On Stroke Prevention in Patients with Stroke, TIA, and Atrial Fibrillation, Lung Imaging and PE, and Concussion in Children

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Each month, Dr. Nahum Kovalski reviews a handful of abstracts from, or relevant to, urgent care practices and practitioners. For the full reports, go to the source cited under each title.

New Guidelines for Prevention of Stroke in Patients with Stroke or TIA

Key point: New, evidence-based recommendations aim at reducing risk of ischemic stroke in patients who have had a stroke or transient ischemic attack.

Citation: Furie KL, Kasner SE, Adams RJ, et al. Guidelines for the prevention of stroke in patients with stroke or transient ischemic attack. A guideline for healthcare professionals from the American Heart Association/American Stroke Association *Stroke*. 2010 Oct 21. [Epub ahead of print].

The aim of this updated statement is to provide comprehensive and timely evidence-based recommendations on the prevention of ischemic stroke among survivors of ischemic stroke or transient ischemic attack.

Evidence-based recommendations are included for the control of risk factors, interventional approaches for atherosclerotic disease, antithrombotic treatments for cardioembolism, and the use of antiplatelet agents for non-cardioembolic stroke.

Further recommendations are provided for the prevention of recurrent stroke in a variety of other specific circumstances, including arterial dissections; patent foramen ovale; hyperhomocysteinemia; hypercoagulable states; sickle cell disease; cerebral venous sinus thrombosis; stroke among women, particularly with regard to pregnancy and the use of postmenopausal hormones; the use of anticoagulation after cerebral hemorrhage; and special approaches to the implementation of guidelines and their use in high-risk populations. ■

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Dabigatran Approved for Stroke Prevention in Atrial Fibrillation

Key point: The FDA has approved the oral anticoagulant dabigatran (Pradaxa) to prevent stroke and blood clots in patients with A fib.

Citation: U.S. Food and Drug Administration. FDA approves Pradaxa to prevent stroke in people with atrial fibrillation. October 19, 2010. Available at: *http://www.fda.gov/NewsEvents/Newsroom/PressAnnouncements/ucm230241.htm*

Approval follows the RE-LY trial, in which dabigatran was noninferior to warfarin in terms of a combined endpoint of stroke or systemic embolism. There were also fewer hemorrhagic strokes with dabigatran.

Where warfarin requires patients to undergo periodic monitoring with blood tests, no such monitoring is necessary with dabigatran.

The drug, a direct thrombin inhibitor, will come with a medication guide to warn patients of the potential for serious bleeding. Other side effects include gastrointestinal symptoms. ■

Lung Imaging Might Not Be Beneficial for Diagnosis of Pulmonary Embolism

Key point: A decision analysis led to the surprising conclusion that health outcomes would be maximized and costs mini-

mized by eliminating lung imaging altogether.

Citation: Duriseti RS, Brandeau ML. Cost-effectiveness of strategies for diagnosing pulmonary embolism among emergency department patients presenting with undifferentiated symptoms. *Ann Emerg Med*. 2010;56(4):321-332.

Investigators constructed a decision model to determine the most cost-effective diagnostic strategy for pulmonary embolism (PE). They evaluated 60 strategies that differed according to tests used, test order, and values of numerous parameters (e.g., cutoff for a "normal" D-dimer result).

The diagnostic tests were D-dimer measurement, lower-extremity compression ultrasonography, computed tomography (CT), pulmonary angiography, and ventilation-perfusion scanning. The analysis relied on numerous assumptions, most importantly that 1.96% of patients tested for PE actually had PE.

The most cost-effective strategy was as follows:

1. Categorize risk using Wells score modified by whether deep venous thrombosis is clinically evident.
2. Measure D-dimer, using different cutoffs for different risk categories.
3. If D-dimer negative, PE is ruled out; if D-dimer positive, perform compression ultrasonography.
4. If ultrasound is negative, PE is ruled out.
5. If ultrasound is positive, PE is ruled in; treat with no further testing.

The advantage of the preferred strategy was slight. Chest CT or ventilation-perfusion scanning to prove that PE is present or absent would not add benefit (but would add cost); this finding did not change when assumptions were varied across their plausible ranges in sensitivity analyses.

This paper challenges existing practice by suggesting that pulmonary imaging is slightly counterproductive in the diagnostic work-up of pulmonary embolism. Remarkably, the authors reached this conclusion even though they accounted for the cost of malpractice suits for missed PE. If a prospective trial validates the safety and effectiveness of this approach, a substantial reduction in chest CT scanning could ensue.

[Published in *J Watch Emerg Med*, October 1, 2010—Daniel J. Pallin, MD, MPH.] ■

Clinical Report on Concussion in Children

Key point: An AAP clinical report outlines the diagnosis and management of sport-related concussion.

Citation: Halstead ME, Walter KD, The Council on Sports Medicine and Fitness. Clinical report—Sport-related concussion in children and adolescents. *Pediatrics*. 2010;126(3):597-615.

A comprehensive report from the American Academy of Pediatrics reviews recent data and presents important recommendations about the diagnosis and management of concussion in children and adolescent athletes. Highlights of the report include the following:

- The five major features of concussion are:
  - direct blow to the head or face
  - rapid onset of short-lived impairment
  - functional rather than structural injury
  - clinical symptoms that vary in severity
  - and no abnormality on neuroimaging.

  Loss of consciousness is uncommon (<10%).
- Signs and symptoms of concussion include physical, cognitive, emotional, and sleep abnormalities.
- Loss of consciousness and amnesia might indicate more severe injury.
- On-the-field assessment should include evaluation of airway, breathing, and circulation; stabilization of the cervical spine if indicated (e.g., for athletes found unconscious); neurological examination; and orientation assessment with a brief standardized questionnaire (provided in the report's appendix).
- Conventional neuroimaging is usually normal; if concerns about intracranial hemorrhage exist, computed tomography is the test of choice during the first 24 to 48 hours after injury.
- Although neuropsychological testing following concussion has become more common, no guidelines inform when to administer such tests.
- Cognitive and physical rest is recommended following concussion. For example, school work should be modified to avoid exacerbation of symptoms.
- Concussion rehabilitation consists of five stages that precede return to play:
  1. no activity
  2. light aerobic activity
  3. sport-specific exercise
  4. non-contact training drills
  5. full-contact practice

  Athletes progress through each stage after remaining asymptomatic for 24 hours.
- A symptom-based approach—not a previously used injury grading scales—should be used to determine return to play. (Some symptom checklists are provided in the report.) Timing of return to play should be individualized, but under no circumstances should athletes return to play on the day of the concussion
- Recovery in children and adolescents typically takes seven to 10 days and is usually longer than for college or professional athletes.

This report is a "must read" for clinicians involved in the care of children or adolescents with sport-related concussion.

[Published in *J Watch Pediatr Adolesc Med*, September 29, 2010—Howard Bauchner, MD.] ■

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CODING Q & A

Many payors may not reimburse for this code. Some payors may reimburse for this code, but only if the payor has the practice you envision enrolled as a true urgent care center.

It is important to note that your practice would not accept walk-in patients during all hours of operation. Thus, this practice does not meet the UCAOA criteria of a true urgent care center. ■

ABSTRACTS IN URGENT CARE

Delaying Appendectomy May Not Be Harmful for Adults with Acute Appendicitis

Key point: Findings validate the practice of treating acute appendicitis urgently rather than emergently.

Citation: Ingraham AM, Cohen ME, Bilimoria KY, et al. Effect of delay to operation on outcomes in adults with acute appendicitis. *Arch Surg*. 2010;145(9):886-892.

The goal of the study was to determine the impact of delay from surgical admission for acute appendicitis to induction of anesthesia on outcomes after appendectomy in adults, using data from 32,782 patients submitted to the American College of Surgeons National Surgical Quality Improvement Program.

The principal exposure was time to operation, and primary study endpoints were 30-day overall morbidity and serious morbidity or mortality.

Appendectomy was performed within six hours of surgical admission in 24,647 patients (75.2%), from more than six through 12 hours in 4934 patients (15.1%), and more than 12 hours after surgical admission in 3,201 patients (9.8%).

Although there were statistically significant differences in operative duration (51, 50, and 55 minutes, respectively; p<.001), these were not clinically meaningful. Similarly, the difference in length of postoperative stay (2.2 days for the >12-hour group versus 1.8 days for the remaining groups; p<.001) was not clinically meaningful.

In regression models, duration from surgical admission to induction of anesthesia did not predict overall morbidity or serious morbidity or mortality. There were no significant differences in adjusted overall morbidity (5.5%, 5.4%, and 6.1%, respectively; p=.33) or serious morbidity or mortality (3%, 3.6%, and 3%, respectively; p=.17).

In an accompanying invited critique, it is noted that these findings validate the practice of treating acute appendicitis urgently rather than emergently. ■

OCCUPATIONAL MEDICINE

sales calls every day. Given five days per week (minus holidays) over a 50-week work year, that is *900* live sales calls a year. How can you fail?! Manage your face time well; cluster your travel, map out the routes to your destinations, and keep meetings brief and to the point.

4. **Emails.** Dedicate an hour at the end of your day (e.g., 4:00 to 5:00 p.m.) to sending an email to virtually everyone you dealt with that day (in order to review and document your interaction). Send confirmation emails concerning your next day's activities, as well.
5. **Clinic tours.** Carefully planned clinic tours for prime prospects should be an integral part of every program's marketing plans. Schedule at least *three* clinic tours each week. That's 150 tours every year, during which prospects can see firsthand what you've been talking to them about on the phone, via email, and in face-to-face meetings.

Discipline is not easy and is not much fun. I am convinced, however, that discipline is the lifeblood of success. If you really want big numbers in 2011, commit to being laser focused on what is best for your sales output each and every hour of each and every day. You may be surprised at how it all adds up. ■

A Disciplined Plan for 2011

Daily	• Complete *10* telephonic sales calls (both introductory and follow-up). • Complete three or four "live" sales calls. • Carve out an email hour including reviews, reminders of the next day's meeting, email responses, and internal briefings. • Fine-tune your time management plan for the following day. • Document your day's activity on your weekly time sheet. • Leave *five* after-hours voicemail messages for clients and/or prospects.
Weekly	• Execute the marketing tactic listed for that week. • Review the previous week's timesheet; compare to year-to-date time allocation; adjust as necessary. • Send out at least *10* introductory letters. • Ensure that you complete at least *three* clinic tours.
Annually	• Develop the following year's marketing plan by November.