

# Trauma MedEd

## If A Tree Falls In A Forest...

Time for a little philosophy this month.

**“If a tree falls in a forest and no one is around, does it make a sound?”**

There is a clinical corollary to this question in the field of trauma:

**“If an injury exists but no one diagnoses it, does it make a difference (if there would be no change in treatment)?”**

Here's an example. On occasion, my colleagues want to order diagnostic studies that won't make any clinical difference, in my opinion. A prime example is getting a chest CT after a simple blunt assault. A plain chest xray is routine, and if injuries are seen or the physical exam points to certain diagnoses, appropriate interventions should be taken. But adding a chest CT does not help. Nothing more than the usual pain management, pulmonary toilet, and an occasional chest tube will be needed, and those can be determined without the CT.

Trauma professionals need to realize that we don't need to know absolutely every diagnosis that a patient has. Ones that need no treatment are of academic interest only, and can lead to accidental injury if we look for them too hard (radiation exposure, contrast reaction, extravasation into soft tissues to name a few).

### INSIDE THIS ISSUE

- 1 If A Tree Falls In The Woods...
- 2 The First Law Of Trauma
- 2 But The Radiologist Made Me Do It!
- 2 Guidelines For Consultants
- 3 How We Treat Our Elders
- 4 Paging And The Trauma Professional
- 4 Interesting Photos

### TRAUMA CALENDAR OF EVENTS

#### DETROIT TRAUMA SYMPOSIUM

PLACE: MGM GRAND DETROIT, DETROIT, MI

DATE: NOVEMBER 8-9, 2012

#### PANAMERICAN TRAUMA SOCIETY CONGRESS

PLACE: CONGRESS HOTEL, MEDELLIN, COLUMBIA, SA

DATE: NOVEMBER 14-17, 2012

### TRAUMA HISTORY

#### TRAUMA 30 YEARS AGO

*An article looked at the impact of a recently implemented hospital reimbursement strategy, the Diagnosis Related Group (DRG) on trauma care. They found that DRGs underestimated (and underpaid for trauma) because they tended to underestimate severity of injury and resource use. They did note that a revision to the DRGs did lead to better reimbursement, but that it still left a lot to be desired. Payment for trauma care remains an issue in flux to this day!*

*The effect of the new DRGs on trauma reimbursement. J Trauma 33(4): 495-503, 1992.*

This is how we get started on the path to “defensive medicine.”

**Bottom line: Think hard about every test you order. Consider what you are looking for, what you might find, and if it will change your management in any way. If it could, go ahead. But always consider the benefits versus the potential risks, or what I call the “juice to squeeze ratio.”**

References:

*George Berkeley, A Treatise Concerning the Principles of Human Knowledge, 1734, section 45.*

*paraphrased by William Fossett, Natural States, 1754.*

# The First Law Of Trauma

Time for some more philosophy! After doing anything for an extended period, one begins to see the common threads and underlying principles of their area of expertise. I've been trying to crystallize these for years, and today I'm going to share one of the most basic laws of trauma care.

**The First Law of Trauma: Any anomaly in your trauma patient is due to trauma, no matter how unlikely it may seem.**

Some examples:

- An elderly patient who crashes his car and presents with arrhythmias and chest pain is not having a heart attack. Nor does he need a cardiologist or a trip to the cath lab.
- A spot in the liver after blunt trauma is not a cyst or hemangioma; it is a laceration until proven otherwise.
- A patient found at the bottom of a flight of stairs with blood in their head did not have a stroke and then fall down.

**Bottom line: The possibility of trauma always comes first! It is your job to rule it out. Only consider non-traumatic problems as a last resort. Don't let your non-trauma colleagues try to steer you down the wrong path, only to have your patient suffer.**

## But The Radiologist Made Me Do It!

**The radiologist made me order that (unnecessary) test!** I've heard this excuse many, many times. Do these phrases look familiar?

- ... recommend clinical correlation
- ... correlation with CT may be of value
- ... recommend delayed CT imaging through the area
- ... may represent thymus vs thoracic aortic injury (in a 2 year old who fell down stairs)

Some trauma professionals will read the radiology report and then immediately order more xrays. Others will critically look at the report, the patient's clinical

status and mechanism of injury, and then decide they are not necessary. I am firmly in the latter camp.

But why do some just blindly seem to follow the radiologist's suggestions? I believe there are two major camps:

- Those that are afraid of being sued if they don't do everything suggested, because they've done everything and shouldn't miss the diagnosis
- Those that don't completely understand what is known about trauma mechanisms and injury and think the radiologist does

**Bottom line: The radiologist is your consultant.**

While they are good at reading images, they do not know the nuances of trauma. Plus, they didn't get to see the patient so they don't have the full context for their read. **First, talk to the radiologist so they know what happened to the patient and what you are looking for. Then critically look at their read. If the mechanism doesn't support the diagnosis, or they are requesting unusual or unneeded studies, don't get them! Just document your rationale clearly in the record.** This provides best patient care, and minimizes the potential complications (and radiation exposure) from unnecessary tests.

*Reference: Pitfalls of the vague radiology report. AJR 174(6):1511-1518, 2000.*

## Guidelines For Consultants (To Any Service)

Trauma surgeons often rely on consultants to assist in the care of their patients. Orthopedic surgeons and neurosurgeons are some of the more frequent consultants, but a variety of other surgical and medical specialists may be needed. I have found that providing a set of guidelines to consultants helps to ensure quality care and provide good communication between caregivers and patients / families.

We have disseminated a set of guidelines to our colleagues, and I wanted to touch on some of the main points. You can download the full document using the link or QR code on the next page.

In order to deliver the highest quality and most cost-effective care, we request that services we consult do the following:

- Please introduce yourself to our patient and their family, and explain why you are seeing them.
- Although you may discuss your findings with the patient, please discuss all recommendations with a member of the trauma service first. This avoids patient confusion if the trauma team chooses not to implement any recommendations due to other patient factors you may not be aware of.
- Document your consultation results in writing (paper or EMR) in a timely manner.
- If additional tests, imaging or medications are recommended, discuss with the trauma service first. We will write the orders or clear you to do so if appropriate, and will discuss the plan with the patient.
- We round at specific times every day and welcome your attendance and input.
- Please communicate any post-discharge instructions to us or enter in the medical record so we can expedite the discharge process and ensure all followup visits are scheduled.

Bottom line: A uniform “code of behavior” is important! Ensuring good patient communication is paramount. They need to hear the same plans from all of their caregivers or else they will lose faith in us. **One of the most important lessons I have learned over the years is that you do not need to implement every recommendation that a consultant makes.** They may not be aware of the most current trauma literature, and they will not be familiar with how their recommendations may impact other injuries.



Scan the QR code or enter this URL in your browser:  
<http://bit.ly/owU4Lk>

## How We Take Care Of Our Elders

A recent paper in Neurology confirms something I’m seeing more and more often. Specifically, hospitals can be bad for you, particularly if you are elderly.

The trauma population that we all see is aging with the overall population. Being older predisposes one to injuries that are more likely to require hospitalization. And unfortunately, being in the hospital can have adverse effects. I’m not just talking about the usual culprits such as medical errors or exposure to resistant bacteria.

The Chicago Health and Aging Project has been tracking a group of elders as they age, and has been making a number of interesting observations. Most recently, they have released information on a correlation between cognitive decline and hospitalization. They tracked nearly 1900 people, of whom 1335 ending up in the hospital for one reason or another (not just trauma). They found that there is a baseline rate of global cognitive decline with age (surprise!). Unfortunately, this rate of decline accelerated 2.4 times in the hospitalized group. Episodic memory scores declined 3.3 times faster, and executive function declined 1.7 times faster. And declines tended to be more pronounced in patients who had more severe illness, longer hospital stay, or advanced age.

There are some issues with the study. It is large, but it is a correlation study nonetheless. Are the effects due to something that happens in the hospital, or are they caused by something not evaluated by the study? It’s also not clear to me whether the declines noted are clinically significant in the daily lives of the people studied, or are just a number on some scale.

**Bottom line:** Some of the “benign” things that we do to patients in the hospital can have a big impact on their functional outcome. Always remember that they are more fragile than the young trauma patients we take care of. That extra fluid bolus, or dose of morphine, exposure to IV contrast, or noisy neighbor that keeps them from sleeping can make a real difference in how they do. ***Always consider that everything you do to them might kill them.*** Then seriously reconsider whether you really, really need to order it at all.

Reference: *Cognitive decline after hospitalization in a community population of older persons. Neurology, epub ahead of print, March 21, 2012.*

## Paging And The Trauma Professional

People who work in hospitals, particularly physicians, physician assistants, nurse practitioners and residents are throwbacks who still use old-fashioned paging technology. My colleague, the Skeptical Scalpel, recently lamented this fact in one of his blog posts. But they do seem to be a necessary evil, since cellular coverage is often limited deep inside of buildings.

But how much to trauma professionals get paged? An oral presentation at the recent Congress of Neurological Surgeons described a study that monitored paging practices between nurses and neurosurgical residents.

Medical students were paid to follow neurosurgical residents during 8 12-hour call shifts. They recorded the paging number and location, priority, and what the resident was doing when paged. The results were enlightening but not surprising:

- 55 pages were received per shift, on average, ranging from 33 to 75
- An average of 5 pages per hour were received, with a range of 2 to 7
- A substantial number of pages were received during sleep times (4 per hour)
- It took an average of 1.4 minutes to return the page
- 68% of pages were non-urgent
- 65% interrupted a patient care activity
- An average of 1.1 hours was spent returning pages per shift

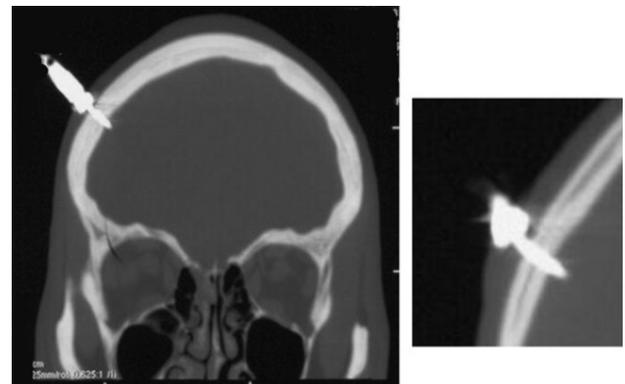
**Bottom line:** Yes, we are throwbacks using an old technology. But it does serve us well. Unfortunately, it's an old technology being used in an inefficient manner. **I recommend that nursing units make it a practice to maintain a "page list" of nonurgent items.** The trauma professional can then stop by or call each unit periodically (every 2 hours or some other appropriate time interval)

and deal with all of them at once. Obviously, urgent and emergent problems should still be called immediately. This will ensure that routine issues are taken care of in a timely manner and the trauma pro can attend to their other duties as efficiently as possible.

Reference: *Oral Paper 113: An Observational Study of Hospital Paging Practices and Workflow Interruption Among On-call Junior Neurosurgery Residents. Presented at the Congress of Neurological Surgeons 2012.*

Please see the excellent discourse on this subject by the Skeptical Scalpel at <http://bit.ly/R6xwQe>

## Interesting Photos



Taser dart to (and through) the skull. Missed at discharge from jail; patient presented to the ED with a full head of hair and a splitting headache.

*Not treated at Regions Hospital*



A serious performance improvement problem for the painting department!



[www.TheTraumaPro.com](http://www.TheTraumaPro.com)



[@regionstrauma](https://twitter.com/@regionstrauma)



[www.Linkedin.com/in/MichaelMcGonigal](http://www.Linkedin.com/in/MichaelMcGonigal)



[Michael.D.McGonigal](https://www.skype.com/people/Michael.D.McGonigal)