



# ABSTRACTS IN URGENT CARE

- Duration of Troponin Testing for ACS
- Tramadol Increases Risk of Hypoglycemia Requiring Hospitalization
- Base Medical Practices on Original Research, Not Press Releases
- No Brace Needed in Single-Level Osteoporotic Vertebral Fractures
- Pyuria Poor Predictor of UTI in Nephrolithiasis

■ SEAN M. MCNEELEY, MD

Each month the Urgent Care College of Physicians (UCCOP) provides a handful of abstracts from or related to urgent care practices or practitioners. Sean McNeeley, MD, leads this effort.

## Duration of Troponin Testing for ACS

**Key point:** *No definitive evidence for the 2-hour troponin rule-out for ACS.*

**Citation:** Kelly A–M, Klim S. Prospective external validation of an accelerated (2-h) acute coronary syndrome rule-out process using a contemporary troponin assay. *Int J Emerg Med.* 2014 Oct 16. doi: 10.1136/emmermed-2014-204442. [Epub ahead of print.]

As with other serious diseases, ruling out acute coronary syndrome (ACS) is a balance between not missing it and overtesting or treating patients without the condition. Much has been written about a 6- to 8- hour workup, including an electrocardiogram, troponin, and a cardiac score. This article looks to validate a similar pathway with a more sensitive troponin and a shorter duration of stay (2 hours).

This prospective cohort study was conducted in the emergency department of a community teaching facility. Eight hundred forty patients with nontraumatic chest pain met a complex exclusion criteria. Of them, 72 had a final diagnosis of ACS. One hundred seventy-seven patients had a thrombolysis in myocar-

dial infarction (TIMI) score of zero. Troponin used was a TnI-Ultra. The authors noted no major adverse cardiac events in patients with a TIMI of zero and a troponin <99 percentile. The authors do note that because of the small size of this study, it was not powered to test their hypothesis.

From the acute care provider's perspective, this study is not directly applicable at this time, but it builds on a body of evidence regarding the ability to rule out ACS in a shorter time frame. ■

## Tramadol Increases Risk of Hypoglycemia Requiring Hospitalization

**Key point:** *The risk of hypoglycemia posed by tramadol is another reason to avoid the use of this analgesic if possible.*

**Citation:** Fournier JP, Azoulay L, Yin H, et al. Tramadol use and the risk of hospitalization for hypoglycemia in patients with noncancer pain. *JAMA Intern Med.* 2014 Dec 8. doi: 10.1001/jamainternmed.2014.6512. [Epub ahead of print.]

As efforts to reduce the use of opiates continue, tramadol use has increased. Tramadol is known to cause hypoglycemia. The researchers in this case-controlled study compared the number of hypoglycemic events in patients treated with tramadol versus those treated with codeine. Hypoglycemia requiring hospitalization was the study end point. The risk with tramadol use was 52% higher than for codeine use (odds ratio, 1.51). The odds ratio was even higher (2.61) within 30 days of starting tramadol.

Considering that this study looked only at hypoglycemia significant enough to require hospitalization, the risk for severe



**Sean M. McNeeley, MD**, is an urgent care practitioner and Network Medical Director at University Hospitals of Cleveland, home of the first fellowship in urgent care medicine. Dr. McNeeley is a founding board member of UCCOP and vice chair of the Board of Certification of Urgent Care Medicine. He also sits on the *JUCM* editorial board.

hypoglycemia, although small (7/10,000), is concerning. For the acute-care provider, the fact that no drug is without potential serious adverse effects is a good reminder to consider the risks as well as the benefits in prescribing any medication. ■

### Base Medical Practices on Original Research, Not Press Releases

**Key point:** *Be sure to read the original research article before considering the value of information in any press releases about a study.*

**Citation:** Sumner P, Vivian-Griffiths S, Boivin J, et al. The association between exaggeration in health related science news and academic press releases: retrospective observational study. *BMJ*. 2014;349:g7015.

In this retrospective study, researchers attempted to describe the relationship between exaggeration in health science news and academic press releases. They compared a total of 462 press releases to the corresponding original research and news stories. Forty percent of the press releases contained exaggerated advice, 33% contained exaggerated causal claims, and 36% contained exaggerated inferences regarding humans from the findings of animal studies. As expected, news reports of studies in these three categories contained similar rates of exaggeration: 58%, 81%, and 86%, respectively. In comparison, the rates of exaggeration in news of advice, causal nature, and inferences regarding humans were 17%, 18%, and 10% respectively.

These data do go against the common belief that the news media rather than press releases are the source of exaggerations. The authors saw that as a positive finding, postulating that exaggerations might be more easily be prevented by researchers' institutions than by the news media.

From an urgent care perspective, this study highlights the importance of reviewing the original research before making changes in practice or providing advice. Another consideration is that patients are making changes to their treatment plans themselves on the basis of exaggerated benefits reported in the news media. Practitioners can use the findings of this study to explain to patients why health stories in the press must be validated by the original research before they are used as the basis for decision making. ■

### No Brace Needed in Single-Level Osteoporotic Vertebral Fractures

**Key point:** *Skip the brace (soft or rigid) in single-level osteoporotic vertebral fractures.*

**Citation:** Kim HJ, Yi JM, Cho HG, et al. Comparative study of the treatment outcomes of osteoporotic compression fractures without neurologic injury using a rigid brace, a soft brace, and no brace: a prospective randomized controlled non-inferiority trial. *J Bone Joint Surg Am*. 2014;96:1959–1966.

Options for patients with acute osteoporotic vertebral fractures include the use of a rigid brace, soft brace, or no brace. Taking into consideration potential soft-tissue injury and discomfort from braces, researchers attempted to see if the use of no brace works as well the use of rigid or soft braces. In this small randomized study, 60 patients were assigned to either no brace, a soft brace, or a rigid brace. After 12 weeks, the patients were evaluated using Oswestry Disability Index scores. Findings for the no-brace group were not inferior to findings for the two brace groups.

For the urgent care physician, this study can be referenced when braces are requested for osteoporotic compression fractures. Although the study was small and the practices of local follow-up physicians should be considered, this study at least validates the decision to not prescribe a brace for patients seen at an urgent care center. ■

### Pyuria Poor Predictor of UTI in Nephrolithiasis

**Key point:** *Classic symptoms and urine culture are the best indicators of infection in patients with acute nephrolithiasis. Pyuria proved a poor predictor.*

**Citation:** Abrahamian FM, Krishnadasan A, Mower WR, Moran GJ, Talan DA. Association of pyuria and clinical characteristics with the presence of urinary tract infection among patients with acute nephrolithiasis. *Ann Emerg Med* 2013;62(5):526-533.

Infection can complicate the diagnosis of acute nephrolithiasis. Patients with both a stone and an infection are at much greater risk of complications including sepsis. Having a method to decide who needs antibiotics before a culture grows would both reduce unnecessary administration of antibiotics and delineate those who are at greater risk of complications.

To determine what factors can be used to decide which patients also have a urinary tract infection (UTI), Investigators in California looked at 360 patients with acute nephrolithiasis diagnosed by CT scan without contrast. Of these patients, 8% were found to have UTI by culture. A positive culture was defined as single-organism growth at greater the 10<sup>3</sup> colony forming units/mL.

Unfortunately pyuria was a poor predictor of the likelihood of UTI. As with any screening test, the higher the white blood cell (WBC) count, the better the specificity, but sensitivity falls precipitously. Pyuria defined as a level greater than 5 WBCs/hpf had a sensitivity of 79% and specificity of 81% for UTI, whereas using 20 WBCs/hpf had a sensitivity of 57% and specificity of 94% for UTI. As with all UTIs, a positive nitrate was specific, but not sensitive. Female gender, fever, dysuria and previous UTI all had relative risks approaching or greater than five. ■