Update in Hospital Medicine
2013

Brad Sharpe, MD, SFHM, FACP
UCSF Division of Hospital Medicine

VS.

The NEW ENGLAND JOURNAL of MEDICINE

VS.

modern family

VS.

STAY TUNED INTO DARKNESS

VS.

LEBRON JAMES
Update in Hospital Medicine 2013

- Updated literature since March 2012

Process:
- CME collaborative review of journals
  - Including ACP J. Club, J. Watch, etc.
- Five hospitalists ranked articles
  - Definitely include, can include, don’t include
- Limited articles covered by others

Update in Hospital Medicine 2013

Chose articles if they will:
1) Change, modify, or confirm your practice.

- Hope to limit the use of the words
  - Markov model, Kaplan-Meier, Student’s t-test
- Focus on breadth, not depth
Update in Hospital Medicine 2013

- Major reviews/short takes
- Three cases
- Multiple choice questions

Syllabus/Bookkeeping

- No conflicts of interest
- Final presentation available by email:
  sharpeb@medicine.ucsf.edu
Case Presentation

You are admitting a 63 year-old man with a history of HTN and atrial fibrillation who presented with 2 days of abdominal pain and one episode of coffee-grounds emesis.

On admission, his vitals were stable and he had minimal abdominal tenderness. His initial hemoglobin was 10.3 mg/dL.
Case Presentation

Six hours later his repeat hemoglobin was 8.1 mg/dL but he remained hemodynamically stable with no further overt bleeding.

While coming out of the room in the morning, the bedside nurse comments, “Did you see his hemoglobin? Do you want a transfusion?”

How do you respond to the nurse’s question?

A. We should generally transfuse to get to a hemoglobin of 10 mg/dL.
B. We shouldn’t transfuse until the hemoglobin gets below 7 mg/dL.
C. There’s no great evidence – we just transfuse when clinically indicated.
D. We’ll transfuse when GI tells us to transfuse.
Transfusion in Upper GI Bleeding

Question: When should we transfuse in the setting of an acute upper GI bleed?

Design: RCT, 921 pts, acute GI bleeding with hematemesis or melena; Restrictive (7mg/dL) vs. liberal (9mg/dL)

- Excluded if massive GI bleed or very low risk
- All patients transfused 1 unit PRBC to start
- All patients got EGD within 6 hours


Results

- Peptic ulcer disease (49%), varices (21%)

<table>
<thead>
<tr>
<th>Outcome</th>
<th>Restrictive (n=444)</th>
<th>Liberal (n=445)</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>Transfused Units (mean)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Re-bleeding</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Mortality (45d)</td>
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## Results

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<td>86%</td>
<td>p&lt;0.001</td>
</tr>
<tr>
<td>Units (mean)</td>
<td>1.5</td>
<td>3.7</td>
<td>p&lt;0.001</td>
</tr>
<tr>
<td>Re-bleeding</td>
<td></td>
<td></td>
<td></td>
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Update in Hospital Medicine
### Results

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<td>3.7</td>
<td>p&lt;0.001</td>
</tr>
<tr>
<td>Re-bleeding</td>
<td>10%</td>
<td>16%</td>
<td>P=0.01</td>
</tr>
<tr>
<td>Mortality (45d)</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>


- LOS also shorter, decreased adverse events
- Child-Pugh class C with no difference

Update in Hospital Medicine
## Transfusion in GI Bleeding

**Question:** When should we transfuse in the setting of an acute GI bleed?

**Design:** RCT, 921 pts, acute upper GI bleeding; Restrictive (7mg/dL) vs. liberal (9mg/dL)

**Conclusion:** Restrictive threshold decreased transfusions, rebleed, mortality; fewer adverse events; poss. not class C cirrhosis

**Comment:** Single center, not blinded; all pts. got 1 unit, early EGD, exclude massive bleeding. Transfusion may impair hemostasis, increase intestinal blood flow; Should decrease transfusion threshold.


## How do you respond to the nurse’s question?

A. We should generally transfuse to get to a hemoglobin of 10 mg/dL.

B. We shouldn’t transfuse until the hemoglobin gets below 7 mg/dL.

C. There’s no great evidence – we just transfuse when clinically indicated.

D. We’ll transfuse when GI tells us to transfuse.
Case Presentation

Based on this data, you decide not to transfuse the patient (hemoglobin 8.1 mg/dL) and he does well.

As you go to see your next patient, you have transfusions on your mind...

The next patient is a 73 year-old woman with multiple medical problems who was admitted with delirium from a pneumonia and renal failure. She has been in the hospital for 8 days.

Her morning hemoglobin is 7.2 mg/dL and has been slowly drifting down over the last week. There is no evidence of overt bleeding and the anemia is likely from decreased production and blood draws (“medical vampires”).

Do you transfuse the patient?
What is your transfusion threshold for hospitalized patients?

A. Hemoglobin < 10 g/dL
B. Hemoglobin < 9 g/dL
C. Hemoglobin < 8 g/dL
D. Hemoglobin < 7 g/dL
E. I transfuse when GI tells me to transfuse.

Transfusion Guideline

Question: What should be our threshold for transfusion in hospitalized patients?

Design: Clinical practice guideline; literature review since 1950; key recommendations for hospitalized patients (not bleeding)

- Hemodynamically stable hospitalized patients:
  1) No cardiovascular disease
  2) Preexisting cardiovascular disease
  3) Acute coronary syndrome

Transfusion Thresholds

In stable hospitalized patients:
1) In adult ICU patients, transfuse for hgb < 7 g/dL.
2) In non-ICU patients, transfuse for hgb < 8 g/dL.


<table>
<thead>
<tr>
<th>11 trials</th>
<th>30-day Mortality</th>
</tr>
</thead>
<tbody>
<tr>
<td>Restrictive vs. liberal (7 or 8 vs. 10 g/dL)</td>
<td>0.85 (95% CI 0.7 – 1.03)</td>
</tr>
</tbody>
</table>

Transfusion Thresholds

In stable patients with known coronary disease:
1) Transfuse for a hgb < 8 g/dL or for symptoms (chest pain, tachycardia, etc.)

In 2 large RCTs (ICU and hip fracture), there was no difference in outcomes with a restrictive strategy (hgb < 8 g/dL) in patients with known cardiovascular disease.

Transfusion Thresholds

In stable patients with acute coronary syndrome:

1) Cannot recommend for or against a restrictive or liberal transfusion strategy

There are no high-quality clinical trials evaluating transfusion thresholds in this patient population.


Transfusion Guideline

Question: What should be our threshold for transfusion in hospitalized patients?

Design: Clinical practice guideline; literature review since 1950; key recommendations for hosp. patients

Conclusion: Use restrictive strategy (hgb 7-8 g/dL) in stable hospitalized patients;
No change for patients with stable CAD
Unclear in patients with ACS

Comments: Some weak evidence, well-done overall;
Should use restrictive strategy in general
Use your judgment in pts with ACS.

What is your transfusion threshold for hospitalized patients?

A. Hemoglobin < 10 g/dL
B. Hemoglobin < 9 g/dL
C. Hemoglobin < 8 g/dL
D. Hemoglobin < 7 g/dL
E. I transfuse when GI tells me to transfuse.

Case Presentation

You realize that the overnight hospitalist didn’t call GI overnight so you page them to get an EGD.

Unfortunately, the patient was admitted on a Thursday night. The gastroenterologist tells you “He’s stable, we’ll wait and scope him on Monday.”

Is it safe to wait more than 24 hours to get an endoscopy?
Short Take: Time to endoscopy for UGIB

A retrospective analysis of a large US clinical database analyzed outcomes of patients admitted with both variceal and non-variceal UGIB.

Delay to EGD > 24 hours was associated with increased mortality:

- A 32% increased risk for non-variceal UGIB
- An 18% increased risk for variceal UGIB


Case Presentation

Fortunately, there is a cancellation and he gets an EGD later that day. He has mild gastritis and does well after the EGD.

You are preparing him for discharge the following day and going over his med list with him.

When you get to his statin, he asks, “Hey, I heard these things can lead to bleeding in the brain – is that true?”
**Short Take: Statins & ICH**

In a meta-analysis of 31 high-quality randomized controlled trials (91,588 patients) comparing statins to placebo, there was no increase in the risk for intracranial hemorrhage (odds ratio 1.08, 95% CI 0.88-1.32).

Statins do not appear to increase the risk for ICH.


**Case Summary**

**Definitely**

1. Use a restrictive transfusion strategy (hgb 7mg/dL or 8mg/dL) in most hospitalized patients with anemia.
2. Try to get the EGD within 24 hours in UGIB.

**Consider**

1. Using a lower transfusion threshold (7 mg/dL) in patients with acute UGIB.
2. Statins do not increase the risk for intracranial hemorrhage.
Case Presentation

The ED calls you to admit a 42 year-old woman for “back pain.”
You see her in the ED and she is Mandarin-speaking only and is in the ED with her 14 year-old son.
You have 3 other admits to see and pause to decide how to handle the language barrier.
How do you handle the language barrier?

A. Use the fancy medical interpreter app on your phone.
B. Call for an in-person interpreter to meet you in the ED.
C. Use her 14 year-old son.
D. Steal the only available interpreter phone from the unit upstairs.
E. Talk slower. And louder. And move your hands up and down. A lot.

Professional Medical Interpreters

Professional Medical Interpreters

Question: Do professional interpreters make a difference in hospitalized patients’ LOS and readmission rates?

Design: Retrospective observational study, 1 hospital; low-English proficiency inpatients; Professional interpreters at admission and/or discharge vs. no interpreter

- Interpreters tested for written and oral fluency
- Then 90 hours of didactic and practical training


Results

- 3071 eligible patient admissions
- 70 different languages
  - 90% of LEP patients used 5 languages
  - Spanish, Portuguese, Vietnamese, Albanian, Russian
- 39% patients had interpreter at admit & discharge
- 14% had no interpreter service

### Results

<table>
<thead>
<tr>
<th>Group</th>
<th>Days in hospital</th>
</tr>
</thead>
<tbody>
<tr>
<td>No interpreter</td>
<td>5.06*</td>
</tr>
<tr>
<td>Interpreter at discharge only</td>
<td>3.33</td>
</tr>
<tr>
<td>Interpreter at admit only</td>
<td>2.82</td>
</tr>
<tr>
<td>Interpreter at both admit and discharge</td>
<td>2.57</td>
</tr>
</tbody>
</table>

- Adjusted for other characteristics
- LOS 1.5 days longer w/ no interpreter

*P <0.001

Results


Update in Hospital Medicine

<table>
<thead>
<tr>
<th>Group</th>
<th>30-day readmit</th>
</tr>
</thead>
<tbody>
<tr>
<td>No interpreter</td>
<td></td>
</tr>
<tr>
<td>Interpreter at discharge only</td>
<td></td>
</tr>
<tr>
<td>Interpreter at admit only</td>
<td></td>
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* Adjusted for other characteristics

* *P* <0.001

Results

<table>
<thead>
<tr>
<th>Group</th>
<th>30-day readmit</th>
</tr>
</thead>
<tbody>
<tr>
<td>No interpreter</td>
<td>24.3%*</td>
</tr>
<tr>
<td>Interpreter at discharge only</td>
<td>17.6%</td>
</tr>
<tr>
<td>Interpreter at admit only</td>
<td>16.9%</td>
</tr>
<tr>
<td>Interpreter at both admit and discharge</td>
<td>14.9%</td>
</tr>
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*Adjusted for other characteristics

*P < 0.001


Professional medical interpreters

Professional medical interpreters

Question: Do professional interpreters make a difference in LOS and readmission rates?

Design: Retrospective observational study; low-English proficiency inpatients

Conclusion: Using professional interpreters at admission and/or discharge may reduce LOS; No interpreter led to higher readmission;

Comment: Single center; Why no interpreter? Professional interpreters received extensive training – findings may not be generalizable

Admission may be most important for LOS; Take the time to get/use the interpreter


How do you handle the language barrier?

A. Use the fancy medical interpreter app on your phone.
B. Call for an in-person interpreter to meet you in the ED.
C. Use her 14 year-old son.
D. Steal the only available interpreter phone from the unit upstairs.
E. Talk slower. And louder. And move your hands up and down. A lot.
Case Presentation

You take time to get the interpreter and it turns out the “back pain” is flank pain and she also had fever, dysuria, and has been unable to take POs.

You admit her for pyelonephritis and begin intravenous antibiotics.

The following afternoon she has a fever. The nurse asks, “Do you want to get blood cultures?”

You ask, “Did she eat all of her lunch?”

Short Take: Cultures & PO Intake

In an observational cohort study of 1179 patients who had blood cultures drawn (one hospital), documented high food intake (>80%) in the meal before cultures were drawn had a negative predictive value of 98.3% in ruling out bacteremia.

Results: Eating & Bacteremia


<table>
<thead>
<tr>
<th>Food Consumption</th>
<th>% Culture Positive</th>
</tr>
</thead>
<tbody>
<tr>
<td>Low</td>
<td>18.5%</td>
</tr>
<tr>
<td>Moderate</td>
<td>3.9%</td>
</tr>
<tr>
<td>High</td>
<td>1.4%</td>
</tr>
</tbody>
</table>

Case Presentation

You decide not to get cultures as she (amazingly) ate all of the macaroni, broccoli, and jello.

The following morning she is improved - she has been afebrile, her pain is controlled, and she has good PO intake. Her culture grew out *E. Coli* sensitive to fluoroquinolones.

What should the duration of oral therapy be for her uncomplicated pyelonephritis?
What is the appropriate duration of therapy for her pyelonephritis?

A. 14 days
B. 10 days
C. 7 days
D. 3 days
E. Who cares. She probably won’t take it anyway. I hate my job.

Treatment of Pyelonephritis

Question: What is the relative efficacy of 7 vs. 14 days of Cipro for acute pyelonephritis?

Design: Double blind, placebo controlled trial; 248 women with acute pyelonephritis; (14 d abx) vs. (7 d abx + 7 d placebo)

- Only 156 included in final analysis
- Patients treated with 500 mg BID dose

### Results

At early follow-up (10-14 d after end-of-therapy):

<table>
<thead>
<tr>
<th>Outcome</th>
<th>Cipro x 7d (n=73)</th>
<th>Cipro x 14d (n=83)</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cure</td>
<td></td>
<td></td>
<td></td>
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<tbody>
<tr>
<td>Cure</td>
<td>71 (97%)</td>
<td>80 (96%)</td>
<td>non-inferior</td>
</tr>
<tr>
<td>Clinical failure/</td>
<td>2 (3%)</td>
<td>3 (4%)</td>
<td>non-inferior</td>
</tr>
<tr>
<td>recurrent UTI</td>
<td></td>
<td></td>
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</table>

Five patients treated for 14 days developed mucosal Candida infection vs. none in 7 day group (P=0.04)


Treatment of Pyelonephritis

Question: What is the relative efficacy of 7 vs. 14 days of Cipro for acute pyelonephritis?

Design: Double blind, placebo controlled trial; 248 women with acute pyelo; 7d vs. 14d

Conclusion: 7 days ciprofloxacin not inferior to 14 days; clinical failure rates low; increased side effects w/ longer course

Comment: Patients who failed prior therapy were excluded; many pts excluded from analysis Findings cannot be extrapolated to other antibiotics; Most pts can just get 7 days.

What is the appropriate duration of therapy for her pyelonephritis?

A. 14 days  
B. 10 days  
C. 7 days  
D. 3 days  
E. Who cares. She probably won’t take it anyway. I hate my job.

Case Presentation

You decide to give 7 days total.

As you are going over her discharge medications (with the interpreter, of course), after the PPI the patient pauses.

She asks “Wǒ hui dédào C. Diff?” (“will I get C. diff?”)
**Short Take 1: PPIs and \textit{C. diff}**

A systematic review of 23 observational studies found that PPIs increased the risk for \textit{C. difficile} diarrhea. The summary risk ratio was 1.65 (95% CI 1.42-1.91)


**Short Take 2: Dogs and \textit{C. diff}**

A proof-of-principle trial involving 300 patients and 1 beagle showed that a dog professionally trained to detect \textit{C. diff} could identify patients with \textit{C. diff} diarrhea with 83% sensitivity and 98% specificity.

Summary

**Definitely**

1) Discontinue unnecessary PPIs as they increase the risk for *C. difficile* diarrhea.

**Consider**

1) Treating low-risk patients with pyelonephritis with 7 days of ciprofloxacin.
2) Involving professional interpreters when admitting and discharging LEP patients.
3) Oral intake of hospitalized patients when concerned about bacteremia.
4) A trained dog may be able to accurately identify patients with *C. diff.*
Case Presentation

A 79 year-old man with a history of severe COPD (> 100 pack/years) presents with a week of URI symptoms followed by 3 days of progressive shortness of breath, increased cough, and increased sputum production (“a little more yellow than usual, like custard”).

On presentation, he is afebrile, tachycardic, and mildly hypoxic (87% on room air). He has poor airflow on exam. His WBC is $8.3 \times 10^9$/L. His chest x-ray does not show pneumonia.

He is diagnosed with a COPD exacerbation brought on by a URI.

He is prescribed bronchodilators and systemic steroids as well as supplemental oxygen.

Do you prescribe antibiotics? And, if so, which do you prescribe?
Do you prescribe antibiotics? If so, which antibiotic do you choose?

A. No antibiotics
B. Yes, levofloxacin
C. Yes, azithromycin
D. Yes, doxycycline
E. Yes, other
F. Hey, Brad, it’s called “Choosing Wisely” – let’s save some money around here. No way I give him antibiotics.

Antibiotics in COPD Exacerbation

Question: In COPD exacerbations, do antibiotics provide a benefit in patients given steroids?

Design: Retrospective cohort study; 53,000 pts (>40 yo) with a COPD exacerbation; No respiratory failure or ICU admits; All received systemic steroids.

- Compared those given antibiotics in the first 2 days vs. not
- Did multi-variable analysis, matching, and propensity scoring to control for variables

## Results

- 86% were given antibiotics in first 2 days
- Most common antibiotic: quinolone

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<thead>
<tr>
<th>Antibiotics vs. No</th>
<th>Adjusted Odds Ratio**</th>
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<tr>
<td>In-hospital mortality</td>
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<td>Readmission for COPD</td>
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** With matching & propensity scoring

Results

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<tr>
<td>Readmission for COPD</td>
<td>0.87 (0.79-0.97)</td>
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- Performed sensitivity analysis, estimated residual confounder
- No increase in rates of *C. difficile* infection
- No significant difference in any antibiotic regimen


Antibiotics in COPD Exacerbation

Question: In COPD exacerbations, do antibiotics provide a benefit in patients given steroids?

Design: Retrospective cohort study; 53,000 pts (> 40 yo) with a COPD exacerbation; No ICU admits;

Conclusion: In COPD exacerbations, antibiotics may decrease mortality when added to steroids
May decrease 30-d readmission; no antibiotic better than others

Comments: Retrospective, database, confounders, etc.
Confirms prior studies;
Most pts admitted w/ COPD exac. should get abx, “the sicker, the better”

Do you prescribe antibiotics? If so, which antibiotic do you choose?

A. No antibiotics
B. Yes, levofloxacin
C. Yes, azithromycin
D. Yes, doxycycline
E. Yes, other
F. Hey, Brad, it’s called “Choosing Wisely” – let’s save some money around here. No way I give him antibiotics.

Case Presentation

The patient is prescribed antibiotics. In addition, he is given subcutaneous heparin for DVT prophylaxis.

The following day the team notes the patient’s platelets have dropped from 240,000 on admission to 120,000. They begin to discuss if he should be worked up for heparin-induced thrombocytopenia (HIT).

How do you decide if this could be HIT and he should get a work-up?
How do you decide if this could be HIT?

A. If the platelets fell by 50% he should get a work-up.
B. If he hasn’t had a thrombosis yet, then you don’t need to worry about it.
C. You can use a validated scoring tool to decide if he needs a work-up.
D. Like many decisions in medicine, you rub your fingers together, pause for a moment, and just guess.

Heparin-induced thrombocytopenia

Question: Can we use a pretest scoring system to predict the likelihood of HIT?
Design: Systematic review & meta-analysis; 13 studies, 3068 patients; Cohort studies of the 4Ts scoring tool

Heparin-induced thrombocytopenia

<table>
<thead>
<tr>
<th>Category</th>
<th>2 points</th>
<th>1 point</th>
<th>0 point</th>
</tr>
</thead>
<tbody>
<tr>
<td>Thrombocytopenia</td>
<td>&gt; 50% fall, or nadir ≥ 20 x 10^9/L</td>
<td>30-50% fall, or nadir 10-19 x 10^9/L</td>
<td>&lt; 30% fall, or nadir &lt; 10 x 10^9/L</td>
</tr>
<tr>
<td>Timing of the decrease in platelet count</td>
<td>Days 5 to 10, or ≤ day 1 with recent heparin (past 30 days)</td>
<td>&gt; Day 10 or timing unclear, or ≤ day 1 if heparin exposure within past 30-100 days</td>
<td>&lt; Day 4 (no recent heparin)</td>
</tr>
<tr>
<td>Thrombosis or other sequelae</td>
<td>Proven thrombosis, skin necrosis, or acute systemic reaction after heparin bolus</td>
<td>Progressive, recurrent, or silent thrombosis; erythematous skin lesions</td>
<td>None</td>
</tr>
<tr>
<td>Other causes of thrombocytopenia</td>
<td>None evident</td>
<td>Possible</td>
<td>Definite</td>
</tr>
</tbody>
</table>

Points Risk

<table>
<thead>
<tr>
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<th>Risk</th>
</tr>
</thead>
<tbody>
<tr>
<td>0-3</td>
<td>Low</td>
</tr>
<tr>
<td>4-5</td>
<td>Inter-</td>
</tr>
<tr>
<td>&gt; 5</td>
<td>High</td>
</tr>
</tbody>
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Question: Can we use a pretest scoring system to predict the likelihood of HIT?

Design: Systematic review & meta-analysis; 13 studies, 3068 patients; Cohort studies of the 4Ts scoring tool;

### Results

<table>
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<th>Risk</th>
<th>Prevalence</th>
<th>PPV</th>
<th>NPV</th>
</tr>
</thead>
<tbody>
<tr>
<td>Low</td>
<td>55.8%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Intermediate</td>
<td>36.0%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>High</td>
<td>8.2%</td>
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<td></td>
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</tr>
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<td>Intermediate</td>
<td>36.0%</td>
<td>0.14 (0.09-0.22)</td>
<td></td>
</tr>
<tr>
<td>High</td>
<td>8.2%</td>
<td>0.64 (0.4-0.82)</td>
<td></td>
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### Results

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</tr>
</thead>
<tbody>
<tr>
<td>Low</td>
<td>55.8%</td>
<td></td>
<td>0.998 (0.97-1.0)</td>
</tr>
<tr>
<td>Intermediate</td>
<td>36.0%</td>
<td>0.14 (0.09-0.22)</td>
<td></td>
</tr>
<tr>
<td>High</td>
<td>8.2%</td>
<td>0.64 (0.4-0.82)</td>
<td></td>
</tr>
</tbody>
</table>

Heparin-induced thrombocytopenia

Question: Can we use a pretest scoring system to predict the likelihood of HIT?
Design: Systematic review & meta-analysis; Cohort studies of the 4Ts scoring tool;
Conclusion: Most pts are low-risk for HIT; 4Ts good to exclude possibility of HIT; Intermediate/high risk need further eval.
Comment: Some study heterogeneity, no RCT of use in practice; Likely should be using this when we think about HIT – avoid unnecessary/costly work-ups


How do you decide if this could be HIT?

A. If the platelets fell by 50% he should get a work-up.
B. If he hasn’t had a thrombosis yet, then you don’t need to worry about it.
C. You can use a validated scoring tool to decide if he needs a work-up.
D. Like many decisions in medicine, you rub your fingers together, pause for a moment, and just guess.
Case Presentation

His score on the 4Ts is 3 so you do not initiate an evaluation.

He does well and is discharged 3 days later.

Unfortunately, in the next few months he is diagnosed with metastatic lung cancer and gets outpatient chemotherapy.

Three months after the initial hospitalization he presents to the hospital with shortness of breath. He is tachypneic and mildly hypoxic (oxygen saturation 88% on room air). He is found to have a new large right-sided pleural effusion.

He undergoes diagnostic thoracentesis which reveals slightly bloody fluid. Cytology of the pleural fluid is positive for malignant cells.

What is the optimal management of his malignant pleural effusion?
What is the optimal management of his malignant pleural effusion?

A. Repeat thoracenteses as needed
B. Talc pleurodesis
C. Indwelling pleural catheter
D. Supplemental oxygen
E. How about a palliative care consult?

Malignant Pleural Effusion

Question: What is the optimal management of malignant pleural effusions?
Design: Unblinded RCT, pts with known symptomatic malignant effusion; talc pleurodesis vs. indwelling catheter

- A total of 106 patients randomized
- Most lung or breast cancer
- Outcomes at 42 days & 6 months

### Results

<table>
<thead>
<tr>
<th>Outcome</th>
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<th>Indwelling (n=52)</th>
<th>Result</th>
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<tbody>
<tr>
<td>Relief of SOB</td>
<td>74%</td>
<td>86%</td>
<td>NS*</td>
</tr>
<tr>
<td>LOS</td>
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</tr>
<tr>
<td>Repeat procedure</td>
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<tr>
<td>Complications</td>
<td></td>
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Table: Results of a comparison between Talc and Indwelling outcomes.

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<td>Complications</td>
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<td>40%**</td>
<td>p=0.002</td>
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**Pleural infection, cellulitis, catheter obstruction


### Malignant Pleural Effusion

**Question:** What is the optimal management of malignant pleural effusions?

**Design:** Unblinded RCT, pts with effusion; Talc pleurodesis vs. indwelling catheter

**Conclusion:** Both improved dyspnea at 42 days, indwelling catheter maybe better at 6 months; Shorter LOS with catheter, less need for repeat procedures; more complications

**Comment:** Small but hard study to do, best we have; Equivalent at relief of shortness of breath Likely decide on case-by-case basis;

What is the optimal management of his malignant pleural effusion?

A. Repeat thoracenteses as needed
B. Talc pleurodesis
C. Indwelling pleural catheter
D. Supplemental oxygen
E. How about a palliative care consult?

Case Presentation

In discussing with the patient, he has an indwelling pleural catheter placed and is discharged to home.

Unfortunately, a week later he was altered and became unconscious at home. His family called 911 and he was brought to the ED.

While in the ED, he has an arrest requiring CPR (likely from septic shock). Do you think the family should be offered a chance to observe the CPR?
Short Take: Families and CPR

In a randomized controlled trial involving 570 families of patients presenting with cardiac arrest, systematically offering the opportunity to observe the CPR (vs. usual care) led to fewer PTSD symptoms and depression in family members.

Offering observation did not impact resuscitation, emotional impact on providers, or medicolegal claims.


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Short Take: Fasting and Intake

Healthy adults were randomized to an 18-hour fast or no fasting and then served a buffet lunch with starches, protein, and vegetables.

Fasting patients were more likely to begin their meal with high-calorie foods (starches or protein): 75% vs. 44%.

In addition, the first food chosen was the food of which they ate the most.

Summary

Definitely
1) Use the 4T scoring system when concerned about HIT.

Consider
1) Antibiotics for patients admitted to the hospital with a COPD exacerbation.
2) Talc pleurodesis and indwelling pleural catheters may be equivalent in malignant pleural effusion.
3) Allowing families to observe CPR.
4) Foods you might choose first after fasting and the impact on calories consumed.