RESPIRATORY/ID:
"No data that Tamiflu helps"
While the CDC still recommends Tamiflu for high risk individuals with influenza, a recent Cochrane Review (which is an independent well respected organization with no conflicts of interest) has published the following statement:

...Because the review authors could not verify the content of a Roche-sponsored review of ten randomized trials (eight of which were unpublished), it was excluded. This changes the conclusions as there is now insufficient evidence to say whether neuraminidase inhibitors prevent complications such as pneumonia. Oseltamivir (Tamiflu) causes nausea, vomiting and retching while zanamivir (Relenza) causes diarrhea... There is no randomized controlled trial evidence to tell us whether neuraminidase inhibitors are or are not effective against pandemic influenza.

There was no mention of cost to individuals or value with regard to our health care system, but a single prescription of Tamiflu runs over $100 in most pharmacies.

Cochrane Database of Systematic Reviews 2010: Issue 12 (Cochrane Library ISSN 1464-780x)

PEDS/ENT: “Antibiotics for OM – about 10% better and 10% worse”
A recent systematic review of acute otitis media in children revealed many interesting conclusions:

- 8 studies compared amoxicillin to placebo - and found that amoxicillin performed at best about 12% better - but more recent higher-quality studies reported smaller benefits.
- 4 studies compared immediate antibiotics to a wait-and-see approach and found little difference (about 1/4 to 1/3 of wait-and-see ended up filling prescriptions).
- Out of 100 children treated with an antibiotic 3 to 10 children will get a rash and 5 to 10 will get diarrhea.
- While the pneumococcal vaccine (PCV7) has changed the microbiology of otitis with a relative increase in Hemophilus Influenza no antibiotic has been shown to be superior over another antibiotic.

(Cont'd on next page)
The diagnosis of otitis media lacks a gold standard and remains highly variable – and outcomes of studies are variable some using pain relief (patient-centered); others using otoscopy (diagnosis-centered).

At the end of the day, a lot of “ear infections” may not be true otitis media. Most otitis media in otherwise normal children goes away on its own. If an antibiotic is used, cheap ones are just as good as expensive ones. When an antibiotic like amoxicillin is chosen, it has about a 10% chance of making a child better and about a 10% chance of making them worse (diarrhea, rash, etc).

Coker T et al. “Diagnosis, Microbiol Epidemiology, and Antibiotic Treatment of Acute Otitis Media in Children - a systematic review” JAMA 2010; November 17; 304(19): 2161-69

CARDIOLOGY/CRITICAL CARE/EMS:
“AHA recommendation for amiodarone in ACLS is unjustified”
Newest recommendations by the American Heart Association (AHA) list amiodarone instead of lidocaine for v-tach/v-fib.

This recommendation comes primarily from the ALIVE trial (N=347 double-blind prospective) which compared amiodarone to lidocaine in v-tach/v-fib. While the study did show that amiodarone increased “survival to hospital admission” (22.8% versus 12%); there was no difference in clinical outcome for “survival to hospital dismissal”.

This is a classical error in spinning a research outcome which makes no clinical difference. In fact, one could argue that amiodarone dramatically increases end of life costs in the ICU compared to lidocaine, and is a drug that may be financially irresponsible.

But I think the fairest thing to say about amiodarone is that neither amiodarone or lidocaine have ever shown any benefit in mortality for ACLS. We should either shrug our shoulders and use neither; or shrug our shoulders and use either. But for the AHA to prefer amiodarone (and create widespread changes among hospital ACLS nazis) is at best scientifically unjustified and at worst dishonest (if this was financially motivated between the AHA and makers of amiodarone).

1. NEJM 2002; 346: 884-90

CRITICAL CARE/PULMONOLOGY/EMS:

“Nasal oxygen during efforts securing a tube”
A recent intubation pearl used increasingly for the morbidly obese but applicable for ALL patients in respiratory distress who require intubation – NO DESAT (Nasal Oxygen During Efforts Securing a Tube).  

Place a nasal cannula at high flow (5 liters) during pre-oxygenation under a non-rebreather or bag-valve-mask. When you take off the mask to orally intubate, you still have oxygen delivered via nasal cannula that may give you minutes before hypoxia occurs.


QUALITY/STATISTICS/SERVICE:  
“Patient satisfaction surveys are usually unreliable”

One of the primary arguments surrounding patient satisfaction scores is “How many surveys are necessary to obtain a statistical reliable look at an emergency department and its individual providers?” Press Ganey states this number is 30-50. Is this true?

The answer is that it can depend upon many critical factors:

- Size of the sample population  
  A small sample size gives disproportional weight to one outlier. So if one person out
of spite gives "1" across the board based upon one interaction (eg didn't get the pain medication they wanted) it will skew all the other "5s" given by others. It will average out to "4" but in the world of satisfaction scores "4" is not an "always" and therefore a failing grade.

Assuming a margin error of 4% and a 95% confidence interval, the minimal sample size for a population of 5000, would be 536. This is a far cry from 30-50. Our population in our ER for a quarter is above 15,000. If we went for a marginal error of 2% which is what Press Ganey shoots for, the minimum sample size for our sample population would be close to 1,500 (roughly 10%).

- **Type of response**
  The best type of response for validity is a dichotomous one like "yes" or "no" because the respondent generally understands the answer the same way as the surveyor.

  When a non-dichotomous answer is allowed like a 1-5 scale, multiple problems can occur because the respondent's understanding of the answer may be very discordant from the surveyor's. For example, CMS, HCAHPS, and administrators are looking for an "always" (5) as the passing grade, and 1-4 become equally failing. For patients a "4" may be great and essentially the same as a "5" but they don't like to answer "always" for anything in life. For many people "average" is strongly positive and for others very mediocre. A 1-5 scale is open to much misinterpretation.

  This would be much more accurate if one could create a dichotomous scale with less misinterpretation (eg "Did you always find the physician informative yes or no?") or even better "Did we meet your expectations concerning cleanliness yes or no?"

- **Interhospital comparisons invalid**

  Even when sample sizes are large enough, and data is dichotomous (yes/no): one should not compare one hospital's data with another. One can only use patient satisfaction scores to compare a hospital to itself because each hospital is affected by its own unique demographics (eg patient literacy, language barriers, payment issues, cultural ideas, population homogeneity, opposing nearby competition, etc).

  One could take a staff and hospital facilities that scored all "5s" in one community and place them in a different geographic location where they would not score 5s.

  However, while patient satisfaction scores like Press Ganey and HCAHPS are usually unreliable; patient satisfaction as a goal is extremely important. Some will say that "some measure is better than nothing". However, this is not true if people are using money as the manipulation to follow a score that is meaningless. Patient satisfaction is such an important idea that it deserves tools and measurements that are valid.

  www.epmonthly.com October 2010: 20
BUSINESS/QUALITY: "Data about CPOE"
Two most recent studies concerning computerized physician order entry (CPOE) reveal negative outcomes.

In a community hospital ED, CPOE implementation did not decrease medical errors. Another study which was an observational study of 400 patients showed that CPOE decreased productivity and decreased patient satisfaction.

Emergency Physicians Monthly Vol 17; No 11; November 2010: 11

NEUROLOGY: "Idiopathic intracranial hypertension (IIH)"
Pseudotumor cerebri was the old name that today is called Idiopathic Intracranial Hypertension (IIH). This is characterized by an obese woman of childbearing age who presents with a headache. This condition seems to be more frequent partly due to the rise in obesity.

No one knows the cause but some theories suggest impaired CSF absorption due to raised venous pressures from venous obstruction. This headache is often:
- worse in the morning
- associated with visual symptoms (blurred vision, photophobia, double vision)
- associated with intracranial noises like pulsatile tinnitus (58-87%)

The diagnosis is helped by the modified Dandy criteria:
- headache
- papilloedema
- elevated CSF (> 250mmHg) with other normal studies
- negative CT or MR

Most cases of IIH are self-limiting but visual loss is a potential long term consequence found among a small subset.

Weight loss even of moderate amounts (6%) can make a great difference. Acetazolamide at 250mg bid may help although no placebo-controlled studies have been performed. Steroids are no longer used.

Serial lumbar punctures are often requested although there is little evidence of the efficacy of this. Surgical procedures include a cerebral fluid diversion procedure like a lumboperitoneal shunt. For the frequent flyer with "pseudotumor cerebri" there is no obligation to do serial taps; rather consider referral to discuss a shunt.

One study recommends MRI with MR venography to rule out venous sinus stenosis which may be present.

1. Binder DK. "Idiopathic Intracranial Hypertension" Neurosurgery 54; 538-52; 2004

COST: "Zofran ODT"
Ondansetron (Zofran) ODT generic is coming down but it is still pricey for most. 4 tablets of 4mg ODT at Walgreens is $25. (Liquid Zofran is extremely expensive.)
**OB/GYN:** “Self-administered vaginal swabs are accurate for STD screen”

In a prospective cohort of 162 sexually active women who went to the ED and had both self-administered vaginal swabs as well as physician collected cervical swabs; they were equally accurate in screening for STDs.

_Evid Based Med_ 2009; 14: 150

**GI:** “PPIs before endoscopy for upper GI bleeding do not improve survival, re bleeding or need for surgery”

A detailed search of published and unpublished studies identified six randomized controlled trials with a sum of 2223 patients and showed that PPIs before endoscopy for upper GI bleeding do not improve survival, rebleeding, or need for surgery.

1. _Evid Based Med_
2. Cochrane Database Syst Rev; 2010; 7: CDO05415

**SURGERY/RADIOLOGY:**

“Too many CT abdomens especially in males with suspect appy”

In 1998, 18.5% of all patients underwent pre-operative CT compared with 93.2% in 2007.

In these 10 years there is an apparent association between more pre-operative CT scans and decreased negative appy rates in women of child-bearing age. But decreasing negative appy rates did not occur with more scanning in males or women > 45.

Let’s make our practice match our science. If you are thinking appy in any adult male, skip the CT and call the surgeon to examine while you wait for the white count to get back. This may also be true for the otherwise healthy woman > 45 with suspect appy.

_Radiology_ 254(2); February 2010: 460-68

**HISTORY:** “ER firsts”

January is the time we talk often about “firsts” - here are a few ER firsts:

1961 Four doctors in Virginia became the first full-time emergency room doctors.

1968 The first full-time trauma center opened at St. Vincent’s Hospital in New York City.

1969 President Lyndon Johnson called for the first national paramedic testing standards given in 1971.

1979 Emergency Medicine became an official specialty (it is hard to believe “Emergency Medicine” is such a young specialty barely over 30 years old).

_Scholastic Book of Firsts_ James Buckley Jr.

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. The new name for "pseudotumor cerebri" is:
   a. benign intracranial headache
   b. idiopathic intracranial hypertension
   c. Arnold-Chiari malformation type II

2. Zofran 4mg ODT currently costs about ______ at Walgreens for 4 tablets.
   a. $4
   b. $11.35
   c. $25
   d. $50

3. Keeping a nasal cannula on a patient at ______ liters while using BVM or non-rebreather decreases desaturation during oral intubation.
   a. 2 liters
   b. 5 liters
   c. 15 liters

4. Cochrane Review currently states there is no evidence that Tamiflu prevents complications such as pneumonia.  T or F

5. Amiodarone compared to lidocaine has been shown to improve survival for v-tach/v-fib.  T or F

6. Satisfaction surveys have the following problems:
   a. small sample sizes, non-dichotomous data, invalid interhospital comparisons
   b. small sample sizes, pharmaceutical industry bias, non-dichotomous data
   c. dichotomous data, acuity bias, small sample sizes

7. Out of 100 children treated with an antibiotic 3-10 children will get a rash or diarrhea.  T or F

8. PPIs before endoscopy for upper GI bleeding decrease re-bleeding and need for surgery.  T or F
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?