Disclosures

none
How well do you think you keep up with the medical literature?

a. Very well  
b. Acceptable  
c. Not as much as I'd like  
d. Not at all
Learning by osmosis is a total failure. My non-randomized, non-blinded trial (n=1) entitled, "The acquisition of medical knowledge via proximity to copious medical literature," has yielded decidedly negative results. As it turns out, you actually have to read the journals to learn anything from them.

I know I should probably recycle some of them, even if they remain unread. Instead, I scan the covers and rearrange. Several interesting articles catch my eye, notable for their relevance to my current practice. I tidy up the stacks, admonishing myself for not reading more and vowing to devote time to whittling down the piles. But right now, my daughter wants to play dress up — she as a princess and me as the prince.
How well do you think you keep up with the medical literature?

a. Very well
b. Acceptably
c. Not as much as I should
d. Not at all
Preferred sources

- Grand rounds and/or noon conferences
- ACP Journal Club/JournalWise
- Print journals – paid subscription
- UpToDate – What's New
- NEJM Journal Watch
- Email newsletters
- eTOCs
1. Grand Rounds

DOM Grand Rounds
The Department of Medicine Grand Rounds for October 4th, 2016 will be presented by:
Joel Papak, M.D. VA Clinical Hospitalist Service, Assistant Professor of Medicine

- Topic: Update in Hospital Medicine 2016 + How to Keep Up with the Medical Literature

2. ACP JournalWise

Dear Dr. Papak:

New articles: These articles have passed our quality filter and have been highly rated by specialists in your areas of interest.

<table>
<thead>
<tr>
<th>Declarative Title</th>
<th>Discipline</th>
<th>Score</th>
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<tbody>
<tr>
<td>RCT: In acute Ischemic stroke, intravenous thrombolysis with mechanical thrombectomy increased function more than intravenous thrombolysis alone.</td>
<td>Hospital Medicine</td>
<td>☢☢☢☢☢</td>
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<tr>
<td>Review: In uncomplicated cardiac surgery, fast-track cardiac care does not differ from usual care for mortality at any time within 1 year after surgery.</td>
<td>Hospital Medicine</td>
<td>☢☢☢☢☢</td>
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<tr>
<td>Analytic survey: In patients with cirrhosis, the Periscreen strip had 92% sensitivity and 57% specificity for diagnosing spontaneous bacterial peritonitis.</td>
<td>Hospital Medicine</td>
<td>☢☢☢☢☢</td>
</tr>
<tr>
<td>Review: In patients with acute respiratory failure, use of high-flow nasal cannula does not reduce mortality or intubation more than usual care.</td>
<td>Hospital Medicine</td>
<td>☢☢☢☢☢</td>
</tr>
<tr>
<td>RCT: In older hospitalized patients, enhanced occupational therapy discharge planning did not differ from a usual care for Aⅷⅳⅳ.</td>
<td>Hospital Medicine</td>
<td>☢☢☢☢☢</td>
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<tr>
<td>J Am Geriatr Soc</td>
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3. Print journals
4. UpToDate – What’s New

What’s new in hospital medicine

- Safety of magnetic resonance imaging and gadolinium in pregnancy (September 2016)
- Palliative care consultation for families of patients in the intensive care unit (August 2016)
- New guidelines for the management of Stevens-Johnson syndrome (July 2016)
- Sympathetic block therapy in patients with restless leg syndrome (April 2016)
- Preventing central line-associated bloodstream infections in critical care (August 2016)
- Early-onset neonatal sepsis (April 2016)

What’s new in hospital medicine

- Palliative care consultation for families of patients in the intensive care unit (August 2015)
- Early-onset neonatal sepsis (April 2015)
- Early recognition of sepsis in the neonatal period (April 2015)
- Safety of gadolinium-based contrast agents in pregnancy (July 2015)
- New guidelines for the management of Stevens-Johnson syndrome (July 2015)
- Palliative care consultation for families of patients in the intensive care unit (July 2015)
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- Early-onset neonatal sepsis (April 2015)
(tie) 4. NEJM Journal Watch

Latest Summaries

INFECTION DISEASES
Post-TAVI Infections
Infections were seen after 14% of transcatheter aortic valve implants.

WOMEN'S HEALTH
When to Deliver Uncomplicated Twin Pregnancies?

EMERGENCY MEDICINE
A Protocol for Abdominal CT in Blunt Trauma Patients
In the single-institution study, use of abdominal computed tomography decreased significantly after implementation of the protocol.

INFECTIOUS DISEASES
Reported Beta-Lactam Allergies: More Harm Than Good?
In a prospective study, hospitalized patients with β-lactam allergies who did not receive the preferred β-lactam therapy had significantly more adverse events than those given a β-lactam despite their allergic history.

Hospital Medicine

HOSPITAL MEDICINE
Does Initiating or Changing a Hospital EMR Lead to Adverse Outcomes?
The observational study of electronic medical records shows no, but it's fraught with design flaws.

GASTROENTEROLOGY, HOSPITAL MEDICINE, INFECTIOUS DISEASES
Long-Term Outcomes with Hepatitis C Virus Eradication
A prospective study shows that HCV eradication in patients with cirrhosis significantly reduces mortality and mortality.

EMERGENCY MEDICINE, HOSPITAL MEDICINE, ONCOLOGY AND HEMATOLOGY
Stop Treating All Patients with Fibrin Neutropenia Similarly
Almost all low-risk patients with fibrin neutropenia in this study were either unnecessarily admitted or given unnecessary parenteral antibiotics.

Alif Zaman, MD, MPH
Associate Editor
GASTROENTEROLOGY

Carvedilol vs. Propranolol for Reducing Portal Pressure in Cirrhosis
Carvedilol was superior in patients with advanced cirrhosis but not overall.

A recent meta-analysis demonstrated that carvedilol, a nonselective β-blocker with additional anti-intermediate activity, is more effective than propranolol in reducing portal pressure in patients with cirrhosis. However, few of the trials included in the meta-analysis incorporated hepatic venous pressure gradient (HVPG) measurements.
6. Email newsletters

7. eTOCs
8. BMJ Evidence Updates

8. BMJ Evidence Updates

Over Dr. Poppak
We thought you might enjoy reviewing the most interesting articles for the past month, based on the frequency with which subscribers viewed these in detail. The top 10 appeal below.

Brian Haynes MD, Editor, Evidence Updates

<table>
<thead>
<tr>
<th>#</th>
<th>Article Title</th>
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<tbody>
<tr>
<td>1</td>
<td>CRAP for Prevention of Cardiovascular Events in Obstructive Sleep Apnea</td>
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<tr>
<td>2</td>
<td>Album: In primary prevention of cardiovascular and all-cause mortality events in diabetes, updated meta-analysis of randomized-controlled trials.</td>
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<tr>
<td>3</td>
<td>Meta-analysis: risk among non-valvular atrial fibrillation patients initiated on aspirin, dabigatran, rivaroxaban or warfarin: a “real-world” observational study in the United States.</td>
</tr>
<tr>
<td>4</td>
<td>Single inhaler triple therapy versus inhaled fluticasone plus long-acting beta2 agonist therapy for chronic obstructive pulmonary disease (FEBOCC) a double-blind, parallel group, randomised-controlled trial.</td>
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<td>5</td>
<td>Association between MRI exposures during pregnancy and fetal and childhood outcomes.</td>
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<tr>
<td>6</td>
<td>Net clinical benefit of warfarin in individuals with atrial fibrillation across stroke risk and access primary and secondary care.</td>
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<tr>
<td>7</td>
<td>Desmopressin: dose for prevention of dilution in elderly patients after non-cardiac surgery: a randomised, double-blind, placebo-controlled trial.</td>
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<tr>
<td>8</td>
<td>Omeprazole and diphenoxylate alone for the management of childhood constipation.</td>
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<tr>
<td>10</td>
<td>5 Year Outcomes after Monitoring, Surgery, or Radiotherapy for Localized Prostate Cancer.</td>
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8. BMJ Evidence Updates

Cost:

<table>
<thead>
<tr>
<th></th>
<th>Physician</th>
<th>Resident</th>
<th>Student</th>
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<tbody>
<tr>
<td>ACP JournalWise</td>
<td>$235-495</td>
<td>$119</td>
<td>Free</td>
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<tr>
<td>NEJM Journal Watch</td>
<td>$129-159</td>
<td>$59</td>
<td>$59</td>
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<tr>
<td>BMJ Evidence Updates</td>
<td>Free</td>
<td>Free</td>
<td>Free</td>
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</table>
9. Podcasts/AV resources

10. Other
   – “Read” by QxMD
   – MKSAP
   – Google alerts
   – Listserv
   – Twitter

My approach:

• Aggregate and automate
  – NEJM Journal Watch
  – ACP JournalWise/ACP Hospitalist
  – eTOCs
Goals:

- Review three recently published studies
- Relevant to hospital medicine
- Should change practice
Case #1

- 67 yo M with PMH of DM2, HTN, HLD and tobacco presents with substernal chest pain with exertion
- AF, HR 110, BP 150/90, RR 18, SpO2 94%
- Diaphoretic, normal heart and lung exam
- EKG anterolateral ST depressions
- Labs pending

Which of the following should not be routinely given to patients with suspected ACS?

A. morphine 1-4mg IV q1h prn
B. 6L supplemental O2 by NC
C. nitroglycerin 0.4mg SL q5min prn
D. aspirin 324mg PO once
Question

- What is the clinical effect of routine oxygen therapy in patients with suspected acute MI who do not have hypoxemia?
Background

Resuscitation Science

Air Versus Oxygen in ST-Segment–Elevation Myocardial Infarction

Dion Stub, MBBS, PhD; Karen Smith, BSc, PhD; Stephen Bernard, MBBS, MD; Ziad Nehme, BEmegHb(Hmsedic); Michael Stephenson, RN, BHiHSc, Grad Dip (MiCA); Janet E. Bray, RN, PhD; Peter Cameron, MBBS, MD; Bill Barger, MACAP; Andris H. Ellinas, MBBS, PhD; Andrew J. Taylor, MBBS, PhD; Ian T. Meredith, BSc, MBBS, PhD; David M. Keay, MBBS, PhD; on behalf of the AVOID Investigators

June 2015
Circulation. 2015;131:2143–2150 (AVOID)

Results:

• RCT of patients with suspected ACS
• oxygen (8 L/min) vs no supplemental oxygen

• peak troponin similar
• CK significantly higher in the oxygen group
• more frequent recurrent MI
• increase in MI size on cardiac MRI at 6 months
Conclusion:

• no benefit and potential harm for oxygen therapy in acute MI unless SpO2 < 94%

December 2016
Conclusions

• “There is no evidence from randomised controlled trials to support the routine use of inhaled oxygen in people with AMI, and we cannot rule out a harmful effect.”

DETO2X-AMI

• RCT, n=6,629
• Suspected MI and SpO2 ≥ 90%
• Supplemental O2 6 lpm vs room air
• Mortality at 1 yr
  – 30-day mortality
  – Rehospitalization for MI or HF
  – Cardiovascular death
Results

<table>
<thead>
<tr>
<th></th>
<th>Oxygen</th>
<th>Room air</th>
<th>P value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mortality at 1 year</td>
<td>5.0%</td>
<td>5.1%</td>
<td>0.80</td>
</tr>
<tr>
<td>Readmission for MI</td>
<td>3.8%</td>
<td>3.3%</td>
<td>0.33</td>
</tr>
<tr>
<td>Peak troponin</td>
<td>9.47</td>
<td>9.83</td>
<td>0.97</td>
</tr>
</tbody>
</table>
Summary

- supplemental oxygen provides no benefit to patients with ACS who are not hypoxic

September 26, 2017

Effect of Routine Low-Dose Oxygen Supplementation on Death and Disability in Adults With Acute Stroke: The Stroke Oxygen Study Randomized Clinical Trial

Christine Roffe, MD; Tracy Nevitt, PhD; Julius Sim, PhD; Jon Bluhm, PhD; Natalie Ives, MSc; Phillip Ferdinand, M.R.C.P.; Richard Gray, MSc; for the Stroke Oxygen Study Investigators and the Stroke Oxygen Study Collaborative Group

JAMA. 2017;318(12):1125-1135. (SO2S trial)
SO₂S trial

- Low-dose (2-3 L/min) supplemental oxygen
- Non-hypoxic patients with acute stroke
- No reduction in death or disability at 3 months

Which of the following should not be routinely given to patients with suspected ACS?

A. morphine 1-4mg IV q1h prn
B. 6L supplemental O₂ by NC
C. nitroglycerin 0.4mg SL q5min prn
D. aspirin 324mg PO once
Which of the following should **not** be routinely given to patients with suspected ACS?

A. morphine 1-4mg IV q1h prn

B. 6L supplemental O2 by NC

C. nitroglycerin 0.4mg SL q5min prn

D. aspirin 324mg PO once
Case #2

- 57 yo M with PMH of IVDU presents with fever and rigors, no localizing symptoms
- Blood cultures from admission grow *Staph aureus*, susceptibilities pending

For patients with *Staph aureus* bacteremia, the following interventions are all associated with improved outcomes *except*:

A. echocardiography (TTE and/or TEE)
B. CT abdomen/pelvis
C. consultation with infectious diseases (ID) specialists
D. appropriate antibiotic prescribing
Methods:

- Retrospective observational cohort study
- All inpatients at VHA hospitals with \textit{Staph aureus} bacteremia from 2003-2014
  - 52% MRSA
  - 48% MSSA
Methods:

- Evidence-based care processes
  - Appropriate antibiotic therapy
  - Echocardiography
  - ID consultation
- 30-day mortality

Results:

- Overall 30-day mortality decreased:
  - 23.5% in 2003 → 18.2% in 2014
Results:

• Interventions associated with lower mortality:
  – Appropriate antibiotics OR 0.74 (0.68-0.79)
  – Echocardiography OR 0.73 (0.68-0.78)
  – ID consultation OR 0.61 (0.56-0.65)
  – All three OR 0.33 (0.30-0.36)
Results:

- Patients who received all three care processes:
  - 16.1% in 2003 → 52.2% in 2014
    - 21.1% inappropriate antibiotics
    - 27.2% no echocardiogram
    - 32.0% no ID consultation
    - 8.8% none of the above

Conclusions

- Mortality associated with SAB has decreased significantly from 2003 to 2014
- 57.3% of the drop in mortality can be attributed to the increased use of the three studied care processes
Conclusions

• ID consultation OR 0.61 independent of echo and appropriate antibiotics
  • Source control?
  • Surrogate marker for other hospital characteristics

Conclusions

• 47.8% of the patients still did not receive all three processes in 2014
  • Opportunity for local QI program?
Background

- anti-staphylococcal penicillins (e.g. nafcillin and oxacillin) are the recommended antibiotics for treating methicillin-susceptible *Staphylococcus aureus* (MSSA) bacteremia
- cefazolin is easier to use and is associated with fewer adverse events
Results

- 37% reduction in 30-day mortality
- 23% reduction in 90-day mortality
- No difference in rates of recurrent infection
Summary

• Evidence-based care processes
  – Appropriate antibiotic therapy
  – Echocardiography
  – ID consultation
  – Source control
• Cefazolin vs nafcillin/oxacillin for MSSA

IDSA guidelines
For patients with *Staph aureus* bacteremia, the following interventions are all associated with improved patient outcomes except:

A. echocardiography (TTE and/or TEE)
B. CT abdomen/pelvis
C. consultation with infectious diseases (ID) specialists
D. appropriate antibiotic prescribing

For patients with *Staph aureus* bacteremia, the following interventions are all associated with improved patient outcomes except:

A. echocardiography (TTE and/or TEE)
B. CT abdomen/pelvis
C. consultation with infectious diseases (ID) specialists
D. appropriate antibiotic prescribing
Case #3

- 56 yo W with PMH of HTN
- Sudden onset of pain and swelling in R thigh
- Ultrasound shows femoral vein thrombosis
- No provoking factors
- No family history of thrombophilia
- Recent normal colonoscopy and mammography
Case #3

• “Possible cancer” is brought up on rounds
• Patient is anxious and asks if extensive imaging to rule out cancer is needed

Which would be the most appropriate next test?

A. CT abdomen/pelvis
B. PET scan
C. echocardiography
D. chest x-ray
Question:

• Should patients with unprovoked venous thromboembolism (VTE) be tested for occult cancer?
Background

The NEW ENGLAND JOURNAL of MEDICINE
ESTABLISHED IN 1812 AUGUST 20, 2015 VOL. 373 NO. 8

Screening for Occult Cancer in Unprovoked Venous Thromboembolism
Marc Carrier, M.D., Alejandro Lazo-Langner, M.D., Sudeep Shrivakumar, M.D., Vicky Tagalakis, M.D., Ryan Zarychanski, M.D., Susan Sallymoss, M.D., Nathalie Rouchier, M.D., James Douketis, M.D., Kim Danovitch, C.R.P., Agnes Y. Lee, M.D., Gregoire Le Gall, M.D., Philip S. Wells, M.D., Daniel J. Corsi, Ph.D., Timothy Ramsay, Ph.D., Doug Coyle, Ph.D., Isabelle Chagnon, M.D., Zahra Kassam, M.D., Hardy Tao, M.D., and Marc A. Rodger, M.D., for the SOME Investigators

August 20, 2015 (SOME trial)
NEJM 2015;373:697-704.

SOME trial

• Limited occult-cancer screening:
  – History and physical exam
  – Basic bloodwork
  – Chest x-ray
  – Age/gender-appropriate screening for breast, cervical and prostate cancer
• ± CT abdomen/pelvis
SOME trial

- CT abdomen/pelvis
  - virtual colonoscopy and gastroscopy
  - biphasic enhanced CT of the liver
  - parenchymal pancreatography
  - uniphasic enhanced CT of the distended bladder

SOME trial

- Results:
  - No difference in time to cancer diagnosis
  - No difference in cancer-related mortality
Background

Limited screening with versus without $^{18}$F-fluorodeoxyglucose PET/CT for occult malignancy in unprovoked venous thromboembolism: an open-label randomised controlled trial

December 7, 2015 (MVTEP trial)


MVTEP trial

• Limited screening ± PET/CT
• Results:
  – No significant difference in rate of cancer diagnosis
Back to our study...

Methods:

- Systematic review and meta-analysis
- 10 studies, n= 2,316
- Prevalence of occult cancer in patients with unprovoked VTE
  - Extensive cancer screening – 58%
  - Limited cancer screening – 42%
Results:

• 12-month prevalence of cancer after VTE diagnosis was 5.2% (4.1% - 6.5%)
  – Limited screening – 4.2% (3.0% - 5.7%)
  – Extensive screening – 5.6% (4.3% - 7.3%)

Results:

• Point prevalence of cancer:

<table>
<thead>
<tr>
<th></th>
<th>Initially</th>
<th>12 months</th>
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<tr>
<td>Extensive screening</td>
<td>OR 2.0 (1.2-3.4)</td>
<td>OR 1.4 (0.89-2.1)</td>
</tr>
</tbody>
</table>
Results:

• Cancer stage:
  – No significant difference in proportion of early-stage (0, I, or II) solid cancer ($P = 0.30$)
  • Limited screening – 30%
  • Extensive screening – 47%

Results

• History and physical exam detected 45% of cancer cases diagnosed at initial screening
Conclusions:

• Although an extensive screening strategy may initially detect more cancer cases than limited screening, whether this translates into improved patient outcomes remains unclear.
• History and physical exam remains the most powerful diagnostic tool.

September 22, 2017
Thrombophilia testing

• “Ordering thrombophilia tests is easy; determining whom to test and how to use the results is not.”
• “The majority of patients with VTE should not be tested for thrombophilia.”

Thrombophilia testing

• “Data showing the clinical usefulness and benefits of testing are limited or nonexistent.”
• “No validated testing guidelines have been published.”
Thrombophilia testing

- 2 years’ worth of inpatient thrombophilia testing at Stanford:
  - 42.7% potentially inappropriate
Thrombophilia testing

• Estimated $650 million annually

Which would be the most appropriate next test?

A. CT abdomen/pelvis
B. PET scan
C. echocardiography
D. chest x-ray
Which would be the most appropriate next test?

A. CT abdomen/pelvis  
B. PET scan  
C. echocardiography  
D. chest x-ray
Summary

• Aggregate and automate your literature review
• No indication for supplemental oxygen for patients with ACS (or CVA) and normal SpO2
• Follow evidence-based care processes (and consider cefazolin) for patients with *Staph aureus* bacteremia
• No clear benefit from extensive cancer screening (or thrombophilia testing) for patients with unprovoked VTE

Thank You