of the Plaintiff in that they are incomplete and do not justify employing chiropractic adjustment procedures to the Plaintiff's cervical spine;
f. Failing to advise Plaintiff of non-Chiropractic or unusual findings;
g. Failing to refer the Plaintiff to a healthcare provider for diagnosis or treatment of non-Chiropractic or any unusual findings of which Defendants knew or should have known;
h. Ordering diagnostic studies before conducting a chiropractic examination;
i. Other acts of negligence and malpractice which may become known through discovery.

DAMAGES

24. As a direct and proximate result of one or more of the described negligent acts or omissions of Defendants [redacted] and [redacted] Chiropractic Health Center P.C., their agents and/or employees, Plaintiff Myron [redacted] was caused to suffer injuries and pain to his spin including but not limited to cervical myelopathy,

ruptured disc with spinal cord compression at C3-C4, quadriparesis, spasticity, erectile dysfunction, and other injuries and diagnoses as indicated in Plaintiff's medical records.

25. As a proximate cause of one or more of the described negligent acts or omissions of Defendants, Plaintiff Myron [redacted] was caused to suffer damages which include but are not limited to:

a. Past, present and future pain and suffering;
b. Mental anguish;
c. Mental shock and fright;
d. Impairment in the use of his extremities;
e. Necessary and reasonable expenses incurred or paid by reason of medical and hospital treatment;
f. Humiliation and embarrassment;
g. A loss of income in the past and into the future;
h. All other damages properly recoverable under the laws of the State of Michigan.

WHEREFORE, the Plaintiff prays that a jury trial be granted and that the jury determine the amount of damages suffered by the Plaintiff as of the date of trial, and that the court enter judgment in favor of the Plaintiff for whatever amount Plaintiff is found to be entitled, together with interest, attorney fees and costs of suit.

Date: 7/2/02

Respectfully submitted,

[redacted]

By: [redacted] P31658
Attorney for Plaintiff
[redacted] MI
(989) [redacted]

AFFIDAVIT OF MERIT

STATE OF MICHIGAN)
) ss.
COUNTY OF [redacted])

I, Dr. Kevin [redacted] D.C., being sworn, states the following:

1. That I am a doctor of chiropractic, licensed in the State of Michigan, and familiar with the Standard of Care and treatment as would be provided by reasonable and prudent chiropractors in a community like [redacted] Michigan.

2. That I am a Diplomate of the National Board of Chiropractic Examiners, a Diplomate and Senior Disability Analyst of the American Board of Disability Analyst, a Diplomate of the American Academy of Pain Management, and a Fellow of the American Back Society, among other qualifications.

3. That during the year immediately preceding February 28, 2000, and before that date, I devoted a majority of my professional time to the active practice of chiropractic.

4. That I have reviewed the Notice of Intent to File Claim and medical and chiropractic records supplied to me.

5. That the Chiropractic Standard of Care as applied to the facts and circumstances of this particular case, required a thorough pre-adjustment examination of Mr [redacted] with the focus on the described patterns of radiculopathy as documented in the initial pain diagrams and the chiropractic records of February 28, 2000. The Standard of Care further required appropriate and good quality radiological studies and an accurate interpretation of those studies as well as keeping thorough and complete records.

6. In my opinion the applicable Standard of Care was breached by James M. [redacted] D.C. and Floyd [redacted] D.C. for the reasons stated herein.

7. The Standard of Care was breached by the failure to conduct a thorough pre-adjustment examination. The Standard of Care was breached by the

failure to obtain good quality radiological studies of the cervical and lumbar spine. The Standard of Care was breached by the failure to accurately interpret the radiological studies. The Standard of Care was violated by conducting a series of chiropractic adjustments to the cervical spine of Mr. [redacted] in light of this gentleman's history, symptoms, and radiological studies, (although substandard). The Standard of Care was breached by substandard record keeping in that the chart that I reviewed does not demonstrate justification for employing chiropractic adjustment procedures to the cervical spine of this patient under the circumstances existing.

8. It is my opinion that starting and continuing chiropractic adjustments to this patient's cervical spine, in light of the defects in the Standard of Care as outlined above, caused a significant worsening in the patient's diagnosis and outcome.

9. The opinions expressed in this Affidavit are based on the available information as stated above. Additional information may lead to additional and/or more detailed opinions.

Further deponent saith not.

[redacted]

Dr. Kevin [redacted] D.C.

Subscribed and sworn to before me a notary on this 10 Day of April, 2002.

My Commission Expires: 9/7/06

Lisa Marie Stockdale
Notary:
[redacted] County, Michigan

LISA MARIE STOCKDALE
NOTARY PUBLIC – MICHIGAN
KENT COUNTY
MY COMMISSION EXPIRES 09-07-2006

DRS [redacted]

CONFIDENTIAL PATIENT INFORMATION 9

Date: 2-28-00 Full Name: Myron [redacted] Phone #: (517) [redacted]

Name of spouse or guardian: _____

Address: 330 [redacted] MI [redacted]
Street City State Zip Code

Marital Status: M (S) W D Age: 40 Birth Date: 1-29-00

Pregnant? Yes (No) Unsure No. of Children: 2 SS# [redacted]

Height: 6.0 Weight: 190 Occupation: Finance

Employer: Soaring Eagle Gaming Employer Phone # [redacted]

INSURANCE: BCBS POLICY #: [redacted]

Who may we thank for referring you to us? _____

Chiropractors you have seen in the past:

Name: None Date of last visit: _____

Name: _____ Date of last visit: _____

Medical Doctors consulted within the past year:

Name: None Condition: _____

Name: _____ Condition: _____

Reason for appointment & related health problems:	Date started or for how long?	Have you had this before?	Injury related?
1. Back and Leg Hurt	long time	Yes/No	Yes/No
2.		Yes/No	Yes/No
3.		Yes/No	Yes/No
4.		Yes/No	Yes/No

Previous surgeries (Please list all types):

1. Type: None Date: _____

2. Type: _____ Date: _____

3. Type: _____ Date: _____

Previous accidents or injuries (especially those that relate to your present problems):

1. Type: None Date: _____

2. Type: _____ Date: _____

3. Type: _____ Date: _____

07.

CONSULTATION HISTORY

Patient's Name: Myers [redacted] Date: 2-24-20

Major Complaint: neck and lower back pain

What have you heard about chiropractic?

Does anyone else in the family have this same problem or a similar one? [ ] Yes [ ] No

Who? neck pain has been hurting for 5-6 months or so causes numbness in left hand fingertips

Have you had this problem longer than a week or two? [ ] Yes [ ] No If yes, how long?

Have you had this problem more than 2 or 3 times? [ ] Yes [ ] No lower back is hurting bad since last week - causes pain down left thigh to knee

If yes, how often?

Before you began to suffer with this problem, was there an earlier accident, injury or condition that could have brought this about or be related to it? (Example: fall, auto injury, work injury, sports trauma, repetitive motion on the job) [ ] Yes [X] No

What have you tried to do to get rid of the problem that did not work? Neurologist - medicine could upset stomach

Have you become worried about getting this problem handled?

Describe how it feels when this problem is at its worst? hand is always numb for past 3 months

Compare a day with this problem at its worst to a day without the problem...

How does it effect/interfere with your work?

How does it effect/interfere with your family life?

How does it effect/interfere with your hobbies?

How does it effect/interfere with your social life?

When it is at its worst, how much pain does this problem make you feel?

What could make this problem worse? working long hours - lifting things

On a scale of 1-10, (10 being the highest) rate your commitment to getting rid of this problem

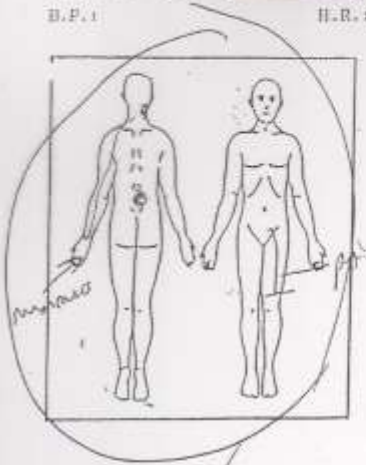
Do you have children? [ ] Yes [ ] No

Names Ages

Do they have earaches, allergies, colds, headaches, other problems?

Name: [redacted] 3-1-[redacted] Height: Weight:

B.P.: H.R.: Resp: George:



Palpatory Findings: T-Tender S-Spasm X-Altered Sensation O-Edema

Posture:

Comments:

pain over L4 region stated by patient

pain down left thigh

Cervical ✓ Lumbar

65	Flex.		95	For. Enc.	L	R	Soto Hall
50	Ext.		30	Distract.			Lasegue
40	Lt. Bend		40				Braggard
40	Rt. Bend		40	L3-4	L	R	Leg Lower.
	Lt. Rot.		35	Lew-Gaen			Pat-Faber
	Rt. Rot.		35	Il. Com.			

Reflexes	L	R	Motor	L	R
Biceps (C5,6)			Shoulder. Abd. (C5)		
Brach. (C5,6)			Wrist Ext. (C6)		
Tri. (C7,8)			Wrist Flex. (C7)		
Patellar (L4)			Finger Flex. (C8)		
Achilles (S1)			Hand Int. (T1)		
			Hip Flex (L1-3)		
Ortho	L	R	Knee Ext. (L2-4)		
Adams			Heel Walk (L5)		
Kemps			Toe Walk (S1)		

Grip Strength

L	R

Mensuration L

Arm

Forearm

Thigh

Calf

Leg Length L R

ant SLR - (+) - ER 45° - L4 pain

ant pain

COMPONENT DIAGNOSIS
- ☐ Primary Diagnosis ☐ Same
- ☐ Secondary Diagnosis Date of Last Report

PROGRESS
- ☐ Continued ☐ Fair ☐ Limited ☐ Poor
- ☐ Consistent with diagnosis
- ☐ Impaired due to:
- ☐ Comments

TREATMENT SCHEDULE
- ☐ Daily ☐ Tri-weekly
- ☐ Bi-weekly ☐ Weekly
- ☐ Progress Exam ☐ Re-evaluation
- ☐ Other

REMARKS

PROGNOSIS
- ☐ Complete Recovery ☐ Partial Recovery ☐ Expected
- ☐ Clinically Stabilized ☐ With ☐ Without Further Care
- ☐ Pre-injury Status Expected ☐ Yes ☐ No
- ☐ Impairment ☐ Total ____ % ☐ Partial ____ %
- ☐ Incomplete Recovery Due To

Clinic Name:

Address:

City, State, Zip:

ID # ☐ AR

#019

TERMS OF ACCEPTANCE

When a patient seeks Chiropractic health care and we accept a patient for such care, it is essential for both to be working towards the same objective.

Chiropractic has only one goal. It is important that each patient understand both the objective and the method that will be used to attain it. This will prevent any confusion or disappointment.

Adjustment: An adjustment is the specific application of forces to facilitate the body's correction of vertebral subluxation. Our chiropractic method of correction is by specific adjustments of the spine.

Health: A state of optimal physical, mental and social well-being, not merely the absence of disease or infirmity.

Vertebral Subluxation: A misalignment of one or more of the 24 vertebra in the spinal column which causes alteration of nerve function and interference to the transmission of mental impulses, resulting in a lessening of the body's innate ability to express its maximum health potential.

We do not offer to diagnose or treat any disease or condition other than vertebral subluxation. However, if during the course of a Chiropractic spinal examination, we encounter non-Chiropractic or unusual findings, we will advise you. If you desire advice, diagnosis or treatment for those findings, we will recommend that you seek the services of a health care provider who specializes in that area.

Regardless of what the disease is called, we do not offer to treat it. Nor do we offer advice regarding treatment prescribed by others. OUR ONLY PRACTICE OBJECTIVE is to eliminate a major interference to the expression of the body's innate wisdom. Our only method is specific adjusting to correct vertebral subluxations.

I, Myron [redacted] have read and fully understand the above statements.
(print name)

All questions regarding the doctor's objectives pertaining to my care in this office have been answered to my complete satisfaction.

I therefore accept chiropractic care on this basis.

[redacted] 2-23-00
(signature) (date)

Medicare

724.4 Thoracic or lumbosacral neuritis or radiculitis
724.6 Disorders of sacrum, ankylosis
724.79 Disorders of coccyx, coccygodynia
724.8 Other symptoms referable to back, facet syndrome
729.1 Myalgia and myositis, unspecified
729.4 Fasciitis, unspecified
738.4 Acquired spondylolisthesis
756.12 Spondylolisthesis
846.0 Sprains and strains of sacroiliac region, lumbosacral (joint; ligament)
846.1 Sprains and strains of sacroiliac region, sacroiliac ligament
846.2 Sprains and strains of sacroiliac region, sacrospinatus (ligament)
846.3 Sprains and strains of sacroiliac region, sacrotuberous (ligament)
846.8 Sprains and strains of sacroiliac region, other specified sites of sacroiliac region
847.0 Sprains and strains of other and unspecified parts of back, neck
847.1 Sprains and strains of other and unspecified parts of back, thoracic
847.2 Sprains and strains of other and unspecified parts of back, lumbar
847.3 Sprains and strains of other and unspecified parts of back, sacrum
847.4 Sprains and strains of other and unspecified parts of back, coccyx

Category III (diagnoses that may require longer term treatment):
721.7 Traumatic spondylopathy
722.0 Displacement of cervical intervertebral disc without myelopathy
722.10 Displacement of lumbar intervertebral disc without myelopathy
722.11 Displacement of thoracic intervertebral disc without myelopathy
722.4 Degeneration of cervical intervertebral disc
722.51 Degeneration of thoracic or thoracolumbar intervertebral disc
722.52 Degeneration of lumbar or lumbosacral intervertebral disc
722.81 Post laminectomy syndrome, cervical region
722.82 Post laminectomy syndrome, thoracic region
722.83 Post laminectomy syndrome, lumbar region
724.3 Sciatica

Reasons for Noncoverage:

Excluded Services

An excluded service from Medicare coverage is any service other than manual manipulation for treatment of subluxation of the spine. The chiropractor is not required to bill excluded services; however, the provider may bill these services to Medicare in order to obtain a denial for secondary insurance purposes. The following are examples (not an all inclusive list) of services that, when performed or ordered by the chiropractor, are excluded from Medicare coverage and for which the beneficiary may be responsible for payment:

- Therapy for a chronic condition that does not meet the definition as described in the "Indications and Limitations of Coverage" section of this policy
- Maintenance therapy
- Laboratory tests
- X-rays
- Office visits (histories and physicals)
- Physiotherapy
- Traction.

[redacted] D.C.
[redacted] Mi[redacted]
Telephone [redacted]

RECOMMENDATIONS FOR SPINAL CORRECTION:

NAME Myron [redacted]

We presume that you are searching for a correction of the cause of your condition, which will permit your return to normal health. Our suggested services are made with a correction in mind and are based on your physical examination, x-rays or your spine, and our past experience with your type of spinal condition.

(A) RELIEF CARE: will work to remove symptoms and recognize the spine care ends upon removal of symptoms.

WE RECOMMEND:

3 Visits weekly (Mon., Wed., Fri.) for 5 weeks
2 visits weekly (Monday & Friday) for 5 weeks
1 visits weekly (Wednesday) for 5 weeks

3 x 5 = 15 days

IST _____ WEEKS _____

COX _____ WEEKS _____

An x-ray will be taken on your (15th) and 30th visit.

RE-EXAMINATIONS on the (10th) 20th - 30th visit

(B) Corrective care: Extension spine relief care to restructure the spine as much as possible.

HOME RECOMMENDATIONS:

1.

2.

3.

4.

5.

Myro.

CHIROPRACTIC ADJUSTMENTS

OBJECTIVE FINDINGS

SUBJECTIVE COMPLAINT

Name: Myrom [redacted]

ID#: [redacted]

INS. Aflac, LL, MC, LC 8-28-00 Aflac

LIFT

DX

B.D. 8-28-00

Patient has stated overall improvement w/ pain in lower back and pain down leg

Pain in upper back is mostly better or stable by patient

Left leg another pt. pain today

patient has noted some improvement of pain in low back/neck

Patient has missed 1 day of work on 7-29-00 due to knee surgery on knee

(patient picked up x-rays on 4-6-00)

CASE HISTORY

MARK J[redacted] M.D.
BOARD CERTIFIED ORTHOPAEDIC SURGEON

1414[redacted] MI[redacted] PHONE (517)[redacted] FAX (517)[redacted]

rec 4/6/00 mjg

Subscriber: _____ Telephone: (Home) [redacted] (Work) _____

Relationship to Patient: SELF Insurance: BS(COMM BLUE)

Address: 330[redacted] Birth Date: 1-29-60 40yrs

City, State, Zip Code: [redacted] Referred By: _____

PATIENT: [redacted] MYRON L

Date & Doctor	PROBLEM:	INJURY DATE:
3-30-00	OC	L KN
MJG		

[redacted]yron L.

This 40-year-old male was referred by Dr. Jack [redacted]edi-Med clinic for evaluation of left knee problem. He is currently taking Naprosyn 500 milligrams b.i.d. for some presumed arthritis. Apparently, there is some question of some sort of cartilage damage. He is accompanied by his girlfriend (significant other for the last five years). He has been having difficulties walking over the last couple years. He is no longer able to carry out his job of moving coin carts at the casino in Mt. Pleasant. About three years ago, he reportedly saw Dr. Harris [redacted] for a rheumatologic evaluation and was placed on some arthritis medications. He does not have a family physician. He has also seen a local chiropractor and been told a lot of things about how his spine is malformed, misshapened, etc. I am not sure that any type of adjustments or manipulations have helped him. He is currently ambulating with crutches.

I reviewed the patient's medical history sheet, which was filled out in large part by his girlfriend. He says in addition to the weakness of his legs he has got weakness in his left arm.

I focussed my examination primarily on his left knee but I was able to observe that he has significant weakness of both the lower extremities. He is barely able to stand and certainly cannot do that with his knee locked out in full extension. Even in the sitting position on the exam room table he has got a lot of muscular quivering when I ask him to fully extend the knees. With forcefully dorsiflexing the ankle, he has got marked clonus. He has better than anti-gravity strength in his left upper extremity but his hand is clumsy. There is no effusion today about his left knee. Ligamentous structures seem stable with limited stress testing today.

Plain films obtained through the Redi-Med clinic consisting of an AP and an oblique, attempt at a lateral, do not show any extensive arthritic changes that I can detect. Films are somewhat underpenetrated. No new films were obtained today.

I told the patient and his girlfriend that I thought his left knee problem, which may just simply consist of some early osteoarthritis or possibly even medial meniscal tear given some

(cont'd)

M.I 079

minor mechanical complaints, is really minor with respect to what else is going on. He has some sort of progressive neuromuscular process. He needs to be evaluated by a neurologist. Apparently, there may be a family history of some sort of muscular dystrophy. The patient's girlfriend's kids have seen Dr. [redacted] for a seizure disorder and Charcot-Marie-Tooth disease. We will ask Dr. [redacted] to evaluate this patient to see what he thinks is going on. I told the patient and his girlfriend that Dr. [redacted] would likely be getting a number of tests to complete his assessment and hopefully be able to recommend some concrete treatment interventions. I would continue his symptomatic arthritis treatment measures with respect to his left knee at this time and we will just have to see what happens with his neurology work-up. Follow-up is going to be back through this office on an as needed basis.

Mark J[redacted] M.D./lga

cc: Dr. Jack [redacted], Redi-Med
Dr. [redacted] Neuroscience Institute

A23

Risk Management

Immunity Claims & Chiropractic

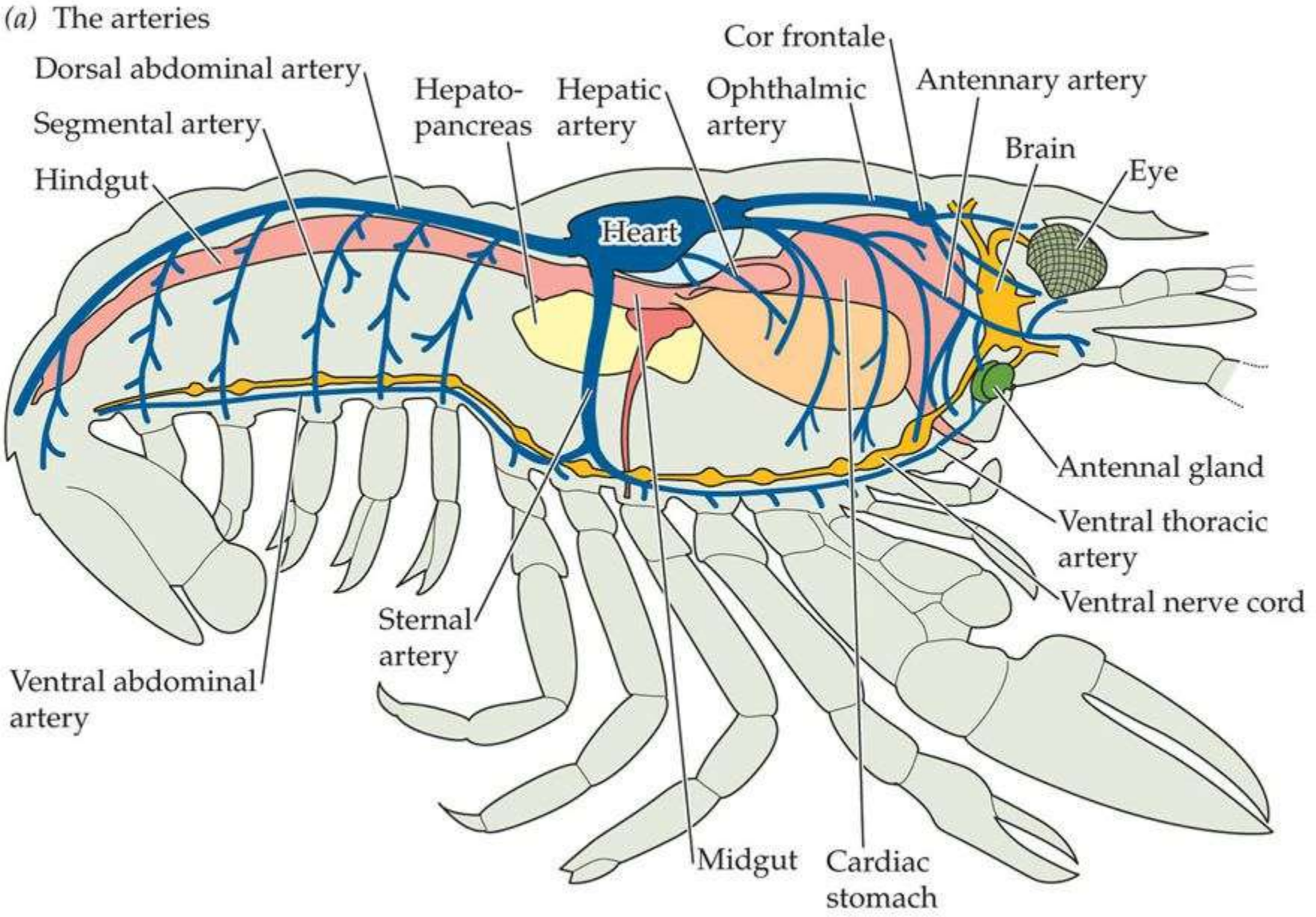


DEBRIEFING

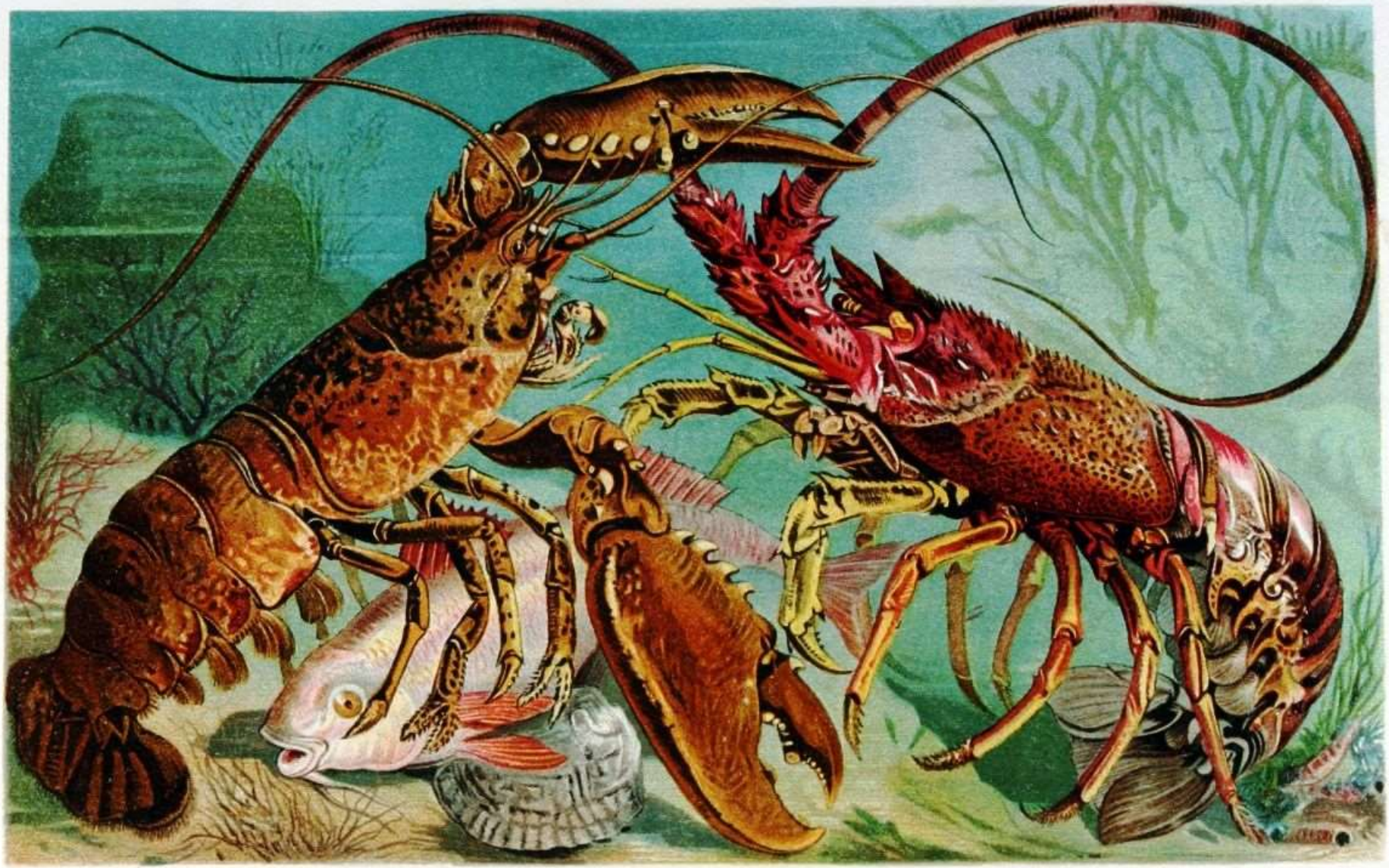
- But first . . .



Figure 23.22 Circulation through the body of a crayfish or lobster (Part 1)



ANIMAL PHYSIOLOGY, Figure 23.22 (Part 1) © 2004 Sinauer Associates, Inc.



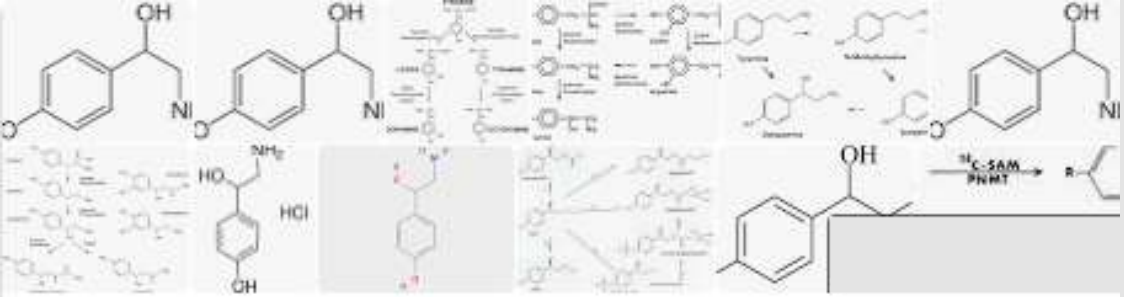
HUMMER UND LANGUSTE.

Chemistry

- Serotonin
- Octopamine

- Ratio of two brain chemicals that modulate communication between lobster neurons

- Winning increases the ratio of serotonin to octopamine



Octopamine

Octopamine is an organic chemical closely related to norepinephrine, and synthesized biologically by a homologous pathway. Its name derives from the fact that it was first identified in the salivary glands of the octopus. In many types of invertebrates octopamine is an important neurotransmitter and hormone.

Molar mass: 153.178 g/mol

CAS ID: 104-14-3

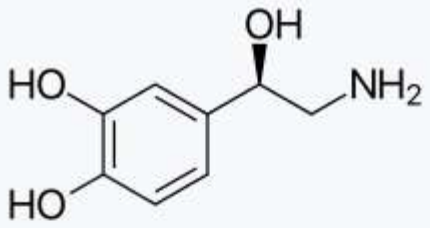
Classification: Organic compound

Receptors: TAAR1 (mammals); OctαR, OctβR, TyrR (invertebrates), Oct-TyrR

Source tissues: invertebrate nervous systems; trace amine in vertebrates

Agonists: Formamidines (amitraz (AMZ) and chlordimeform (CDM))

Norepinephrine





Clinical data	
Other names	NE, NA, Noradrenaline, (*R*)-(−)-Norepinephrine, l-1-(3,4-Dihydroxyphenyl)-2-aminoethanol
Physiological data	
Source tissues	locus coeruleus; sympathetic nervous system; adrenal medulla
Target tissues	system-wide
Receptors	α_1, α_2, β_1, β_3
Agonists	sympathomimetic drugs, clonidine, isoprenaline
Antagonists	Tricyclic antidepressants, beta blockers, antipsychotics
Precursor	dopamine
Biosynthesis	dopamine β-monooxygenase
Metabolism	MAO-A; COMT

Serotonin

Serotonin or 5-hydroxytryptamine is a monoamine neurotransmitter. Its biological function is complex and multifaceted, modulating mood, cognition, reward, learning, memory, and numerous physiological processes such as vomiting and vasoconstriction. Wikipedia

Formula: $C_{10}H_{12}N_2O$

Molar mass: 176.215 g/mol

Boiling point: 780.8°F (416°C)

Melting point: 333.9°F (167.7°C)

Metabolism: MAO

IUPAC ID: 3-(2-aminoethyl)-1H-indol-5-ol, 5-Hydroxytryptamine

Lobster Posture

- A lobster with high levels of serotonin and low levels of octopamine is a cocky, strutting shellfish
- This is because serotonin helps regulate postural flexion.
- A flexed lobster extends its appendages so it can look tall and dangerous
- When a loser lobster is given seratonin it will strecth itself out and advance itself on former victors and fight longer and harder.

Lobsters

- If the dominant lobster is defeated its brain basically dissolves and it grows a new subordinate brain.

- Its original brain is not sophisticated enough to manage the transition from dominator to dominated.

ChiroFutures
Malpractice Insurance Program
www.chirofutures.org



Lobtsers

140 Million Years

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The Benefit of Power Posing Before a High-Stakes Social Evaluation

Citation

Cuddy, Amy J.C., Caroline A. Wilmuth, and Dana R. Carney. "The Benefit of Power Posing Before a High-Stakes Social Evaluation." Harvard Business School Working Paper, No. 13-027, September 2012.

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Share Your Story

Couple forced to wear ankle monitors to self-isolate after Kentucky woman tests positive for COVID-19

National Desk Staff




POLITIE

Rabbit Holes



THE JOURNAL OF ALTERNATIVE AND COMPLEMENTARY MEDICINE
Volume 14, Number 6, 2008, pp. 000–000
© Mary Ann Liebert, Inc.
DOI: 10.1089/acm.2007.0803

Paradigms

Autonomy, Consent, and Medical Paternalism: Legal Issues in Medical Intervention

Matthew McCoy, D.C.

Abstract

Patients are increasingly questioning their relationships with their doctors during a time when use of alternative health care approaches is rising, paternalistic models of health care are waning, and police powers related to health care are expanding. Focusing on the topics of mandatory vaccination and forced medical treatment of children with cancer, this paper reviews issues related to autonomy, informed consent, medical paternalism, forced medical treatment, the police powers of the state, and related legal issues. Based upon this review, it becomes clear that the fight over personal autonomy and paternalism in health care is far from over.

Introduction

nations in life expectancy, ranks 28th in infant mortality among 39 industrialized nations, has the highest incidence

The Model State Emergency Health Powers Act[1]

Draft as of December 21, 2001

A Draft for Discussion Prepared by:

The Center for Law and the Public's Health
at Georgetown and Johns Hopkins Universities

For the Centers for Disease Control and Prevention [CDC]

To Assist:
National Governors Association [NGA],
National Conference of State Legislatures [NCSL],
Association of State and Territorial Health Officials [ASTHO], and
National Association of County and City Health Officials [NACCHO]

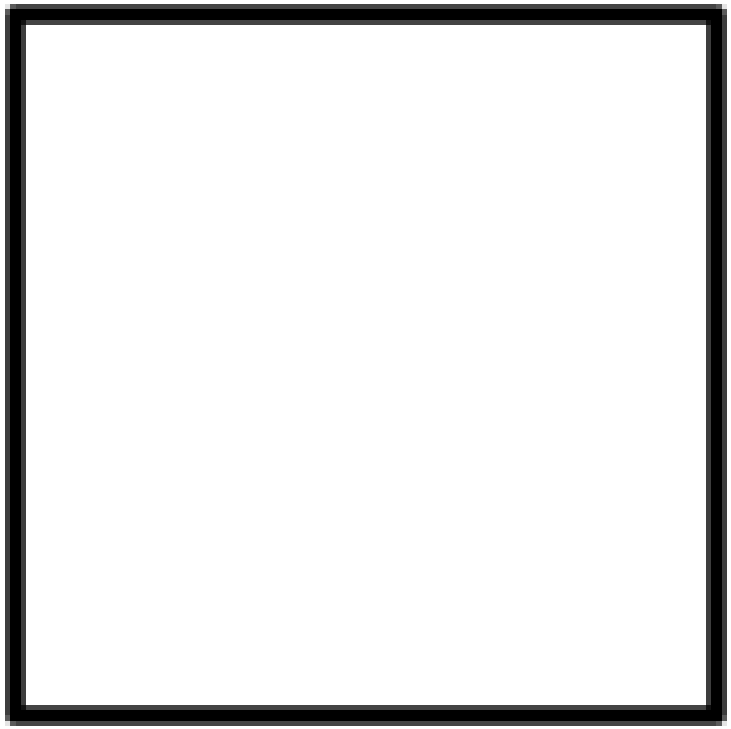
Contact Information:

Lawrence O. Gostin, J.D., LL.D (Hon.)
Professor and Director,
Center for Law and the Public's Health
Georgetown University Law Center
600 New Jersey Avenue, N.W.
Washington, D.C., 20001
(202) 662-9373
gostin@law.georgetown.edu



Admiral Rachel Levine

This is a Circle






21
17
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P1
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NO SMOKING
NO FUMAR
PLEASE KEEP YOUR
SOCIAL
DISTANCE
6 FEET



The Current Landscape

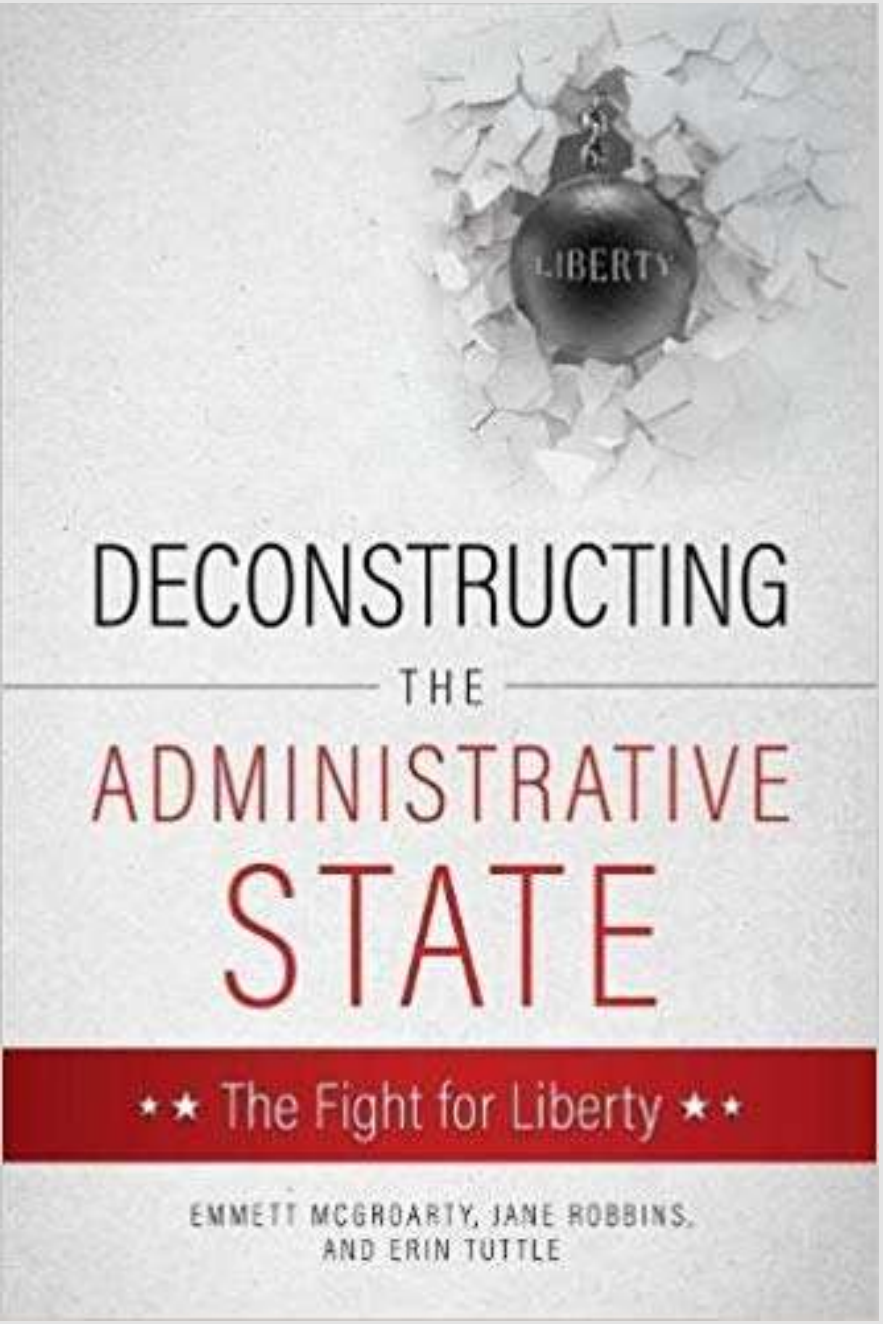
- Scope & Purpose of Clinical Care
- Personal Autonomy & Consent
- Free Speech
- Compelled Speech
- Evidence Informed Practice
- The Chiropractic Cartel



The Chiropractic Cartel

- Remove CCE Only Language
- Remove NBCE Only Language
- Dismantle the FCLB




LIBERTY
DECONSTRUCTING
THE
ADMINISTRATIVE
STATE
The Fight for Liberty
EMMETT MCGROARTY, JANE ROBBINS,
AND ERIN TUTTLE

WIMBLEDON MAGISTRATES' COURT

SUMMONS

To: Mr Richard Lanigan

Address: Spinal Joint, 7 Lime Tree Avenue, Thames Ditton, KT7 0NA and Spinal Joint, 157 Park Road, Kingston-Upon-Thames, KT2 6DQ.

YOU ARE HEREBY SUMMONED to appear on **6 January 2022 at 10a.m.** before the **Magistrates' Court sitting at Wimbledon, The Court House, Alexandra Road, SW19 7JP**, to answer the following information laid by Victoria Sheppard-Jones, Legal Director and Barrister at Capsticks Solicitors LLP, on behalf of the General Chiropractic Council: -

Alleged offence:

Charge 1

Between 26 April 2021 and 29 April 2021, Mr Richard Lanigan, whilst unregistered with the General Chiropractic Council, did unlawfully describe himself, either expressly or by implication, as a chiropractor.

Contrary to Section 32 (1) of the Chiropractors Act 1994

DATED 6 December 2021

NOTE: **Any communication relating to this summons should be addressed to the Chief Clerk, Wimbledon Magistrates' Court, The Court House, Alexandra Road, SW19 7JP. Court reference number 2101752028.**

General
Chiropractic
Council

Strictly Private and Confidential

To: Richard Lanigan
By Email: richielanigan@gmail.com

29 April 2022

Dear Richard

Your Freedom of Information (FOI) request

I write further to your FOI request to the General Chiropractic Council (GCC) on 4 April 2022 as follows:

> *"... I also want to put in a FOI request asking how much the GCC spent on lawyers and private investigators to bring their private prosecution against me, is that your area or another GCC department."*

I confirm that the total amount the GCC spent on the above was £18,628 (eighteen thousand, six hundred and twenty-eight pounds).

Yours sincerely

Joe Omorodion
Data Protection Officer

Colorado Chiropractors Now Able to Give COVID Vaccine Injections

Wednesday, January 13, 2021 - 23:30

NEWS STAFF



Decision Reflects Broad Changes in the Profession Since COVID Began

According to Emergency Rules now in effect for COVID-19 vaccinations in the State of Colorado, **chiropractors may now inject patients with the experimental COVID-19 vaccine in hospitals, inpatient and outpatient facilities.**

CLICK HERE to view the Order

National Board Says Very Few Chiropractors Will Be Able to Keep Doors Open in Colorado Amid Coronavirus

Sunday, March 29, 2020 - 17:43

NEWS STAFF



NBCE Executive Director Ouzts claims there are very few chiropractors that can treat their patients

In what amounts to a punch in the gut to Colorado Chiropractors who have been fighting desperately to be able to stay open to care for their patients amidst the Coronavirus pandemic - **Norman Ouzts DC, the Chief Executive Officer for the National Board of Chiropractic Examiners (NBCE)**, which is located in Greeley, said he concurs with the regulatory authority (DORA), that very few chiropractors will be able to keep their doors open.

Denver Demands Proof of Religious Beliefs for COVID Vax Exemption

Monday, November 22, 2021 - 15:53

NEWS STAFF

Also Demands Weekly Testing for Those Exempted - Both Go Beyond Orders

The **Public Health Investigations Division of the Denver Public Health & Environment** is contacting employers and demanding that they provide written documentation on their employees demonstrating:

". . . how specifically getting the COVID-19 vaccination conflicts with sincerely-held religious beliefs for all individuals with religious exemptions."

Further to this demand the Investigations Division is demanding that weekly Covid-19 testing be performed on all individuals with exemptions.

CORA Request

Contact Information	
First Name	Matthew
Last Name	McCoy
Street Address	4390 Bells Ferry Road
Address Line 2	
City	Kennesaw
State	GA
ZIP Code	30144
Phone Number	4049936768
Email	drmatthewmccoy@gmail.com
Please include a detailed description of the records you are requesting, including search terms, date ranges, and other applicable information.	Dear Custodian of Records - Pursuant to the Colorado Open Records Act § 24-72-201 et seq. I am requesting copies of any and all public records related to the following: The Department of Public Health and Environment is contacting employers in Denver and requiring them to provide COVID vaccination and exemption documentation to the Department and are being threatened with violations for non compliance. The Department is demanding that employers require detailed explanation from the employee as to how specifically getting the COVID-19 vaccination conflicts with sincerely-held religious beliefs for all individuals with religious exemptions and the Department is also requiring these "explanations" to be turned over to the Department along with the other documentation and if they do not do so will be in violation of the Order.

Pursuant to the Colorado Open Records Act § 24-72-201 et seq. I am requesting copies of any and all public records documenting that the request for detailed explanation from the employee as to how getting the COVID-19 vaccination conflicts with sincerely-held religious beliefs for all individuals with religious exemptions and that these "explanations" are to be turned over to the Department along with the other documentation is consistent with the Vaccination Mandate dated August 2, 2021 and signed by Robert McDonald.

If any of you are not the custodian of records for this request, please forward this letter to the appropriate person or let me know which person(s) has custody of these records.

I request a waiver of all fees for searching or copying these records in that the disclosure of the requested information is in the public interest and will contribute significantly to the public's understanding of your vaccination mandate.

If there are any fees for searching or copying these records, please inform me if the cost will exceed $200.00.

The statute requires a response to this request within three days following receipt of this letter. I ask that records available in electronic format be transmitted by email to drmatthewmccoy@gmail.com

If you deny any portion, or all, of this request, please provide me with a written explanation of the reason(s) for your denial, including a citation to each specific statutory exemption you feel justifies the refusal to release the information and notify me of the appeal procedures available to me under the law. If you conclude that portions of the records that I request are exempt from
disclosure, please release the remainder of such records for inspection and copying, redacting only the portion or portions that you claim are exempt.

Please contact me with any questions about my request. Thank you for your time.

Regards,

_____

Matthew McCoy DC, MPH
drmatthewmccoy@gmail.com

Gmail

Matthew McCoy <drmatthewmccoy@gmail.com>

RE: [EXTERNAL] CORA Request

1 message

DDPHE Information <DDPHEInformation@denvergov.org> Tue, Nov 23, 2021 at 10:22 AM
To: "drmatthewmccoy@gmail.com" <drmatthewmccoy@gmail.com>

Hello Matthew McCoy,

This is in response to your CORA request dated November 18, 2021, which states as follows: "*Pursuant to the Colorado Open Records Act § 24-72-201 et seq. I am requesting copies of any and all public records documenting that the request for detailed explanation from the employee as to how getting the COVID-19 vaccination conflicts with sincerely-held religious beliefs for all individuals with religious exemptions and that these "explanations" are to be turned over to the Department along with the other documentation is consistent with the Vaccination Mandate dated August 2, 2021 and signed by Robert McDonald.*" DDPHE does not have any records responsive to this request.

Diana Altermatt
Follow us @DDPHE



TELL US HOW WE'RE DOING – CLICK HERE TO TAKE OUR CUSTOMER SATISFACTION SURVEY TODAY!

News

New public health order requires the CCBC to record vaccination status of registrants

March 8, 2022 8:45 am CCBC News, COVID-19

A new Order of the Provincial Health Officer (PHO) has been issued "to prevent or reduce the risk of the transmission of infection with SARS-CoV-2 by health professionals."

The *Health Professionals COVID-19 Vaccination Status Information and Preventive Measures Order* requires the College of Chiropractors of BC (CCBC) to record the COVID-19 vaccination status of all its registrants by March 31, 2022. On request by the CCBC, registrants must provide proof if they are vaccinated or have an exemption. It also requires the College to disclose to the PHO or medical health officer, on request, registrant information regarding vaccination status and place of work, either in aggregate or by individual.

Canadian Chiropractic Association Endorses Vaccination - Now Considers it "Safe and Effective"

Wednesday, December 4, 2019 - 15:02

NEWS STAFF

Canadian Chiropractic Association

Move Designed to Promote Chiropractic as a "Trusted and Respected Healthcare Profession"

The Canadian Chiropractic Association (CCA) has doubled down on its efforts to align the chiropractic profession with organized medicine, abandon the profession's roots and gain acceptance within the public health community in regards to its promotion of universal vaccination.

Chiropractors in Quebec To Give COVID Vaccine Injections After Training

Thursday, December 10, 2020 - 19:56



Health Minister Says Purpose is to Increase Vaccination Capacity

Following in the footsteps of the **United Kingdom** where chiropractors can sign up to be **"vaccinators"** the **Quebec Health Minister Christian Dubé has stated that students and a variety of Quebec health professionals, such as chiropractors and veterinarians, will be able to help give COVID-19 and flu vaccines.**

CLICK HERE for the UK Story

Canadian Chiropractors Helping Inject COVID Vaccines into Thousands of Canadians

Thursday, July 22, 2021 - 14:26



Canadian Chiropractic Association Says its "Proud" of its Members Who Have Volunteered to Inject Canadians

In one of the most bizarre and surreal developments in chiropractic, members of the **Canadian Chiropractic Association** (CCA) and its leaders are bragging and virtue signaling about their involvement in the injection of the experimental, novel molecular COVID machine into thousands of Canadian citizens.

In an article titled: **"The door of hope – Chiropractors step up to accelerate COVID-19 vaccinations"** **Joannie Dupont** DC, a Canadian chiropractor stated:



Many chiropractors answered the call to help vaccinate Canadians.

Canadian Chiropractic Association Board member Dr. Gerald Olin (left) and CCA member Dr. Tim Pethrick (right) are seen here at a vaccination clinic in Winnipeg, MB.



"Sometimes chiropractors are perceived as being on the outskirts of healthcare, and this time we are participating in the centre of it"

Canadian Chiropractic Association Member **Marie-Josee Bernier at** a vaccination clinic in Winnipeg, MB

Administering the jabs isn't the only important job in the process. The vaccine must be drawn into the vials at the correct dose and dilution. That's where chiropractors in Manitoba, like **Dr. Marie-Josée Bernier**, come in.



Canadian Chiropractic Association Member **Marie-Josee Bernier at** a vaccination clinic in Winnipeg, MB



In addition to administering the vaccine, she has also been tasked with preparing doses.

The clinic aims to immunize one person every 60 seconds, so she estimates she has already helped thousands of Manitobans.

Canadian Chiropractic Association Member **Marie-Josee Bernier at** a vaccination clinic in Winnipeg, MB



"Helping with vaccinations is a way to fuel the impatience in my belly of moving on. It was an action I could actually have control over. As soon as they asked chiropractors to help, I knew it was my cue."

Canadian Chiropractic Association Member Joannie Dupont DC at a vaccination clinic in Montreal, QC.

By her estimates, she has vaccinated more than **5,000 people**. “Depending on the day, it’s between 80 – 120 people. Some days it feels like a drop in the bucket, but each jab counts,”



Canadian Chiropractic Association Member **Joannie Dupont DC** at a vaccination clinic in Montreal, QC.

UK's Chiropractic Regulatory Board Promotes COVID Vaccine - Warns Chiropractors They Must Do the Same

Sunday, December 6, 2020 - 16:47

NEWS STAFF



Regulatory Board Threatens Chiropractors for Telling the Public the Truth

The United Kingdom's General Chiropractic Council (GCC) has issued a threat and a warning to UK Chiropractors: **Promote the COVID vaccine narrative that we approve or else.**

The **General Chiropractic Council** is the only regulatory and licensing board overseeing chiropractic in the United Kingdom and **has a long history of anti-chiropractic policy making** that targets those chiropractors practicing the management of vertebral subluxation in a salutogenic, vitalistic model.

Royal College of Chiropractors Urges Chiropractors to Help Vaccinate UK Citizens

Sunday, December 6, 2020 - 16:32

NEWS STAFF

The Royal College of Chiropractors

College Wants Chiropractors to Help the Large Scale Vaccination Program

The **Royal College of Chiropractors** in the United Kingdom is urging chiropractors to sign up with the National Health Service (NHS) of England as **"vaccinators"** as the NHS begins its recruiting of thousands of people to help inject citizens with the rushed vaccine.

The Department for Health and Social Care recently **changed the law to allow a wider group of people to inject the rushed vaccine** against the CCP virus. These are paid roles.

Northwestern Chiropractic Program Mandates COVID Testing of all Students

Thursday, December 3, 2020 - 13:44

NEWS STAFF



Is Mandated Vaccination Next for These Students?

According to an announcement from **Katie Burns Ryan DC, Director of Clinical Services at the College of Chiropractic at Northwestern Health Sciences University**, students will be **mandated to undergo COVID testing** after the first of the year. The school instituted voluntary testing following Thanksgiving break so they could work out the kinks and be ready once the new year begins and students return to campus.

Please Let Us Vaccinate - Michele Maiers of Northwestern's President's Cabinet Begs Federal Government

Thursday, September 23, 2021 - 12:54

NEWS STAFF



Maiers is Executive Director at Northwestern & President of the American Chiropractic Association

Michele Maiers DC, MPH, Ph.D a Member of the **President's Cabinet at Northwestern University of Health Sciences (Formerly Northwestern Chiropractic College)** and Executive Director of Research & Innovation there, begged the federal government to **add chiropractors to the list of eligible providers so they can inject the COVID vaccine**.

Allow Chiropractors to Give COVID Vaccine Injections Urges the American Chiropractic Association

Wednesday, September 22, 2021 - 15:58

NEWS STAFF



ACA Urges HHS to Allow Chiropractors to Give COVID Vaccine Injections & Says Chiropractors Meet Criteria to Give Vaccine

According to the The 2021 Q1 Lobbying Report filed by the **American Chiropractic Association (ACA)** The ACA stated that it was lobbying the U.S. Department of Health and Human Services and **"urging"** them to allow doctors of chiropractic to administer COVID-19 vaccines.

Western States is Latest Chiropractic School to Push for Chiropractors to Inject COVID Vaccine - Will Do "Whatever is Necessary"

Friday, October 1, 2021 - 15:49

NEWS STAFF



Oregon Board Says Chiropractors Can Volunteer to Inject

According to the University of Western States (Formerly **Western States Chiropractic College**) the Oregon Board of Chiropractic Examiners (OBCE) released a statement that **chiropractic physicians and chiropractic students are authorized to administer COVID-19 vaccinations.**

The announcement is posted on Western states website. CLICK HERE to

50% of Chiropractors in Oregon Have Been Injected With Experimental COVID Vaccine

Friday, July 16, 2021 - 12:19

NEWS STAFF



45% of Chiropractic Assistants Have Also Taken the Injections

According to just released data from the Oregon Health Authority (OHA), **50% of chiropractors and 45% of chiropractic assistants** have received injections of the experimental emergency use COVID vaccine in that state.



Richard Brown @UK_Richard... · 13h

No one is safe until everyone is safe.

> **NHS** @NHSuk · 1d
>
> The COVID-19 vaccine protects you and those around you.
>
> Don't delay in getting your vaccine when it is offered to you. Find out if you're eligible here: nhs.uk/CovidVaccine



The Deniers Attack





Immunity & Chiropractic

NEWS

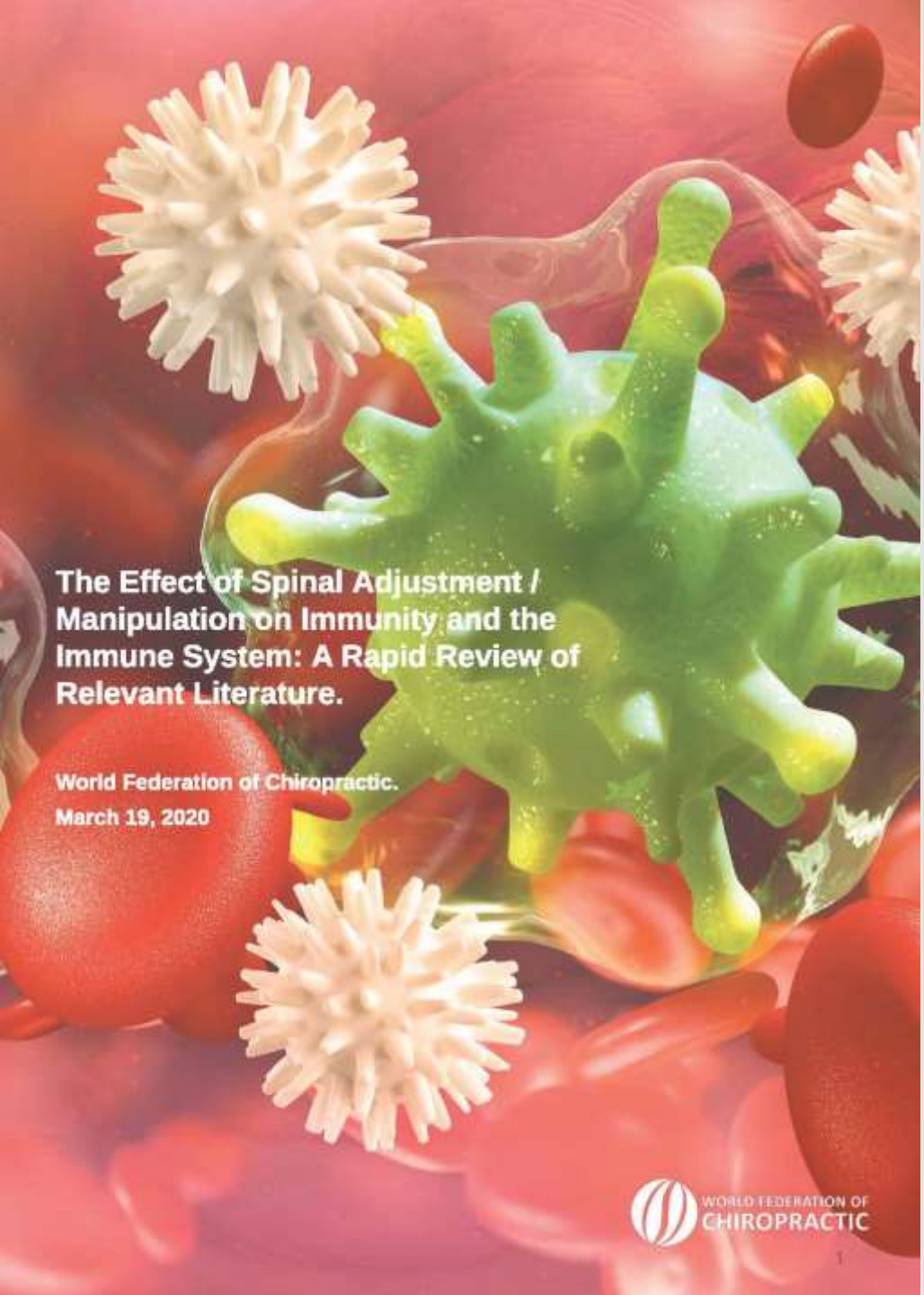
Boost your immunity through **chiropractic** care

Lahaina News

How **chiropractic** care boosts your immunity: The upper cervical region consists of the head, the C1 and C2 neck vertebrae and the spinal cord.



Flag as irrelevant

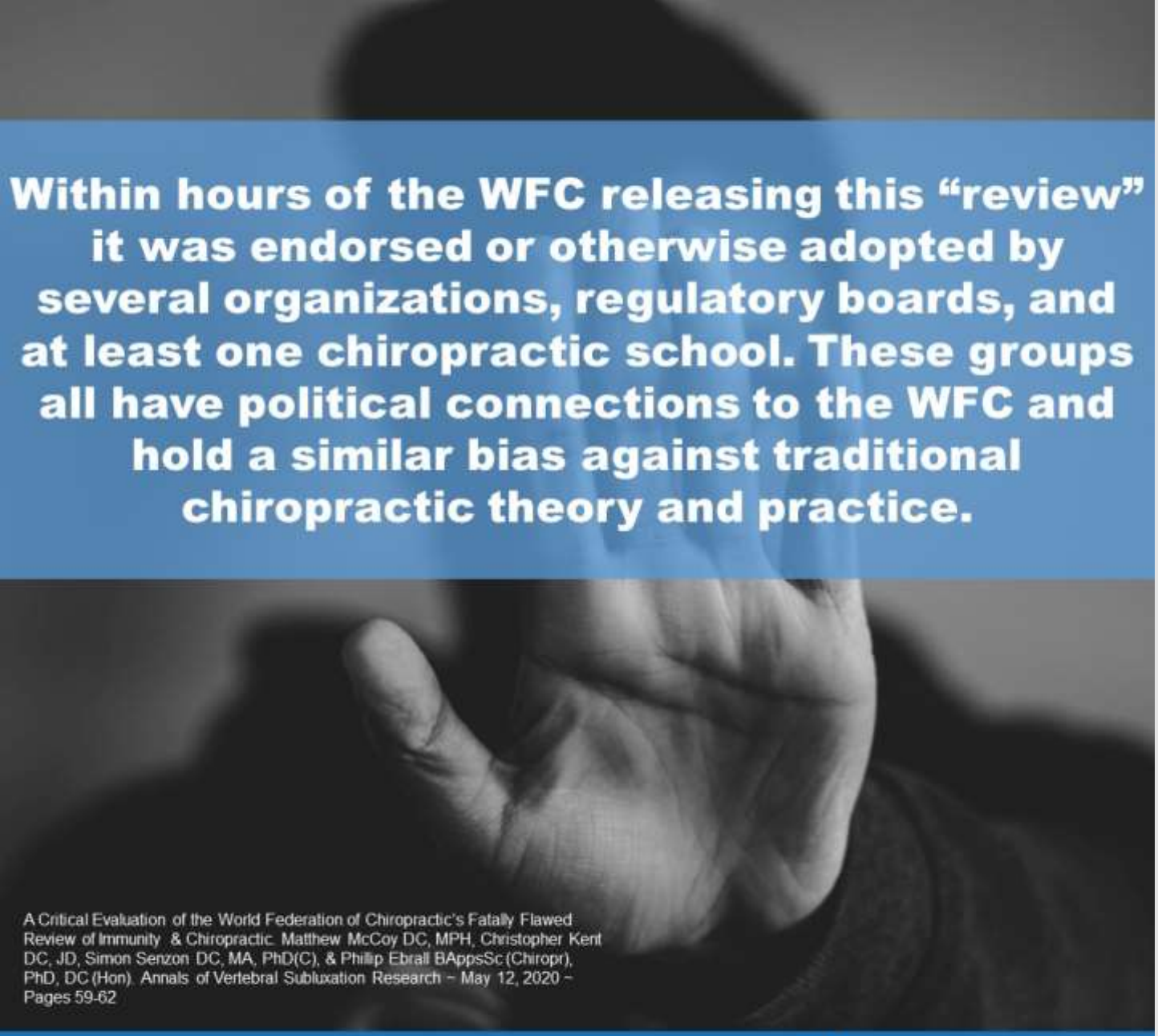


The Effect of Spinal Adjustment / Manipulation on Immunity and the Immune System: A Rapid Review of Relevant Literature.

World Federation of Chiropractic.

March 19, 2020

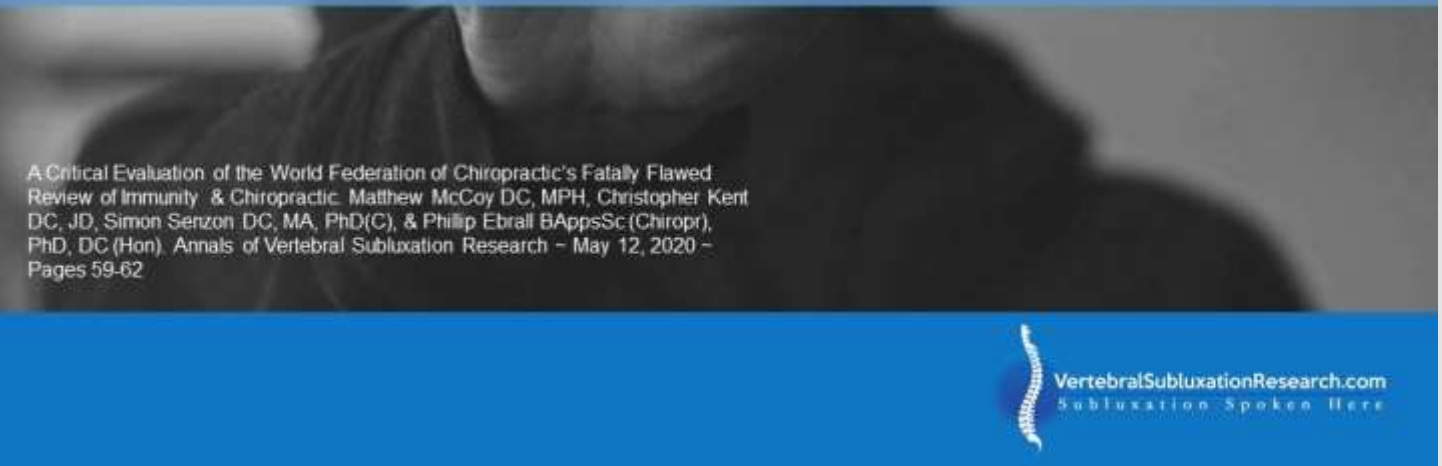
WORLD FEDERATION OF CHIROPRACTIC



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www.chirofutures.org



The regulatory boards then used the document as a rationale to outright threaten their licensees for communicating any inference that chiropractic plays a role in immunity.



A Critical Evaluation of the World Federation of Chiropractic's Fatally Flawed Review of Immunity & Chiropractic. Matthew McCoy DC, MPH, Christopher Kent DC, JD, Simon Senzon DC, MA, PhD(C), & Phillip Ebrall BAppsSc(Chiropr), PhD, DC(Hon). Annals of Vertebral Subluxation Research ~ May 12, 2020 ~ Pages 59-62

VertebralSubluxationResearch.com
Subluxation Spoken Here

ChiroFutures
Malpractice Insurance Program
www.chirofutures.org



"We are aware that some chiropractors are claiming that chiropractic adjustments confers or enhances immunity. We are fortunate to have a research committee containing the worlds leading chiropractic researchers to call upon who have undertaken a rapid review of available evidence and formed our key message that there is no credible scientific evidence supporting these claims of effectiveness"

Vivian Kil DC
President – World Federation of Chiropractic

The Chiropractic Chronicle
Be Informed. Ignorance is not bliss.
ChiropracticChronicle.com

AMERICAN CHIROPRACTIC ASSOCIATION

"There is no quality research, data or evidence that suggests that a spinal manipulation itself will support the immune system"

Keith Overland DC
American Chiropractic Association

Interview on FOX News

The Chiropractic Chronicle
Be Informed. Ignorance is not bliss.
ChiropracticChronicle.com

“There’s no credible evidence and it breaks my heart to say it”



https://www.screencast.com/t/GdohqUFE

“No evidence, my ass”

Amy Haas DC, Ph.D

"You Will be Under the Hand of the Law"



Côté et al. Chiropractic & Manual Therapies (2020) 28:21
https://doi.org/10.1186/s12998-020-00312-x

Chiropractic & Manual Therapies

COMMENTARY Open Access

A united statement of the global chiropractic research community against the pseudoscientific claim that chiropractic care boosts immunity

Pierre Côté[1,2,3*], André Bussières[4,5], J. David Cassidy[3], Jan Hartvigsen[6,7], Greg N. Kawchuk[8], Charlotte Leboeuf-Yde[9], Silvano Mior[2,10], Michael Schneider[11,12] and and more than 140 signatories# call for an end to pseudoscientific claims on the effect of chiropractic care on immune function

Abstract

Background: In the midst of the coronavirus pandemic, the International Chiropractors Association (ICA) posted reports claiming that chiropractic care can impact the immune system. These claims clash with recommendations from the World Health Organization and World Federation of Chiropractic. We discuss the scientific validity of the claims made in these ICA reports.

Main body: We reviewed the two reports posted by the ICA on their website on March 20 and March 28, 2020. We explored the method used to develop the claim that chiropractic adjustments impact the immune system and discuss the scientific merit of this claim. We provide a response to the ICA reports and explain why this claim lacks scientific credibility and is dangerous to the public. More than 150 researchers from 11 countries reviewed and endorsed our response.

Conclusion: In their reports, the ICA provided no valid clinical scientific evidence that chiropractic care can impact the immune system. We call on regulatory authorities and professional leaders to take robust political and regulatory action against those claiming that chiropractic adjustments have a clinical impact on the immune system.

Keywords: Chiropractic, Spinal manipulation, Immunity, Pseudoscience, Coronavirus

Background

We are currently facing the greatest global public health crisis in a century. Fighting the coronavirus pandemic has required that we change the way we live and observe strict public health guidelines. This is necessary because, at this time, there are no effective vaccines, treatments or cures for COVID-19 [1, 2]. Chiropractors, as members of the health care system, should disseminate the best available public health information to the public [3]. Any attempt to behave otherwise can be misleading and potentially dangerous to individual patients and the public at large.

On March 20, 2020, the International Chiropractors Association (ICA), a US based chiropractic organization, posted a report claiming that chiropractic adjustments can boost immune function with the implication that it might be helpful in preventing COVID-19 [4]. In their

* Correspondence: pierre.cote@uoit.ca
[1]Faculty of Health Sciences, Ontario Tech University, Oshawa, Canada
[2]Centre for Disability Prevention and Rehabilitation at Ontario Tech University and CMCC, Oshawa, Canada
Full list of author information is available at the end of the article

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medicina

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Review

The Potential Mechanisms of High-Velocity, Low-Amplitude, Controlled Vertebral Thrusts on Neuroimmune Function: A Narrative Review

Heidi Haavik [1], Imran Khan Niazi [1,2,3,*], Nitika Kumari [1,2], Imran Amjad [1,4], Jenna Duehr [1] and Kelly Holt [1,*]

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Abstract: The current COVID-19 pandemic has necessitated the need to find healthcare solutions that boost or support immunity. There is some evidence that high-velocity, low-amplitude (HVLA) controlled vertebral thrusts have the potential to modulate immune mediators. However, the mechanisms of the link between HVLA controlled vertebral thrusts and neuroimmune function and the associated potential clinical implications are less clear. This review aims to elucidate the underlying mechanisms that can explain the HVLA controlled vertebral thrust–neuroimmune link and discuss what this link implies for clinical practice and future research needs. A search for relevant articles published up until April 2021 was undertaken. Twenty-three published papers were found that explored the impact of HVLA controlled vertebral thrusts on neuroimmune markers, of which eighteen found a significant effect. These basic science studies show that HVLA controlled vertebral thrust influence the levels of immune mediators in the body, including neuropeptides, inflammatory markers, and endocrine markers. This narrative review discusses the most likely mechanisms for how HVLA controlled vertebral thrusts could impact these immune markers. The mechanisms are most likely due to the known changes in proprioceptive processing that occur within the central nervous system (CNS), in particular within the prefrontal cortex, following HVLA spinal thrusts. The prefrontal cortex is involved in the regulation of the autonomic nervous system, the hypothalamic–pituitary–adrenal axis and the immune system. Bi-directional neuro-immune interactions are affected by emotional or pain-related stress. Stress-induced sympathetic nervous system activity also alters vertebral motor control. Therefore, there are biologically plausible direct and indirect mechanisms that link HVLA controlled vertebral thrusts to the immune system, suggesting HVLA controlled vertebral thrusts have the potential to modulate immune function. However, it is not yet known whether HVLA controlled vertebral thrusts have a clinically relevant impact on immunity. Further research is needed to explore the clinical impact of HVLA controlled vertebral thrusts on immune function.

Keywords: high-velocity; low-amplitude thrust; HVLA; chiropractic; spinal manipulation; central nervous system; prefrontal cortex; immune system; endocrine system

check for updates

Citation: Haavik, H.; Niazi, I.K.; Kumari, N.; Amjad, I.; Duehr, J.; Holt, K. The Potential Mechanisms of High-Velocity, Low-Amplitude, Controlled Vertebral Thrusts on Neuroimmune Function: A Narrative Review. *Medicina* **2021**, *57*, 556. https://doi.org/10.3390/medicina57060536

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1. Introduction

The COVID-19 pandemic has resulted in significant global morbidity and mortality [1,2], especially amongst individuals who are immunocompromised, such as older people and those with underlying medical conditions [2,3]. The current pandemic and

"It is not yet known whether HVLA controlled vertebral thrusts have a clinically relevant impact on immunity."



Chiropractic Regulatory Boards May be Restraining Trade During COVID-19 Crisis

Wednesday, April 1, 2020 - 00:00

CHIROFUTURES MALPRACTICE PROGRAM

Are Active Market Players Attempting to Hurt their Competition?

ChiroFutures Malpractice Insurance Program is aware that several chiropractic regulatory boards in the United States have endorsed and/or adopted a policy statement published by the World Federation of Chiropractic (WFC) on the role that chiropractic clinical management has on immune function.

The WFC claims that, based upon their "review", chiropractors may not communicate claims of effectiveness for conferring or enhancing immunity. Some of these boards, and at least one chiropractic college President, have used this policy to directly threaten licensed chiropractors.

Every regulatory board in the United States is made up of active market players - meaning those chiropractors who serve on the board are in competition with all other chiropractors in the state. These active market players, who have the authority to discipline and sanction their competitors, endorsed and/or adopted this flawed policy that appears to restrain the trade of their competitors. To our knowledge they also did this without any formal process, hearing or input from their competition in the marketplace or from the public. To our knowledge they also did this without active oversight of the state.

ChiroFutures has reviewed the document these Boards relied upon and endorsed to potentially restrain the trade of their competitors and have determined that it is methodologically flawed and scientifically invalid.

Anyone receiving communication from a chiropractic regulatory board regarding this issue is urged to preserve that communication along with all other communications, emails, letters, website posts and any other material related to this issue from the regulatory board. Victims of any regulatory boards' attempt to restrain chiropractic trade related to these issues are urged to consult with legal counsel to explore the various remedies available to them.

The United States Supreme Court has held that active market players involved in anti-competitive and unfair methods of competition may be found liable for unreasonably restraining trade in violation of antitrust law.



Informed Consent, Personal Autonomy, Evidence Informed Practice and Health Care Mandates

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It is the individual's decision whether or not to undergo a health care intervention. That decision comes about through an open, patient centered, evidence informed, consent driven process where the individual makes that decision knowledgeable about the evidence, comfortable with the intervention as safe, effective and consistent with their values.

Sherman College Addresses Mandatory Vaccination & Consent Issues

Thursday, August 5, 2021 - 14:45

NEWS STAFF



States College Respects the Right to Freedom of Choice in Healthcare

As vaccination mandates for students and health care workers spread throughout the United States, chiropractors and chiropractic college students are increasingly becoming caught up in the fight for their personal autonomy. At the time of this writing, Oregon, California and Denver have mandated COVID vaccines for all health care workers. Oregon is home to the **University of Western States** which houses a chiropractic college and California is home to two chiropractic Colleges: LIFE **West and Palmer West.** Thus far none of those schools have issued any statements on the vaccination issue or how it will impact their faculty and students.



Sherman College of Chiropractic embraces the ethical principles of informed consent and personal autonomy in making health care decisions. Individuals have the right to make informed decisions concerning whether to accept or reject medical and other healthcare interventions. All medications and procedures carry an element of risk, and individuals are entitled to decide whether to accept or reject the potential benefits and risks of any drug or intervention without fraud, duress, or coercion. In acknowledging patient autonomy, Sherman College of Chiropractic adheres to the ethical principles of maintaining respect, integrity, and veracity. Sherman College of Chiropractic has not and does not require vaccination of students or staff. The college acknowledges that this is a personal decision for each individual. Furthermore, the college respects the right to freedom of choice in healthcare on the basis of personal, philosophical and religious beliefs.

Over 200 British Columbia Chiropractors Threaten Legal Action Against Board Over Proposed Mandatory Vaccination Policy

Thursday, December 9, 2021 - 14:45

NEWS STAFF



Group Sends Notice of Liability to Chiropractic Board: "Ignorance of the law is no excuse"

In an extremely detailed and thoroughly referenced 33 page notice sent to the College of Chiropractors of British Columbia, **227 licensed chiropractors warn the individual members of the regulatory board of their personal liability should they mandate COVID vaccination as a condition of licensing.**

CLICK HERE to review the document

Critical Evaluation

A Critical Evaluation of the World Federation of Chiropractic's Fatally Flawed Review of Immunity & Chiropractic

Matthew McCoy DC, MPH[1]
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Simon Senzon DC, MA, PhD(C)[3]
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1. *Vice President – Foundation for Vertebral Subluxation*
2. *President – Foundation for Vertebral Subluxation*
3. *Research Fellow – Foundation for Vertebral Subluxation*
4. *Health and Wellbeing Research Group, Southern Cross University*

Abstract

The objective of this paper is to provide a critical evaluation of the World Federation of Chiropractic's (WFC) "Rapid Review" of the role of chiropractic in immunity and their conclusions. The WFC claims to have reviewed 7 items including an unpublished report with no citation, four studies involving enhancement of immune markers following chiropractic intervention (including enhanced respiratory burst, increased interleukin 2, and increased CD4 cell counts), a review of literature on the evidence supporting stimulation of the neuroimmunoendocrine system and a review of one hundred thousand cases of influenza managed by osteopathy during the 1918 flu pandemic.

All of the reports they reviewed demonstrated positive findings in support of manual methods such as chiropractic adjustments and manipulation in effecting a positive immune response.

Despite these positive findings, the WFC Research Committee came to the opposite conclusion that no credible, scientific evidence exists that spinal adjustment / manipulation has any clinically relevant effect on the immune system.

Our critical evaluation reveals that their conclusion is based on flawed methodology, a grossly incomplete review of the literature, unfounded interpretations of the results of the studies, and bias demonstrated by the authors. It is well established that the nervous system controls and coordinates all functions and systems of the human body including immunity and the immune system. Many in chiropractic consider that this relationship confers salutogenic benefits in people undergoing chiropractic care. The scientific literature reviewed here, while limited, demonstrates a positive, salutogenic effect from chiropractic on the human immune system.

Key Words: *World Federation of Chiropractic, immunity, chiropractic, adjustment, manipulation, vertebral subluxation, coronavirus, COVID-19*

Background

The World Federation of Chiropractic (WFC) has issued what they call a "rapid review" of materials that they are ". . . aware have been cited in support of claims of effectiveness for spinal adjustment/manipulation in conferring or enhancing immunity."[1]

The "rapid review" was conducted by the World Federation of

- Greg Kawchuk DC, PhD - Canadian Memorial Chiropractic College Adjunct
- Christine Goertz DC, PhD - Palmer College of Chiropractic Honorary Alumna
- Iben Axén DC, PhD - Institut Franco-Européen de Chiropratique
- Martin Descarreaux DC, PhD - Université du Québec

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INT. FED. OF CHIROPRACTORS & ORGS. ENDORSES WFC REJECTIONS STATEMENT (PDF)



ILLINOIS PRAIRIE STATE CHIROPRACTIC ASSOCIATION REJECTS STATEMENTS BY WFC (PDF)



SHERMAN COLLEGE OF CHIROPRACTIC REJECTS WFC STATEMENT (LINK)



PORTUGUESE CHIROPRACTIC ASSOCIATION REJECTS WFC STATEMENTS (PDF)



CONNECTICUT CHIROPRACTIC COUNCIL REJECTS WCF STATEMENTS (PDF)



AUSTRALIAN SPINAL RESEARCH FOUNDATION REJECTS WFC STATEMENT (PDF)



FOUNDATION FOR VERTEBRAL SUBLUXATION
WFC REBUTTAL
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WHAT DOES THE EVIDENCE PROVIDE
(PDF)



ICPA REJECTS WFC STATEMENT
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IMMUNITY STATEMENT
(LINK)



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COLORADO CHIROPRACTIC ASSOCIATION REJECTS ACA & WFC STATEMENTS (PDF)

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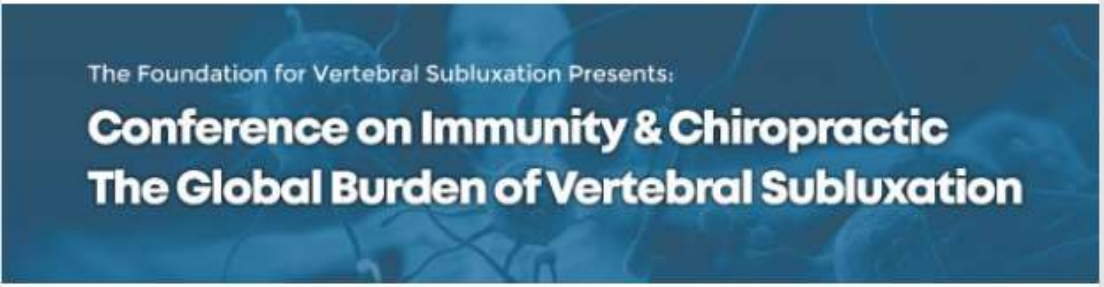
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Never before has the role of chiropractic on the functioning of the nervous and immune systems been so important to understand.

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- **Jonathon Chung DC** - The Vagus Nerve, HRV, and Immunity Baby!
- **Ian Shtulman DC, DACCP** - It Starts in the Womb. Well, Maybe Sooner.
- **Amy Haas MS, DC, Ph.D** - Coordination, Integration & Cytokines - Oh MY!-

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Secondary analysis of a dataset to estimate the prevalence of vertebral subluxation and its implications for health promotion and prevention

By

Christie Kwon

D.C., Life University, 2011
M.S., Johns Hopkins University, 2005
B.S., Johns Hopkins University, 2002

Thesis Committee Chair: Jose Binongo, PhD

An abstract of
A thesis submitted to the Faculty of the
Rollins School of Public Health of Emory University
in partial fulfillment of the requirements for the degree of
Master of Public Health
in Prevention Science
2020

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Abstract

Secondary analysis of a dataset to estimate the prevalence of vertebral subluxation and its implications for health promotion and prevention.

By Christie Kwon

Objective Vertebral subluxation (VS) is a clinical entity defined as the misalignment of the spine affecting biomechanical and neurological function. The identification and correction of VS is the primary focus of the chiropractic profession. The purpose of this study is to estimate the prevalence of VS using a sample of individuals presenting for chiropractic care and to explore the public health implications.

Methods A brief review of the literature was conducted to support an operational definition for VS that incorporated neurologic and kinesiologic exam components. A retrospective, quantitative analysis of a multi-clinic dataset was then performed using this operational definition. Patient demographic data included age, gender, and past health history characteristics. In addition to estimating overall prevalence of VS, age- and gender-stratified estimates in the different clinics were calculated to observe for potential variations.

Results A total of 1,851 patient records from 7 chiropractic clinics in 4 states were obtained. The mean age of patients was 43.48 (SD = 16.8, range: 18-91 years). There were significantly more females (n = 927, 64.6%) than males presented for chiropractic care. Patients reported various spinal or extremity pain, numbness, or tingling; headaches; ear, nose, and throat-related issues; visceral symptoms; mental health concerns; neurocognitive issues; and concerns about general health as well as overall wellness as their reasons for seeking chiropractic care. The overall prevalence was 78.55% (95% CI: 76.68-80.42). Female and male prevalence were 77.17% and 80.15%, respectively; notably, all per-clinic, age, or gender-stratified prevalence were ≥ 50%.

Conclusion Albeit nonrandom, the sample has a broad geographic distribution. The results of this study suggest a high rate of prevalence of VS in a sample of individuals who sought chiropractic care. Further investigation into the epidemiology of vertebral subluxation and its role in health promotion and prevention is warranted.

Keywords: *vertebral subluxation, chiropractic, epidemiology, prevalence, prevention science*

"The authors quote Gray's Anatomy about the idea that the nervous system controls and coordinates all organs and structures. This is not relevant to the study and is **untrue.** Many organs function well without nervous system control"

Credible Evidence?



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Review

A Scoping Review of Chiropractic, Vertebral Subluxation and Immune Function with Implications for Development of a Protocol for Measurement of Immune Biomarkers in Chiropractic Research & the Development of Related Policy

Matthew McCoy DC, MPH[1]
Christopher Kent DC, JD[2]
Suzzanne M. Candelaria-Perez BSc[3]
Anquonette Stiles DC, MPH[3]
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2. *President – Foundation for Vertebral Subluxation & Director of Center for Scholarly Activity Sherman College of Chiropractic*
3. *Research Fellow – Foundation for Vertebral Subluxation*

Abstract

Objective: To discuss the existing literature on chiropractic, vertebral subluxation and immune function in order to inform the development of an integrative review of the literature, a review of immune biomarkers in relation to chiropractic, development of a research protocol, the implementation of future studies and the development of related policy.

Methods/Results: We conducted a scoping review of existing literature available to the authors and conducted further searches and gathering of documents based on that available literature. 125 papers were gathered and included in this review.

Conclusions: This is a scoping review of the literature regarding chiropractic and its relationship to neuroimmunology. It is intended to inform a larger project and give that team as much background as possible in a short period of time. The results of the already available research demands that we further explore the neuro-immuno-regulatory effects of chiropractic, adjustment and spinal manipulation and it provides a starting point for doing so. While adjustments reduce pain and inflammation, they also improve immune-regulatory function. How and to what extent is the subject of this current multi-pronged project.

Key Words: *Chiropractic, immunity, neuroimmunity, neuroimmunology, psychoneuroimmunology, neuroimmunoendocrine system, immune biomarkers, supersystem, vertebral subluxation, adjustment, spinal manipulation*

Introduction

It is well established that the nervous system controls and coordinates all functions and systems of the human body including immunity and the immune system.[1] Many in chiropractic consider that this relationship confers salutogenic benefits in people undergoing chiropractic care.[2-4]

Recent events related to the Coronavirus Pandemic have brought this relationship to the forefront within and outside of the chiropractic profession. This includes assertions by researchers within the chiropractic profession that there is no credible evidence supporting claims of effectiveness of spinal adjustment and/or manipulation in boosting or strengthening the immune system and that there is no credible, scientific evidence that spinal adjustment and/or manipulation has any clinically relevant effect on the immune system.[5]

As a result of the assertions by these researchers, some chiropractic regulatory boards, chiropractic trade organizations and chiropractic educational institutions from around the world are claiming that there exists no credible, scientific evidence that would permit claims of effectiveness for conferring or enhancing immunity through spinal adjustment and/or manipulation to be made in communications by chiropractors.[6] Essentially, chiropractors have been effectively muzzled and banned from discussing any connection between the nervous and immune systems.

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Scoping Review

A Scoping Review of Salivary Tests for Immunoglobulin A, Cortisol, and C-Reactive Protein in Consideration of Their Use as Immune Biomarkers in Chiropractic Research

Matthew McCoy DC, MPH[1]
Suzzanne M. Candelaria-Perez BSc[3]
Christopher Kent DC, JD[2]
Christie Kwon DC, MS, MPH(C)[3]
Anquonette Stiles DC, MPH[3]
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2. *President – Foundation for Vertebral Subluxation & Director of Center for Scholarly Activity Sherman College of Chiropractic*
3. *Research Fellow – Foundation for Vertebral Subluxation*

Abstract

Objective: To perform a scoping review of the existing literature on salivary tests for immunoglobulin A (IgA), cortisol and C-reactive protein (CRP) to inform researchers in regards to their use as measurements of immune biomarkers following chiropractic intervention.

Methods/Results: We conducted a scoping review of existing literature available to the authors and conducted further searches and gathering of documents based on that available literature. 46 papers were gathered and included in this scoping review.

Conclusions: This is a scoping review of the existing literature on salivary tests for immunoglobulin A, cortisol and C-reactive protein. Its purpose is to inform researchers on the existing science in order to inform their use as measurements of immune biomarkers following chiropractic intervention. It is intended to inform larger projects and give that team as much background as possible in a short period of time. The results of this scoping review reveal the potential use and utility of salivary tests as measurements of immune biomarkers to explore the neuro-immuno-regulatory effects of chiropractic, adjustment and spinal manipulation.

Key Words: Chiropractic, immunity, neuroimmunity, neuroimmunology, psychoneuroimmunology, neuroimmunoendocrine system, immune biomarkers, supersystem, vertebral subluxation, adjustment, spinal manipulation, Immunoglobulin A, C-Reactive Protein, cortisol, salivary tests

Introduction

Salivary testing has gained in popularity as a monitoring tool for human health. Saliva is a rapidly and easily available biological fluid, its analysis is non-invasive and is utilized in disciplines including medicine, dentistry, psychology, pharmacotherapy and epidemiology.[1] Saliva is a safe and low-cost alternative to the use of serum and research has shown that levels of some salivary markers correlate well with those in serum.[2]

Saliva refers to the clear, slightly acidic, hypotonic and mucoserous exocrine fluid synthesized and secreted by the salivary glands.[1] The major salivary glands include the parotid, submandibular and sublingual glands and produce 90% of saliva. Whole mouth saliva, as opposed to saliva produced by specific glands, is a mixture of oral fluids made up of 99% water, inorganic salts, enzymes, polypeptides and proteins. Alterations in the composition of blood may be mirrored by changes in the biochemical composition of saliva because blood-based molecules enter the highly vascularized salivary glands. Whole mouth saliva has also been proposed to resemble plasma in its composition.[3,4]

Salivary compounds can derive from plasma by passive diffusion or active transport and because of this, salivary analysis has great potential as a diagnostic tool as several

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Proposal

Chiropractic, Vertebral Subluxation and Immune Function: A Multi-Pronged Project to Address Fundamental Questions in an Evidence Informed Framework

Matthew McCoy DC, MPH[1]
Christopher Kent DC, JD[2]
Anquonette Stiles DC, MPH[3]
Christie Kwon DC, MS, MPH(C)[3]
Suzzanne M. Candelaria-Perez BSc[3]
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2. *President – Foundation for Vertebral Subluxation & Director of Center for Scholarly Activity Sherman College of Chiropractic*
3. *Research Fellow – Foundation for Vertebral Subluxation*

Abstract

Objective: To briefly outline a multi-pronged project to address fundamental questions regarding chiropractic, vertebral subluxation and immune function.

Background: Recent events related to the coronavirus pandemic have brought the relationship between the nervous and immune systems to the forefront within and outside of the chiropractic profession. This includes assertions by researchers within the chiropractic profession that there is no credible evidence supporting claims of effectiveness of spinal adjustment and/or manipulation in boosting or strengthening the immune system and that there is no credible, scientific evidence that spinal adjustment and/or manipulation has any clinically relevant effect on the immune system.

Methods: An ad hoc team made up of individuals with experience in research, law, public health, and chiropractic from the Foundation for Vertebral Subluxation and Sherman College of Chiropractic developed a rapid outline to serve as a guideline for the development of projects related to chiropractic and immunity.

Discussion: This outline describes a multi-pronged approach to complete a scoping review of chiropractic, immunity and biomarkers, a comprehensive, integrative review of the scientific literature on chiropractic and immunity, the development of research protocols, feasibility studies, development of a prospective longitudinal health outcomes study, and the development of policy and best practice statements for practitioners and patients in an evidence informed framework.

Conclusion: It is well established that the nervous system controls and coordinates all functions and systems of the human body including immunity and the immune system. Many in chiropractic consider that this relationship confers salutogenic benefits in people undergoing chiropractic care. The chiropractic profession is encouraged to further explore these relationships.

Key Words: *Chiropractic, immunity, neuroimmunity, neuroimmunology, psychoneuroimmunology, neuroimmunoendocrine system, immune biomarkers, supersystem, vertebral subluxation, adjustment, spinal manipulation, best practices, health policy*

Background

It is well established that the nervous system controls and coordinates all functions and systems of the human body including immunity and the immune system.[1] Many in chiropractic consider that this relationship confers salutogenic benefits in people undergoing chiropractic care.[2-4]

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Critical Evaluation

A Critical Evaluation of the World Federation of Chiropractic's Fatally Flawed Review of Immunity & Chiropractic

Matthew McCoy DC, MPH[1]
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3. *Research Fellow – Foundation for Vertebral Subluxation*
4. *Health and Wellbeing Research Group, Southern Cross University*

Abstract

The objective of this paper is to provide a critical evaluation of the World Federation of Chiropractic's (WFC) "Rapid Review" of the role of chiropractic in immunity and their conclusions. The WFC claims to have reviewed 7 items including an unpublished report with no citation, four studies involving enhancement of immune markers following chiropractic intervention (including enhanced respiratory burst, increased interleukin 2, and increased CD4 cell counts), a review of literature on the evidence supporting stimulation of the neuroimmunoendocrine system and a review of one hundred thousand cases of influenza managed by osteopathy during the 1918 flu pandemic.

All of the reports they reviewed demonstrated positive findings in support of manual methods such as chiropractic adjustments and manipulation in effecting a positive immune response.

Despite these positive findings, the WFC Research Committee came to the opposite conclusion that no credible, scientific evidence exists that spinal adjustment / manipulation has any clinically relevant effect on the immune system.

Our critical evaluation reveals that their conclusion is based on flawed methodology, a grossly incomplete review of the literature, unfounded interpretations of the results of the studies, and bias demonstrated by the authors. It is well established that the nervous system controls and coordinates all functions and systems of the human body including immunity and the immune system. Many in chiropractic consider that this relationship confers salutogenic benefits in people undergoing chiropractic care. The scientific literature reviewed here, while limited, demonstrates a positive, salutogenic effect from chiropractic on the human immune system.

Key Words: *World Federation of Chiropractic, immunity, chiropractic, adjustment, manipulation, vertebral subluxation, coronavirus, COVID-19*

Background

The World Federation of Chiropractic (WFC) has issued what they call a "rapid review" of materials that they are ". . . aware have been cited in support of claims of effectiveness for spinal adjustment/manipulation in conferring or enhancing immunity."[1]

The "rapid review" was conducted by the World Federation of Chiropractic's Research Committee made up of the following individuals:

- Greg Kawchuk DC, PhD - Canadian Memorial Chiropractic College Adjunct
- Christine Goertz DC, PhD - Palmer College of Chiropractic Honorary Alumna
- Iben Axén DC, PhD - Institut Franco-Européen de Chiropratique
- Martin Descarreaux DC, PhD - Université du Québec à Trois-Rivières
- Simon French B.App.Sci (Chiro), MPH, PhD - Macquarie University

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The Genotoxic Aspect of the Vertebral Subluxation: Transcript of Lecture Given by Ronald W. Pero Ph.D

Ronald W. Pero, Ph.D[1]

ABSTRACT

This is looking at life at the chemical level. There are, basically, three main events that organize information. Duplication, transcription, of that information that's present in the DNA molecule, and then translation of that material into protein which carries out the metabolic functions in the cell. The crucial event is in duplication. That is really genetic toxicology. If the cell can't do that, it's the end. It can live with a lot of abnormalities in translation and transcription, it can't live with abnormalities in the DNA duplication. So that is what Harry Truman says, "The buck stops here". The responsibility stops here. That's it. The DNA molecule. You can't go back any further. That's what I'm offering you as a basic from which to look at the scientific basis of chiropractic. That's chemically speaking. Now this is kinetically speaking. What happens is this is just taking the human cells, the cell division cycle, it's usually about 8 hours, and this is what happens, these are different phases. We can recognize the phases in the cell very nicely. "M' is the mitosis, when the cell actually divides and the chromatin is very condensed."G1" is when the cell is preparing to replicate its DNA, "S" is when the replication actually takes place. "G2" is it begins to condense, and "MI", it actually comes apart. The events themselves are very nicely seen and very important in the duplication of cell information.

Keywords: *chiropractic, subluxation, adjustment, manipulation, oncogenes, genotoxicity, stress, immunity, cancer, mutagenesis, neuropathophysiology*

Publication Note: This paper is a reprint of the transcript from a lecture given by Ronald W. Pero Ph.D circa 1980.

Introduction

By Dr. Joseph Flesia

Every one of you knows Dr. Pero. His introduction will consist mostly of some of the new things he is doing. He is, as you all know, a member of the Chiropractic Advisory Board of Renaissance.

He is the Chairman of the newly founded Chiropractic Basic Science Research Foundation, the fund granting foundation we talked about earlier, and he is on the Peer Review Committee who will be giving out the funds to the various scientists for more conclusive research.

He is also the director of Molecular Genetics at the University of Lund in Lund, Sweden. Director of the Division of Cancer Research at the Preventive Medicine Institute, Strang Clinic, downtown Manhattan. He is the Director of the PMI Research Center for Preventive Medicine, and a Scientific Editor for the Keyser/Strang Lung Research Center.

Dr. Pero is a friend of Renaissance and, therefore, a friend of chiropractic. He will be one of the two men receiving a partial grant from the donations upstairs, to immediately begin large amounts of genetic testing of patients in Phases I and III of subluxation degeneration under long term chiropractic care.

Dr. Ronald Pero

Okay, are we ready? (A loud "Yes" from the audience). (Dr. Pero is standing with his back to the camera). Lights! Camera! Action! Let's get the camera in focus. We should get it on the right people- the audience. They're the ones who've got to be

1. Director of Molecular Genetics University of Lund, Sweden

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Biochemical & Endocrinological Changes Due to Neuropathologic States That Can Lead to Gentoxic Consequences: A Testable Hypothesis for Health Effects Induced by Spinal Pathomechanics

Desmond B. Johnson, B.Sc., Ph.D[1], Ronald W. Pero, Ph.D[1], J.M. Flesia Jr., D.C.[1]

ABSTRACT

Anatomical, histopathological and neuropathological consequences of spinal cord injury have been reviewed previously. The present review concentrates on literature published since then, and is particularly concerned with the molecular events following spinal cord injury, with the emphasis on such events that relate to genotoxicity. Modern theories relating to oncogenes, to initiation and promotion, and to co-carcinogens are dealt with. There is overwhelming evidence in the literature for the role of hormones in the etiology of cancer.

As co-carcinogens, or agents of promotion, hormones have a prominent role in tumorigenesis through their influence on cellular environment and on the expression of growth capacity. In addition, some writers have suggested that hormones may also be important as initiators of neoplasia as well as being promoters of neoplasia initiated by other agents.

Because of the chronic nature of the results of many spinal injuries, to whatever degree of debilitation, the impact of stress on the human organism must be considered. Hormonal changes elicited by physical and psychological stress are summarized. While pain is included in the general context of stress, it is also treated from other viewpoints: recent literature on pain perception, on endogenous opiates, and on pain control are included in the review. In addition, attention is drawn to the side effects of some drugs, including analgesics as it is clear that some drugs are closely connected with carcinogenesis.

Key words: *chiropractic, subluxation, adjustment, manipulation, oncogenes, stress, immunity, cancer, mutageneis, neuropathophysiology*

Publication Note: This paper is a reprint of the original with the addition of an abstract and key words.

Background

Anatomical, histopathological and neuropathological consequences of spinal cord injury have been reviewed previously (Stiga & Flesia, ref.1). The present review concentrates on literature published since then, and is particularly concerned with the molecular events following spinal cord injury, with the emphasis on such events that relate to genotoxicity.

Because cancer is a main research thrust today in the health care sciences as a measure of genotoxic events, this report has an oncological orientation. Modern theories relating to oncogenes, to initiation and promotion and to cocarcinogens are dealt with. There is overwhelming evidence in the literature for the role of hormones in the etiology of cancer. As cocarcinogens, or agents of promotion, hormones have a prominent role in tumorigenesis through their influence on cellular environment and on the expression of growth capacity. In addition, some writers have suggested that hormones may also be important as initiators of neoplasia as well as being promoters of neoplasia initiated by other agents. Because of the chronic nature of the results of many spinal injuries, to whatever degree of debilitation, the impact of stress on the human organism must be considered. Hormonal changes elicited by physical and psychological stress are

1. Chiropractic Basic Science Research Foundation

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Best Practices/Practice Guidelines

Immunity & Chiropractic Clinical Practice

Matthew McCoy DC, MPH[1], Christopher Kent DC, JD[2], Anquonette Stiles DC, MPH[3], Christie Kwon DC, MS, MPH[3], Amy Haas DC, Ph.D[3], Jon Chung DC[4], Ian Shtulman DC, DAACP[5], Suzzanne M. Candelaria-Perez BSc[3], Christopher Long BS[3], Brooke Mills AA[3], Veronica Gutierrez DC[6]

RECOMMENDATION

Rating: Established
Evidence: E, L

A growing body of evidence supports our understanding of the role of the nervous system in immune system function. Basic science studies and clinical reports in the scientific literature provide supportive evidence of the beneficial effects of chiropractic care in improving function, including immune system function and quality of life. These guidelines support chiropractic practice in an evidence-informed, patient centered model. Evidence-informed practice involves the integration of the knowledge and experience of the chiropractor, the best available research evidence, and the needs and preferences of individual patients. Furthermore, chiropractors must be free to discuss, publish, and otherwise disseminate the best available evidence, and in practice, apply it to the needs of individual patients.

Foundation for Vertebral Subluxation Best Practices Initiative

Introduction

It is well established that the nervous system controls and coordinates all functions and systems of the human body including immunity and the immune system.[1] Consistent with this simple maxim of human physiology, many chiropractic practitioners hold that the impacts of chiropractic adjustment on the nervous system can confer overall salutogenic benefits in people undergoing chiropractic care.[2-4] Indeed, for well over a century, chiropractors around the world have accrued a significant body of collective clinical experience establishing that patients under chiropractic care often experience health improvements not limited to simple musculoskeletal complaints or resolution.

Recent events related to the Coronavirus Pandemic have brought this relationship between chiropractic care and overall promotion of health and wellness to the forefront, both within and outside of the chiropractic profession. Within the chiropractic profession, broad stroke assertions by researchers to the effect that no "credible" published scientific evidence supports claims of clinically relevant effectiveness of spinal adjustment and/or manipulation in boosting or strengthening the immune system.[5]

As a consequence of the assertions of the small cadre of researchers, certain chiropractic regulatory boards, chiropractic trade organizations and chiropractic educational institutions from around the world are claiming that there exists no credible, scientific evidence that would permit claims of effectiveness for conferring or enhancing immunity through spinal adjustment and/or manipulation to be made in communications by chiropractors.[6] Essentially, chiropractors have been effectively muzzled and throttled from discussing

1. *Vice President Foundation for Vertebral Subluxation*
2. *President Foundation for Vertebral Subluxation & Director of Center for Scholarly Activity Sherman College of Chiropractic*
3. *Research Fellow Foundation for Vertebral Subluxation*

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Best Practices/Practice Guidelines

Best Practices for the Chiropractic Care of Children

Joel Alcantara, DC[1], Joey D. Alcantara, DC[2], Junjoe Alcantara, DC[3], Christopher Kent DC, JD[4], Matthew McCoy DC, MPH[5], Christie Kwon DC, MS, MPH[6], Anquonette Stiles DC, MPH[6], Jeanne Ohm DC[7], Veronica Gutierrez DC[8], Andrew Rupp DC[8], Shannon O'Brien DC[8], Anne Bishop DC[8], Stacey Rainey DC[8], Bethany Carilli DC[8] Hui Zhen Lim DC[6], Gabriel Hrebien BA[6], Justin Bedrosian DC[6], Suzzanne M. Candelaria-Perez BSc, DC[6], Christopher Long DC[6]

RECOMMENDATION

Rating: Established
Evidence: E, L

Since vertebral subluxation may affect individuals at any age, chiropractic care may be indicated at any time after birth. As with any age group, however, care must be taken to select adjustment methods most appropriate to the patient's stage of development and overall spinal integrity. Parental education by the chiropractor concerning the importance of evaluating children for the presence of vertebral subluxation is encouraged as are public health initiatives geared toward screening of children for vertebral subluxation beginning at birth.

Introduction

Since its inception, the chiropractic care of children has been an integral part of the practice of chiropractic.[1] Today, the chiropractic care of children remains an important aspect in chiropractic practice. In 2007, Barnes and colleagues[2] estimated the complementary and alternative medicine (CAM) use among U.S. adults and children from the 2007 National Health Interview Survey (NHIS), conducted by the Centers for Disease Control and Prevention's (CDC) National Center for Health Statistics (NCHS). Barnes and colleagues[2] found that approximately one in nine children used some type of CAM therapy with children having a greater likelihood of using biologically based therapies, mind-body therapies or manipulative and body-based therapies than other alternative healthcare approaches. Of the practitioner-based CAM therapies, the investigators found that chiropractic was the most popular form of non-allopathic healthcare for children. Overall, CAM therapies were used by children to address complaints associated with the musculoskeletal complaints, head or chest colds, anxiety or stress and ADHD/ADD. In a follow-up study, Black et al.[3] found similarly among 4-17 year-olds in terms of motivation for care and the utilization of chiropractic by parents for their children. In 2000, Lee et al.[4] characterized the chiropractic care of children in a survey of Boston chiropractors. Lee et al.[4] examined socio-demographics, practice characteristics, and fee structures involved in the care of children. In addition, chiropractor responders were asked about their recommendation of childhood vaccinations and their approach to care in a child with a fever. Based on the response of 90 predominantly white male chiropractors, Lee et al.[4] found an average weekly visit of 122 patients of which 11% involved the care of children and adolescents. The average visit fees were $82 and $38 for the

1. *Director of Research International Chiropractic Pediatric Association*
2. *Private Practice of Chiropractic Alberta, Canada*
3. *Private Practice of Chiropractic Pasig City, Philippines*
4. *President Foundation for Vertebral Subluxation & Director of Center for Scholarly Activity Sherman College of Chiropractic*

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CHIROPRACTIC- RELATED RESEARCH PAPERS
ASPECTS OF BIOCHEMISTRY AND PHYSIOLOGY

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ACTH [201]
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Blood pressure [206-208]
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Killer cells [221,222]
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Macrophages [224]
Melanomas [212]
Melatonin [225]
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Neutrophils [211,227-229]
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Phagocytosis [227,230]
Prostaglandin [231,232]
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Substance P [227,228]
Tumor necrosis factor [226]

This table demonstrate s the wider aspects of chiropractic research. (Note: Many of these studies concern an immunological response. More than one term may appear in a single paper. Papers are not necessarily related to spinal manipulation but more the broad nature of chiropractic research.)

- From Rome . . .

Induce & Enhance

Studies demonstrate evidence indicating that chiropractic and spinal manipulation may influence immune system response.

Studies suggest that manipulation consistently reduces the production of pro-inflammatory mediators associated with tissue damage and pain from articular structures.

Other studies provide evidence that manipulation may induce and enhance production of the immune-regulatory cytokine IL-2 and the production of immunoglobulins.

Boost?

- Attenuates
- Reduces
- Down regulates
- Ameliorates
- Decreases
- Modifies
- Reverses
- Normalizes
- Inhibits
- Enhances
- Influences
- Increased capacity
- Modulates

Similar and opposite words

boost

verb

help or encourage (something) to increase or improve.

Similar

improve raise uplift increase augment magnify swell amplify enhance encourage heighten help promote foster nurture arouse stimulate invigorate revitalize inspire perk up support bolster buttress shore up buck up jack up give a shot in the arm to

- push from below; assist.

  Similar

  lift raise hoist push thrust shove heave elevate help aid assist hoick give someone a leg up upheave

noun

a source of help or encouragement leading to increase or improvement.

Similar

uplift lift spur encouragement help inspiration stimulus pick-me-up fillip support bolster shot in the arm

- an increase or improvement.

  Similar

  increase expansion upturn upsurge upswing rise elevation escalation augmentation improvement development advance growth boom spurt hike step up jack up



Evidence Informed Practice

Hierarchy of Research Designs & Levels of Scientific Evidence



APPENDIX “N”



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College of Chiropractors of British Columbia

Policy Title – Efficacy Claims **Responsible Office: College of Chiropractors of British Columbia ("CCBC")** **Contact:** registrar@chirobc.com	**Reference Information:** *TBD*
	Replaces former policy: NA
	Date Effective: October 1, 2018
	Last Update: NA
	Next Review Date: September 30, 2019
Keywords	**E.g. efficacy, marketing, advertising, acceptable evidence**

1. **Policy Rationale & Purpose:**

   As stated in section 14(1)(f) and Appendix "N" of the CCBC's *Professional Conduct Handbook* ("PCH"), chiropractors must not advertise health benefits of their services when there is no acceptable evidence that those benefits can be achieved. The Board is concerned registrants may be making claims in marketing or directly to patients that chiropractic care has beneficial effects on some diseases, disorders and conditions when there is no acceptable evidence for those claims.

   This policy identifies efficacy claims that are not supported by acceptable evidence, and therefore, must not be made.

2. **Policy Scope**

   This policy applies to all registrants who market or advertise their services.

3. **Policy Statement:**

   Due to the absence of acceptable evidence supporting such claims, **registrants must NOT represent** to patients or the public that chiropractic:

   (a) can be used to treat diseases, disorders or conditions such as: Alzheimer's disease, cancer, diabetes, infections, infertility, or Tourette's syndrome, or

   (b) has any beneficial effect on childhood diseases, disorders or conditions such as: ADHD (or ADD), autism spectrum disorders including Asperger syndrome, cerebral palsy, Down syndrome, fetal alcohol syndrome, or developmental and speech disorders.

   The above list of diseases, disorders or conditions is neither final nor conclusive. Absent acceptable evidence, registrants are not free to make claims about the effectiveness of chiropractic in treating a disorder, disease or condition simply because it is not included in the list.

British Columbia

Efficacy Claims Policy

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"has ***any beneficial effect*** on childhood diseases, disorders or conditions such as: ADHD (or ADD), autism spectrum disorders including Asperger syndrome, cerebral palsy, Down syndrome, fetal alcohol syndrome, or developmental and speech disorders."

Acceptable Evidence?

6. **Definitions:**

- "acceptable evidence" means objective, clear evidence based on accepted principles of good research that support the therapeutic claim (see Appendix "N" of PCH)

APPENDIX "N": Acceptable Evidence

It is the duty of a registrant, when requested by the college or Inquiry Committee to verify statements and claims made in their marketing materials

The College of Chiropractors of British Columbia (CCBC) recognizes that chiropractic care may offer relief for persons experiencing neuro-musculoskeletal symptoms. Chiropractors must not make statements or claims that create an unjustified expectation of the potential benefit of chiropractic treatment and care.

Under section 85 of the College Bylaws, registrants must not engage in marketing that is false, inaccurate, unverifiable, misleading or misrepresentative of the effectiveness or a technique, procedure, instrument or device. Both specific claims and the overall impression of marketing must be considered. Marketing violates section 85 if it is likely to create unjustified expectations for treatment in the mind of patients or the public.

In addition to more traditional advertisements and printed materials, marketing also includes the use of websites, email newsletters, social media, promotional activities and public appearances. Chiropractors are strongly encouraged to regularly review their marketing to ensure compliance with section 85 of the Bylaws and Part 14 of the College's Professional Conduct Handbook.

What is acceptable evidence?

Adopted from the Australian Health Practitioner Regulation Agency

Chiropractors must not advertise health benefits of their services when there is not acceptable evidence that these benefits can be achieved.

When assessing whether there is acceptable evidence for therapeutic claims, the issues to consider include:

- Is the evidence relied on objective and based on accepted principles of good research? Is the evidence from a reputable source? For example a properly peer-reviewed journal.
- Do the studies used provide clear evidence for the therapeutic claims made or are they one of a number of possible explanations for treatment outcomes?
- Have the results of the study been replicated? Results consistent across multiple studies, replicated on independent populations, are more likely to be sound.
- Has the evidence been contradicted by more objective, higher quality studies? (For example, evidence from a single study would not be acceptable evidence if it is contradicted by a systematic review) Statements and claims in marketing that are contrary to higher-level evidence are not acceptable.

The following types of studies may not be considered sufficient acceptable evidence for advertising claims:

Back to Top

British Columbia

"Acceptable" Evidence

What is acceptable evidence?

Adopted from the Australian Health Practitioner Regulation Agency

Chiropractors must not advertise health benefits of their services when there is not acceptable evidence that these benefits can be achieved.

When assessing whether there is acceptable evidence for therapeutic claims, the issues to consider include:

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- Have the results of the study been replicated? Results consistent across multiple studies, replicated on independent populations, are more likely to be sound.
- Has the evidence been contradicted by more objective, higher quality studies? (For example, evidence from a single study would not be acceptable evidence if it is contradicted by a systematic review) Statements and claims in marketing that are contrary to higher-level evidence are not acceptable.

- Studies involving no human subjects;
- before and after studies with little or no control or reference group (eg. case studies);
- self-assessment studies;
- anecdotal evidence based on observations in practice; and,
- outcome studies or audits, unless bias or other factors that may influence the results are carefully controlled.

The evidence base for clinical practice is constantly developing so it is important that chiropractors make sure that any scientific information they rely on is current.
Chiropractors must take care to not mislead or create false impressions when using scientific information in marketing. Scientific information in marketing must be presented in a manner that is accurate, balanced and not misleading and using wording that will be readily understood by the intended recipients. The source of the information must be accurately cited.



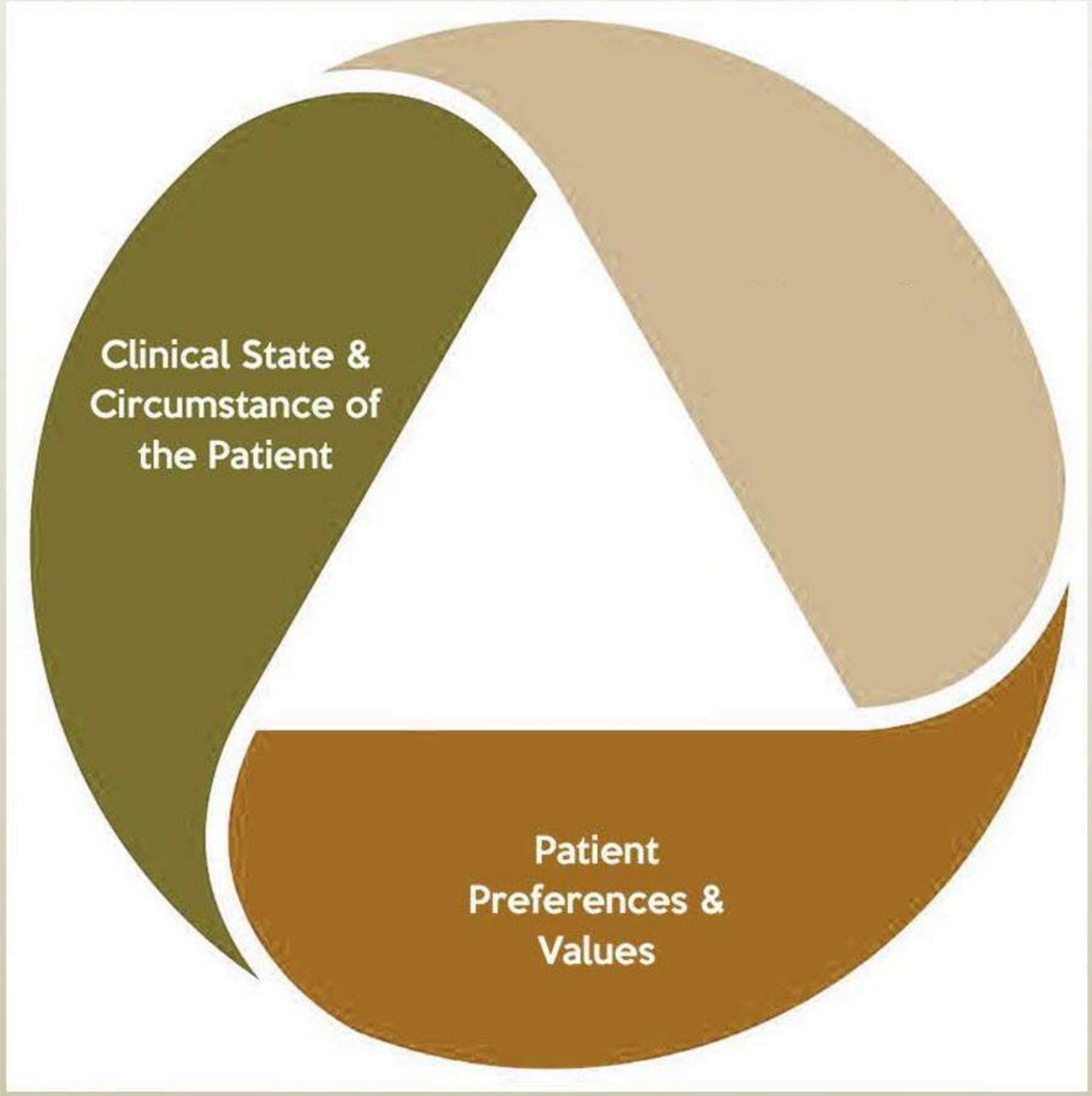
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Sufficient Evidence

There is sufficient evidence to support the management of vertebral subluxation in a vitalistic, salutogenic model.

Foundation for Vertebral Subluxation

Foundation for Vertebral Subluxation

The Fork in the Road



Proposal

Chiropractic, Vertebral Subluxation and Immune Function: A Multi-Pronged Project to Address Fundamental Questions in an Evidence Informed Framework

Matthew McCoy DC, MPH[1]
Christopher Kent DC, JD[2]
Anquonette Stiles DC, MPH[3]
Christie Kwon DC, MS, MPH(C)[3]
Suzzanne M. Candelaria-Perez BSc[3]
Christopher Long BS[3]
Brooke Mills AA[3]

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2. *President – Foundation for Vertebral Subluxation & Director of Center for Scholarly Activity Sherman College of Chiropractic*
3. *Research Fellow – Foundation for Vertebral Subluxation*

Abstract

Objective: To briefly outline a multi-pronged project to address fundamental questions regarding chiropractic, vertebral subluxation and immune function.

Background: Recent events related to the coronavirus pandemic have brought the relationship between the nervous and immune systems to the forefront within and outside of the chiropractic profession. This includes assertions by researchers within the chiropractic profession that there is no credible evidence supporting claims of effectiveness of spinal adjustment and/or manipulation in boosting or strengthening the immune system and that there is no credible, scientific evidence that spinal adjustment and/or manipulation has any clinically relevant effect on the immune system.

Methods: An ad hoc team made up of individuals with experience in research, law, public health, and chiropractic from the Foundation for Vertebral Subluxation and Sherman College of Chiropractic developed a rapid outline to serve as a guideline for the development of projects related to chiropractic and immunity.

Discussion: This outline describes a multi-pronged approach to complete a scoping review of chiropractic, immunity and biomarkers, a comprehensive, integrative review of the scientific literature on chiropractic and immunity, the development of research protocols, feasibility studies, development of a prospective longitudinal health outcomes study, and the development of policy and best practice statements for practitioners and patients in an evidence informed framework.

Conclusion: It is well established that the nervous system controls and coordinates all functions and systems of the human body including immunity and the immune system. Many in chiropractic consider that this relationship confers salutogenic benefits in people undergoing chiropractic care. The chiropractic profession is encouraged to further explore these relationships.

Key Words: *Chiropractic, immunity, neuroimmunity, neuroimmunology, psychoneuroimmunology, neuroimmunoendocrine system, immune biomarkers, supersystem, vertebral subluxation, adjustment, spinal manipulation, best practices, health policy*

Background

It is well established that the nervous system controls and coordinates all functions and systems of the human body including immunity and the immune system.[1] Many in chiropractic consider that this relationship confers salutogenic benefits in people undergoing chiropractic care.[2-4]

Recent events related to the Coronavirus Pandemic have brought this relationship to the forefront within and outside of the chiropractic profession. This includes assertions by researchers within the chiropractic profession that there is no credible evidence supporting claims of effectiveness of spinal adjustment and/or manipulation in boosting or strengthening

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Immunity Research Agenda

- Project Outline ✓
- Scoping Review of Chiropractic & Immunity ✓
- Scoping Review of Biomarkers ✓
- Conference ✓
- Best Practices Statement ✓
- Integrative Review – Dr. Haas
- Database & Website
- Development of Protocols
- Feasibility Studies
- Health Outcomes Studies
- Health Care Policy

Steering Committee

- Christopher Kent DC, JD
- Amy Haas DC, Ph.D
- Jon Chung DC
- Ian Shtulman DC DACCP
- Joel Alcantara DC, Ph.D (C)
- Matthew McCoy DC, MPH
- Anquonette Stiles DC, MPH
- Christie Kwon DC, MS, MPH

The Effects of the Chiropractic Adjustment on the Nervous System, Integrated Systems Immunology and Endocrine Function.

The immune system has been well-characterized with reductionist research approaches since the end of the nineteenth century. Only in recent years has a systems biology approach been employed towards an understanding of the coordinated and integrated function of the immune system in the human body as a whole.

An important influence on systems immunology is the neuroendocrine immune axis. This axis features reciprocal regulation between the nervous system, the immune system, and the endocrine system via multiple common small molecule cytokine and chemokine modulators.

Exploration of the putative effects of vertebral subluxation and the biological effects of the chiropractic adjustment on modulators common to the neuroendocrine immune axis provides a candidate framework for exploring the potentially extended effects of the chiropractic adjustment on the nervous system, integrated systems immunology and endocrine function.

Health Policy

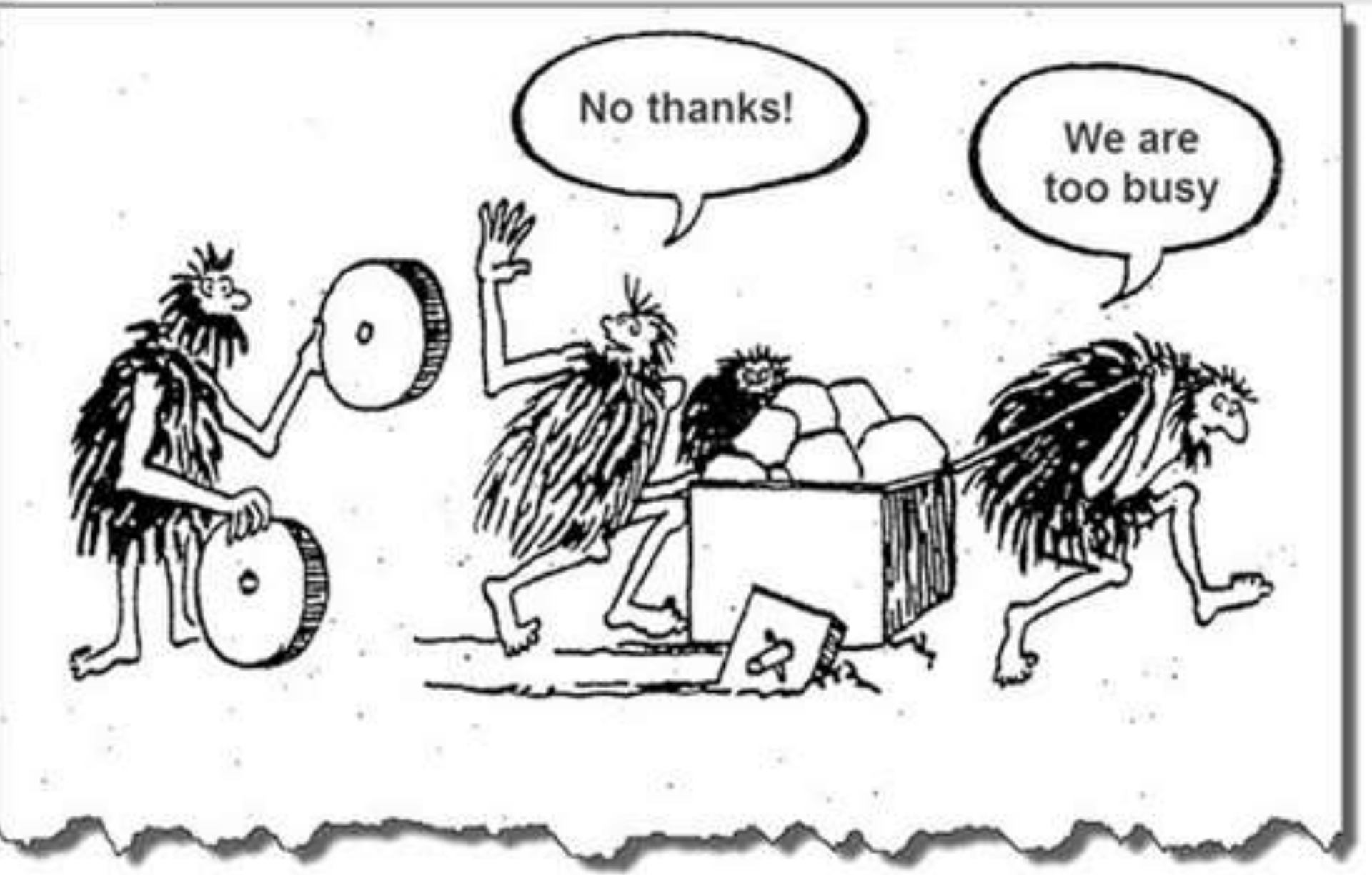


The Problem

- We do not have a “**research**” problem.
- We have a **political** problem
- We have a **marketing** problem


LE GRAND HOTEL
PHILADELPHIA
NISI DOMINUS FRUSTRA
EDINBURGH


wiseGEEK


No thanks!
We are too busy

Questions?



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