NEPHROLOGY: “Sodium bicarbonate does NOT prevent contrast-induced nephropathy”
A study of 265 adults with a serum creatinine of at least 1.5mg/dl were randomized to receive sodium bicarbonate and normal saline versus normal saline alone for patients receiving a diagnostic coronary angiogram (this is a larger dye load than a patient would receive for a CT of the abdomen or chest). There were no differences in creatinine levels rising on day 2 thru 5.

Am J Kidney Dis 54(4); 610: October 2009

CARDIAC: “‘New left bundle branch block’ is NOT very diagnostic for AMI in chest pain patients”
In 1994, the ACC/AHA included “new left bundle branch” as suggestive of AMI and equivalent to a STEMI in chest pain patients. A recent observational study of 7,937 patients > 30 years challenges this assumption. First, a new or presumed new LBBB was a rarity found in only 0.6% of patients with chest pain. Furthermore, patients with new or presumed new LBBB were not more likely than other chest pain patients to have an AMI.


RADIOLOGY: “Abdominal radiograph is not helpful in the non-trauma ED patient”
A chart review of 874 non-trauma ED patients who had received plain abdominal radiographs (the majority for possible obstruction) were found to have 34% “normal”, 46% non-specific and 19% abnormal. Only 5% were felt to impact clinical decision-making and more definitive imaging was generally performed regardless of the plain film interpretation. The authors recommended beginning with CT scanning in possible obstruction or perforation.

Radiology 248(3); 887: September 2008

PEDIATRICS/RESPIRATORY: “Wheezing without fever is hardly ever pneumonia”
Pneumonia is a tricky diagnosis and is usually over-called. Even acknowledging this, a prospective study of 526 children found that a pneumonia diagnosis was rare with wheezing and a fever < 104 (2.2%) - and in a child with wheezing without fever, an xray should be discouraged because it was hardly ever pneumonia.

Pediatrics 124(1); e29: July 2009
BUSINESS/ETHICS: “Conflict of interest disclosures are not accurate”
Recent requirements by speakers and researchers to disclose their conflicts of interest are intended to be a corrective to warn listeners and readers to be aware of potential bias from payments made from industry to those speakers/researchers who influence others in medicine.

There are two fundamental problems with this approach: 1) If almost everyone that presents and writes on the national stage has conflicts of interest, then the potential danger of conflicts of interest get diluted by the sheer volume and assumption that this is the way science and teaching are done at that level; 2) If you are taking relatively large sums of money from industry to push their drug or device, the likelihood that you would have the ethics to fully and accurately disclose your conflicts is unlikely.

In a recent study of orthopedic physicians who were presenters at an annual orthopedic meeting, rates of disclosure of conflicts of interest related directly to the product they were discussing was only 71%. Payments from companies to presenters not related to the product they were presenting were disclosed only 50% of the time.

Disclosing conflicts of interest does not appear to be an effective means to alert readers/listeners to financial bias.

1. N Engl J Med 361(15); 1466: October 8, 2009
2. Society 46(6); 472: November 2009

GERIATRICS/SURGERY: “Abdominal pain is high risk over age 50”
The misdiagnosis rate for patients > 50 years old with abdominal pain can be as high as 52%. Nearly 60% of all patients > 50 with abdominal pain will need admission and 18-33% of them will require surgery. Fever rarely distinguishes between surgical and medical conditions.

1. Gerontology 2006; 52: 339-44

NEUROLOGY: “IV-tPA increases bleeding in patients on warfarin”
The current AHA/ASA guidelines permit IV use of tPA for ischemic stroke for persons on Coumadin as long as the baseline INR is < 1.7. However, this suggestion was a recommendation not based upon published data.

A new study questions this recommendation. A retrospective look at 107 consecutive patients who received IV-tPA found 13 patients on warfarin with an INR < 1.7. Four of the thirteen, 31%, developed symptomatic intracerebral hemorrhage within 36 hours of IV-tPA administration. The authors caution IV-tPA use in patients on warfarin even if the INR is < 1.7, and they call for larger prospective studies.

**VITALS/NURSING:**

"Blood pressure target challenged"

The official US guideline that patients with diabetes should receive treatment for BP if > 130 systolic is being scientifically challenged by 2 large studies (ACCORD and INVEST). One study of > 4,500 patients and the other of 2,400 patients came to similar conclusions in patients with type 2 diabetes that there was no difference in outcome in patients targeted for < 130 systolic versus < 140 systolic.

1. JAMA 2003; 289: 2560-71

**PHARMACY/CARDIAC:**

"Herbals interfere with heart meds"

15 million individuals in the US use herbals or high dose vitamins. Visits to alternative medicine practitioners increased by 50% during the 1990s. Reviews of medical literature for studies of interactions between herbal remedies and cardiovascular medicines, particularly warfarin. Ginko, ginger and garlic increased bleeding risk. Ginseng and green tea decreases warfarin's effect.

Licorice, ephedra, ginseng, and kelp interfere with blood pressure medications. Aloe vera and oleander can interfere with statins and other meds. The bottom line is don't use herbals - they can affect your heart medications.

J Am Coll Cardiol 2010; 55; 515-25: February 9, 2010

**CULTURAL MYTHS:**

"Organic foods are not more nutritious"

Many patients (and colleagues) pay premium price for "organic" food based upon the belief that it has less pesticide residue and superior nutritional content. A systematic review of 55 studies comparing the nutritional content of organic versus commercially grown food found no differences of any clinical significance.

Am J Clin Nutr 2009 September; 90: 680

**ORTHO/QUALITY:** "Poor compliance by physicians with low back pain guidelines"

A recent study of 3,533 episodes of new onset low back pain seen by their primary care doctor. National guidelines (some of the best we have) on low back pain recommend advice, simple analgesics and they discourage imaging. Yet 4 out of 5 PCPs did not follow these guidelines. And 1 out of 4 patients ended up with some form of imaging. These patterns of behavior did not change with the 2004 publication that updated the guidelines.

Arch Intern Med 2010; 170(3): 271-77

**CRITICAL CARE/TRAUMA:**

"Chlorhexidine baths as infection prevention"

A retrospective analysis of 253 severely injured trauma patients bathed daily with chlorhexidine compared to 253 trauma patients bathed daily without chlorhexidine showed that the chlorhexidine patients had less catheter related bloodstream infections. Ventilator associated pneumonia (VAP) was not affected but MRSA VAP was.

Arch Surg 2010; 145(3): 240-46
QUALITY: “Safety is underreported in clinical trials”
A review of 133 randomized controlled trials published in 2006 in high impact medical journals revealed that 89% of studies did include a statement about adverse events. However, 27% included no information on the severity of the event. Almost half of the studies included no information on withdrawals due to adverse events; and another third had no tables or figures regarding safety data. This study illumines and quantitates the underreporting of safety data in high impact journals which should allow one to balance benefit with harm.

Arch Intern Med 169(19); 1756: October 26, 2009

STATISTICS/HISTORY: “Internal and external validity and selection bias (eg The myth of LP and brain herniation)”
Good science is distorted by bias. The reason we do scientific studies instead of trusting solely our own experiences and observations is that bias inherently creeps in and distorts. When bias enters into a scientific study, it affects the internal validity of the study. When the study data is applied to larger populations, it affects the external validity. One of the most common biases that we encounter is selection bias (also called referral bias). An interesting example is the case series of British neurosurgeon Duffy who reported multiple cases of brain herniation following LPs. However in review of these patients, most were deathly ill with advanced brain tumors - and most if not all were showing signs of brain herniation before the LP. Extrapolating this data to the overwhelming number of patients who get LPs for other reasons is absurd. To believe that you must get a CT before LP so you don’t cause brain herniation based upon nothing else than this one case series is silly but it is a great example of how selection bias can distort the internal validity of the study - and how this internal validity applied to a larger population can distort the external validity of the study.

One out of two persons in the world have a H. pylori infection. H. pylori has been shown epidemiologically to be associated with gastric MALT lymphomas which may regress with H. pylori treatment – but MALT lymphomas are rare.

There is other epidemiological data that connects non-cardia gastric cancers to H. pylori. However eradication of H. pylori does not reverse atrophy or intestinal metaplasia – and it remains unclear whether H. pylori reduces risk of gastric cancer.

Eradication of H. pylori does provide long term cure in 80% of patients with duodenal ulcers but only if the patient is not on NSAIDs. The same is thought to hold true for gastric ulcers. Duodenal or gastric ulcers develop in only 1 to 10% of patients infected with H. pylori. There is no significant association between H. pylori eradication and GERD.

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www.epmonthly.com 11: May 2010
But patients in the ER do not present with a flare-up of their “non-NSAID duodenal ulcer” much less their “MALT lymphoma”. Patients present with “dyspepsia”. As mentioned previously, 50% of patients who undergo endoscopy for dyspepsia have no identified pathology. While patients may have a positive H. pylori test, this finding is very common with patients that don’t have upper GI complaints.

In randomized trials of therapy the H. pylori eradication for patients that have “non-ulcer dyspepsia” (normal endoscopy) there is only marginal or no benefit from treatment. So little evidence exists that would suggest that chronic H. pylori in the absence of a non-NSAID ulcer would cause upper GI problems. Since the vast majority of persons with H. pylori do not have any related disease, routine testing is not considered appropriate.

There are some providers who are attracted to a “test and treat” strategy of patients who present with dyspepsia and have a positive serum test. This is meant to be a strategy that could potentially avoid an expensive endoscopy.

The fallacy of this approach is that only a small minority of patients with dyspepsia and a positive H. pylori will have an underlying ulcer disease attributable to H. pylori. Most patients treated by a “test and treat” strategy incur additional costs and potential harms without benefit.

The other problem with this approach for a place like the ER is that serologic testing for antibodies used to detect H. pylori has a sensitivity of only 85% and a specificity of only 79% (compared to urea breath test which has 95% sensitivity and specificity).

So while the American College of Gastroenterology includes “uninvestigated dyspepsia” in a patient < 55 years old with no other alarm symptoms as an accepted population to treat H. pylori in a patient with dyspepsia; the science, cost and safety do not appear to support this (especially in the patient in whom a serological test is your primary option).

In short, the great majority of patients with H. pylori infection will not have any clinically significant related complications – and the ER is not the place to look for them or treat them.3


BOOK OF THE MONTH:
On The Take – “How Medicine’s Complicity with Big Business Can Endanger Your Health”
by Jerome Kassirer, MD, 2005

Dr Kassirer offers an unsettling look at the pervasive payoffs that physicians take from big drug companies and other medical suppliers, arguing that the billion dollar onslaught of industry money has deflected many physicians’ moral compasses and directly impacted the everyday care we receive from the doctors and institutions we trust most. Kassirer details the shocking extent of these financial enticements and explains how they encourage bias, promote dangerously misleading medical information, raise the cost of medical care and breed distrust.

Opinions expressed are not necessarily those of Wesley or ESPA. Mention of products or services does not constitute endorsement. This publication is intended as a general guide and is intended to supplement, rather than substitute, professional judgment. It covers a highly technical and complex subject and should not be used for making specific medical decisions. The materials contained herein are not intended to establish policy, procedure, or standard of care.
1. **Helicobacter pylori** is responsible for up to 50% of patients with dyspepsia.  
   T or F

2. National guidelines for low back pain have finally begun to change physician practices with few doctors ordering MRI for non-specific low back.  
   T or F

3. A new LBBB on EKG with chest pain has the equivalent outcome as a STEMI.  
   T or F

4. Sodium bicarbonate before fluids and IV contrast limits contrast nephropathy.  
   T or F

5. Only 5% of all plain abdominal films change decision making.  
   T or F

6. A new study shows that diabetics do not do any better by keeping their systolic BP < 130 compared to < 140.  
   T or F

7. Anyone on coumadin regardless of INR does work with IV-tPA with regard to systematic bleeding.  
   T or F

8. Fever helps distinguish between medical and surgical conditions for patients > 50 with abdominal pain.  
   T or F

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**Circle the one correct answer.**

To complete this educational activity, please check your test for accuracy. The correct answers can be found on the evaluation.

Dr. Mosley has disclosed that he does not have any financial relationship with any product or equipment that he writes about.

(Evaluation following)
Continuing Medical Education
QUEAS-E Update Evaluation

Please circle a response to the following:

1. Having read this CME activity, the participant should be better able to: demonstrate an increased awareness of current practices, new therapies and new technologies appropriate for patients in the Emergency Department?

   Agree  5  4  3  2  1  Disagree

2. The educational content in this CME article will be:

   Very useful  5  4  3  2  1  Not at all useful

3. In this article I learned:

   A great deal  5  4  3  2  1  Little

4. As a result of this CME article do you anticipate making a change in your practice?

   Yes [ ]  No [ ]

5. Additional comments:

6. What topics would you suggest for future articles?


For CME credit, please mail this sheet to: Wesley CME Dept., 550 N. Hillside, Wichita, KS 67214

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