

# **Eight Things to Do Differently Tomorrow**

*The (Lack of) Evidence Behind Common  
Hospitalist Practices*

Chad R. Stickrath, MD  
October 7<sup>th</sup>, 2011

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## **Learning Objectives**

- Appreciate the level of evidence that exists for most medical treatments
- Review the best evidence for eight commonly performed diagnostic tests or treatments
- Consider making changes to our practice based on this evidence
  
- No Disclosures

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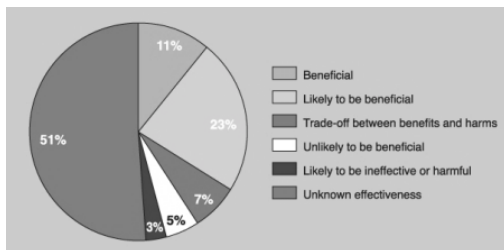
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## **The Benefits of 3000 Common Medical Treatments**



BMJ's Clinical Evidence Website, accessed  
9/2011  
<http://clinical.evidence.bmj.com/doi-epub-proxy.ucdenver.edu/cweb/about/knowledge.jsp>

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## Topic Selection

- Most Common Diagnoses
- Clinical Evidence Reviews
- HM Literature Updates
- Colleagues



• Source: AHRQ, Center for Delivery, Organization, and Markets, Healthcare Cost and Utilization Project, Nationwide Inpatient Sample, 1997 and 2007.  
• Lindenauer et al. NEJM 2007.

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## ARS Case #1

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### ORIGINAL INVESTIGATION

LESS IS MORE

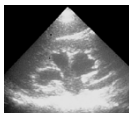
## Renal Ultrasonography in the Evaluation of Acute Kidney Injury

Developing a Risk Stratification Framework

ARCHIVES OF  
INTERNAL MEDICINE

Adam Licorse, MD, MHS; Michael C. Kim, BA; James Dziana, PhD; Howard P. Forman, MD, MBA; Richard N. Formica, David V. Mishoren, MD; Chong R. Parkhik, MD, PhD; Gary P. Gross, MD

- Acute Kidney Injury Quick Facts
  - AKI occurs 25 per 1,000 discharges
  - Hydronephrosis identified 1 – 10% of AKI
- The Study (Arch Intern Med 2010;170)
  - Cross-sectional study of hospitalized pts with AKI to derive and validate risk factors for HN and avoid unnecessary RUS
  - Derivation cohort of adults with AKI, RUS
    - 100 with HN, 100 without HN
  - Validation cohort
    - 797 RUS studies



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## Ordering RUS for AKI results

- 7 Variables found most pertinent in predicting HN: (low risk < 2, medium 3, high > 3)
  - h/o HN
  - Recurrent UTIs (1 pt)
  - Diagnosis c/w possible obstruction (1 pt)
  - Nonblack race (1 pt)
  - Absence of: CHF (1 pt) or prerenal AKI (1pt)
- Low risk (28%): 97% negative predictive value, 92% sensitivity

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## Tomorrow I Will ...

- Assess the risk of obstruction as AKI etiology
- Avoid renal US in low-risk patients
  - Alternative tests: PVR, empiric management
  - Cost \$200 (NNS for HNRI \$45,000)
  - No incidental findings in low-risk patients



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## Case #1

- A 55 year-old male with pmh including DM, HTN, HLD was admitted 2 days ago with a diabetic foot ulcer. He was initiated on broad-spectrum antibiotics, underwent imaging to evaluate the extent of disease, and had bedside I & D performed. On HD # 3, he has defervesced, exam and leukocytosis are improved; however his creat has increased from 1.5 to 3.1.
- Which test is the least likely to assist in diagnosis?
  - 1) Renal US
  - 2) Urine electrolytes
  - 3) Urine sediment examination
  - 4) Orthostatic vital signs

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## ARS Case #2

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HEALTH CARE REFORM ORIGINAL INVESTIGATION ARCHIVES OF INTERNAL MEDICINE  
**Yield of Diagnostic Tests in Evaluating Syncopal Episodes in Older Patients**  
 Malika L. Mendis, MD; Gail McAvoy, PhD; Rachel Lampert, MD; Jonathan Stoebe, MD; Mary E. Tinetti, MD

- Syncope Quick Facts
  - 6% of admissions
  - Unknown etiology 34% of cases (Kapoor, NEJM 2000)
- The Study (Arch Intern Med 2009;169)
  - Retrospective chart review of tests (and their utility) ordered for syncope
  - Patients ≥ 65 years old, admitted with syncope
  - 1920 patients studied, 2106 admissions

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## Diagnostic Tests in Syncope Results

**Table 2. Diagnostic Tests Obtained in Evaluation of Syncopal Episodes in Older Patients\***

Test	Obtained	Abnormal Findings <sup>b</sup>	Affected Diagnosis <sup>c</sup>	Attended Management <sup>d</sup>
Electrocardiogram	2081 (99)	638 (31)	147 (7)	153 (7)
Telemetry	2001 (95)	314 (16)	212 (11)	245 (12)
Single admission test	1904 (91)	268 (14)	31 (2)	28 (1)
<b>Head CT</b>	<b>122 (6)</b>	<b>38 (2)</b>	<b>25 (1)</b>	<b>7 (0.3)</b>
Echocardiogram	821 (39)	518 (83)	38 (4)	38 (4)
Postural BP recording	808 (38)			
Shunt criteria <sup>e</sup>		230 (28)	142 (18)	122 (15)
Loose criteria <sup>f</sup>		445 (55)	212 (25)	173 (21)
Carotid US	267 (13)	122 (46)	2 (1)	2 (0.8)
EEG	174 (8)	68 (39)	2 (1)	1 (0.6)
Head MRI	154 (7)	46 (30)	20 (13)	3 (2)
Cardiac stress test	129 (6)	53 (41)	13 (10)	2 (2)

**\* 25/28 had clinically suspected neuro dx**

**Table 3. Costs of Diagnostic Tests in the Evaluation of Syncopal Episodes\***

Tests Obtained	Cost Per Test, \$ <sup>b</sup>	Total Cost, \$ <sup>a</sup>	Cost per Test Affecting Diagnosis or Management, \$ <sup>c</sup>
<b>Head CT</b>	<b>1115 ± 0.34-379</b>	<b>65 946-(378 × 174)</b>	<b>65 946/2-32 973</b>
Head MRI	158 ± 0.34-509	465 ± 0.34-1309	166 ± 0.34-491
Carotid ultrasound	87 ± 0.34-121	889 ± 0.34-121 × 978 (48)	894 ± 0.34-121 × 978 (48)
Transthoracic echocardiogram	78 ± 0.34-26	140 ± 0.34-26 × 378 (48)	140 ± 0.34-26 × 378 (48)
Carotid US	1294 ± 0.34-440	117 480-(440 × 267)	117 480/6-19 580
Head MRI	3318 ± 0.34-1127	173 558-(1127 × 154)	173 558/3-4678
Cardiac stress test	2892 ± 0.34-848	198 392-(848 × 159)	198 392/3-6415
Echocardiogram	899 ± 0.34-275	225 775-(275 × 821)	225 775/6-4272
Electrocardiogram	221 ± 0.34-76	156 675-(76 × 2081)	156 675/10-15669
Telemetry	255 ± 0.34-87	174 987-(87 × 2001)	174 987/245-710
Postural BP <sup>g</sup>	5	4040-(5 × 809)	4040/241-17

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### Tomorrow I Will ...

- Avoid ordering head CT scans for elderly patients presenting with syncope and no suspected neurologic disease
- Bonus: actually ensure that the orthostatics are completed



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### Case #2

- A 68 year-old male with pmh including CHF, HTN, HLD, GERD presents after passing out. He reports episodes of dizziness and lightheaded over the last few days. Finally, when getting up to leave a meeting, he passed out and collapsed back into his chair.
- Which is the LEAST cost-effective test to assist with the diagnosis?
  - 1) Telemetry monitoring
  - 2) Head CT
  - 3) Transthoracic Echo
  - 4) Carotid ultrasound

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### ARS Case #3

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ONLINE FIRST ORIGINAL INVESTIGATION ARCHIVES OF INTERNAL MEDICINE

### Decreased Antibiotic Utilization After Implementation of a Guideline for Inpatient Cellulitis and Cutaneous Abscess

Timothy C. Jenkins, MD; Bryan C. Knapper, MPH, MSc; Allison L. Sabel, MD, PhD, MPH; Ellen E. Sarcone, MD; Jeremy A. Long, MD, MPH; Jason S. Hankson, MD, MSc; Steven J. Morgan, MD; Walter L. D'Elia, MD; Andrew W. Steele, MD, MPH, MSc; Connie S. Price, MD; Philip S. Mehler, MD; William J. Burman, MD



- Soft Tissue Infection
  - 600,000 admissions annually
  - 2<sup>nd</sup> most common ID admission
- The Study (Arch Intern Med 2011;171)
  - Multidisciplinary development and test of institutional practice guidelines for uncomplicated cellulitis
    - Use of anti-GNR and anti-anaerobes DISCOURAGED
    - Initial tx with Vanco; dc with orals (recommended: doxycycline, clindamycin, trim-sulf)
    - Treatment duration: 7 instead of ≥ 14 days
  - Pre/Post assessment after implementation

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### Antibiotics for Soft Tissue Infection Results

- 404 (BL) vs. 376 (Interv) pts reviewed
- Drained abscess: 97% vs. 94%
- Staph/Strep
- 44 vs. 51% MRSA

Characteristic	All Cases		Cellulitis		Cutaneous Abscess		
	Baseline (n=188)	Intervention (n=176)	Baseline (n=88)	Intervention (n=87)	Baseline (n=103)	Intervention (n=83)	
Drainage therapy (overall) (P < .01) (n=1)	172 (91%)	169 (96%)	85 (97%)	82 (94%)	89 (86%)	84 (100%)	
Drainage <sup>b</sup>	166 (88%)	163 (93%)	82 (93%)	80 (92%)	87 (84%)	81 (98%)	
Clindamycin	44 (23%)	42 (24%)	18 (21%)	20 (24%)	28 (27%)	22 (28%)	
Doxycycline	36 (21%)	35 (20%)	17 (20%)	18 (21%)	19 (18%)	21 (27%)	
Vancomycin	3 (2%)	2 (1%)	1 (1%)	2 (2%)	0	1 (1%)	
Amoxicillin-clavulanate	12 (7%)	6 (3%)	4 (5%)	1 (1%)	4 (4%)	1 (1%)	
Other <sup>c</sup>	9 (5%)	4 (2%)	4 (5%)	4 (5%)	4 (4%)	2 (3%)	
Use of broad-spectrum antibiotics	79 (44%)	48 (28%)	< .001	38 (43%)	28 (32%)	50 (49%)	31 (37%)
Use of MRSA therapy	96 (53%)	82 (47%)	< .001	22 (25%)	48 (55%)	50 (48%)	34 (41%)
Empiric therapy	18 (10%)	22 (13%)	10 (11%)	14 (16%)	13 (13%)	8 (10%)	
Empiric combination	18 (10%)	22 (13%)	10 (11%)	14 (16%)	13 (13%)	8 (10%)	
Clindamycin	9 (5%)	4 (2%)	5 (6%)	3 (3%)	4 (4%)	1 (1%)	
Doxycycline	9 (5%)	4 (2%)	5 (6%)	3 (3%)	4 (4%)	1 (1%)	
Clindamycin	9 (5%)	4 (2%)	5 (6%)	3 (3%)	4 (4%)	1 (1%)	
Vancomycin <sup>d</sup>	3 (2%)	1 (1%)	2 (2%)	1 (1%)	0	1 (1%)	
Other	3 (2%)	1 (1%)	2 (2%)	1 (1%)	0	1 (1%)	
Mean duration of therapy, median (IQR) <sup>e</sup>	10 (7-13)	10 (8-12)	< .001	10 (7-12)	10 (8-12)	10 (7-13)	11 (8-12)
Mean days of antibiotic therapy, median (IQR) <sup>f</sup>	10 (7-14)	10 (8-14)	< .001	10 (7-13)	10 (8-13)	10 (7-14)	11 (8-14)
Days of broad-spectrum therapy, median (IQR) <sup>g</sup>	5 (4-6)	3 (2-7)	< .001	4 (4-5)	4 (3-7)	5 (3-6)	3 (3-6)
Days of vancomycin therapy, median (IQR) <sup>h</sup>	9 (7-10)	7 (5-8)	< .001	7 (7-8)	7 (5-8)	10 (7-12)	7 (5-8)

<sup>a</sup> Clinical Failure: 7.7% vs. 7.4%

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### Tomorrow I Will ...

- Stop ordering empiric Gram (-) and Anaerobic antimicrobials for uncomplicated cellulitis and cutaneous abscess
- Treat suspected Staph and Strep for 7 days (Stevens et al. Clin Infect Dis 2005)




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### Case #3

- A 72 yo female with pmh including morbid obesity, diet-controlled DM and polysubstance abuse presents with left lower extremity swelling, erythema, warmth and tenderness. She is unsure if she injured her leg, but reports that it has been getting progressively worse despite two days of Cephalexin from her PCP. Ultrasound of the affected leg shows no DVT.
- Which antibiotic regimen should you choose to initiate?
  - 1) Vancomycin and Piperacillin-Tazobactam
  - 2) Trimethoprim-sulfamethoxazole and Ciprofloxacin
  - 3) Ampicillin-sulbactam
  - 4) Vancomycin

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### ARS Case #4

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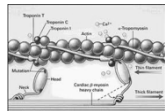
Annals of Internal Medicine ORIGINAL RESEARCH

**Characteristics and Short-Term Prognosis of Perioperative Myocardial Infarction in Patients Undergoing Noncardiac Surgery**

**A Cohort Study**

P. J. Boverman, MD, PhD; David Kessler, MD, MPH; Lester Pagan, MD; Gordon Cooper, MD, MSc; Allan Saperstein, MD; Spencer Caselli, MD, PhD; Kate Leslie, MD, MEd; Fumiko Rhee-Anderson, MD; Sam Chakraborty, PhD; Homer Yang, MD; Julie Harthornell, MD; Jesse Aronson, MD, PhD; Tom Lorch, MD, MPH; Waiyung Yu, MD; and Sabir Vasod, MBS, DPhil, on behalf of the POISE (Perioperative Ischemic Evaluation) Investigators

- Noncardiac Surgery Quick Fact
  - 200 million procedures annually
- The Study (Ann Intern Med 2011;154)
  - Cohort study of POISE trial participants to assess for the frequency and characteristics of periop MI
    - Noncardiac surgery
      - > 45 years old
      - Known, or risk for, CAD
  - Serial post-op ECG and Cardiac enzymes



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## Perioperative MI Results

- POISE trial included 8351 pts
- 415 (5%) had periop MI w/i 30 days
  - 98% had biomarker elevation
  - 2/3rds noted w/i 48 hours of surg
- 30 day Mortality:
  - 12% (MI) vs. 2% (no MI)
  - ≥ 50% of MI deaths occurred w/i 48 hours

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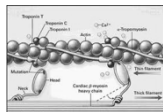
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## Tomorrow I Will ...

- Consider checking postoperative troponins in patients with known CAD, or at risk of CAD undergoing non-cardiac surgery



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## Case #4

- An 83 year-old female with pmh including osteoarthritis, HTN, TIA, and CKD was admitted with a traumatic hip fracture after being hit by a truck during her morning power walk. The orthopedic surgeon asks you if she needs any cardiac tests.
- Which test is the most likely to affect management?
  - 1) Lipid panel
  - 2) Chemical stress test
  - 3) Post-operative troponin
  - 4) Carotid ultrasound

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## ARS Case #5

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THE NEW ENGLAND JOURNAL OF MEDICINE  
ORIGINAL ARTICLE

**Ferric Carboxymaltose in Patients with Heart Failure and Iron Deficiency**

Stefan D. Anker, M.D., Ph.D., Joseph Carrin Cudek, M.D.,  
Konstantinos Filippidis, M.D., Konstanz Wilhelmsson, M.D.,  
Konrad Dickstein, M.D., Ph.D., Helmut Dresler, M.D.,  
Thomas F. Lüscher, M.D., Boris Böhm, M.D., Waldemar Banasiak, M.D., Ph.D.,  
Magdalena M. D., Bridget Anne Rymaszek, Ph.D., Claudio Moru, M.D.,  
Barbara von Eberstein, M.D., Stuart J. Pocock, Ph.D.,  
Philip A. Poole-Wilson, M.D., and Piotr Ponikvarski, M.D., Ph.D.

- Iron Deficiency in Heart Failure Quick Facts
  - 14 – 70% of inpatients with HF found to have anemia
    - 20% iron-deficiency
    - Anemia in HF associated with higher morbidity and mortality (Amund, JACC 2008; Ezekowitz, Circ 2003)
  - HF may predispose to iron deficiency
- The Study (NEJM 2009;361)
  - Randomized, double-blind trial comparing IV iron vs. placebo on Quality of Life and NYHA class
  - CHF with NYHA II or III, impaired EF
  - Hgb 9.5 – 13.5 g/dL and iron deficiency
  - Significant liver or renal dysfunction excluded




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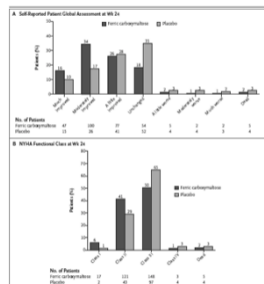
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## IV Iron for HF Results

- 459 patients enrolled
- Primary Endpoints (wk 24):
  - 50% vs. 28% much or moderately improved
  - 47% vs. 30% NYHA class I or II
- Secondary Endpoints:
  - Improvement in 6-min walk and quality of life assessments
  - Rates of death, hospitalization, adverse events similar
- Findings independent of anemia status




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### Tomorrow I Will ...

- Evaluate my patients with NYHA II and III heart failure for iron deficiency
  - Serum Ferritin < 100 µg/L or
  - 100 – 299 µg/L, with transferritin sat < 20%
- Consider initiating IV iron therapy



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### Case #5

- A 79 year-old male with pmh including CHF, DM, HTN, COPD presents with volume overload. Workup reveals ECG with no ischemic changes, normal intervals; hematocrit of 35%; ferritin 85; TTE with EF of 25%, no new wall motion abnormalities.
- Which therapy will have the least morbidity and/or mortality benefit?
  - 1) Spironolactone
  - 2) IV Iron repletion
  - 3) AICD implantation
  - 4) Cardiac resynchronization therapy

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### ARS Case #6

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**RESPIRATORY INFECTION**

Comparison between pathogen directed antibiotic treatment and empirical broad spectrum antibiotic treatment in patients with community acquired pneumonia: a prospective randomised study

M M van der Eerden, F Vlaspoolder, C S de Graaff, T Groot, W Bronsveld, H M Jansen, W G Boersma

BMJ 2005;330:672-676 doi: 10.1136/bmj.2004.084111

- CAP Quick Facts
  - Most frequent (non-maternal) admission to hospital
  - 2.9% of all hospital discharges
- The Study
  - RCT of adults presenting to hospital with suspected PNA
  - Empiric abx treatment (EAT) vs. pathogen directed (PDT)
    - Cefazadime and Erythromycin for EAT
    - GS, Sputum, pneumococcal/legionella ag from fluid/urine, serologies
  - Outcomes:
    - Primary: LOS
    - Secondary: therapeutic failure, 30d mortality, abx duration, adverse events



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### Empiric vs. Directed Therapy for CAP Results

- 303 patient included
- No pathogen: 37% (PDT) vs. 46% (EAT)
  - 18/22 (82%) of ICU patients' pathogens were identified
- 60% of patients produced sputum sample
  - 28% had adequate specimen for GS
- No significant overall difference in: LOS, Mortality, Clinical Failure
  - ICU admissions:
    - Mortality: 5/11 PDT vs. 10/11 EAT
  - Patients randomized to PDT
    - Mortality: 2/72 (3%) syndromic vs. 8/62 (13%) pathogen directed

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### Tomorrow I Will ...

- Abstain from ordering microbiologic tests in patients admitted to the floor with CAP
  - Joint Commission still requires BCx as a core measure
  - Immunocompromised patients excepted
  - IDSA guidelines recommend sputum if it can be reliably obtained and will change management
    - Severe, or at risk of non-typicals



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## Case #6

- A 54 year-old female with pmh including smoking, depression presents with productive cough and dyspnea. Exam reveals increased WOB, RA O2 sats of 85%, rhonchi in the mid-right lung field. CXR shows right-sided infiltrate.
- Which is likely to be the most effective treatment plan?
  - 1) Empiric Ceftriaxone and Azithromycin, finish 7 day total course with Moxifloxacin at discharge
  - 2) Check sputum GS and Culture, start empiric Levofloxacin, tailor therapy based on GS and culture results
  - 3) Check urine Legionella and Pneumococcal antigens, start empiric Moxifloxacin, tailor therapy based on urinary antigen results
  - 4) Check procalcitonin level, if normal prescribe Trimethoprim-sulfamethoxazole and Levofloxacin for 10 days

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## ARS Case #7

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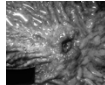
REVIEW

Journal of  
**HOSPITAL MEDICINE**

### Stress-Ulcer Prophylaxis for General Medical Patients: A Review of the Evidence

Todd Janicki, MD, MHA  
Scott Stewart, MD, MS

- Stress Ulcer Quick Facts
  - Risk Factors: major trauma, severe head injury, MODS, coagulopathy, prolonged mechanical vent, significant burns, major surgical procedures
  - PPI risks: C. diff, pneumonia, osteoporosis
  - H2B risks: pancytopenia
- The Study
  - Systematic review of general med patients to assess frequency and utility of prescribing stress ulcer ppx



(Hussain et al., S Med J 2010)

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## Use of Stress Ulcer Ppx Results

- 4085 citations led to 5 studies for review
- Frequency of Ppx: 29 – 54% of hospitalized pts
  - Low risk patients, receiving ppx 20 – 25%

TABLE 2  
Summary of Randomized, Controlled, Single-Blinded Study by Estrach et al. (1991) Comparing Magaldrate with Placebo for Prevention of Stress-Ulcer Bleeding in General Medical Patients

	Magaldrate	Placebo
Patients enrolled	52	48
Age (SD)	64.5 (16.0)	67.4 (16.1)
Men (%)	24 (46)	23 (48)
Average days in study	6.78	7.34
Deaths	7	7
Bleeding episodes		
Total (AR), P < 0.01	1 (1.9)	11 (22.9)
Severe (AR), P = NR	0 (0)	3 (6.2)
ARB for any bleeding (NS)	23 (44)	N/A
Episodes of bleeding per number of risk factors*		
1 (AR), P = NS	0 (0)	1 (1) (2.1)
2 (AR), P = 0.02	0 (0)	5 (10.4)
3 (AR), P = 0.03	1 (16.7)	5 (10.4)
ARB for any bleeding in patients with 3 risk factors (NT)	35.4 (3)	N/A

TABLE 3  
Summary of Randomized, Controlled, Unblinded Study by Grau et al. (1993) Comparing Cimetidine with Sucralfate for Prevention of Stress-Ulcer Bleeding in General Medical Patients

	Cimetidine	Sucralfate
Patients enrolled	74	70
Age (SD)	67 (12)	64 (13)
Men (%)	47 (66)	36 (53)
Days in study	8.8	8.7
Readmissions (P < 0.05)	16	7
Deaths (P = NS)	3	2
Number analyzed for analysis	71	68
Bleeding episodes		
Total (AR), P = NR	2 (2.7)	2 (2.9)
Severe (AR), P = NR	0	2 (2.9)

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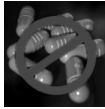
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## Tomorrow I Will ...

- Avoid prescribing stress ulcer ppx for most patients
  - Consideration may be given to patients with:
    - major trauma, severe head injury, MODS, coagulopathy, prolonged mechanical vent, significant burns, major surgical procedures




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## Case #7

- A 44 year-old female with RAD presents with SOB, wheezing, and cough. She is admitted for RAD exacerbation.
- Which of the following is NOT a potential complication of medicine prescribed for stress ulcer prophylaxis?
  - 1) Bronchospasm
  - 2) Clostridium difficile infection
  - 3) Aspiration pneumonia
  - 4) Pancytopenia

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## ARS Case #8

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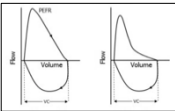
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Health Technology Assessment 2001; Vol. 5; Pdo. 26  
**Review**

**Comparison of the effectiveness of inhaler devices in asthma and chronic obstructive airways disease: a systematic review of the literature**

□ Brocklebank

- Acute COPD Quick Facts
  - 9<sup>th</sup> most common non-maternal admitting dx
  - Nebulized delivery of bronchodilators nearly 2x cost
  - Nebulized delivery associated with > tachycardia, tremor, and hypokalemia
- The Study
  - NHS commissioned review of trx for RAD and COPD



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### Comparison of Delivery Types for COPD Results

- Objective pulmonary function (FEV1)
  - 13 Studies included for review
  - Most were unblinded and small
  - No difference between Nebs vs. MDIs for bronchodilators
- Proper use of device
  - 32 Studies included
  - At baseline, use of Nebs was more appropriate
  - After teaching: no difference

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### Tomorrow I Will ...

- Prescribe bronchodilators via MDIs for acute COPD exacerbations



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### Case #8

- An 87 year-old male with pmh including severe COPD presents with dyspnea, cough, change in sputum. He reports symptoms started after recent URI. Exam reveals increased WOB and diffuse wheezing. CXR shows no infiltrates or effusions.
- Bronchodilators delivered via nebulizers provides greater improvement in lung function than delivery via Metered Dose Inhalers for acute COPD exacerbation.
  - 1) True
  - 2) False

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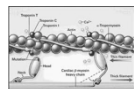
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### Summary – Do's



- Do check Post-op Trops



- Do assess iron status for HF patients, consider IV iron



- Do use MDIs instead of Nebs for COPD

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## Summary – Dont's



- Don't check RUS for AKI
- Don't order head CT scans for syncope
- Don't prescribe empiric GNR coverage for soft tissue infxn
- Don't check sputum Cx for uncomplicated CAP
- Don't prescribe stress ulcer ppx for floor patients

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- Jeff Glasheen – invitation and topic of the talk
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- Maren Stickrath – Curious George suggestion

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## Post-Test

1. Which of the following is true?
  1. Renal ultrasound is the only way to assess a the risk of hydronephrosis in AKI
  2. Carotid US is the least cost-effective test to affect diagnosis in syncope
  3. Empiric Gram (-) coverage is important to initiate for all patients that are admitted with cellulitis
  4. Most patients with a perioperative MI will have troponin elevations within 48 hours of surgery
  5. All of the above
  
2. Which of the following is true?
  1. The benefits of IV iron repletion for heart failure patients should only be reserved for cases of severe anemia
  2. Antibiotic therapy for mild community-acquired pneumonia should be tailored based on microbiologic data asap
  3. Stress-ulcer prophylaxis for general medical patients decreases the risk of serious GI bleeding events
  4. The delivery methods (nebs vs. MDIs) of bronchodilators for acute exacerbations of COPD display similar improvements in pulmonary function

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