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Submissions to the July/August Newsletter should be received by the Chapter office no later than July 20, 2017.

Is it June already? I am not sure where the year has gone. Allow me to state again what an honor and a privilege it has been to serve as your MCEP President this year. What a year it has been.

The College has continued to be active on many fronts: We are following a significant number of opiate legislative bills, again representing the College at the second Prescription Drug Overdose Prevention Stakeholder meeting on June 5th, and following the recently introduced anti-vaccine legislation (HB 4425 and 4426). If passed these bills would: Prohibit the state from enacting rules regarding vaccinations that are more stringent than state law. Eliminate rules that require parents to get education about vaccinations if they want to get a vaccination waiver. Prohibit the state from imposing more stringent rules on children in schools who aren't immunized. Have no effect on parents' ability to ask for or get a waiver for vaccinations. MCEP is adamantly opposed to such legislation.

In other legislative news, on May 24th I represented the College at a House Health Policy Committee meeting, testifying in opposition to HB 4434 and 4435. These bills are the first step in eroding the value of medical board certification and in diminishing the most valuable professional credential we hold as emergency physicians, a credential that requires adhering to rigorous standards and one that is a source of pride. These bills would set Michigan apart as adopting the lowest common standard by which physicians would be rewarded for patient care.

We of course continue to follow SB 33 (rendering assault of emergency department personnel a felony), which was recommended, with

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substitution, by the Committee on the Judiciary and has been referred to the Committee of the Whole.

Furthermore, we are tracking national activities subsequent to the recent passage of the AHCA in the House. After all, in the words of our 140 character President: "Nobody knew that health care could be so



Larisa Traill, MD, FACEP

complicated." While members' opinions on the ACA run the full range of informed opinion, one aspect we seem to agree on is that the ACA reduced the number of low income Americans without health care coverage. Thirty-one states and D.C. opted to expand Medicaid, and more than 11 million people joined the Medicaid rolls who were previously not eligible. 600,000+ Michiganders obtained health insurance as a direct result of Michigan's Medicaid expansion. For those of us serving lowincome areas, many of our patients went from being uninsured to having some sort of coverage, helping to ensure greater access to care. After so many years providing uncompensated, EMTALA mandated safety net care, emergency physicians experienced a step towards compensation for previously unfunded emergency care. The current version of the legislation as passed would allow states to apply for waivers to opt out of providing insurance coverage for essential benefits, including emergency care. And, the AHCA wouldn't just cut back Medicaid expansion, it would also trim the program, as it existed before Obamacare by capping how much states would be reimbursed for enrollees. The Congressional Budget Office, the nonpartisan agency that calculates the economic effects of legislation, estimates that the net effect of the changes would be 14 million fewer people on Medicaid. In other national news affecting access to care, Blue Cross Blue Shield in Georgia recently passed a policy, stating that it will not cover emergency room visits that it deems unnecessary. Georgia is a state with Prudent Layperson Legislation since 1996. We must continue in our vigilance of dangerous federal reforms and unsafe policies occurring nationwide.

In addition to our legislative work and the time and effort the College's many other committees put in, as we head into summer, I would like to make members aware of some new faces at our MCEP headquarters and many of our conferences. As I mentioned in my last electronic update, after a lengthy search process, the College was pleased to receive Ms. Belinda Chandler's acceptance of our offer of employment as the College's new Executive Director. Belinda has over twenty years of experience in governance, communications, community relations, and program management in the healthcare field and comes to us from the Washtenaw County Medical Society where she served as the Executive Director for the past four years, single-handedly managing the complex society. Belinda also has extensive experience in leadership, advocacy, fiscal management, and membership recruitment. We couldn't be more pleased to have her joining our leadership team. She comes to us exceedingly highly recommended, not only by several of our MSMS active physicians, including Drs. Uren and Mitchiner, but also by our own CEO, Diane Bollman-irrefutable praise indeed. (Continued on Page 3)

Are you interested in quality? Are you interested in using the best evidence for your patients? MCEP is interested in promoting quality. Through the Quality Committee, formed just last year, plans are underway to help emergency physicians and their patients share treatment decisions that can benefit everyone. Our first topic that we believe is well accepted in evidence-based medicine is head CT in low risk minor head injury patients. There is evidence that radiation can lead to cancer, more so in patients who are younger. And there is evidence regarding decision rules that help identify low risk patients who do not need imaging. It seems only fair that physicians use these decision rules to the best of their ability and that patients and family members understand the risks of both CT scans and risk of serious pathology from their injuries. Using shared decision making to come to up with a mutual plan, allowing choice when it is reasonable, creates the best environment to succeed. There is more to come on our efforts to reach out to our physicians and patients in the state.

As we set our goals high in emergency medicine, we always have to think about the value we provide to our patients, and we want our patients to know this value as well. We are also setting out to create a number of campaigns that will show our value in the house of medicine. Though we have gained a significant amount of respect in the past 30 years, we are still seen to some as glorified triage physicians, and lawmakers continue to think of ways patients can avoid emergency care. We know we provide an amazing service to our patients and our skills are second to none. MCEP will continue to fight for respect and recognition, and shout our value from the highest mountaintop...well at least from the top of Boyne.

Finally, we are eager to help our colleagues in the state complete those quality improvement projects you've been dying to start but haven't the faintest idea where to begin. Sharing information should be obligatory and it is imperative if we are to grow in our specialty. We have reached out to a number of departments and the response has been, well,



Gregory Gafni-Pappas, DO, FACEP

rather disappointing. From sepsis to low risk chest pain to operational departmental flow and even work/life balance, we know you have either completed a QI project or would love a toolkit to help you. Please take a moment to email <a href="mailto:mcep@mcep.org">mcep@mcep.org</a> and let us know your biggest successes and how you accomplished them. It will take all of 5 minutes but can benefit so many departments and patients in the process. It is in working together that we will create the best care for our patients, and MCEP would love to help you accomplish your goals.

Thank you for all you do to increase the quality of emergency care for our patients in Michigan. We look forward to working with you and hearing from you to continue our progress on this front. §

### FROM THE PRESIDENT (Continued from Page 2)

The College is also pleased to announce that Ms. Madelynne Costello has joined us as the College's new Administrative Assistant. Madey also arrives highly recommended and is a recent college graduate with a degree in office administration and experience working for the State of Michigan in the Department of Transportation. She possesses a special aptitude for and interest in customer service, database tracking and management, and meeting planning, about which we could not be more excited. Madey will also be our go-to social media guru. Please extend a warm welcome to both Belinda and Madey!

I would like to send warmest thanks to all those who gave their valuable time to College activities this year. Particular thanks to the Executive Committee, The Executive Director Search Committee, members of the Board of Directors, and last, but certainly not least, our indefatigable Course Directors, all of whom gave tirelessly and after hours (an ambiguous term in our specialty, I know) to carry the College smoothly through a year of transformation. An abundance of gratitude also to Ms. Christy Snitgen who embraced her role at Associate Executive Director and whose loyalty and devotion to the College and its members has been unwavering. Finally, to our CEO, Diane Bollman whose long-term foresight proved an invaluable asset to the Executive in navigating this year's challenges, I send thanks and hugs. We couldn't be more proud of how well our DKB has done thus far into her bone marrow transplant. I am quite sure that I

received not a small number of glares from the fantastic staff at C.S. Mott as Diane and I chatted at length on all things emergency medicine in her hospital room. "She's my College president", she would say. I would try my very best to reassure them that I was there to encourage her rest and recovery, not to have her working...really. And, please remember Diane's first 100 days post-transplant will be July 1st, so be sure to send her "Happy Day 100" greetings! Coincidence it falls on Canada Day—this President thinks *mais non*! ;-) Fireworks for you Diane!

And so, I leave you with warmest wishes for a wonderful 4th of July. I look forward to further College involvement during the year ahead. "Change is hard at first, messy in the middle, and gorgeous in the end"-Robin Sharma; now that we are through the hard and the messy, I firmly believe we are well positioned for a gorgeous MCEP year ahead. A votre santé! §

### PHYSICIANS/POSITIONS AVAILABLE

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### REIMBURSEMENT CORNER-

## **OUT OF NETWORK, WHAT'S IT ALL ABOUT?**

My column this month is about reimbursement but also about advocacy. As our nation struggles to rein in health care costs we must continue to advocate for our patients but also protect fair reimbursement so that emergency departments remain open and are staffed appropriately.

The out of network (OON) physician reimbursement issue and surprise billing problems are being addressed by state legislatures across the country. It's a topic relevant to emergency physicians as often the physician group staffing a hospital ED does not participate with a network providing insurance coverage for a specific patient. We are not hearing a lot about the issue here in Michigan as our insurance market is dominated by just a few companies and narrow networks have had difficulty gaining a foothold Many EM groups staffing hospital emergency departments agree in their hospital staffing contract to participate with the same insurers and networks as does the hospital. Obviously this is not a problem for patients seen by emergency physicians employed by the hospital.

Health plans often reimburse out of network physicians less than they contractually reimburse their participating network physicians. This leads to the patient receiving a bill from the physician for the balance. These bills are a surprise since the patient expects the bill to be covered by their insurance just like it paid the bill submitted by the participating or in-network hospital. Patients have learned to expect co-pays and deductibles but not additional balance billing. The magnitude of the uncovered portion of an ED physician bill pales in comparison to a bill sent by an emergency on call out of network consultant like a plastic surgeon. These are the unfortunate stories that are publicized in the media. The professional fee billed by the emergency physician is only a portion of

the total charges for an ED visit (i.e. facility, lab, radiology, consultants, etc).

Many states have responded to the perceived crisis by proposing or enacting legislation to restrict OON balance billing. critical issue for physicians is to have the OON reimbursement Warren Lanphear, MD, FACEP



tied to a minimum fair standard (e.g. 80th percentile) based on a benchmarked database of charges. One such database supported by ACEP and Physicians for Fair Coverage is the Fair Health charges database. If the standard for OON "reasonable" reimbursement is set by the insurance industry and becomes law, then there needs to be an alternative dispute resolution (ADR) process.

Right now Nevada is considering legislation mandating a reasonable reimbursement rate set by the insurer but would allow negotiation and expensive arbitration. These processes make disputing the reimbursement unlikely. Nevada also wants to cap emergency physician reimbursement based on a low government rate rather than a market rate. Organized advocacy efforts led by ACEP, EDPMA, and state chapters respond to attempts like this at the state level time after time. Over 15 states have enacted OON billing legislation or are considering bills this year.

Legislation soon becomes precedent easing the path for a similar law to be enacted in Michigan. So be mindful about what is happening around the country and support advocacy efforts here at home. §

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### LEGISLATIVE COLUMN

As the Michigan Legislature wraps up its spring session, MCEP and MHSA are watching multiple issues for potential impact on emergency physicians in the state. The House and Senate are looking to adjourn for the summer by mid-June but their desire to make changes for new teachers entering the retirement system may temporarily postpone that recess until early or mid-July. MCEP is not involved in that debate but in politics, all issues are eventually linked together.

SB 33 - ED Assaults - Violence in the emergency departments is a constant but growing issue for physicians and other health professionals daily. MCEP is pushing SB 33 to help create an enhanced felony for these types of violent assaults but there is growing skepticism within the Senate about increasing penalties for "special" groups. This bill is caught up in that discussion with a number of other unrelated proposals. MCEP will work over the summer to clarify and explain our position and will be calling on MCEP members to lobby their local state Senator in late summer or early fall.

**Opioids** - This issue continues to dominate the work efforts of MHSA and MCEP Legislative Chair Dr. Rami Khoury. Dr. Khoury testified in mid-April to the House Health Policy Committee and has participated in numerous discussions with Senate Health Policy Committee Chair, Sen. Mike Shirkey (R-Jackson). Dr. Khoury and I were part of a small dinner discussion in early June to help the Senator dive deeper into the issue of opioid addiction and substance abuse. Dr. Khoury advocated for leveling substance abuse disorder with other disease states and helping to reduce the stigma of SUD with regard to commercial insurance. MCEP continues to work with the state on the MAPS roll out and actively solicits MCEP



Brett Marr, Lobbyist Muchmore, Harrington, Smalley & Associates

members to share their experiences with the upgraded system with MCEP offices in Lansing.

We look forward to seeing you up north at the MCEP Scientific Assembly at the Grand Hotel. As always, please feel free to ask questions on state issues by emailing me at bmarr@mhsa.com. §

### PRO ORTHO (Continued from Page 6)

CT results. They may see them as inpatients, observation patients, or in the emergency department, whatever works best in your system. Preventing displacement of an occult hip fracture provides the patient with a better outcome. §

#### **References:**

- 1) PF Rizzo, ES Gould, JP Lyden and SE Asnis Diagnosis of occult fractures about the hip. Magnetic resonance imaging compared with bone-scanning J Bone Joint Surg Am. 1993;75:395-401
- 2) Ki-Choul Kim, Yong-Chan Ha, Tae-Young Kim, Jung-Ah Choi, Kyung-Initially missed occult fractures of the proximal femur in elderly patients: implications for need of operation and their morbidity Arch Orthop Trauma Surg (2010) 130:915-920
- Tidermark J, Zethraeus N, Svensson O, Torrnkvist H, Ponzer S Quality of life related to fracture displacement among elderly patients with femoral neck fractures treated with internal fixation. I Orthop Trauma 2002 16:34-38
- 4) M. Hossain, C. Barwick, A.K. Sinha, J.G. Andrew Is magnetic resonance imaging (MRI) necessary to exclude occult hip Injury, Int. J. Care Injured (2007) 38, 1204-1208
- 5) David K. Hakkarinen, MD, Kenny V. Banh, MD, and Gregory W. Hendey, MD Magnetic resonance imaging identifies occult hip fractures missed by 64-slice computed tomography JEM 2012 43:2;303-307
- 6) Haubro M, Stougaard C, Torfing T, Overgaard S Sensitivity and specificity of CT- and MRI-scanning in evaluation of occult fracture of the proximal femur Injury 2015:46;1557-1561
- 7) Collin D, Geijer M, Gothlin JH

- Computed tomography compared to magnetic resonance imaging in occult or suspect hip fractures. A retrospective study in 44 patients. Eur Radiol Jan 2016 DOI 10.1007/s00330-015-4189-y
- 8) O. Lubovsky, M. Liebergall, Y. Mattan, Y. Weil, R. Mosheiff Early diagnosis of occult hip fractures MRI versus CT scan Injury, Int. J. Care Injured (2005) 36, 788-792
- 9) Excellence (NICE) guidelines Hip fracture: Evidence Update March 2013
- Australian and New Zealand Guideline for Hip Fracture Care Improving Outcomes in Hip Fracture Management of Adults September 2014
- 11) ACR Appropriateness criteria 2013 Acute Hip Pain-Suspected Fracture
- 12) AAOS Evidence-Based Clinical Practice Guideline 2014 Management of Hip Fractures in the Elderly
- 13) Miguel C. Cabarrus, Avanti Ambekar, Ying Lu, Thomas M. Link MRI and CT of Insufficiency Fractures of the Pelvis and the Proximal Femur AJR 2008; 191:995-1001

\* 5% hip fractures do not appear on plain films multiplied by 30% which is the rate at which CT misses fractures (89/129)13 later found on MRI finds fractures = 1.5%

### **MCEP Calendar of Events**

July 30 - August 2, 2017 Michigan EM Assembly Grand Hotel

Mackinac Island, Michigan

July 31, 2017 **Board of Directors** Grand Hotel Mackinac Island, Michigan August 15, 2017 Residents' Assembly The Johnson Center Howell, Michigan

News & Views 5 May/June 2017

## PRO ORTHO

James Webley, MD, FACEP, Genesys Regional Medical Center

Imagine an 83 year-old woman who presents to your emergency department after she fell in her assisted care facility. She has left upper thigh pain and is unable to bear weight. Plain x-rays of her hip are negative. What now?

Everyone knows that there are occult hip fractures but are these fractures frequent? Does it matter if you miss them? Isn't one broken hip the same as another?

The cortex of the femoral neck is very thin unlike the diaphysis where the cortex is thick. Consequently, a disruption of the cortex is more difficult to see proximal to the diaphysis. If the patient also has osteoporosis the cancelous bone is thinner and progression of the fracture through the cancelous bone of the neck is harder to see much like the break of the cortex. Although the exact frequency varies from study to study, approximately 5% of all hip fractures do not show up on the original plain films. <sup>1,2</sup> It is clear that an occult fracture, by definition, is not displaced or it would be visible on the plain films. Does that matter? Yes, if the fracture is displaced the patient suffers from 1) more complicated surgery and longer hospital stays, 2) longer rehabilitation, and 3) decreased quality of life. Hence, one would like to discover a fracture before it is displaced. Continued attempts at bearing weight on an occult fracture may lead to a displaced fracture and invite the poorer results.

Hossain4 described the typical clinical presentation of a patient with an occult hip fracture (albeit in a very small series of 26 patients). There are 3 typical characteristics:



- 1) Low energy mechanism-Just a fall
- 2) Osteoporosis (typically an elderly woman)
- 3) Common physical findings
  - All have pain in the hip, thigh or knee
     (Hilton's law—the nerve supplying the muscles extending directly across and acting at a given joint also innervate the joint.)
  - New inability to bear weight (20/26)
  - Pain with leg motion
  - Pain with pressure over the greater trochanter

What about imaging? Since occult hip fractures don't show up on plain films one must use some form of advanced imaging to discover them. Several studies show that MRI frequently finds occult fractures that a CT does not.<sup>3,4,5</sup> But more disturbing is Lubovsky's series<sup>6</sup> in which CT demonstrated 4 nonoperative fractures that were subsequently shown by MRI to be much more extensive and require surgery. So not only does CT miss fractures it also can mislead the practitioner into thinking the problem is not as severe as it actually is.

Well, this information does beg the question: What do the orthopedists do? The British NICE guideline 2013 says: MRI.<sup>9</sup>. The Australian and New Zealand Guideline for Hip Fracture Care 2014 says: MRI.<sup>10</sup> The American College of Radiology Appropriateness Guideline 2103 says: MRI is 9/10 and CT 6/10 on the appropriateness scale.<sup>11</sup> Last, and perhaps most apropos, the American Academy of Orthopaedic Surgeons—Management of Hip Fractures in the Elderly 2014 says: MRI is the test of choice.<sup>12</sup> Concensus!

Thus the bottom line is: when confronted with an older patient with a fall and hip, thigh or knee pain that can't walk and has negative plain x-rays

#### Get an MRI

But you may have the same limited access to MRI as I do in my emergency department. What are we to do?

If no MRI is available but you obtain a CT there are three possibilities:

- 1) CT is **positive** for a surgical fracture: this patient needs admission and orthopedic consultation.
- 2) CT is **positive** for a nonsurgical fracture: This can be misleading but most of these patients need admission for the fracture and orthopedic consultation anyway. So, perhaps, this is not really a big problem for the emergency physician.
- 3) CT is **negative:** There is still a small miss rate 1.5%13,\*

Therefore, it is possible the CT will decide the question, but it isn't an infallible test.

The bottom line is: When confronted by an older patient with a fall and hip, thigh or knee pain that can't walk and has negative plain x-rays but no MRI is available

### Have orthopedics see the patient CT or no CT.

So what about our case? Evaluate with an MRI. If you cannot get one... consider a CT hip but have the orthopedist see the case regardless of the (Continued on Page 5)



By: Megan Wolf, MD and Kristiana Kaufmann, MD, MPH of the Emergency Medicine Residency Program at Detroit Receiving Hospital, Detroit, MI

## HIDDEN UNDER THE CERVICAL COLLAR

A 43-year-old male presented to the emergency department by EMS as a trauma code for a stab wound to the abdomen. After being assaulted with a knife, the patient subsequently fell down the stairs, so he had been placed in a cervical collar by EMS. Vital signs revealed blood pressure 116/64, heart rate 80, respiratory rate 18, temperature 36.5, and pulse oximetry 98% on room air. His physical exam was significant for a 2 cm stab wound to the right lower quadrant of the abdomen, 0/5 strength in the right upper and lower extremities, normal strength in the left upper and lower extremities, normal rectal tone, and loss of sensation to light touch below C5 bilaterally. Due to the patient's persistent complaints of his neurologic symptoms, the attending physician suggested that we logroll the patient a second time for closer examination of his neck. Upon careful inspection, obscured by the cervical collar and missed on the initial examination, a 2 cm stab wound was discovered at the right side of the posterior neck.

Laboratory studies were significant only for an elevated creatinine of 1.4 and an alcohol level of 77. Chest x-ray, pelvic x-ray, and head CT were normal. CT of the cervical spine revealed C5-C6 fractures, a bony fragment anterior to the thecal sac within the spinal canal at the C5-C6 level suggesting penetrating injury into the spinal canal, and hyperdensity surrounding the thecal sac concerning for blood. A CT of the neck with contrast revealed no evidence of vascular injury. CT of the abdomen and pelvis with contrast revealed a stab wound to the right anterior abdominal wall involving the right rectus sheath with no definite intraperitoneal involvement.

Neurosurgery evaluated the patient and recommended a Miami J cervical collar, but no acute neurosurgical intervention. MRI of the cervical spine revealed traumatic hemisection of the right side of the spinal cord at C5-C6 and surrounding epidural hematoma.

#### **Hospital Course**

Patient was admitted to trauma surgery and had a prolonged hospital course. He underwent an exploratory laparotomy that revealed injury to the rectus muscle, but no visceral organ injury. Over the course of his hospital stay, he continued to regain movement in his right upper extremity, although his right lower extremity remained paralyzed. Ophthalmology was consulted for acute Horner's syndrome characterized by right-sided ptosis and miosis. It was suspected that the ipsilateral Horner's syndrome was likely due to the penetrating traumatic injury disrupting the sympathetic chain, although there was concern that it could be due to carotid artery dissection. Repeat MRI of cervical spine again revealed transection of spinal cord at C5-C6 with abnormal intramedullary signal and MRA of neck revealed no evidence of vascular dissection. The patient subsequently developed and was treated for multiple right segmental pulmonary emboli. He was discharged from inpatient rehabilitation on hospital day 41 and had regained some strength on his right side.

#### Discussion

The patient sustained a traumatic hemisection of the right side of the spinal cord at the C5-C6 level, which is consistent with Brown-Sequard syndrome. The Brown-Sequard syndrome can be caused by penetrating injuries, as in this case, or it can be due to compressive lesions, such as spinal cord tumors, epidural hematomas, or vascular malformations. The classic presentation

of Brown-Sequard syndrome involves ipsilateral loss of motor function below the level of injury, accompanied by ipsilateral loss of position and vibration sense and contralateral loss of pain and temperature sensation below the level of injury.<sup>5</sup> Compared to the pure form of Brown-Sequard syndrome, patients more often present with the Brown-Sequard-plus syndrome, described as ipsilateral hemiparesis and relative contralateral hypoalgesia.<sup>6</sup>

Brown-Sequard syndrome is relatively rare, accounting for less than 4% of all traumatic spinal cord injuries. Compared to other traumatic spinal cord injuries, Brown-Sequard syndrome carries a more favorable prognosis for functional outcome, with 75% to 90% of patients being able to walk independently at the time of discharge.<sup>4</sup> The association between Horner's syndrome and Brown-Sequard syndrome has been described.<sup>1,3</sup> Characterized by ipsilateral ptosis, miosis, and facial anhidrosis, Horner's syndrome can be due to the traumatic disruption of the cervical sympathetic chain.<sup>2</sup>

This case highlights the importance of a thorough physical exam in all trauma patients, particularly those with distracting injuries. In this case, the patient did not report that he had been stabbed in the neck, perhaps because he was in such a state of emotional distress that he could not recall or clearly communicate what had happened. As the trauma team, initially we were focused on his penetrating abdominal injury, which proved, in the end, to be a relatively minor injury. It was only upon close examination of the posterior neck while the patient was being logrolled that the stab wound, initially hidden by the cervical collar, became evident. §

#### References

- 1. Garcia-Manzanares MD, et. al, "Brown-Sequard syndrome associated with Horner's syndrome after a penetrating trauma at the cervicomedullary junction," *Spinal Cord*, 2000;38:705-707.
- 2. Hockberger RS, et. al, "Spinal Injuries," *Rosen's Emergency Medicine*, 7th ed, 2010;353,356.
- 3. Johnson S, et al, "Brown-Sequard syndrome without vascular injury associated with Horner's syndrome after a stab injury to the neck," *J Spinal Cord Med*, 2016;39:111-114.
- 4. McKinley W, et al, "Incidence and Outcomes of Spinal Cord Injury Clinical Syndromes," *J Spinal Cord Med*, 2007;30:215-224.
- 5. Perron AD, Huff JS, "Spinal Cord Disorders," *Rosen's Emergency Medicine*, 7th ed, 2010;1390-1391.
- Roth EJ, et. al, "Traumatic Cervical Brown-Sequard and Brown-Sequardplus Syndromes: The Spectrum of Presentations and Outcomes," *Paraplegia*, 1991;29:582-589.





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