Performance Improvement
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WESLEY EMERGENCY DEPARTMENT
THE QUEAS-E UPDATE

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

Issue 119 April 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.

CARDIOLOGY: "Time is NOT muscle after two hours" or "Why door-to-balloon < 90 minutes is the wrong metric"

The ACC/AHA recommend a door-to-balloon (D2B) of < 90 minutes for STEMI undergoing percutaneous coronary intervention (PCI). The importance of this "quality metric" on clinical outcomes has had conflicting conclusions.

This Japanese study of 3391 STEMI patients compared patients with D2B < 90 minutes to patients with D2B > 90 minutes. Overall, there was no difference in outcome between the two groups – with one exception. Those patients with symptoms < 2 hours had a better outcome when D2B < 90 minutes.

This is a potentially practice-changing study because it challenges the foundational theme of AMI that "time is muscle". Time is muscle is time dependent. Once the muscle is irreparably damaged, it does not matter if you get to the cath lab < 90 minutes. Time of onset of continuous discomfort becomes much more important than the time they came through the door of your ER. This study suggests that the window to save muscle before the patient enters the door of the ER is two hours.

How does this information change what we do?

1) Everyone should routinely ask "At what time did this discomfort begin and stay continuously?"
2) We should begin to document, collect data and encourage a D2B < 90 only in patients that have a clinical benefit (eg. 2 hours or whatever time is evidence-based).
3) We should consider more thrombolysis in those patients very early in their discomfort who cannot get to a cath lab immediately.

Shiomi H et al. Br Med J 344; e3257: May 23, 2012

MYTH/GI: "Gluten-sensitivity – fad or fact"

Everyone west of Nevada appears to be on a gluten free diet – and restaurants/grocery stores have responded with a new specialty food fad. If one really wants to know if you have "gluten-sensitivity", there is a screening lab test that is > 95% sensitive. And there is another confirmatory lab test with 100% specificity. With rare exception, patients can know quickly if they are "gluten-sensitive". So quit guessing and "just trying a gluten free diet to see if it helps".

Order a serum IgA anti-tissue transglutaminase antibody to screen. If it is negative, you probably don't got it. If it is positive and you want to be more sure, you can order an IgA anti-endomysial antibody. One's diet should not be restricted during testing.

N Engl J Med 367; 25; December 20, 2012: 2419-26

RADIOLOGY/SURGERY: "An ultrasound first approach does not necessarily save time, cost or radiation exposure"

In recent reports especially among children, an "ultrasound first" approach has been advocated as an approach that saves radiation exposure without sacrificing decision-making with a sensitivity reported around 80% even in the first 12 hours of pain for presumptive appendicitis.[1]

A recent analysis[2] looking at adults and children enrolled 470 patients of which 86 were selected to have an ultrasound first approach. Of the carefully selected subset, 39 of the ultrasounds were inconclusive for a sensitivity of only 54%. While the length of stay for an ultrasound only was shorter than a CT only (214 minutes instead of 276 minutes), those inconclusive ultrasounds that were then sent for CT averaged 376 minutes. It is not at all clear that an ultrasound first saves time or cost – and while half of patients may get less radiation; it is possible that others may get a CT simply because the US is inconclusive.

1. Annals Emerg Med 60(5); November 2012: 582-90
2. Annals Emerg Med 60(45); October 2012: S 17 (abstract 44)

NEUROLOGY/RADIOLOGY: "CT sensitivity in first 6 hours of non-traumatic SAH"

More new data on this hot topic. A Dutch study in patients > 16 years old with new onset severe headache received a CT scan from a 3rd generation CT scanner with a neuroradiologist interpretation.

Out of the 250 patients with a normal level of alertness, the CT was performed within the first six hours of pain onset in 137 patients. Of these 137 patients, the sensitivity and specificity was reported to be 100%. (There was one patient with a cervical AV malformation – if counted would drop the sensitivity to 98.5%.)

This study is added to a small but growing database suggesting a LP is not necessary if the onset < 6 hours with a normal level of alertness and the CT is read by a neuroradiologist.

Stroke 43(8); 2115: August 2012

OB-GYN/CV/PHARMACOLOGY:

"Risk of hormonal use is minuet"

"Do you use hormonal contraceptives?" is a risk association that has been greatly exaggerated in the popular media as well as among many health care providers.

A 15 year Danish study looked at over 1.6 million women 15-49 years old comparing those on hormonal contraception and with those not on hormones. First, the absolute increase risk of stroke just barely increased from 2.4 patients per 10,000 to 2.5 patients per 10,000 for those with the vaginal ring and 3.1 patients per 10,000 for those on the patch. This is a minuet change depending upon the type of hormonal contraception. Progestin only oral contraceptives had no increased risk. And the numbers of patients with AMI was so low that no conclusions could be drawn.

N Engl J Med 366(24); 2257: June 14, 2012

LAW: "Poor people do not sure more"

Regardless of one's personal perceptions, the data of this appears robust and conclusive: "poor people do not sue more".

There is actually a legal financial bias towards wealthier people suing more. Lawyers' rewards are contingent upon lost wages by the client they represent. Rich people have higher lost wages and therefore make more money for their malpractice attorney.

Clin Orthop Relat Res 470(5); 1393: May 2012

PULMONARY:

"PE today is a different disease"

Years ago, "pulmonary embolus" was a clinical diagnosis which was often a massive PE with a 35% mortality. The incidence of PE was about 62 patients/100,000.

Today with CTA, the incidence is doubled at 112 patients/100,000 with a lot of these patients being just mildly symptomatic. However since the only treatment is heparinoids which are not really treatment but acute prevention, the mortality has remained unchanged.

These facts would question whether the patients in the low risk and very low risk group might be placed at greater harm of being on heparin/coumadin than any benefit from "treating" small low risk PE.

Arch Intern Med 172(12); 955: June 25, 2012

PAIN CONTROL/GI:

"Biliary colic and NSAIDs"

We have known for years that NSAIDs are beneficial for prostaglandin induced pain from kidney stones. A recent literature review and meta-analysis of 11 randomized trials of 1076 patients confirms that NSAIDs are more beneficial than placebo in biliary colic and maybe as helpful as opiods. So, for that cholelithiasis patient who you send home for follow-up with a surgeon outpatient, consider adding a prescription of meloxicam (4 dollar list and longer acting), in addition to opiods (just like kidney stone colic).

Aliment Pharm Ther 35(12); 1370: June 2012

MYTH/QUALITY:

"Intervention to reduce banana bags"

One ED medical director set out to reduce banana bags for alcoholics. He did it by two mechanisms: 1) educating the other physicians that the medical literature does not support banana bags and 2) setting up the CPOE where banana bags would have to be found ala carte. These two interventions decreased "banana bags" from 16% usage on alcoholics down to 7%.

Ann Emerg Med 59(5); 408: May 2012

CRITICAL CARE:

"Hydroxyethyl starch not superior to saline"

The CHEST study (Crystalloid versus Hydroxyethyl Starch Trial) showed no difference in mortality between patients resuscitated with either 6% Hydroxyethyl starch (HES) or normal saline in an ICU setting. (* in a previous study comparing HES to LR; HES had increased mortality)

New Engl J Med 2012; 367: 1901-11

ORTHO: "Removal of tungsten carbide rings"

Tungsten carbide rings are apparently popular "unbreakable" jewelry that cannot be cut with ring-cutters. To get these off a patient's finger, try this: get two nine inch locking vise-grips. Lock one on volar surface and lock the other on the dorsal surface. Remove both vise-grips, tighten by half turn and clamp down vise-grips in the same place. Repeat this each time until ring shatters. Takes 3x on rings done on cadaver trials.

J Emerg Med 43(1); 93: July 2012

PEDIATRICS/UROLOGY

Culture of urine specimens collected in a urine bag has an 85% false positive rate![1]

Urine dips have a 12% false negative rate.[2]

The answer for the pediatric population is usually a urine microscopy by cath if they can not produce a "clean catch" urine.

1. Pediatrics 2011; 128(3): e749-e770
2. Pediatrics 1999; 104(5): e54

GERIATRICS:

"Treating blood pressure increases falls"

Among 301,591 newly treated hypertensive community dwelling elderly patients; 1,463 acquired a hip fracture during a nine year period. Within the first 45 days of treatment, the risk of hip fracture increased by 43% compared to controls.

Here is one area that one must weigh the benefit vs harm of treating elevated blood pressure in the elderly (this is even more germane in the ER where blood pressure tends to be falsely elevated).

Arch Int Med 2012; 172(22): 1739-44

ID/PEDS: "Meningitis update"

Outside of the neonatal period, vancomycin is typically added as a front-line drug (also consider IV acyclovir).

The steroid question for kids in the US who are fully immunized is "no". Steroids (Decadron) given 10 minutes before antibiotics to decrease sensineural hearing loss is only in Hib meningitis. No other bacterial meningitis has demonstrated hearing loss.

Therefore if you have a fully vaccinated child, there is no rationale for adding steroids.

Emergency Physicians Monthly December 2012: 8

PREVENTION:

"Annual physicals in healthy adults don't help"

A Cochrane collaboration looked at randomized trials involving 182,880 patients comparing annual general health checks to no health checks.

General health checks increased the number of new diagnoses but these did not decrease morbidity or mortality. These new diagnoses also had no effect on hospitalization. This is not new information. This was initially proposed that annual health checks were not helpful by the Canadian Task Force for Preventive Services in 1979 as well as the US Preventive Services Task Force in 1989.

QUALITY: "Effect of nonpayment for preventable infections in US hospitals"

In October 2008, CMS discontinued additional payments for certain hospital acquired infections, in particular catheter-associated UTI and central catheter associated blood stream infections.

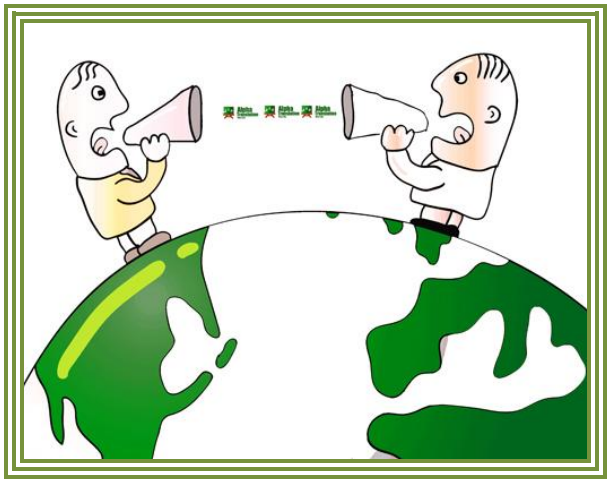
398 hospitals were reviewed to see if the implementation of this policy decreased these infections. The policy did not decrease infections.

New Engl J Med 367; 15; October 11, 2012: 1428-37

COMMUNICATION: "Interpreters help"

A recent study of 57 encounters compared 20 encounters with a professional interpreter to 27 encounters with staff working ad hoc (relatives, etc). There was a significantly lower likelihood of errors of potential consequence with professional interpreters.

Ann Emerg Med 201



BUSINESS: "ED utilization rate increasing without financial strategy"

EMTALA was signed into law by Ronald Reagan in 1986. In EMTALA, Congress attempted to define the minimum standard: in emergency settings, regardless of his or her ability to pay, no one will be denied initial evaluation and basic life-saving treatment.

EMTALA had substantial flaws and helped produce unintended consequences. In 2007, President Bush was quoted as saying "People have access to health care in America. After all, you just go to an emergency room."

First, EMTALA was an unfunded mandate. The ER became the key piece to a federal safety net for health care without a fiscal strategy to fund it. This led to the closures of many EDs especially in underserved areas. The ACA (Affordable Care Act) calls for continuation of EMTALA but again offers no plan to finance it. Those shifted costs are passed along to insured patients. The ED utilization rate is increasing at a rate disproportionate to the increase in population but with no current plan to adequately fund it.

JAMA February 20, 2012; (309)7: 665-66

QUEAS-E
CME
April 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/AprilQUEAS-E

Name_____

Date Completed_____

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1. Patients with faster door-to-balloon times do better only if the chest discomfort < 2 hours. T or F
2. Because gluten-sensitivity is a difficult diagnosis to make there are a lot of people who benefit from gluten-free diets who test normal. T or F
3. Doing an ultrasound first approach for suspect appy has been shown to be faster and cheaper. T or F
4. The sensitivity of CT read by a neuroradiologist in the first 6 hours of non-traumatic SAH has been reported to be 100%. T or F
5. Hormone use is a significant contributor to heart attack and stroke. T or F
6. Poor people sue more. T or F
7. PE mortality has changed substantially due to better diagnosis and treatment. T or F
8. If you are unsure if a bagged urine shows infection, a urine culture is definitive. T or F
9. The elderly with high blood pressures in the ER would benefit by increasing doses or adding blood pressure medications. T or F
10. A fully vaccinated child should have steroids before a meningitis work-up. T or F

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. T 2. F 3. F 4. F 5. F 6. F 7. F 8. F 9. F 10. F)

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

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