Emergency Department Directors Academy Phase I Spring 2020

*Interactions That Create / Prevent Malpractice*

**DESCRIPTION**
Emergency physicians develop a style of professional communication that is intended to create rapport, develop confidence, put patients and staff members at ease, and communicate critical information. Unfortunately the intent is not always achieved as some physicians do not take or have the time to effectively communicate. Worse, occasionally words and phrases are used that are misinterpreted and body language is incongruent with the intended message. These may lead to frustration, anger and claims of malpractice. This course will review types of words and phrases that are frequently misunderstood and lead to legal jeopardy. Additionally, the presenter will provide tips on how to deal with group members that are ineffective communicators.

**OBJECTIVES**
- Describe linguistic theory of communication.
- Discuss difference between intention and reception.
- List common words/phrases that are likely to be misunderstood.
- Describe verbal and non-verbal approaches to effective communication.
- Instruct members of group on features of effective communication.
- Interactions That Create / Prevent Malpractice

2/6/2020, 8:00 AM - 9:00 AM

**FACULTY:** Kevin M. Klauer, DO, EJD, FACEP

**DISCLOSURE:** (+) No significant financial relationships to disclose
Interactions That Create/Prevent Malpractice

Kevin M. Klauer, DO, EJD, FACEP
CEO, American Osteopathic Association
Clinical Asst. Professor, University of Tennessee
Clinical Asst. Professor, Michigan State University University College of Osteopathic Medicine
• AMA/Refusals-Shared Decision Making
• Signing does not = Editing the record
• Discharge instructions gone bad
• Nursing-Physician discrepancies
• Altering or Changing a Record
• Residents: A human shield?
• Macros & Drop Down Boxes
• Informed Consent, When?
• Copy Cat (copy and paste)
• Knee Effusion Confusion

• Document for the Miss
• Tamiflu can’t save you
• “Offering” Admission
• Documenting Errors
• Anger Management
• Stealthy Toxicology
• Rad Discrepancies
• Attestation Issues
• Stoned on Sepsis
• Rapid Fire Risk
Informed Consent: Beyond Signing a Form

By Kevin Klauer, DO, Chief Medical Officer, TeamHealth, Knoxville, TN

Informed consent is critically important with respect to patient autonomy and individual choice. Decision-making adds complexity to the idea of informed consent. Shared decision-making and informed consent are related conceptually, but distinctly different in effect. They both address the necessary focus on patient autonomy and patient-centered care. However, merely including patients in the decision-making process (when appropriate) and conversing with a patient about treatment options is no surrogate for informed consent and its required elements. Ideally, shared decision-making is used when reasonable treatment options exist for a specific...
CONSENT FOR ADMINISTRATION OF TISSUE PLASMINOGEN ACTIVATOR (rt-PA) AND CONTINUUM OF CARE

I understand that my diagnosis is:

This requires the following medical service: Intravenous Tissue Plasminogen Activator (rt-PA) Infusion

______ There is a treatment for your stroke called rt-PA that must be given within three hours after the stroke started. It is a ‘clot buster’ drug that can lead to a complete or near-complete reversal of a stroke in about one of every three patients treated. However, it has a major risk, since it can cause severe bleeding in the brain in about one of every fifteen patients. If bleeding occurs in the brain, it can be fatal. Overall, we feel the potential benefits of this treatment outweigh the risks.

______ My physician has explained the procedure and has answered all my questions.

______ I understand that there are risks with this procedure. These risks include but not limited to: severe bleeding, hypertension, allergic reaction and have been explained to my satisfaction. I also understand that there are rarer complications, including death, which may not have been specifically mentioned, that may also occur. I accept these risks.

______ The expected results such as complete or near-complete reversal of a stroke after the procedure have been explained. No warranty or guarantee has been made as to the result or cure.

______ Alternate methods of treating my condition have been explained to me, including no treatment, and the consequences and expected results of these alternatives have been described to my satisfaction.

______ I consent to the administering of anesthetics as are necessary up to and including general anesthesia.

______ I authorize additional services as necessary: Pathology, Radiology including additional surgery. The Pathologist may use discretion to dispose of any submitted tissue or membrane.

Patient’s Signature Date/Time Witness

☐ Patient is unable to sign Reason:

Guardian Date/Time Relationship

Other Person Date/Time Relationship

Form#
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Case Study: The Telephone Consult

- September 30, 2012: ED Visit #1
- 1225: 47 year old female presented to the ED
- CC/HPI: She complained of a severe headache, dizziness, nausea, vomiting and photophobia. She denied blurred vision or other neurological complaints. The headache had been intermittent for one month. She rated her pain as a 10 out of 10.
- P.E.: Normal exam
Medical Legal Case

- Tx: Hydromorphone and Ondansetron IV

- Diagnostics
  - Labs: NL
  - CT: "Sellar/suprasellar mass suspicious for pituitary macroadenoma. Suprasellar component displaces optic chiasm and floor or 3rd ventricle. MRI with dedicated pituitary mass protocol may be helpful in further characterization. No cervical or carotid artery stenosis. Compression of paraclinoid ICA B/L between the mass in the anterior clinoid processes."
Medical Legal Case

- Telephone consult: Neurosurgeon on call
- The report was read to the neurosurgeon
  “Do you want an MRI?”  “No. She can follow up in my office in 1 week.”
- October 2, 2012: ED Visit #2
- Patient presented via EMS after being found unresponsive with severe focal neurological deficits
- Dx: Ischemic stroke & Acute adrenal crisis
- Tumor resected
- Permanent, severe neurological sequelae
- She cannot live independently

**2/12/14**
Demand: $35,000,000
Offer: $100,000
Defense Verdict!
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Offering v. Recommending
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“We found that only about one-quarter of hospitals had policies regarding the use of the copy-paste feature in EHR technology, which, if used improperly, could pose a fraud vulnerability.”
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**Chief Complaint:**
- Chest pain/discomfort

**Onset / Duration:**
- Chest into back

**Timing:**
- Constant "waxing & waning" intermittent episodes lasting
- Worse / persistent since

**Context:**
- X.20 min

**Quality:**
- Tearing
- Pressure
- Sharp
- Dull

**Location of Pain:**
- Upper chest

**Radiation:**
- None
- Arm / Shoulder
- Back / Jaw

**EPA Radiates**
- Hip to back
- Leg numbness
- Resolved
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47 y/o male presents to the ED complaining of headache and neck pain.

CT of the brain is performed.

“I doubt you have meningitis. But, if we want to be certain we should do a spinal tap.”

Informed refusal?
49 y/o male presented to the ED with 10 min
duration of chest pain.

ECG and enzymes negative

Admission recommended and declined X2

Admission recommended to spouse and discussed
with husband

The record:

“_______________________________________
_______”

Informed Refusal?

“Pt. advised admission recommended X2. He was alert &
oriented x4 and had the capacity to consent and refuse. We
discussed the possibility of acute coronary syndrome, the risks of
treatment and non-treatment and the possibility of death. His
wife was present and wanted him admitted. She was enlisted to
try and convince him.”

“If I’m gonna die, I’d rather do it at home with my
boys!”

Informed Refusal?
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B. Recordkeeping Principles

Regardless of whether a documentation submission originates from a paper record or an electronic health record, documents submitted to MACs, CERT, Recovery Auditors, and ZPICs containing amendments, corrections or addenda must:

**Amended Medical Records**

Late entries, addendums, or corrections to a medical record are legitimate occurrences in documentation of clinical services. A late entry, an addendum or a correction to the medical record, bears the **current date** of that entry and is **signed** by the person making the addition or change.

**Late Entry:** A late entry supplies additional information that was omitted from the original entry. The late entry **bears the current date**, is added as soon as possible, is written only if the person documenting has total recall of the omitted information and **signs** the late entry.

Example: A **late entry** following treatment of multiple trauma might add: "The left foot was noted to be abraded laterally. John Doe MD 06/15/09"

**Addendum:** An addendum is used to provide information that was not available at the time of the original entry. The addendum should also be timely and bear the current date and reason for the addition or clarification of information being added to the medical record and be signed by the person making the addendum.

Example: An **addendum** could note: "The chest x-ray report was reviewed and showed an enlarged cardiac silhouette. John Doe MD 06/15/09"

**Correction:** When making a correction to the medical record, never write over, or otherwise obliterate the passage when an entry to a medical record is made in error. Draw a single line through the erroneous information, keeping the original entry legible. Sign or initial and date the deletion, stating the reason for correction above or in the margin. Document the correct information on the next line or space with the current date and time, making reference back to the original entry.

Correction of electronic records should follow the same principles of tracking both the original entry and the correction with the **current date, time, reason for the change and initials of person making the correction.** When a hard copy is generated from an electronic record, both records must show the correction. Any corrected record submitted must make clear the specific change made, the date of the change, and the identity of the person making that entry.

MACs, CERT, Recovery Auditors, and ZPICs. Records sourced from electronic amendments, corrections or delayed entries must:

a. Distinctly identify any amendment, correction or delayed entry, and

b. Provide a reliable means to clearly identify the original content, the modified content, and the date and authorship of each modification of the record.
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Anger Management

ADDENDUM: Please see the previous dictation. A complaint was made by the patient and his wife who said that I was polite, but also disrespectful. They said that while I was going over the x-rays that I used profanity in front of their 8-year-old daughter, which I do not remember at all. It is possible I used a "hell or damn" but I do not remember specifically saying that. The wife also states that I misdiagnosed the patient with muscle spasm.

DIAGNOSIS:
1. Acute cervical strain.
2. Upper respiratory infection.
3. Tobacco abuse.
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Signing Does Not = Editing

(___________); however, she did become aggressive and violent in the emergency department again necessitating medication with Haldol and Ativan **SINCE SHE IS ALLERGIC TO GEODON**, chloroform was the only thing that really works for her awaited for its arrival. She was given another 2 mg of Ativan. The patient's care was discussed with Dr.
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ADMINISTRATIVE INFO

ADDENDUM: Billing coders have asked me to do a procedure note.

Again, the original dictation was read. The second page of the
dictation under ED course outlines the procedure. Again, I will
re-read what has already been dictated for their benefit.

“DX STATES ACUTE RECTAL PACING WITH NO MENTION"
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ADDENDUM: The patient is a 44 year-old female, who is a patient I admitted to the Hospitalist Service with an upper GI bleed. I attempted a central line in the right femoral vein and for the first time in 22 years after many experiences putting in a central line, I actually punctured the bladder and aspirated urine from the needle that accepts the guidewire.

I am adding to my diagnosis of iatrogenic bladder puncture, unintentional, under sterile conditions.

Documenting Errors

LABS/X-RAY: She had an emergent ultrasound, transvaginal which showed a normal uterus, normal right ovary and a small 1.4 cm cyst in the left. There is a moderate amount of fluid in the cul-de-sac surrounding the left adnexa as well.
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Medical Decision Making/Management: Her wet prep is negative. Her beta level here is 356. Which is unlikely to be seeing anything on ultrasound. This is doubling normally as we would expect with a normal intrauterine pregnancy at this point, and I think her risk for her having ectopic is low. The patient will be discharged to follow up with her gynecologist in a day or so.

Documenting for the Miss!

SO, ... HOW'S YOUR DAY GOING?
H&P/Re-exam/Treatment (cont.)

Se木耳

by Renater

Dx: severe conjunctivitis
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Discharge Instructions Gone Bad

IBUPROFEN
Your doctor has prescribed ibuprofen for you. Examples of this drug include: Advil, Midol 200, Medipren, Motrin, and Nuprin. Ibuprofen helps reduce pain and inflammation. It can be used for injuries, fever, arthritis, bursitis, tendinitis, and menstrual cramps. This medicine is most effective when it is taken on an empty stomach, but if it causes stomach upset, take it with meals, milk, or antacids. Ibuprofen comes in tablets and as a suspension (Children’s Advil, PediaProfen) which can be used for fever and pain in children. Short term pain treatment with ibuprofen is very safe and effective in most people. However, ibuprofen is not safe to cause danger emergency. All severe stomach pain, vomiting, black or bloody stools. All severe headache, blurred vision, confusion, mental depression.

KIDNEY FAILURE
Your doctor wants you to have information about chronic renal failure, also called kidney failure. This happens as a result of many different problems including infections, diabetes, high blood pressure, kidney stones, circulation problems, and drug and immune reactions. The symptoms of kidney failure do not specific and can include: dehydration, weight loss, pain, nausea, vomiting, anemia, and pain, burping, kidney tissue has been lost. Symptoms are fever, shortness of breath, chest and abdominal pain. The diagnosis depends on measuring kidney function tests such as the BUN or creatinine. Production of the kidney. Diets low in protein, potassium, and sodium can help control blood pressure and fluid retention are often needed. Medicines to reduce itching, stomach irritation, and constipation may also be helpful. Hemodialysis or peritoneal dialysis can help control most of the problems associated with kidney failure. Please see your doctor as recommended for careful follow up of this chronic problem. Call right away if you have a severe headache, marked weakness, repeated vomiting, or other serious complaints.
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“The above note reflects the combined entries of the resident and attending physician. I (the attending) have made corrections and additions as needed.”

“I have reviewed the PA/NP's note and plan of care. I was available for consultation as needed at all times during the patient's visit in the emergency department. However, I am merely the supervising physician for the APC in triage who performed the initial screening exam with initial diagnostic and treatment orders. I was never consulted, had no duty to directly participate in the emergency care and was therefore not involved in the emergency care apart from my availability to provide supervision to the APC in triage. I agree with the diagnostic and treatment orders made at the time of triage given the documented chief complaint and HPI. All clinical decision making after triage including additional testing and disposition was completed by the attending physician as documented independent of any influence or involvement by me.”

Core Measures Addressed: N/A
For patients requiring hospitalization status, I discussed this case with the admitting physician.
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Stones & Sepsis
The Undeniable Link

by KIRK N. JAUSI, OL. ED., FACP

Kidney Stones: Beyond the Pain

The occurrence of kidney stones, known as "the pain," in the emergency department has more than doubled. Why? No problem. The syndrome is rare, yet it’s not uncommon. Therefore, some of these patients may require admission.

A recent increase in saltwater intake has prompted a reassessment of common management of nephrolithiasis. Patients with saltwater abnormalities in the electrolyte and mineral metabolism (EDM) have demonstrated hypoxia, hyperglycemia, and increased rates of kidney stones. EDM has been identified as a possible cause of kidney stones, and its role in the pathogenesis of kidney stones needs to be studied more extensively. EDM has been associated with increased rates of kidney stones in both men and women. EDM is a complex process that involves the interaction of multiple factors, including genetics, diet, and environmental factors. The occurrence of kidney stones in EDM patients is more common in men than in women. EDM patients should be monitored closely for the development of kidney stones, and appropriate intervention strategies should be implemented to prevent the progression of kidney stones.
35 y/o female classic presentation with Lt flank pain. No fever or urinary Sxs. PMHX: None.
V.S. Normal.
Diagnostics: POC UA-Mod RBCs and + WBCs, CT 7 mm proximal ureteral stone with staghorn calculus. 2/10 pain discharged. No Rx for antibx.
F/U: 2 days: T 102.4, BP 84/62, HR 108
Died 3 days later
Settled: $600,000
Additional Hx: Prior history of UTI-Proteus

37 y/o female classic presentation with Lt flank pain. No fever or urinary Sxs. PMHX: None.
V.S. Normal.
Diagnostics: Formal UA (Lg blood, 11-20 WBCs, 4+ bact), CT 3 mm UPJ stone. 5/10 pain discharged. Rx for Ciprofloxacin
ED: 1 days: T 105, BP 80/50, HR 142
Multiple limb amputation
Settled: $1,000,000

46 y/o female classic presentation with Rt flank pain. No fever or urinary Sxs. PMHX: None.
V.S. Normal.
Diagnostics: Formal UA (Lg blood, 5-10 WBCs, + Nitrite, few bact, pH 8.0), CT 5 mm distal ureteral stone. 2/10 pain discharged. No Rx for antibx.
ED 2 days: T 102.4, BP 92/54, HR 126
4 limb amputation
Although admission may be unnecessary, noting the potential for poor outcomes, even with a seemingly benign presentation, mandates something more than the standard approach for those without possible UTI. Thus, initiation of antimicrobials, phone consultation, confirmed close follow-up, and, in some cases, admission, are all reasonable considerations.

Watch the pH. Some organisms are urease-producing, reducing urea, which has an antibacterial effect, and will increase ammonia levels. This effect has been found in more than 200 bacterial species, including *Ureaplasma urealyticum, Proteus, Klebsiella,* and *Pseudomonas.*² The alkaline environment prompts formation of struvite-magnesium ammonium phosphate (infected stones) and apatite-calcium phosphate stones.⁵⁶ Also, staghorn calculi are frequently composed of these two types.⁷ UTI may be causative, not an incidental finding, with nephrolithiasis.⁵⁶⁷ Further, some suggest greater mortality from struvite and staghorn stones, as they cannot be treated with antimicrobials alone.⁶
Risk Reduction Recs

1. Infection + Obstruction = Admission & Urgent Decompression
2. Urinary pH is not a wasted test.
3. Subtle signs of UTI shouldn’t be dismissed.
4. Chicken v. Egg: UTI first?
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“Access to PDMP information is determined by state law. All states with a PDMP allow prescribers, and most allow pharmacists, to obtain prescription history information on patients under their care.”

Re: CMS

Failure to Dx an EMC may = Failure to fulfill the MSE

Re: CMS

Re: CMS
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Medical Legal Case

- September 2, 2012: ED Visit #1
- 0500: 26 y/o female presented to ED
- CC: Vomiting for 1 hour
- HPI: “I took 5 Tylenol instead of 2.” Complained of a headache which has resolved (2015)
- BP: 106/58, HR: 72, RR: 16, T: 97.8
- PMHx: Former traumatic brain injury with 5 craniotomies, Seizure disorder (Tegretol)
- P.E.: Well appearing, benign abdominal examination
Management

- Diagnostics NL: CBC, BMP, UHCG, Urinalysis, Tegretol level
- Treatment: IV NS 500 ml/hr, Zofran 4 mg IVP
- Discharge: 87 minutes after arrival
- Dx: Viral syndrome, FU with primary care
Medical Legal Case

- September 4, 2012: ED visit #2
- BP: 106/72, HR: 84, RR: 18, T: 97.8
- CC: Nausea and Vomiting for 3 days
- P.E.: Well nourished, Alert, NAD
  - ABD: Benign, Normal BS, Non-tender
- AAS: Moderate stool
- Laboratory …
<table>
<thead>
<tr>
<th>Test</th>
<th>Value</th>
<th>Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>ALKALINE PHOSPHATASE</td>
<td>154</td>
<td>40-150</td>
</tr>
<tr>
<td>ALANINE TRANSAMINASE/ALT</td>
<td>13927</td>
<td>9-52</td>
</tr>
<tr>
<td>BILIRUBIN TOTAL</td>
<td>2.6</td>
<td>0-1.2</td>
</tr>
<tr>
<td>ICTERIC SPECIMEN</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ASPARTATE TRANSAMINASE/AST</td>
<td>12300</td>
<td>8-39</td>
</tr>
</tbody>
</table>

**BILIRUBIN, INDIRECT**

<table>
<thead>
<tr>
<th>Test</th>
<th>Value</th>
<th>Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>BILIRUBIN TOTAL</td>
<td>2.5</td>
<td>High</td>
</tr>
<tr>
<td>BILIRUBIN, DIRECT</td>
<td>1.2</td>
<td>High</td>
</tr>
<tr>
<td>BILIRUBIN, INDIRECT</td>
<td>1.3</td>
<td>High</td>
</tr>
</tbody>
</table>

**Lab Results Reviewed by ED Physician:**

**ACETOMINOPHEN LEVEL**

<table>
<thead>
<tr>
<th>Test</th>
<th>Value</th>
<th>Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACETAMINOPHEN LEVEL</td>
<td>5.0</td>
<td>Low 10-30</td>
</tr>
</tbody>
</table>

- Treatment: IVF, MS, Ondansetron
- N-Acetyl Cysteine: 245 ml per hour
Outcome

- Hepatorenal failure developed, but resolved weeks later.

8/19/13
Demand: $2.0 million

Plaintiff’s Verdict
$3.2 million

Defense Verdict!!
Acetaminophen toxicity with concomitant use of carbamazepine

Glen Jickling, Angela Heino, S. Nizam Ahmed
University of Alberta Hospital, Alberta, Canada
Received January 7, 2009; Accepted September 24, 2009

ABSTRACT – Acetaminophen is a widely used analgesic that can cause acute liver failure when consumed above a maximum daily dose. Certain patients may be at increased risk of hepatocellular damage even at conventional therapeutic doses. We report a case of a 34-year-old man on carbamazepine for complex partial seizures who developed acute liver and renal failure on less than 2.5 grams a day of acetaminophen. This raises caution that patients on carbamazepine should avoid chronic use of acetaminophen, and if required use at lower doses with vigilant monitoring for signs of liver damage.
### Stages of NAPQI Toxicity

<table>
<thead>
<tr>
<th>Stage</th>
<th>Symptoms</th>
<th>Days</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>1</strong></td>
<td>Nausea &amp; vomiting, abdominal pain, sweating, general discomfort, pale color</td>
<td>0-1</td>
</tr>
<tr>
<td></td>
<td>Liver function tests may be normal</td>
<td></td>
</tr>
<tr>
<td><strong>2</strong></td>
<td>Liver injury develops</td>
<td>1-3</td>
</tr>
<tr>
<td></td>
<td>Upper right quadrant pain</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Rise in liver function tests (ALT, AST, bilirubin, INR)</td>
<td></td>
</tr>
<tr>
<td><strong>3</strong></td>
<td>Hepatotoxicity peaks</td>
<td>3-5</td>
</tr>
<tr>
<td></td>
<td>Rapid &amp; severe hepatic failure</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Encephalopathy &amp; hypoglycemia</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Glucose, lactate, &amp; phosphate abnormalities</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Coma &amp; death</td>
<td></td>
</tr>
<tr>
<td><strong>4</strong></td>
<td>Recovery stage for those who survive stage 3</td>
<td>5-8</td>
</tr>
</tbody>
</table>

*Note: The table and diagram illustrate the progression of NAPQI toxicity, with symptoms and associated days indicated for each stage.*
Acetaminophen Metabolism

- Acetaminophen is metabolized through 3 different pathways:
  - 42% to 67% undergoes glucuronidation and is excreted in urine
  - 26% to 36% undergoes sulfation and is excreted in urine
  - 5% to 8% passes through the cytochrome P-450 pathway producing a potentially hepatotoxic metabolite, N-acetyl-p-benzoquinone imine (NAPQI)

NAPQI + glutathione \( \rightarrow \) Acetadote + Excess NAPQI

NAPQI \( \rightarrow \) urine

Acetadote \( \rightarrow \) urine
1. Don’t over-rely on levels
2. Toxidrome + known ingestion = Cause and effect
3. Think about cytochrome p450 inducers
4. Consider chronic ingestions
5. Histories, particularly in tox, can be unreliable
6. Rule of 150
• The AMA/Refusals-Shared Decision Making
• Signing does not = Editing the record
• Discharge instructions gone bad
• Nursing-Physician discrepancies
• Altering or Changing a Record
• Residents: A human shield?
• Macros & Drop Down Boxes
• Informed Consent, When?
• Copy Cat (copy and paste)
• Knee Effusion Confusion

• Document for the Miss
• Tamiflu can’t save you
• “Offering” Admission
• Documenting Errors
• Anger Management
• Stealthy Toxicology
• Rad Discrepancies
• Attestation Issues
• Stoned on Sepsis
• Rapid Fire Risk
March 18, 2016 at 0910
65 y/o male presented to the ED
CC: Headache
Triage: “10” “Never experienced a HA like this before”
HPI: He reported a “stressful day and a sudden onset of HA with stiffness to the back of neck.”
Meds: Metoprolol and Warfarin!
BP: 182/80, HR: 72, RR: 16, T: 99.4, SaO₂: 98%
PMHx: HTN, A-fib
P.E.: Normal
Medical Legal Case

- Pertinent Diagnostics
  - CT of the Brain: Negative
  - INR: 2.5
- Next Steps …?
  1. Defer the LP?
  2. Do the LP?
  3. Use a resident as a human shield?
Medical Legal Case

- Resident attempt: “Unsuccessful”
- Attending attempt: “Bloody tap”
  - “Sent for analysis” – No analysis performed
- Hospitalist and Intensivist contacted
  - Will be admitted
  - Boarding overnight!
- Cardiology fellow and Neurologist: Phone consult
  - Discontinue (not reverse) anticoagulation
  - LP via fluoroscopy in the morning
- LP not performed: CTA performed instead: Negative for SAH
Outcome

- Following the CTA on March 19, the patient began experiencing back pain.
- MRI performed: "Extensive epidural hematoma in the lumbar spine"
- Surgical decompression performed on that day
- Post-op: Paraplegia which did not resolve
- 4 days post-op, the EP went to the room to apologize ...
- ... including an admission of fault

9/14/16
Demand: $5,000,000

Settlement
$2,200,000-EP only
# Lumbar Puncture in Patients on Anticoagulants

## Table 3
Recommendation for performing lumbar puncture (LP) in patients treated with oral anticoagulants.

<table>
<thead>
<tr>
<th><strong>Warfarin (Marevan® or Coumadin®)</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>High thrombotic risk</td>
</tr>
<tr>
<td><strong>Emergency LP</strong> – Perform LP</td>
</tr>
<tr>
<td><strong>Elective LP</strong> – Replace warfarin (bridging therapy) 5 days prior LP:</td>
</tr>
<tr>
<td>Normal renal function – replace with therapeutic LMW heparin and perform LP 12 hours after the last dose</td>
</tr>
<tr>
<td>Impaired renal function – replace with therapeutic unfractioned heparin and perform LP 6 hours after the last dose</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Low thrombotic risk</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Emergency LP</strong> – Consider rapidly reversing warfarin effect and perform LP as soon as INR is 1.5 or below</td>
</tr>
<tr>
<td><strong>Elective LP</strong> – Discontinue warfarin for 5 days before LP</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>NOACs (Dabigatran-Pradaxa®, Rivaroxaban-Xarelto®, Apixaban-Eliquis®)</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>High thrombotic risk</td>
</tr>
<tr>
<td><strong>Emergency LP</strong> – Perform LP (postpone one day if possible)</td>
</tr>
<tr>
<td><strong>Elective LP</strong> – Replace (bridging) NOAC for at least 1 day with normal renal function and 3 days with impaired renal function.</td>
</tr>
<tr>
<td>Normal renal function – replace with therapeutic LMW heparin and perform LP 12-24 hours after the last dose</td>
</tr>
<tr>
<td>Impaired renal function – replace with therapeutic unfractioned heparin and perform LP 6 hours after the last dose</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Low thrombotic risk</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Emergency LP</strong> – Perform LP (postpone one day if possible)</td>
</tr>
<tr>
<td><strong>Elective PL</strong> – Discontinue NOAC for 1 day if normal renal function and 3 days with impaired renal function.</td>
</tr>
</tbody>
</table>

**NOACs**: new oral anticoagulants; **LMW**: low molecular weight.
Risk Reduction Recs

1. Document the risk benefit analysis of procedure v. bleeding risk.
2. Document the consideration of reversal.
3. Consult prior to the procedure.
4. Get your consults in writing (when possible).
5. Know your state’s “apology law.”
   1. Expression of sympathy only; or
   2. Admission of fault (not admissible in this case)
• The AMA/Refusals-Shared Decision Making
• Signing does not = Editing the record
• Discharge instructions gone bad
• Nursing-Physician discrepancies
• Altering or Changing a Record
• Residents: A human shield?
• Macros & Drop Down Boxes
• Informed Consent, When?
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• “Offering” Admission
• Documenting Errors
• Anger Management
• Stealthy Toxicology
• Rad Discrepancies
• Attestation Issues
• Stoned on Sepsis
• Rapid Fire Risk
Medical Legal Case

- September 9, 2014
- 77 year old female presented to the ED
- CC: “Three days ago, I tripped and fell and hurt my head, back and ribs.”
- Exam: Consistent with complaints (PA-only)
- Diagnostics (Rad Interp): CT brain (SD), LS Spine (ND), CT LS spine (SD), CXR & rib details (ND)
- Dx: “Mild compression Fx L2”
- Discharge: F/U in two days, Rx for Percocet
Final Interpretation: “15 mm nodule right mid lung field. CT recommended.”

- The patient followed up with her physician 1 week later without issues.
- Dx with lung cancer and brain metastases on December 15, 2016.
- Died on March 4, 2017.
Lawsuit filed: 1/2/17
Demand: $4 million
Allegations: Misdiagnosis, Negligent APP supervision, Negligence regarding Rad discrepancy policy
Settlement: $1.75 million
$350,000: PA
$350,000: Hospital
$1,050,000: Second Physician
Error and discrepancy in radiology: inevitable or avoidable?

Adrian P. Brady

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Abstract
Errors and discrepancies in radiology practice are uncomfortably common, with an estimated day-to-day rate of 3–5% of studies reported, and much higher rates reported in many targeted studies. Nonetheless, the meaning of the terms “error” and “discrepancy” and the relationship to medical negligence are frequently misunderstood. This review outlines the incidence of such events, the ways they can be categorized to aid understanding, and potential contributing factors, both human- and system-based. Possible strategies to minimise error are considered, along with the means of dealing with perceived underperformance when it is identified. The inevitability of imperfection is explained, while the importance of striving to minimise such imperfection is emphasised.

Teaching Points
• Discrepancies between radiology reports and subsequent patient outcomes are not inevitably errors.
• Radiologist reporting performance cannot be perfect, and some errors are inevitable.
• Error or discrepancy in radiology reporting does not equate negligence.
• Radiologist errors occur for many reasons, both human- and system-derived.
• Strategies exist to minimise error causes and to learn from errors made.

Keywords Radiology • Error, diagnostic • Error sources • Misdiagnosis • Quality improvement

Definition of error/discrepancy
It was recently estimated that one billion radiologic examinations are performed worldwide annually, most of which are interpreted by radiologists [1]. Most professional bodies would agree that all imaging procedures should include an expert radiologist’s opinion, given by means of a written report [2]. This activity constitutes much of the daily work of practising radiologists. We don’t always get it right.

Although not always appreciated by the public, or indeed by referring doctors, radiologists’ reports should not be expected to be definitive or incontrovertible. They represent clinical consultations, resulting in opinions which are conclusions arrived at after weighing of evidence [3]: “opinion” can be defined as “a view held about a particular subject or point; a judgement formed; a belief” [4]. Sometimes it is possible to be definitive in radiological diagnoses, but in most cases, radiological interpretation is heavily influenced by the clinical circumstances of the patient, relevant past history and previous imaging, and myriad other factors, including biases of which we may not be aware. Radiological studies do not come with built-in labels denoting the most significant abnormalities, and interpreting them is not a binary process (normal vs abnormal, cancer vs “all-clear”).

In this context, defining what constitutes radiological error is not straightforward. The use of the term “error” implies that there is no potential for disagreement about what is “correct”, and indicates that the reporting radiologist should have been able to make the correct diagnosis or report, but did not [3]. In real life, there is frequently room for legitimate differences of opinion about diagnoses or “failure” to identify an abnormality that can be seen in retrospect. Expert opinion often forms the basis for deciding whether an error has been made [3], but it should be noted that “experts” themselves may also be subject to question (“An expert is someone who is more than fifty miles from home, has no responsibility..."
<table>
<thead>
<tr>
<th>Year</th>
<th>Author(s)</th>
<th>Ref</th>
<th>Material</th>
<th>Key Points</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>2001</td>
<td>Goddard et al.</td>
<td>[11]</td>
<td>Various</td>
<td>Clinically significant error rate of 2–20%, depending on radiological investigation</td>
<td>Lesions visible but not reported on prior studies</td>
</tr>
<tr>
<td>1981</td>
<td>Forrest et al.</td>
<td>[12]</td>
<td>Retrospective review of previous chest x-rays (CXR) in patients subsequently diagnosed with lung cancer</td>
<td>False-negative rate of 40%</td>
<td></td>
</tr>
<tr>
<td>1983</td>
<td>Muhln et al.</td>
<td>[13]</td>
<td>Lung cancers detected by plain radiography screening</td>
<td>90% of cancers detected visible in retrospect on prior radiographs going back months or, in some cases, years (53 months in one case)</td>
<td></td>
</tr>
<tr>
<td>1993</td>
<td>Harvey et al.</td>
<td>[14]</td>
<td>Review of prior mammograms in patients in whom impalpable breast cancer subsequently diagnosed by mammography</td>
<td>Evidence of carcinoma identifiable on prior studies in 41% when blindly reinterpreted, and in 75% when reviewers were aware of subsequent findings</td>
<td></td>
</tr>
<tr>
<td>1999</td>
<td>Quekel et al.</td>
<td>[15]</td>
<td>Non-small cell lung cancer diagnosed on plain CXR</td>
<td>19% missed diagnosis rate</td>
<td>16-mm median diameter of missed lesions, median delay in diagnosis of 472 days</td>
</tr>
<tr>
<td>1949</td>
<td>In Robinson (1997)</td>
<td>[3]</td>
<td>CXR in patients with suspected TB</td>
<td>Interpreted differently by different observers in 10–20%</td>
<td>Supposed gold standard of colonoscopy also subject to error</td>
</tr>
<tr>
<td>1990, 1994</td>
<td>Markus et al., Brady et al.</td>
<td>[16, 17]</td>
<td>Barium enema</td>
<td>Average observer missed 30% of visible lesions</td>
<td>Estimated error incidence per observer of 3–6%</td>
</tr>
<tr>
<td>1999</td>
<td>Robinson</td>
<td>[18]</td>
<td>Emergency dept. plain radiographs</td>
<td>Major disagreement between two observers in 5–9% of cases</td>
<td>Five experienced radiologists reported mix of validated normal and abnormal studies 5 months apart. No clinical information on first occasion, relevant clinical information provided on second occasion</td>
</tr>
<tr>
<td>1997</td>
<td>Tudor et al.</td>
<td>[19]</td>
<td>Plain radiographs</td>
<td>Mean accuracy: 77% without clinical information, 80% with clinical information. Modest improvements in sensitivity, specificity and inter-observer agreement with clinical information</td>
<td></td>
</tr>
<tr>
<td>2008</td>
<td>Siewert et al.</td>
<td>[20]</td>
<td>Oncologic CT</td>
<td>Discordant interpretations in 31–37%, with resultant change in radiological staging in 19%, and change in patient treatment in up to 23%</td>
<td>Specialist neuroradiologist second reading of studies initially interpreted by general radiologists</td>
</tr>
<tr>
<td>2007</td>
<td>Briggs et al.</td>
<td>[21]</td>
<td>Neuro CT &amp; MR</td>
<td>13% major &amp; 21% minor discrepancy rates (undercalls, overcalls &amp; misinterpretations)</td>
<td></td>
</tr>
</tbody>
</table>
Berlin quotes a Wisconsin (USA) appeals court decision which helpfully teases out some of these points:

“In determining whether a physician was negligent, the question is not whether a reasonable physician, or an average physician, should have detected the abnormalities, but whether the physician used the degree of skill and care that a reasonable physician, or an average physician, would use in the same or similar circumstances... A radiologist may review an x-ray using the degree of care of a reasonable radiologist, but fail to detect an abnormality that, on average, would have been found... Radiologists simply cannot detect all abnormalities on all x-rays... The phenomena of “errors in perception” occur when a radiologist diligently reviews an x-ray, follow[s] all the proper procedures, and use[s] all the proper techniques, and fails to perceive an abnormality, which, in retrospect is apparent... Errors in perception by radiologists viewing x-rays occur in the absence of negligence” [6].
Risk Reduction Recs

1. Appropriate well-defined supervision is key
   a. Self-serving attestations can get you into trouble
2. Know hospital/support service policies
3. Discrepancies? These will happen, what you do about them is what’s important
4. Take discrepancies seriously!
- The AMA/Refusals-Shared Decision Making
- Signing does not = Editing the record
- Discharge instructions gone bad
- Nursing-Physician discrepancies
- Altering or Changing a Record
- Residents: A human shield?
- Macros & Drop Down Boxes
- Informed Consent, When?
- Copy Cat (copy and paste)
- Knee Effusion Confusion

- Document for the Miss
- Tamiflu can’t save you
- “Offering” Admission
- Documenting Errors
- Anger Management
- Stealthy Toxicology
- Rad Discrepancies
- Attestation Issues
- Stoned on Sepsis
- Rapid Fire Risk
Medical Legal Case

- 6/25/15: ED Visit
- 1925: 20 year old female presented via EMS CC: Rt knee pain
- HPI: Walking up a hill and fell injuring her knee. Unable to ambulate
- ROS: Paresthesia below the right knee
- PMHx: None
Medical Legal Case

- P.E.: 5’5”, 312lb. V.S. NL and stable
- “Pedal pulses strong and equal bilaterally, Capillary refill < 2 seconds, Extr: Pink, warm and dry” RN: Decreased sensation below knee
- Tx: 2 Percocet, IV access
- Diagnostics: AP/Lateral radiographs Rt. Knee
- Large effusion

Medical Legal Case

- 2201: Closed reduction per EP
- “Neurovascularly intact post procedure”
  - Confirmed in nursing note
- “Too obese for crutches and knee immobilizer”
- Rx for Percocet and a walker
- Follow up: “Ortho next week”
- Discharged at 2308.
- “Pain level low and only aching”
Medical Legal Case

- 6/28/15: Ortho follow up appt.
- Severe knee pain “Since the injury”
- Anesthesia of the right leg and foot drop
- CTA: “No flow beyond the popliteal artery.”
- 6/29/15: OR
  - Transected Popliteal A.
  - Bypass performed
- Four compartment fasciotomy for compartment syndrome
- Discharged: 7/20/15
2/16/16
Demand: $8.5 million
Plaintiff plans to be a Physician Assistant
Taking part time classes: GPA: 2.1
Settled
$3.75 million
Medical Legal Case #2

- 1/17/16: ED Visit
- 1622: 34 year old male presented to the ED via EMS.
- CC: Rt knee pain “10"
- HPI: 3 ft. fall from a ladder and twisted his leg
- ROS: Decr ROM, pain and paresthesia of the Rt leg
- PE: 5’7”, 300 lb, No deformity, Pulses intact, Cap refill < 3 sec on the Lt and > 3 sec on the Rt.
Medical Legal Case #2

- Tx: Hydromorphone 1 mg IVP x3
- Diagnostics: CT of Rt Knee
  “Large prepatellar effusion and an area of large, dense irregular fluid posterior to the knee.”
- Dx: “MCL tear”
- Rx: Vicodin and Ibuprofen
- Knee immobilizer and crutches
- FU with orthopedist tomorrow
Medical Legal Case #2

7/16/16
Demand: $2.4 million

4 compartment fasciotomy performed & a fem pop bypass.

Settled
$1.7 million
Low-Velocity Knee Dislocations

Background: Knee dislocations from minor trauma have been reported sparsely in the literature. The consensus is that these injuries tend not to be associated with neurovascular compromise.

Purpose: To present a series of atraumatic knee dislocations in obese and morbidly obese patients and to compare operative versus conservative treatment.

Study Design: Case series; Level of evidence, 4.

Methods: This study included 19 patients (21 knees) who presented with knee dislocation from a low-velocity or ultra low-velocity incident. All patients were morbidly obese with a body mass index of ≥40 kg/m². In 15 patients, their latest body mass index (BMI) was recorded and ranged from 40.2-53.7 kg/m². Seven patients were treated operatively and 12 were treated non-operatively. The average age and BMI of these patients was 42.2 years and 46.4 kg/m² respectively. The average follow-up time was 14.1 months. Results: Nine patients (47.3%) had a popliteal artery injury, and 7 (44.4%) had a peroneal nerve injury at presentation. Four had a vascular repair, 1 had an amputation, and 3 of 7 patients had return of peroneal nerve. Ligament reconstruction was performed on 9 individuals. The average operating time for ligament reconstruction was 183% of that with injury-matched normal-weight patients. Eight operative patients who complied with therapy had an average range of motion of 91.4° (range, 60°-110°). The nonoperative patients had an average range of motion of 60.45° (range, 0°-120°). Two of these patients later required a total knee arthroplasty (3 total knee arthroplasties overall).

Conclusion: Knee dislocations from minor falls occur in obese patients and are often accompanied by neurovascular complications. While surgical reconstruction is more time consuming and more difficult than that in normal-weight individuals, it may be preferable to non-operative treatment.

Blunt trauma to the lower extremity has been associated with a 28% to 46% rate of injury to the popliteal artery in the form of transection, occlusion, laceration, perforation, arteriovenous fistula, or intimal injury.
**Occult Knee Dislocation**

**Spot this rare but potentially devastating injury**

by ANTON HELMANN, MD, CCFP, FCP

---

**The Case**

A 40-year-old man lost control while driving and collided into a barrier at 60 miles per hour. He was belted, there was no airbag deployment, and there was no passenger contact. He did not lose consciousness and had full sensation of all extremities. He complained of severe right knee pain.

On examination, his primary survey was unremarkable. On secondary survey, there were no signs of head injury, but there was slight erythema around the knee with no palpable tenderness. His chest and abdominal exams were normal. His focused neurology and orthopedic exam were negative. His pulse was 120 bpm.

His extremity exam revealed a swollen tender right knee with obvious effusion and a very blurred image of the joint.

**Discussion**

One of the differential diagnoses that we don't often think about in that of the occult knee injury. A rigorous fracture strategy should be employed anytime we are concerned with a patient who presents to the emergency department with significant knee injury but has a normal X-ray.

- Quadriceps tendon rupture
- Patellar tendon rupture
- Lateral tibial plateau fracture
- Knee dislocation with spontaneous reduction
- Locked knee
- Compartment syndrome

---

**When to Suspect an Occult Knee Dislocation**

About 20 percent to 30 percent of all knee dislocations spontaneously reduce before patients arrive at the emergency department, and while patients may feel a shift of the knee joint, they may not recognize that their knee is dislocated. One patient in the literature is assuming that a low-energy mechanism cannot cause a knee dislocation. A low-energy mechanism such as a fall or a trip in patients with a body mass index greater than 40 accounts for a significant proportion of all knee dislocations. One study found that 42 percent of knee dislocations were low-energy injuries (e.g., slips and falls, with 5 percent being obese patients. Obese patients have low-energy trauma more likely to be associated with low-energy dislocations as high-energy trauma patients tend to fall.

If patients have knee joint pain and a limp, always check for a "sloppy knee." Sometimes it is obvious that there is a multiligamentous laxity when the examiner can move the limb and to move the knee with the knee slightly flexed. A helpful rule of thumb is that if you feel four knee ligament disruptions, you should consider an occult knee dislocation until proven otherwise. Another clue is that you can palpate the knee flexing against the flexion and to have a foot drop, then a knee dislocation should be suspected in the dislocation and a common problem in patients with a knee dislocation.

Lastly, upon lifting the patients leg by their bedside, the dislocated knee may fall into hyperextension compared to the contralateral knee.

---

**Wound of Suspected Knee Dislocation**

The presence of normal arterial pulses does not exclude occult popliteal artery injury as this has been shown to have a rate of 5 to 15 percent when normal pulses are present.

- Anterior tibial artery (ATA) and Doppler ultrasound imaging may miss small arterial injuries that clot after a few days. The gold standard is an arteriogram, but CT angiogram is more readily available.

**Until recently, all patients with suspected knee dislocations undergo CT angiography to assess for vascular injury.**

However, since the vast majority of patients who do not have a vascular injury but have normal arterial ultrasonographic and normal serial CT scans have normal results that do not require surgery. Some experts recommend simply administering angioplasty and admitting patients for observation without performing a CT angiogram.

If you suspect an occult knee dislocation, immediately consult orthopedics as an examination within 8 hours of popliteal artery injury is recommended to prevent ischemic complications.

**Occult Knee Dislocation Take-Home**

Don't send home patients who tell you that it felt like their knee shifted out of place and they have a big median knee with pain in multiple directions on exam. Until you're sure they don't have a vascular injury related to an asymptomatic injured complex knee dislocation. Even if they have palpable peripheral pulses and a normal ABI, speak to your orthopedic surgeon, considering a CT angiogram to rule out a popliteal injury, and admit.

---

**Pulses NL**

5-15% of occult Popliteal a. Injuries

“Even if they have palpable peripheral pulses and a normal ABI, speak to your orthopedic surgeon, considering a CT angiogram to rule out a popliteal injury, and admit.”
Risk Reduction Recs

1. Consider occult popliteal a. injury in obese pts with knee injuries
   “A low-energy mechanism such as stepping off a curb in patients with a body mass index greater than 40 accounts for a significant proportion of missed occult knee dislocations.”
2. NL X-rays and + pulses = Nothing definitively ruled out
3. ABIs are better than nothing, but barely
4. CTA and admit
• The AMA/Refusals-Shared Decision Making
• Signing does not = Editing the record
• Discharge instructions gone bad
• Nursing-Physician discrepancies
• Altering or Changing a Record
• Residents: A human shield?
• Macros & Drop Down Boxes
• Informed Consent, When?
• Copy Cat (copy and paste)
• Knee Effusion Confusion

• Document for the Miss
• Tamiflu can’t save you
• “Offering” Admission
• Documenting Errors
• Anger Management
• Stealthy Toxicology
• Rad Discrepancies
• Attestation Issues
• Stoned on Sepsis
• Rapid Fire Risk
January 3, 2014: ED Visit #1

0020: 48 year old male presented to the ED

CC/HPI:

Soc Hx: 1ppd no ETOH
Medical Legal Case

- P.E.: V.S. abnormal

Head is atraumatic. Neck is supple, no lymphadenopathy, thyromegaly, jugular venous distention, bruits, or nuchal rigidity. Lungs are clear to auscultation bilaterally. Cardiovascular: regular rate and rhythm, no murmurs, gallops, or rubs. Extremities: no clubbing, cyanosis, or edema.

<table>
<thead>
<tr>
<th>MEDICAL HISTORY:</th>
<th>NO HOME MEDICATIONS</th>
</tr>
</thead>
<tbody>
<tr>
<td>OM, HTN</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>TIME/MONITORIAL</th>
<th>TEMP</th>
<th>HEART RATE</th>
<th>RESP</th>
<th>BP</th>
<th>PULSE OX</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>104.9</td>
<td>109</td>
<td>28</td>
<td>171/89</td>
<td>87% RA</td>
</tr>
<tr>
<td></td>
<td>103.1</td>
<td>109</td>
<td>28</td>
<td>180/35</td>
<td>86% RA</td>
</tr>
<tr>
<td></td>
<td>103.0</td>
<td>105</td>
<td>38</td>
<td>180/35</td>
<td>90% RA</td>
</tr>
<tr>
<td></td>
<td>100.3</td>
<td>104</td>
<td>24</td>
<td>180/35</td>
<td>92% RA</td>
</tr>
</tbody>
</table>

CXR: Bilateral lower lobe infiltrates L > R
Shared Decision Making?

“...I discussed disposition with the patient. He was comfortable with discharge. He was feeling better. His sats were 89%-90% on room air, which I felt was ok in a patient with pneumonia who smokes a pack a day.”

<table>
<thead>
<tr>
<th><strong>Medical Legal Case</strong></th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th><strong>Temperature</strong> (Normal= 97.8-99.1)</th>
<th>100.3 °F</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Pulse</strong> (Normal= 60-100)</td>
<td>104</td>
</tr>
<tr>
<td><strong>Respiratory Rate</strong> (Normal= 12-18)</td>
<td>18</td>
</tr>
<tr>
<td><strong>Blood Pressure</strong> (Normal= 90/60-120/80)</td>
<td>187/89</td>
</tr>
<tr>
<td><strong>Oxygen Saturation</strong> (Normal= 95-100%)</td>
<td>88-90%</td>
</tr>
</tbody>
</table>
Figure 1. Algorithm for Prediction Model

Patients with community-acquired pneumonia

Is the patient over 50 years of age?

Yes

Does the patient have a history of any of the following comorbid conditions?
- Neoplastic disease
- Congestive heart failure
- Cerebrovascular disease
- Renal disease
- Liver disease

Yes

Assign patient to risk class II-V based on prediction model scoring system

No

Does the patient have any of the following abnormalities on physical examination?
- Altered mental status
- Pulse ≥ 125/minute
- Respiratory rate ≥ 30/minute
- Systolic blood pressure < 90 mm Hg
- Temperature < 35°C or ≥ 40°C

Yes

Assign patient to risk class I

No

Table 1. Identifying the level of risk in CAP patients: the risk factors and how they are scored

<table>
<thead>
<tr>
<th>Patient characteristic</th>
<th>Points assigned*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Demographic factors</td>
<td></td>
</tr>
<tr>
<td>Age:</td>
<td></td>
</tr>
<tr>
<td>Males</td>
<td>Age (in years)</td>
</tr>
<tr>
<td>Females</td>
<td>Age (in years) -10</td>
</tr>
<tr>
<td>Nursing home residents</td>
<td>+10</td>
</tr>
<tr>
<td>Comorbid illnesses</td>
<td></td>
</tr>
<tr>
<td>Neoplastic disease</td>
<td>+30</td>
</tr>
<tr>
<td>Liver disease</td>
<td>+20</td>
</tr>
<tr>
<td>Congestive heart failure</td>
<td>+10</td>
</tr>
<tr>
<td>Cerebrovascular disease</td>
<td>+10</td>
</tr>
<tr>
<td>Renal disease</td>
<td></td>
</tr>
<tr>
<td>Physical examination findings</td>
<td></td>
</tr>
<tr>
<td>Altered mental status</td>
<td>+20</td>
</tr>
</tbody>
</table>

0-50 Points: Class I 0.1% Mortality

51-70 Points: Class II 0.6% Mortality

71-90 Points: Class III 0.9% Mortality

91-130 Points: Class IV 9.3% Mortality

131-395 Points: Class V 27.0% Mortality

January 5, 2014: ED Visit #2 (approx. 48 hours later)

- **CC:** Cough, SOB, Hemoptysis (mild), Severe HA
- **VS:** BP 170/98, HR 110, RR 24, T 102.8, SaO2 88%
- **Rx:** Usual Pulm + Ceftriaxone and Zithromax
- **Sputum and Blood Cx negatives**
- **CXR:** Diffuse, bilateral infiltrates

<table>
<thead>
<tr>
<th>Test</th>
<th>Value</th>
<th>Reference Range</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>WBC</strong> C</td>
<td>20.7</td>
<td>4.2-10.2 thou/mm3</td>
</tr>
<tr>
<td><strong>RBC</strong> L</td>
<td>4.0</td>
<td>N=4.30-5.90 ml/mm3</td>
</tr>
<tr>
<td><strong>HGB</strong> L</td>
<td>11.1</td>
<td>13.4-17.3 g/dL</td>
</tr>
<tr>
<td><strong>HCT</strong> L</td>
<td>31.7%</td>
<td>38.6-50.1%</td>
</tr>
<tr>
<td><strong>MCV</strong> L</td>
<td>79.3</td>
<td>80.0-97 fl</td>
</tr>
<tr>
<td><strong>SEGS</strong> H</td>
<td>93%</td>
<td>43-65%</td>
</tr>
<tr>
<td><strong>LYMPHS</strong> L</td>
<td>4%</td>
<td>20-45%</td>
</tr>
<tr>
<td><strong>MONOS</strong> L</td>
<td>3%</td>
<td>5-12%</td>
</tr>
<tr>
<td><strong>ANC- Calculated</strong> H</td>
<td>19.3</td>
<td>2.2-4.8 thou/mm3</td>
</tr>
<tr>
<td><strong>Glucose</strong> H</td>
<td>264</td>
<td>74-106 mg/dL</td>
</tr>
<tr>
<td><strong>BUN</strong> H</td>
<td>39</td>
<td>7-18 mg/dL</td>
</tr>
<tr>
<td><strong>Creatinine</strong> H</td>
<td>1.84</td>
<td>0.51-1.17 mg/dL</td>
</tr>
<tr>
<td><strong>Potassium</strong> L</td>
<td>3.3</td>
<td>3.5-5.1 mEq/L</td>
</tr>
<tr>
<td><strong>Calcium</strong> L</td>
<td>8.4</td>
<td>8.5-10.1 mg/dL</td>
</tr>
<tr>
<td><strong>Albumin</strong> L</td>
<td>2.8</td>
<td>3.4-5.0 g/dl</td>
</tr>
<tr>
<td><strong>CK</strong> H</td>
<td>392</td>
<td>39-308 U/L</td>
</tr>
</tbody>
</table>
Medical Legal Case

- He steadily worsens
- Levaquin IV is added
- 36 hours after admission, he requests a transfer, but is sent to the ICU for intubation prior to transfer to a larger community hospital.
Medical Legal Case - Hospital #2

- Arrival ABG
  - pH at 7.21, PCO2 at 52, PO2 at 77, HCO3 at 21
- CXR: Probably ARDS
- Vancomycin added
- Intensivist: “Outside the window for Tamiflu”
- Nasal swab repeated: Negative for Influenza
- “Still possible he has Influenza”
- Continues to deteriorate
- 20 hours into admission: “Given his worsening clinical status,” Tamiflu ordered.
- 4 hours and 10 minutes later: Transferred to tertiary referral center
Medical Legal Case

11/9/14
Demand: $1,000,000
Allegation?

Tamiflu initiated
Continued to deteriorate
ECMO and dialysis
Died 11 days later
Post mortem: ARDS secondary to H1N1

Defense Verdict!
Conclusion

A cocktail of pandemic panic, publicity propaganda, and scientific misconduct turned a new medicine with only modest efficacy into a blockbuster. It appears that the multiple regulatory checks and balances gave way as science lost its primacy and pharmaceutical enterprise lost no time in making the most of it. This reminds one of Prof R. P. Feynman's statements after Challenger space shuttle disaster.

“Reality must take precedence over public relations as nature can’t be fooled”

- Prof R. P. Feynman

especially neuropsychiatric events associated with Tamiflu started getting reported leading to a cascade of questions on clinical utility of this drug. A recent Cochrane review and related articles have questioned the risk-benefit ratio of the drug, besides raising doubts about the regulatory decision of approving it. The recommendations for stockpiling the said drug as given by various international organizations viz WHO have also been put to scrutiny. Although many reviewers have labeled the Tamiflu saga as a “costly mistake,” the episode leaves us with some important lessons. This article takes a comprehensive relook on the subject, and we proceed to suggest some ways and means to avoid a similar situation in the future.
Risk Reduction Recs

1. Risk stratify for “sick” patients with CAP.
2. Read between the lines on PSI/PORT (i.e. Pulse ox of 87% = PaO2 < 60).
3. Shared decision making assumes accuracy of information.
4. Avoid last ditch efforts if they are not indicated.
• The AMA/Refusals-Shared Decision Making
• Signing does not = Editing the record
• Discharge instructions gone bad
• Nursing-Physician discrepancies
• Altering or Changing a Record
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• Rapid Fire Risk
Apology Laws

- 36 states have apology laws.
- “Thirty-six states, the District of Columbia and Guam have provisions regarding medical professionals making apologies or sympathetic gestures. Of these states, six states have provisions that specifically relate to accidents.”
- Dresser R. The Limits of Apology Laws; Hastings Center Report, Volume 38, Number 3, May-June 2008 pp. 6-7
TO: The Secretary
    Through: DS
    COS
    ES

FROM: Administrator

DATE: May 20, 2014

SUBJECT: Appropriate Medical Malpractice Payment Reporting to the National Practitioner Data Bank (NPDB) in Light of Recent Medical Malpractice Reforms in Massachusetts and Oregon – DECISION

ISSUE

The purpose of this memo is to ask you for a decision regarding whether payments made under Massachusetts’s and Oregon’s state medical liability laws are required to be reported to the NPDB as medical malpractice payments. HRSA supports the objectives of these reform models, but recognizes that there are potential implications for medical malpractice reporting to the NPDB. This memo also seeks a decision regarding one of these requests regarding whether payments from verbal demands for restitution must be reported to the NPDB.

A decision on whether payments made under these alternative models are reportable to the NPDB as medical malpractice payment reports could influence other states as they develop similar models. A decision to require broad reporting could be viewed as inconsistent with the Administration’s efforts to encourage states to reform their malpractice laws and improve patient safety by fostering disclosure of errors. In contrast, a decision to limit reporting might be viewed as being in conflict with the NPDB’s statutory intent of full reporting of actions and consistent reporting across states.

BACKGROUND

Medical Malpractice Reforms and Departmental Initiatives. Although the Massachusetts and Oregon medical malpractice reform models are the only two existing models of their type, based in legislation, other states (including Florida and Georgia) are examining similar models for future implementation.

Within the Department, the Agency for Healthcare Research and Quality (AHRQ) has played a central role in encouraging medical liability reform. Specifically, in September 2009, President Obama directed the establishment of an initiative that would help states and health care systems test models that meet the following goals:
Apologize Prior to the Claim!

**NPDB’s Medical Malpractice Reporting Requirements.** A payment made by an insurance company, hospital, or other third party, on behalf of a health care practitioner in settlement of a claim or judgment made against that health care practitioner, is reportable to the NPDB. The key elements for determining if a medical malpractice payment is reportable are:

1) Payment made;
2) By a third party;
3) For the benefit of a health care practitioner; and
4) Against whom a medical malpractice claim or judgment was made.

Federal law requires that all payments made on behalf of a practitioner be reported, regardless of the standard of care or whether the practitioner is found to be responsible for the injury or whether a systems error caused the injury. The NPDB statute and regulations make no mention
• The AMA/Refusals-Shared Decision Making
• Signing does not = Editing the record
• Discharge instructions gone bad
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