Performance Improvement
Mark Mosley, MD, MPH
CME sponsored by Wesley Medical Center

ESPA, Wesley Medical Center
550 North Hillside
Wichita, KS 67214
Phone for copies: (316) 962-2313

WESLEY EMERGENCY DEPARTMENT
THE QUEAS-E UPDATE

(**Q**uality, **U**niformity, **E**ducation, **A**ttitude, and **S**ervice - in **E**mergencies)

Issue 123 August 2013

ESPA WEBSITE

ESPA stands for **E**mergency **S**ervices, **P**rofessional **A**ssociation. We are a private ER group who has been partnered with Wesley Medical for over 40 years. We have the only pediatric ER in Kansas.

ID: "No reason to isolate patients with MRSA"

For years, hospitals have screened and isolated patients on the floor and in the ICU settings. Nine states have legal mandates to screen hospitalized patients for MRSA.

There are now at least two large studies which show this practice is ineffective and should be abandoned. In 2011, a federally funded multi-center randomized trial showed that active detection and isolation was not effective in the ICU setting.[1]

A recent large randomized study of 43 hospitals published this year[2] again showed that active detection and isolation was not effective. Even targeted and universal decolonization with daily chlorhexidine baths in the ICU did nothing to change the rates of MRSA infections. This practice of screening and isolating MRSA patients, however well intended, should be abandoned given our current scientific data.

1. Huskins WC et al. N Engl J Med 2011; 364: 1407-18
2. Huang SS et al. N Engl J Med 2013; 368: 2255-65

PEDS/NEURO: "Best LP position is sitting with knees simply flexed"

Though a small study (n=28) of children 5 years old or less, it was found that the sitting position with knees simply flexed maximized the opening of disc space better than other positions (it was not studied whether this resulted in more successful taps).

Regardless, it may be worth considering trying LPs in young children in the sitting position.

Pediatrics 2010; 125: e1149-53

CARDIOLOGY: "Likelihood ratios of physical exam findings for CHF"

Physical Finding	Likelihood Ratio
Interstitial edema on CXR	12
Third heart sound	11
Hepatojugular reflux	6.4
History of CHF	5.8
JVD	5.1
Global clinical judgment	4.4
History of AMI	3.1
Increased BNP	2.92
Inspiratory crackles	2.8
Pedal edema	2.3

Of particular interest, two of the least non-specific physical findings are pedal edema and increased BNP which are two of the most commonly reported findings among many clinicians.

1. Maestre A et al. J Eval Clin Practice 2009; 15(1): 55-61
2. BMC Family Practice 2008; 9: 56
3. JAMA 2005; 294(15): 1944-56

PEDS/RESPIRATORY:
"No good science to use asthma severity scores for placement"

In our hospital, we use an asthma severity score to "help" decide placement of patients. While the intent is to simply use as a clinical tool that one can add to the overall physician judgment, the actual result is a "rule" that brings the threat of being written up "if you admit the patient to the wrong place". Statements like, "They can't go to the floor if they have a score of X" are frequent.

We should remind ourselves of the lack of good science in this area. This is in keeping with the "new" national asthma guidelines (EPR3). There are 18 different published scoring systems for asthma. Most of them have never been prospectively validated. The only good scientific study was the Pediatric Asthma Severity Score (PASS). This scoring system was predictive but only in whether or not a pediatric patient would be admitted (not to which area they should be admitted to). And of interest, the gold standard against which the score was found to be predictive was a single clinician's decision to admit. We must continue to re-educate what a "clinical tool" is and how it differs from a "rule". For now, any asthma score should be a tool, and not a hammer.

J Emerg Med 37(25); S6-S17: 2009

ENT/PAIN CONTROL/PEDS:
"No opiods for tonsillectomy patients is a misinterpretation of data"

Recently, the FDA restricted the use of codeine in patients after tonsillectomy. This has led some ENTs to stop using opiods post-tonsillectomy (and therefore they show up in the ER).

This "new story" should not be a story at all. This is a story about codeine, not about opiods.

Who is really still using "Tylenol with codeine" for children? Codeine is an old drug that is poorly affective, more expensive and has many more side effects. Most importantly, codeine is metabolized by the p450 system.

In April 2012, a case series of two deaths in children who were ultrarapid metabolizers of the p450 system and had obstructive sleep apnea and were post op adenotonsillectomy.

This is an extremely rare event in a very unique population given the wrong drug for analgesia. This should not be translated into no opiods for children post-tonsillectomy.

N Engl J Med June 6, 2013; 368; 23: 2155-57

MYTHS/STATISTICS: "Skipping breakfast making you gain weight is unproven"

This is another classic example of the media reporting a study which suggests causation when the study can show only correlation.

Many people have heard that if you skip breakfast, you end up compensating by eating more calories later in the day. This is apparently "proven" in studies in which overweight people are more likely to skip their breakfast.

But who is to say that this is cause and effect? Who is to say that maybe overweight people skip breakfast because they are overweight and want to eat less? Regardless, there is no good data which proves that skipping breakfast makes you overweight.

N Engl J Med 368; 2013: 446-54

ORTHO: "Spinal injection for low back pain unproven"

A 2009 Cochrane Collaboration Systemic Review identified 18 randomized controlled trials evaluating the effects of injections for subacute and chronic low back pain. The studies were very heterogeneous and included epidurals, facet injections, and ligamentous injections with anesthetics, steroids and other ingredients like vitamin B12. No clear pattern of benefit was proven in this review.

More recently, a meta-analysis of only epidural steroid injections in patients with radiculopathy. 23 placebo controlled trials were included and there were no significant differences between placebo and steroid in this very specific group.

One can argue, what does it hurt to try something in a person who is not getting better. We found the answer in 2012 with a fungal meningitis outbreak with contaminated steroids. Trying "something" can be harmful. This is why we do trials and reviews to prevent us from doing unnecessary medicine that can be harmful and is always expensive.

Currently there is no scientific evidence that spinal injections of any kind are beneficial in the patient with non-specific low back pain. In the patient with radiculopathy, there may be benefit with epidural steroids but it does not appear to be scientifically significant.

JAMA June 19, 2013; (309); 23: 2439-41

OB/GYN: "Using serum progesterone levels in pregnant women with bleeding and inconclusive ultrasounds"

Between 1 out of 5 to 1 out of 4 pregnant women will experience vaginal bleeding in their first trimester with roughly 1 out of 10 ending in miscarriage.

The ER's ability to evaluate vaginal bleeding and/or pain in the first trimester consists of a transvaginal ultrasound (TVUS) and often serial β-HCG measurements done 48 hours apart or more. This results in a lot of uncertainty and time.

Serum progesterone measurements combined with β-HCG measurements has the highest reliability in predicting nonviable pregnancy with a sensitivity of 88% and a specificity of 84%.

Simply getting an inconclusive TVUS and a low progesterone is very predictive of miscarriage (but serial β-HCG is still most helpful in ruling out ectopic pregnancy).

* Coming soon, we hope to have β-HCG as a bedside test.

1. Journal Family Practice 62(6); June 2013: 305-6, 316
2. BMJ 2012; 345: e6077

CRITICAL CARE/NEUROLOGY: "Decreasing blood pressure with ICH – still unclear"

Non-traumatic Intracranial Hemorrhage (ICH) has a 1 month fatality rate of 40% with only 12-39% who ultimately achieve functional independence.

There are two competing theories about elevated blood pressure during ICH. One is to let the pressure ride high to maintain perfusion to an ischemic penumbra surrounding the bleed and the other is to bring down the pressure in order to decrease further bleeding.

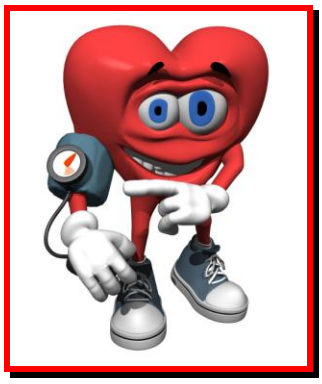
The American Heart Association suggests getting pressure lower than 160/90. This is an arbitrary cut-up not based in scientific evidence.

The INTERACT trial did show a small decrease in hematoma growth size with BP systolic kept <140 in the first 72 hours without apparent harm. (It is important to recognize that hematoma size is a surrogate marker and not the clinical outcome.)

In INTERACT 2, there was no change in hematoma growth size and a "trend" toward better outcome but it did not reach statistical significance.

Currently an ATACH II (US study) is attempting to look at this same dilemma. So while there are strong opinions on this matter, the scientific data has yet to make this a clear decision.

NEJM 368; 25: June 20, 2013



STATISTICS/PHARMACY: "Rivaroxaban (Xarelto) is not better (and is likely worse) than Coumadin"

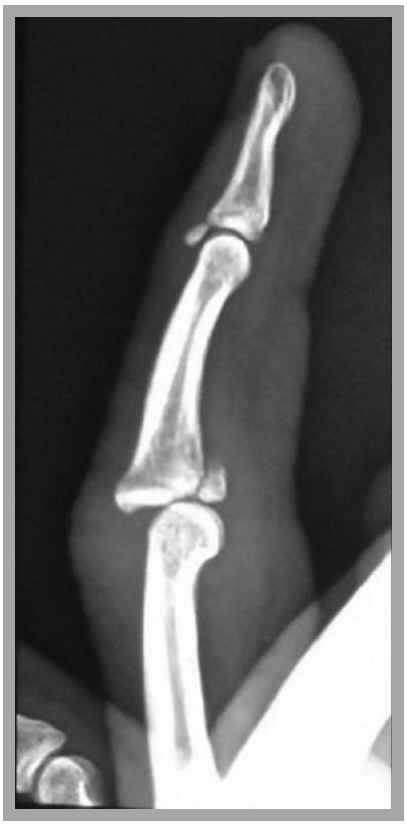
Sine Pradaxa has kind of boomed then busted, Xarelto has had a marketing campaign blitz. It is in almost every medical magazine and has made primetime TV. This is based upon a large (n=4832) drug company study in which Xarelto was compared to Coumadin, not in a head-to-head study, but in a non-inferiority study.

The people who design the study get to set the non-inferiority margin. The drug company in this study set the margin at 2.0. What does this mean? It means that the patients in the Xarelto group could have up to 2x more the number of recurrent pulmonary emboli and still meet their self-defined margin to be called "non-inferior". So when the authors report that they statically proved (p=.003) that Xarelto was as good as Coumadin that significance was how well it met their own non-inferiority margin.

The other part of this frequently quoted study that is often unknown is that the treatment duration was highly variable (3, 6, or 12 months) determined by the treating physician and the recurrence was determined largely by patients using an at-home checklist. (Both of these facts set the stage for potential bias.)

This appears to be wolf in sheep's clothing again (Pradaxa re-do) in which marketing instead of science wins the day – until two years from now after enough patients have bled medically (and all of us have bled financially) when we will say (what we should be saying now) that we will not use Xarelto until there is a good head-to-head study proving its efficacy and safety compared to Coumadin.

N Engl J Med 2012; 366(14): 1287-97



ORTHO/TRAUMA: "Hand injuries should document flexion and extension, active and passive, PIP and DIP"

It cannot be overstated to test the PIP and DIP independently and document this. The "jammed" finger that is "popped" back into place that cannot be extended at the PIP is a ruptured central extensor tendon requiring prompt surgical repair until proven otherwise. Bottom line with hand injuries is you need to get the right x-rays; you can't get lazy on your exam and you have to call the right people for follow-up.

Do "finger x-rays" not a hand x-ray. Isolate the DIP from the PIP every time you examine a finger. And document individual DIP and PIP, active and passive, flexion and extension. If you cannot tell or the patient won't participate with you splint the hand in the "safe position" and make the call directly to the hand surgeon for follow-up and not to the primary for follow-up. (EMTALA hand surgeon is only for those with no primary doctor.)

Can J Plast Surg 2007; 15: 199-203

QUEAS-E
CME
August 2013

There is now an option to take the post-test in an online format instead of submitting on paper. You can use the below link and it will take you through the same post-test that follows below the link. Our CME department is then able to access the list of who has completed the test electronically and will give CME credit as appropriate. This will hopefully make it more convenient for all to take the test and for credit to be given. You can continue to use the paper format post-test also.

https://www.surveymonkey.com/s/AugustQUEAS-E

Name_____

Date Completed_____

*Wesley Medical Center is accredited by the Kansas Medical Society to sponsor continuing education for physicians.

Wesley designates this educational activity for a maximum 0.5 *AMA PRA Category 1 Credit(s)™*. Physicians should claim credit commensurate with the extent of their participation in the activities.

1. Isolating MRSA patients in the ICU in a large study did significantly decrease MRSA infections. T or F

2. Which physical exam finding has the highest likelihood ratio:
   a. pedal edema
   b. bilateral inspiratory crackles
   c. hepatojugular reflux
   d. increased BNP

3. The PASS (Pediatric Asthma Severity Score) was predictive whether patients should be in an intensive care setting or not. T or F

4. An effective and safe drug for post-tonsillectomy patients is:
   a. liquid Lortab
   b. acetaminophen with codeine
   c. ibuprofen
   d. viscous lidocaine

5. Which of the following has proven more effective for low back pain:
   a. steroids
   b. epidural
   c. surgery
   d. none of the above

6. Xarelto has been proven to be as effective and safe as Coumadin. T or F

7. If you have a head bleed, it is "standard of care" to lower the blood pressure. T or F

8. If a first trimester pregnant woman has an inconclusive TVUS and a low Beta HCG, another test which becomes predictive and expeditious in determining miscarriage is:
   a. a high progesterone
   b. a low progesterone
   c. a repeated β-HCG
   d. a prolactin level

9. If someone jams their finger, which of the following is the most reasonable:
   a. x-ray their hand; buddy tape if not broken
   b. examine for flexion and extension at DIP and PIP; if not too tender, buddy tape and send home
   c. examine flexion and extension at DIP and PIP, order finger x-ray if tender, splint in safe position, follow up with hand surgeon if concerns

10. The best position for a child's disc spaces to be widest is:
    a. sitting with knees flexed
    b. left lateral decubitus curled up in ball

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.

(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?

(Answers to post test: 1. F 2. c 3. F 4. a 5. d 6. F 7. F 8. b 9. c 10. a)

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

Please note: This publication is designed for physicians and documentation of CME will be provided to physicians on an annual basis. For a transcript of credit for a specific timeframe, please contact the Wesley CME Department, Liz Coon, CME Coordinator @ 316-962-7898 or Liz.Coon@wesleymc.com

Credit Statement
KMS Accreditation Statement

The Wesley Medical Center is accredited by the Kansas Medical Society to provide continuing medical education for physicians. The Wesley Medical Center designates this live activity for a maximum of 0.5 *AMA PRA Category 1 Credit™.* Physicians should claim only the credit commensurate with the extent of their participation in the activity.

The Wesley Medical Center CME Committee has disclosed that it **does not** have a significant financial interest or other relationship with manufacturers of any of the products or any services.

Dr. Mark Mosley has disclosed that he **does not** have a significant financial interest or other relationship with manufacturers of any of the products or any services.