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Grand Rounds: The \$75 Million CAD Case

Presented by James Demetrious, DC, DABCO

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James Demetrious, DC, DABCO

Clinician

- Active Practice >37 years
- Diplomate, American Board of Chiropractic Orthopedists
- Diplomate, International Academy of Neuromusculoskeletal Medicine

Educator

- Post-Grad. > 23 years
- NCMIC Speakers' Bureau for >10 years
- Northeast College of Health Sciences
- **PostGradDC**

Honors

- Academy of Chiropractic Orthopedists Distinguished Service and Fellow Awards
- American College of Chiropractic Orthopedists Outstanding Achievement Award

Publications

- Over 31 Peer-Reviewed chiropractic journal articles.
- Many Contributions to **NCMIC Examiner** and **Podcast**

Editorial

- Editorial Reviewer for journals *Spine*, *Annals of Internal Medicine*, and *Clinical Anatomy*
- Former Managing Editor of *Journal of Chiropractic Orthopedists*

Community

- Lower Cape Fear Hospice, Board Member
- Founder, Past-President Wilmington Autism Society
- Optimists Club – Safety Officer

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- The views and opinions expressed in this presentation are solely those of the author.
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What is My Purpose?



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Qualified?

Demetrius *Chiropractic & Manual Therapies* (2018) 26:22
<https://doi.org/10.1186/s12998-018-0193-z>

Chiropractic &
Manual Therapies

HYPOTHESIS

Open Access

Spontaneous cervical artery dissection: a
fluoroquinolone induced connective tissue
disorder?



James S. Demetrius

Dr. Demetrius was the first person to ever publish that medication can weaken the cervical arteries and cause strokes. His hypothesis has been initially confirmed by three independent researchers.

> *Eur J Neurol.* 2019 Jul;26(7):1028-1031. doi: 10.1111/ene.13917. Epub 2019 Mar 5.

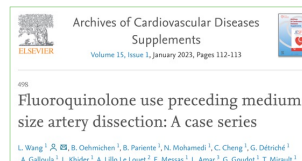
**Use of fluoroquinolones and the risk of spontaneous
cervical artery dissection**

E Del Zotto ¹, A Pezzini ^{1, 2}

Case Reports > *Intern Med.* 2021 Sep 1;60(17):2863-2865.
doi: 10.2169/intermalmedicine.6736-20. Epub 2021 Mar 22.

**Vertebral Artery Dissection after Exposure to
Levofloxacin: A Report of Two Cases**

Taku Harada ^{1, 2}, Yukinori Harada ², Taro Shimizu ²



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What is Our Purpose?



- To do everything in our power to protect our patients.
 - **Study – CAD Certification**
- To identify susceptible patients and those who need emergent medical care.
 - **Clinical Diligence**
- To protect our families, practices, and profession.
 - **Cause and Integrity**



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What is Our Purpose?



To prevent tragedy:

- Identify
- Refer
- Communicate

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Grand Rounds

Our Grand Rounds Format:

- Case Presentation
- Topical Considerations
- Supportive Research
- Lessons
- Interactive Discussion.

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State Court of Fulton County
"E-FILED"
17EV004148
8/29/2017 5:38:43 PM
LeNora Pozzo, Clerk
Civil Division

IN THE STATE COURT OF FULTON COUNTY
STATE OF GEORGIA

JONATHAN BUCKELEW and CHRISTIN BUCKELEW,)
Plaintiffs,)
v.) CIVIL ACTION FILE
MICHAE AXT; ADVANCED) NO. _____
INTEGRATIVE MEDICINE, INC.;)
MATTHEW WOMACK, MD, NORTH)
FULTON EMERGENCY PHYSICIANS,)
LLC; JAMES WALDSCHMIDT, MD;)
JAMES WALDSCHMIDT, MD, P.C.; PETER)
FUTRELL, MD; NORTH FULTON)
NEUROLOGY, P.C.; SACHIN LAVANIA, MD;)
CHRISTOPHER NICKUM; NORTH FULTON)
PULMONARY SPECIALISTS, LLC; NORTH)
FULTON MEDICAL CENTER, INC. d/b/a)
NORTH FULTON REGIONAL HOSPITAL; and)
TENET HEALTHCARE CORPORATION;)
Defendants.)

COMPLAINT

For their Complaint against Defendants, Plaintiffs, Jonathan Buckelew and Christin Buckelew, allege as follows:

FACTUAL ALLEGATIONS

18.


On October 26, 2015, in the afternoon, Jonathan Buckelew went to see Dr. Michael Axt, a chiropractor at Advanced Integrative Medicine, for complaints of neck pain. Dr. Axt recorded in his notes of that visit that Buckelew reported neck pain and headache for four days after working out at the gym. Dr. Axt also recorded in his notes that Buckelew reported bouts of blurred vision and ringing in the ears.

19.

Dr. Axt indicated in his notes that he adjusted Buckelew's neck while

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Buckelew was lying down and then asked Buckelew to sit up. Dr. Axt noted that when Buckelew sat up he reported that he felt dizzy, and he seemed disoriented. Dr. Axt then left Buckelew and went to find help. When he returned, Buckelew appeared less responsive and Axt called 911.



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It appears that 911 was called at 3:53 pm on October 26, 2015, and Buckelew was then transported by ambulance to North Fulton Hospital where he arrived at approximately 4:20 pm.

21.

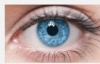


When Buckelew arrived at the emergency department, he was alert and oriented to person, place, time and situation and was in no acute distress. His Glasco Coma Scale score was recorded at 11 and his pupils were equal, round and reactive to light.

22.

Buckelew was first seen by emergency department physician, Dr. Matthew Womack, and at 4:39 pm, Dr. Womack ordered a CT of the brain and a CTA of the neck.


@ theneuroblast

Glasgow Coma Scale

EYE OPENING	VERBAL RESPONSE	MOTOR RESPONSE
		
Spontaneous 4	Oriented 5	Obeys commands 6
To sound 3	Confused 4	Localising 5
To pressure 2	Words 3	Withdrawal 4
None 1	Sounds 2	Abnormal flexion 3
	None 1	Extension 2
		None 1

Glasgow coma scale scoring

Mild	Moderate	Severe
13-15	9-12	3-8



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<p>23.</p> <p><u>The CT and CTA were performed at around 5:15 pm and the CTA was read</u></p> <p>7</p> <hr/> <p>by neuroradiologist, Dr. James Waldschmidt. Dr. Waldschmidt dictated his findings at 6:46 pm. The clinical indication listed by Dr. Womack for the CTA study was "pain/disscetion" (sic).</p> <p>24.</p> <p>In Dr. Waldschmidt's report on the CTA, he noted, among other things, a <u>potential dissection of the right vertebral artery.</u></p> <p>25.</p> <p>In fact, the imaging study showed that the <u>right vertebral artery was very small in caliber and abnormalities in both vertebral arteries.</u></p> <p>26.</p> <p><u>The study showed thrombosis of the basilar artery.</u></p>	<p>27.</p> <p>After Dr. Womack read Dr. Waldschmidt report, he called Dr. Futrell, the neurologist on call, for a neurology consultation.</p> <p>28.</p> <p>Dr. Womack recorded in his notes that at approximately 6:50 pm he <u>discussed with Dr. Futrell the findings on both the CT and the CTA and that Dr. Futrell recommended a lumbar puncture to rule out meningitis and or encephalitis and recommended that the patient be admitted.</u></p> <p>8</p> <hr/> <p>29.</p> <p>Dr. Futrell later records, on October 29, 2015, in his notes, that Dr. Womack <u>did not discuss the CTA with him and that he in fact did not know that a CTA had been performed.</u> He notes that he has checked his phone log and that the phone call with Dr. Womack took place before the results of the CTA were available. He also notes that <u>Dr. Womack never told him that the patient had just been to a chiropractor.</u></p>
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<p>30.</p> <p>Before the lumbar puncture was performed, Dr. Womack witnessed Buckelew have what he described as a <u>seizure, and intubated Buckelew at 7:27 pm.</u></p> <p>31.</p> <p>Dr. Womack then performed a <u>lumbar puncture.</u> The lumbar puncture showed normal opening pressure and clear cerebral spinal fluid. Dr. Womack ordered the CSF fluid to be examined STAT.</p> <p>32.</p> <p>Dr. Womack then contacted the critical care service and spoke to Christopher Nickum, a Physicians Assistant working with Dr. Sachin Lavinia, a critical care specialist working in the ICU.</p> <p>9</p>	<p>33.</p> <p>It appears that either Dr. Lavinia and or Mr. Nickum saw and examined Buckelew at around 8:30 pm on October 26, while Buckelew was still in the emergency department, and dictated a History and Physical for his admission into the ICU. It is noted in the history and physical that although Buckelew was <u>somnolent, he was arousable while in the ER and was still following commands.</u> At the time of the History and Physical, Buckelew was <u>sedated and intubated and a ? neurological exam was not recorded.</u></p> <p>34.</p> <p>At 9:00 pm the results of the analysis of the CSF from the <u>lumbar puncture were reported as normal.</u> However, it appears that the results of the CSF tests were not reported to Dr. Womack or to the emergency department.</p> <p>35.</p> <p>Buckelew was discharged from the emergency department and transferred to the ICU at 10:56 pm with a <u>diagnoses of encephalitis and altered mental status, without mention of the normal CSF findings.</u></p>
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<p>36.</p> <p>In the ICU the nurses note at 12:20 am that <u>Bucklew's pupils are sluggish.</u></p> <p>10</p>	<p>39.</p> <p>The MRA was read at around 1:00 pm and the results discussed with Dr. Drexinger of Neurology and Dr. Lavania. <u>At 1:37 pm on October 27, 2015, the first treatment for stroke, a heparin drip, was initiated, over 21 hours after Buckelew arrived at North Fulton Hospital.</u></p>
<p>37.</p> <p>Once in the ICU it appears that Buckelew was not seen or evaluated by a physician until the following morning, sometime <u>after 10:00 am</u>, when he was seen by Dr. Lavania who at that <u>time ordered an MRI of the brain as well as an MRA.</u></p>	<p>40.</p> <p>The <u>heparin drip was ineffective in resolving any of the damage done by the lack of blood flow to areas of Buckelew's brain.</u></p> <p>41.</p> <p>Because of the delay in diagnoses, no other treatment options were</p>
<p>38.</p> <p>The <u>MRA demonstrated a massive non-hemorrhagic stroke of the posterior circulation of the brain, including thrombosis of the basilar artery which had blocked circulation to the pons and to both hemispheres of the brain.</u></p>	<p>11</p> <p>available.</p>

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42.

Mr. Buckelew sustained extensive and permanent brain damage as a result of the delay in diagnoses and treatment of his stroke. He is unable to move any part of his body other than his eyes, but is cognitively intact. This condition, known as Locked-in syndrome (LIS), is permanent and non-reversible.

43.

Mr. Buckelew has expended millions of dollars for medical expenses for his care and he will need 24 hour a day care for the rest of his life.

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Salient Points that Led to the Verdict...

- Plaintiff's attorney Shamp told jurors **ER doctor Womack knew Buckelew had symptoms of a stroke.**
- But she said he **failed to tell neurologist Futrell** that Buckelew had a chiropractic neck adjustment - which is a stroke risk - or properly communicate the results of imaging.
- Shamp added Womack later **altered medical records** when he learned of Buckelew's true condition.
- Meanwhile, she said, radiologist **Waldschmidt admitted** that he **missed seeing the stroke when examining imaging.**
- Further, Shamp argued, **breakdowns in communication** between those and other defendants all led to Buckelew's paralysis.



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The Verdict

State Court of Fulton County
"E-FILED"
1704146
10/20/2022 5:30 PM
Donald Taylor, Clerk
Civil Division

IN THE STATE COURT OF FULTON COUNTY
STATE OF GEORGIA

JONATHAN BUCKELEW,
Plaintiff
v.
MATTHEW WOMACK, MD, NORTH FULTON EMERGENCY PHYSICIANS, LLC.; JAMES WALDSCHMIDT, MD, P.C.; PETER FUTRELL, MD, NORTH FULTON NEUROLOGY, P.C.; CHRISTOPHER NICKUM, NORTH FULTON PULMONARY SPECIALISTS, LLC, and NORTH FULTON MEDICAL CENTER, INC. dba NORTH FULTON REGIONAL HOSPITAL,
Defendants.

CIVIL ACTION NO. 17EV04146
JUDGE ERIC RICHARDSON

VERDICT

We, the jury, return the following verdict:

PART A - LIABILITY:

1. Do you find by clear and convincing evidence that MATTHEW WOMACK, MD was grossly negligent, and find by a preponderance of the evidence that such gross negligence was a proximate cause of injury to Plaintiff?
Yes No

If you answered "YES" to Question 1, proceed to Questions 2 through 7. If you answered "NO" to Question 1, skip Question 2 and proceed to Questions 1 through 7.

2. Do you find that MATTHEW WOMACK, MD, at the time he provided care and treatment to Jonathan Buckelew, was as an employee and NOT an independent contractor of North Fulton Emergency Physicians, LLC?
Yes No

Page 1 of 3

3. Do you find by clear and convincing evidence that JAMES WALDSCHMIDT, MD was grossly negligent, and find by a preponderance of the evidence that such gross negligence was a proximate cause of injury to Plaintiff?
Yes No

4. Do you find by clear and convincing evidence that PETER FUTRELL, MD was grossly negligent, and find by a preponderance of the evidence that such gross negligence was a proximate cause of injury to Plaintiff?
Yes No

5. As to CHRISTOPHER NICKUM:
a) Do you find by clear and convincing evidence that CHRISTOPHER NICKUM was grossly negligent while Jonathan Buckelew was in the Emergency Department, and find by a preponderance of the evidence that such gross negligence was a proximate cause of injury to Plaintiff?
Yes No

b) Do you find by a preponderance of the evidence that CHRISTOPHER NICKUM was negligent while Jonathan Buckelew was in the Intensive Care Unit, and find by a preponderance of the evidence that such negligence was a proximate cause of injury to Plaintiff?
Yes No

6. Do you find by a preponderance of the evidence that NORTH FULTON MEDICAL CENTER, INC., by and through its ICU nurses, was negligent, and find by a preponderance of the evidence that such negligence was a proximate cause of injury to Plaintiff?
Yes No

7. Do you find by a preponderance of the evidence that non-party MICHAEL AXT, DC was negligent, and find by a preponderance of the evidence that such negligence was a proximate cause of injury to Plaintiff?
Yes No

If you answered "Yes" to any of Questions 1-7, please continue and answer all of the remaining questions in the verdict form. If you answered "No" to all of Questions 1-7, STOP here and sign the verdict form.

Page 2 of 3

PART B - DAMAGES:

We the jury award Plaintiff Jonathan Buckelew

Past Medical Expenses in the amount of \$ 9,000,000

Future Medical Expenses in the amount of \$ 20,000,000

Past and Future Pain and Suffering in the amount of \$ 46,000,000

PART C - AFFORTIONMENT OF FAULT

We find the percentages of fault as follows:

If you checked "NO" for any Defendant(s) or non-party in Part A, you should place a "0" beside that Defendant or non-party. If you checked "YES" in Part A for any Defendant(s) or non-party, you should find a percentage for each of those Defendant(s) or non-party that you found equated. The total of the percentages must equal 100%.

60% MATTHEW WOMACK, MD and NORTH FULTON EMERGENCY PHYSICIANS LLC.
40% JAMES WALDSCHMIDT, MD and JAMES WALDSCHMIDT MD, P.C.
0 PETER FUTRELL, MD and NORTH FULTON NEUROLOGY, P.C.
0 CHRISTOPHER NICKUM and NORTH FULTON PULMONARY SPECIALISTS, LLC.
0 NORTH FULTON MEDICAL CENTER, INC.
0 MICHAEL AXT, DC

SO SAY WE ALL this 10 day of October, 2022.

CAROL SHAMON
FOREPERSON (print name)
[Signature]
FOREPERSON (sign name)

Page 3 of 3



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The Verdict

- After a 3-week trial, the jury delivered a plaintiff's verdict in the amount of \$75 million:
 - \$29 million in medical expenses;
 - \$46 million in non-economic damages.
- Fault:
 - ER Physician – 60%;
 - Radiologist – 40% - for missing the arterial blockage causing the stroke on images.
 - Chiropractor - 0% - Amicable resolution?

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Known/Unknown Case Bullets

- Male, 32 years old;
 - Pre-existing risk factors?
- S/S: neck pain, headache, blurred vision, tinnitus for several preceding days;
 - More detail? Location, character, severity of neck and head pain? Prior Hx? Familial Hx?
 - Examination details?
 - Differential diagnosis? Recommendations? Informed consent discussion?

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Known/Unknown Case Bullets

- Recumbent cervical spine adjustment with reported vertigo, disorientation, and subsequent patient later became less responsive;
 - Details of chiropractic care?
 - Assessment of new symptoms?
 - New differential assessment/discussion?

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Known/Unknown Case Bullets

- Attending chiropractor called 911 and an ambulance transported the patient to North Fulton Medical Center:
 - Appropriate referral?
 - Conveyance of clinical impression and recommendations?
 - Follow up with attending medical providers and patient/family?
 - Documentation?

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Cases Often Lack Vital Historic Information

< yahoo!



Rebecca Barlow won a \$1.1 million jury verdict for injuries caused by routine chiropractic adjustments. Jan. 28, 2023

By a 9-3 vote, the jury awarded her **\$1,030,900**, including **\$380,000** in medical expenses and **\$750,000** for pain and suffering.

- **Error of Commission?:**
 - Treatment failure:
 - Excessive force?
 - Incorrect or poor technique?
- **Error of Omission?**
 - Failure to diagnose?
 - Failure to identify symptoms or signs?
 - Failure to identify risk factors including pre-existing genetic or acquired connective tissue disorders?
 - Failure to identify arteriopathy?
 - Exercised poor clinical acumen?
 - Failure to refer to MD?

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Listen and Observe...

“History taking is the single most important factor for detecting subtle symptoms of CAD.”

Chaibi A, Russell MB. A risk-benefit assessment strategy to exclude cervical artery dissection in spinal manual-therapy: a comprehensive review. *Ann Med.* 2019;51(2):118-127.

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Important Considerations?

- **Pre-existing predispositions?**
- **Prevalence and commonality of S/S?**
- Proper examination?
- Mechanisms of injury?:
 - Dissection/occlusion?;
 - sPSA or Thromboemboli?;
 - Coagulopathy – Heritable or acquired?;
- Temporal relationships?
- **An impossible diagnosis?**
 - Poor disclosure - despite best efforts?;
 - The asymptomatic dissection?
- Standard(s) of care?
- Recommendations?
- **Referral - Communication**
- Informed consent?

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Focus on Susceptibility

Vascular Health and Risk Management

Dovepress

open access to scientific and medical research

 Open Access Full Text Article

REVIEW

Cervical Artery Dissections: Etiopathogenesis and Management

Zafer Keser¹, Chia-Chun Chiang¹, John C Benson², Alessandro Pezzini³, Giuseppe Lanzino⁴

¹Department of Neurology, Mayo Clinic, Rochester, MN, USA; ²Department of Radiology, Mayo Clinic, Rochester, MN, USA; ³Department of Clinical and Experimental Sciences, Neurology Clinic, University of Brescia, Brescia, Italy; ⁴Department of Neurosurgery, Mayo Clinic, Rochester, MN, USA

- **Pre-Existing Predispositions?**
 - **Isolated mild connective tissue abnormalities** in skeletal, ocular, and skin systems (i.e., joint hypermobility or multiple dislocations, easy bruising, poor wound healing, or easy bruising) are frequently observed in patients with **spontaneous CeAD (50–96%)**.
 - Keser et al. Cervical Artery Dissections: Etiopathogenesis and Management Vascular Health and Risk Management. 2022;18 685–700.

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Carotid vs. Vertebral Dissection S/S

Carotid Artery Dissection:

- Ipsilateral neck pain or headache and a,
- Partial Horner's followed by,
- Retinal or cerebral ischemia.

The presence of any 2 of the 3 elements in the triad strongly suggests the diagnosis of carotid dissection.

Vertebral Artery Dissection:

- Occipito-cervical pain, which may be followed by a variety of posterior circulation ischemic symptoms including;
- Vertigo;
- Dysarthria;
- Visual field deficit;
- Ataxia, and;
- Diplopia.

Arch Neurosci. 2015 October ; 2(4): . doi:10.5812/archneurosci.26670.



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Prevalence and Commonality of S/S in the Population?

- **Headache - ages 18-44 - 18%**
 - Headache. 2018 Apr;58(4):496-505.
- **Neck pain – 30%**
 - Mayo Clin Proc. n February 2015;90(2):284-299.
- **Transient Visual Impairment – 34.5%**
 - Clin Ophthalmol. 2016; 10: 297–303.
- **Tinnitus – 9.6%**
 - JAMA Otolaryngol Head Neck Surg. 2016 Oct 1; 142(10): 959–965.
- **Vertigo – 20-56%**
 - Acta Otorhinolaryngol Ital. 2016 Jun; 36(3): 215–219.
- **Nausea and Vomiting - >50%**
 - https://www.wikidoc.org/index.php/Nausea_and_vomiting_epidemiology_and_demographics



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An Impossible Diagnosis?

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An Impossible Diagnosis?

Despite best efforts utilizing current standards of care, it may be impossible to diagnose a CeAD or dPSA in the chiropractic office due to unreported and undisclosed conditions and medications, unidentified risk factors, transient symptoms, and asymptomatic presentations.

An onus of responsibility resides with medical providers and patients. Chiropractors must be privy to these medical predispositions. Improved communication can benefit patients.

<https://postgraddc.com/thromboembolism-stroke-demetrius-postgraddc-chiropractic/>

Case Report

A Rare Case of Isolated, Spontaneous, and Asymptomatic Common Carotid Artery Dissection

Iyad Farouji¹, Hossam Abed¹, Theodore Dacosta¹, Hamid Sheehan¹, Addi Suleiman¹
Departments of ¹Medical Education, ²Haematology and Oncology and ³Cardiology, Saint Michael's Medical Centre, New York Medical College, New Jersey, United States

Farouji I. J Emerg Trauma Shock
2021;14:240-2.

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Referral - Communication

- Informed Consent Processes
- Clear Communication with Downstream Providers
- Follow-Up

State Court of Fulton County
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LeNora Ponzio, Clerk
Civil Division

IN THE STATE COURT OF FULTON COUNTY
STATE OF GEORGIA

JONATHAN BUCKELEW and CHRISTIN BUCKELEW,)
Plaintiffs,)

v.) CIVIL ACTION FILE NO. _____

MICHAEL AXT; ADVANCED INTEGRATIVE MEDICINE, INC.; MATTHEW WOMACK, MD; NORTH FULTON EMERGENCY PHYSICIANS, LLC; JAMES WALDSOHLER, MD; JAMES WALDSOHLER, P.C.; PETER FUTRELL, MD; NORTH FULTON NEUROLOGY, P.C.; SACHIN LAVANIA, MD; CHRISTOPHER NICKUM; NORTH FULTON PHYSICIANS SPECIALISTS, LLC; NORTH FULTON MEDICAL CENTER, INC. d/b/a FULTON REGIONAL HOSPITAL; and TENET HEALTHCARE CORPORATION;)
Defendants.)

Poor Communication!

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The Process of Informed Consent

James Demetrius, DC, DABCO
Diplomate, American Board of Chiropractic Orthopedists
4837 Carolina Beach Road, Suite 205 • Wilmington, NC 28412 • Telephone: 910-790-8020

Informed Consent Document

Patient's Name: _____

It is our goal to help you to the best of our ability. Please read this entire document prior to signing it. It is important that you understand the information contained in this document. Please ask questions before you sign if there is anything that is unclear.

What to Expect

With your permission, Dr. Demetrius will carefully assess your health. He will talk with you about your health history, examine you, complete and/or order necessary tests based on standards of practice and his clinical experience. He will develop a differential diagnosis and make recommendations for care. With your consent, he will provide you care to the best of his ability.

Chiropractic Care

The primary treatment offered by Dr. Demetrius is chiropractic adjustments. He may use his hands or a mechanical instrument upon your body in such a way as to move your joints. This may cause a "pop" or "crack" sensation. You may feel a sense of expansion. If you feel discomfort with any adjustment, please inform Dr. Demetrius.

The most common side effect of chiropractic care is soreness and stiffness following the first few days of treatment. Sometimes patients experience **headache**. This is usually, short-term discomfort that is followed by relief.

Risks Inherent to Chiropractic Care

Disc herniations, pinched nerves, arthritic changes, and spinal biomechanical issues are very common in many people. Many patients without symptoms have these problems and then experience their condition through their activities of daily living, causing them to seek chiropractic care.

Rarely complications from chiropractic care include but are not limited to fractures, disc injuries, dislocations, muscle strain, spinal cord injury, stroke, and joint pain. Several literature references are available and can be found in the references. The most current biomechanical research reveals that chiropractic care does not pose a significant risk of stroke. It has been reported that patients with arterial dissections experience neck pain, headache, and vertigo-like symptoms that cause them to seek chiropractic care. We do not have to be afraid that you do not have a developing dissection or stroke.

Please inform us of any risk factors or health issues prior to and during your care:

- ___ Connective tissue disorder, loose joints, Ehlers-Danlos, or Marfan syndrome?
- ___ Recent head or neck trauma?
- ___ Worst headache of your life?
- ___ Elevated homocysteine?
- ___ Recent infection?
- ___ Fluoroplastic medication in the past (Cipro, Levofloxacin, Noroxin, Avlocl, etc.)?
- ___ Tendinosis or bursitis injury?
- ___ Duration?
- ___ Difficulty raising, difficulty swallowing?
- ___ Numb?
- ___ Numbness or loss of sensation?
- ___ Change in bladder or bowel function?
- ___ Weakness of face, arm, or leg?
- ___ Difficulty walking?
- ___ Atrial fibrillation or atrial septal defect?
- ___ Coagulation disorder or medication?

This Document is a work in progress. Improvements are necessary.

___ Past history of rib or chest injury or pain?
___ Osteoporosis or osteopenia?
___ Have you been diagnosed with cancer?

I will instruct my medical providers to send this office my medical records and inform Dr. Demetrius of my health history.

Medical Referral

Dr. Demetrius strongly suggests that you advise your primary medical practitioner that you are seeking chiropractic care for your complaint. He may refer you to your medical doctor or other practitioners who may offer alternative care. Please advise Dr. Demetrius of any hospitalizations, changes in treatment, medication, or surgery.

Underlying medical issues may not be initially apparent or may seem to be a musculoskeletal problem that in fact does not. Heart problems, kidney, infections, hernias, and cancer, etc. can cause spinal pain. Sometimes, these problems are very difficult to diagnose early on. Symptoms may be very slight and may not be severe enough to warrant testing or referral.

It is vital for you to be honest, inform the doctor of new symptoms, worsening symptoms, and let him know if you are not progressively improving. If you have an underlying condition and discontinue care without consulting Dr. Demetrius, he may not be able to provide you proper medical referrals.

Discontinuing Care

If you decide to discontinue care in our office, please advise Dr. Demetrius. You may have a more severe condition that is not responding that may require further medical care and he will make medical referrals specific to help you.

Reporting New Problems

If you experience any new injury, illness, medical care, medication, surgery, or any other changes in your medical history, please inform Dr. Demetrius.

Home Care

Dr. Demetrius may make recommendations for activities of daily living, and home exercises. If recommendations produce discomfort during or after activities, please stop immediately and discuss your concerns with Dr. Demetrius.

Consent to Treat Minor

I hereby request and authorize Dr. James Demetrius to perform diagnostic tests and render chiropractic adjustments and other treatment to my minor son/daughter.

Consent

I have read the above explanation of chiropractic care and related requirements. I have discussed it with Dr. Demetrius and have had my questions answered to my satisfaction. By signing below, I state that I have weighed the risks involved in undergoing treatment and have decided that it is in my best interest to undergo the treatment recommended. Having been informed of the risks, I hereby give my consent to participation and treatment.

Date: _____ Date: _____

Patient's Signature _____ Doctor's Signature _____

Signature of Parent or Guardian _____



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Challenges...

- **Protect our Patients**
 - Take Advanced CE
- **Can Plaintiff's Attorneys make us Look Foolish?**
 - Exceed the "Standard of Care"
- **Protopathic Bias and Bad Science?**
 - Refute Bad Science
- **Association vs. Cause?**
 - Define Predispositions/Apportionment
- **Errors of Omission or Commission?**
 - Exceed the "Standard of Care"
- **Asymptomatic Population?**
 - Identify Predispositions and S/S
- **Limitations in Research:**
 - Be Prepared
- **Temporality of Event?**
 - EB Causality?
- **Informed Consent?**
 - It is a Constant Discussion and Process
- **Emergent Care**
 - Make/Document Emergent Referrals



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Case Reports are Weak

- With a deficit of highly powered research, plaintiffs' attorneys and expert witnesses utilize case reports to substantiate their claims.
- Case reports offer weaknesses that include the inability to generalize results or to assess causality. [1]
- Journals, editorial boards, authors, expert witnesses, plaintiff attorneys, and patients should refrain from assigning causality based on information gleaned from case reports.

1.) Lowenfels et al. Grad Med Educ (2022) 14 (5): 529–532.

CASE REPORT

Self-Chiropractic Cervical Spinal Manipulation Resulting in Fatal Vertebral Artery Dissection
A Case Report and Review of the Literature

Cameron Fink, BHS,* Clare H. Bryce, MD,* and Laura D. Knight, MD**

Abstract: Chiropractic cervical spinal manipulations have several complications and can result in vascular injury, including traumatic fracture of the vertebral artery. A 40-year-old woman was admitted to the emergency department after performing a self-chiropractic spinal manipulation. She reported headache and vomiting and was unresponsive with acute hypertension at the time of hospital admission. Clinical examination and magnetic resonance imaging showed narrowing of the right vertebral artery but was inconclusive for dissection or thrombosis. An autopsy, subacute dissection of the right vertebral artery was identified along with cerebral edema and hemorrhage. A small peripheral pulmonary thromboembolism in the right lung was also seen. Neuropathology consultation confirmed the presence of diffuse cerebral edema and acute hypoxic-ischemic changes, with multifocal acute subarachnoid and intraparenchymal hemorrhage of the brain and spinal cord. This case presents a unique circumstance of a fatal vertebral artery dissection after self-chiropractic manipulation that, to the best of our knowledge, has not been previously described in the medical literature.

Key Words: self-chiropractic manipulation, chiropractic complication, vertebral artery dissection, posterior neck dissection, femoral pathologic (Am J Forensic Med Pathol 2024;00: 00-00)

Vertebral artery dissections after chiropractic spinal manipulation have been documented in the medical literature. The overall incidence of serious complications from cervical spine manipulation therapy is found to be between 1 per 100,000 and 1 per 2 million manipulations.¹ Vertebral artery aneurysms/dissections are very rare, with only a few cases of fatal vertebral artery dissections reported in the literature. A retrospective review² of 2011 published data in which chiropractic spinal manipulation was followed by death and identified 26 published cases, of which 6 were specifically related to vertebral artery dissections, whereas the other cases were largely from other vascular accidents/thromboses with limited or no available information. There are likely many more unreported/unknown cases of deaths after chiropractic interventions. Some published cases report an unclear directionality of the vertebral artery after chiropractic treatment with fatal outcome. The term "vertebral artery dissection" and "blowing aneurysm of the vertebral artery" appear to be used interchangeably,³ but "aneurysm" and "dissection" of course refer to 2 different pathologic conditions with different underlying etiologies. Nonetheless, only 1 reported case of vertebral artery dissection was attributed to a self-chiropractic spinal manipulation, and the patient survived with good outcome.⁴ This case report, and the review of the literature, discuss the case of a woman who practiced self-chiropractic spinal manipulation of her head and neck resulting in a fatal vertebral artery dissection. The literature concerning this mechanism of injury is reviewed, and methods for performing a posterior neck dissection during postmortem examination to preserve the vertebral arteries are also discussed.

CASE REPORT

Case History

A 40-year-old woman reportedly had done with her neck on the top step of a staircase and attempted to perform a self-chiropractic manipulation to "crack her neck." She reportedly had done this several times in the past to relieve headache. After this attempted procedure, she vomited and complained of headache. A short time later, she became unresponsive. She was transported to the emergency department where she presented with severe hypertension (blood pressure 242/120 mm Hg). Laboratory evaluation was remarkable for glucose and trace ketones in her urine, and there was an elevated white blood cell count in blood. She was unresponsive to painful stimuli, with a Glasgow Coma Scale of 3. A computed tomography (CT) scan of the head revealed a large right frontal intraparenchymal hemorrhage, subarachnoid hemorrhage, extensive ventricular hemorrhage and ventricular distortion and dilation, and midline shift from right to left of 7 mm. A CT angiogram of the head revealed a short segment narrowing of the right vertebral artery at the cervicovertebral junction with mild irregularity but was inconclusive for vertebral artery dissection or thrombosis. CT angiogram also incidentally found fetal origin of the right posterior cerebral artery and significantly diminutive A1 segment on the right. After evaluation by the neurologist service, comfort measures were instituted, and she was subsequently pronounced brain dead. She was an organ donor.

The decedent had a medical history of generalized anxiety disorder, recurrent anxiety tract infections, pregnancy-induced hypertension, and elevated blood pressure attributed to anxiety during dental visits. A review of available medical records from before her vertebral manipulation shows 3 instances of significant hypertension at medical appointments 6 to 7 years prior, with blood pressures ranging from 148 to 190 mm Hg systolic and from 95 to 120 mm Hg diastolic.

Postmortem Examination Findings

External examination showed a well-developed, overweight-appearing adult White female. The body mass index was 24.7 kg/m² (after organ and tissue donation, with an artificially reduced

www.amjforensicmedicine.com



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Standard of Care



Innov Clin Neurosci. 2021 Jul-Sep; 18(7-9): 50–51.

PMCID: PMC8667701

PMID: 34980995


The Standard of Care

Donna Vanderpool, MBA, JD¹

- The standard of care is a legal term that refers to the degree of care a prudent and reasonable person would exercise under the circumstances.
- Very few states have retained the locality standard...
- Note that the standard of care is not optimal care. Rather, it is a continuum, with barely acceptable care at one end, and the ultimate in care at the other end.



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HHS Public Access
 Author manuscript
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**Cervical Artery Dissection: A Review of the Epidemiology,
 Pathophysiology, Treatment, and Outcome**

Christina A. Blum¹ and Shadi Yaghi²

¹ University of Pennsylvania Health System, Department of Neurology, Stroke division
² Columbia University Medical Center, Department of Neurology, Stroke division

Conclusion

Given the relatively rare incidence of this disease, multicenter studies and meta-analyses with collaborative effort among stroke centers worldwide should be considered to enroll patients with cervical artery dissection in a randomized trial comparing the two treatments. This may provide the foundation for an evidence-based approach to the evaluation and treatment of this disease.




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Diligence to Identify a Developing CAD...

- Patients may present to physicians with developing CADs.
- While rare and difficult to diagnose the developing CAD, it is vitally important to exert clinical diligence.
- The result of an undiagnosed CAD and resultant stroke can be catastrophic:
 - Death
 - Infarcts
 - Paralysis
 - Locked-in Syndrome



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If Possible...Let's Study Harder to Protect Our Patients...



WYSS CENTER



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The PostGradDC Certifications



The PostGradDC Certifications

- We are building a series of **PostGradDC Certifications**
- Our coursework is approved by the **American College of Chiropractic Orthopedists**, and the **International Academy of Neuromusculoskeletal Medicine** and **PACE**.
- Each certification will entail **10 CE hours** of designated coursework.
 - 7 CE Hours of Recorded ONLINE coursework;
 - 3 CE Hours of LIVE Grand Rounds Webinars.



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In Development...Advanced Interactive Learning



Chiropractic Grand Rounds

- Live interactive coursework is vital to learning.
- Our PostGradDC certifications require recorded AND Live opportunities to learn.



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The PostGradDC Cervical Artery Dissection Certification

PostGradDC offers the First 10 CE Hour CAD Certification!
 Dr. James Demetrious is internationally recognized for his work related to CAD. This CE has been lauded as coursework that should be taught to every chiropractor and chiropractic student.
 PostGradDC CE is approved by the ACCO, the IANM (MOC), NCMC, and PACE.
 We offer this CE to protect your patients, practice, and family.

Complete 10 CE Requisite Hours (7 ONLINE + 3 LIVE) to Achieve CAD Certification.
 Register for a minimum of 7 CE Hours from the following ONLINE recorded classes:

- Clinical Risk Management: CAD (1 CE Hour)
- CAD: Diagnosis (2 CE Hours)
- CAD: Risk Factors (1 CE Hour)
- CAD due to Fluoroparalanes (2 CE Hours)
- Differential Diagnosis (1 CE Hour)
- Clinical Risk Management: Informed Consent (1 CE Hour)

Register for a minimum of 3 CE Hours from the following LIVE classes:

- February 6, 2024 - The \$75 Million CAD Malpractice Case (1 CE Hour)
- March 5, 2024 - Vertebral Artery Dissection Due to Self Manipulation (1 CE Hour)
- April 2, 2024 - Spontaneous Vertebral Artery Dissection (1 CE Hour)
- May 7, 2024 - Neurologic Deficits Due to VA Dissection (1 CE Hour)

Additional Live CAD classes will be available.

Once you have completed the required 10 CE Hours, click on the tab below, download, complete, and send the Certification Application to: info@postgraddc.com.
 For more information, click below.

[Click Here for More Information and the Certification Application](#)

Protecting patients.

Protecting your family, practice, and profession.

Professional development.



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The PostGradDC CAD Certification

The PostGradDC Cervical Artery Dissection Certification Program

Program Overview

This educational program offers advanced certification for those doctors seeking to elevate their clinical competence in their pursuit of chiropractic excellence.

The Cervical Artery Dissection Certificate

We are currently offering a new 10-CE Hour PostGradDC Certification Program entitled **Cervical Artery Dissection**. We seek to provide advanced insight into the differential assessment of CAD and improve its recognition for expeditious medical referral when clinically indicated.

Qualifications

PostGradDC coursework is uniquely approved and recognized by the American College of Chiropractic Orthopedists, the International Academy of Neuromusculoskeletal Medicine, NCMIC, and PACE.

Our instructor is Dr. James Demetrious. He is a nationally distinguished board-certified chiropractic orthopedist and internationally recognized expert pertaining to cervical artery dissection. Dr. Demetrious was the first doctor ever to correlate fluoroquinolone antibiotics as a pre-existing iatrogenic risk factor to cervical artery dissections.

Requisite Coursework

To achieve this advanced certification, chiropractic doctors must complete:

- A minimum of 7 CE Hours of CAD-eligible PostGradDC online recorded coursework, and,
- A minimum of 3 CE hours of CAD-eligible PostGradDC Live or Interactive webinar coursework*

* Live-eligible coursework will be presented on a recurring basis.

Getting Certified

Upon completion of 10 CE hours of eligible CAD coursework, respective doctors will submit their completed coursework to PostGradDC for verifications and certification.

Maintenance of Certification

This certification is valid and recognized for 2 years. After the initial 2 years, you may complete 2 CAD-eligible CE hours yearly and pay a \$50 annual fee to maintain your certification.

The PostGradDC Cervical Artery Dissection Certification Application

To qualify and receive your Cervical Artery Dissection (CAD) certification, you must complete a minimum of 10 CE hours of eligible PostGradDC coursework.

I have completed the following eligible coursework to achieve the requisite 10 CE hours toward CAD Certification:

- **Online Recorded CE (minimum of 7 Recorded CE Hours needed):**
 - ___ Clinical Risk Management: CAD (1 CE Hour)
 - ___ CAD: Diagnosis (2 CE Hours)
 - ___ CAD: Risk Factors (1 CE Hour)
 - ___ CAD due to Fluoroquinolones (2 CE Hours)
 - ___ Differential Diagnosis (1 CE Hour)
 - ___ Clinical Risk Management: Informed Consent (1 Hour)
- **Live Interactive Zoom Grand Rounds Webinars* (minimum of 3 Live CE Hours needed):**
 - ___ The \$75 Million CAD Case (1 CE Hour)
 - ___ Vertebral Artery Dissection Due to Self-Manipulation (1 Hour)
 - ___ Spontaneous Vertebral Artery Dissection (1 CE Hour)
 - ___ Neurologic Deficits Due to VA Dissection (1 CE Hour)

I attest and certify that I have completed the above coursework.

Signature: _____

Name: _____

Address: _____

Email: _____

Telephone: _____

Credentialing Fee: \$50

Credit Card #: _____ Exp. Date: _____

Security Code: _____

Please Note: This certification is valid and recognized for 2 years. After the initial 2 years, you may maintain your certification by purchasing and completing 2 CE hours of CAD-eligible coursework yearly and pay an annual \$50 fee to maintain your certification and be listed on our registry/directory of doctors.

Email this completed form to: info@postgraddc.com

- **Approved Coursework:**
 - ACCO
 - IANM (MOC)
 - NCMIC
 - PACE
- **Professional Development**
- **Compliance**



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Upcoming Grand Rounds Schedule



The First Tuesday of the Month at 8PM EST

- **March 5, 2024** – VAD Due to Self Manipulation
- **April 2, 2024** – Spontaneous VAD
- **May 7, 2024** - Neurologic Deficits Due to VAD

Additional live qualifying CAD classes will be available at the end of the year.



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Thank you!



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