



Cervical Cancer, Anaphylaxis, ACLS, Breast Cancer Screening

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CERVICAL CANCER SCREENING BEST PRACTICES¹

Although the American Cancer Society (ACS) in 2020 updated its cervical screening guidelines, proposing two major changes – start cervical cancer screening at age 25 rather than age 21, and perform primary human papillomavirus (HPV) testing instead of a pap test – a survey published earlier this year found few clinicians actually follow these recommendations. The reasons cited are multifaceted.

First, health care providers in the United States may be unsure how to reconcile conflicting cervical cancer screening guidelines from another major organization – the U.S. Preventive Services Task Force (USPSTF), which published guidelines in 2018. Although the ACS guidelines are based on an analysis of the latest evidence, their recommendations challenge those from the USPSTF, which dictates insurance coverage in the United States.

Last year the American College of Obstetricians and Gynecologists (ACOG) aligned its guidelines with those from the USPSTF, which recommends average-risk individuals start pap testing, not HPV testing, at age 21, and broadens the options to primary HPV testing, pap testing, or both together starting at age 30. ACS, on the other hand, says primary HPV testing is the preferred screening approach from the start – that is, at age 25.

Because the ACS guidelines marked a notable departure from prevailing practice, a team of researchers from five U.S. universities sought to find out if anyone was following them. The results, published in the journal *Cancer* in March of this year, revealed that most health care providers had not changed practice.²

One professor of obstetrics and gynecology at Boston University commented, “It’s really just a matter of the USPSTF and ACOG endorsing [the ACS guidelines].” The USPSTF is currently updating its cervical screening guidelines, which could potentially help reconcile this discord between the guidelines and close the gaps in practice patterns.

ANAPHYLAXIS CLINICAL PRACTICE GUIDELINES

Late in 2023, the *Annals of Allergy, Asthma & Immunology* published updates to clinical practice guidelines related to anaphylaxis.³ Recommendations include:

- 1. Diagnosis:** Clinicians should obtain a baseline serum tryptase level in patients presenting with a history of recurrent, idiopathic, or severe anaphylaxis, particularly those presenting with hypotension.
- 2. Anaphylaxis in infants and toddlers:** Because there are no criteria specific to this age group, clinicians should use current National Institute of Allergy and Infectious Disease and Food Allergy and Anaphylaxis Network or World Allergy Organization anaphylaxis criteria to assist in the diagnosis of anaphylaxis in infants/toddlers. Clinicians should prescribe either the 0.1-mg or the 0.15-mg epinephrine autoinjector dose for infants/toddlers weighing less than 15 kg.
- 3. Beta-blocker and angiotensin-converting enzyme inhibitors:** Venom immunotherapy may be prescribed for patients with a history of insect sting anaphylaxis who are treated with beta-blocker or angiotensin converting enzyme inhibitor medication.
- 4. Epinephrine autoinjectors:** Clinicians should routinely prescribe epinephrine autoinjectors to patients at higher risk of anaphylaxis. Optimal prescribing and use of epinephrine autoinjectors requires specific counseling and training of patients and caregivers.
- 5. Mast cell disorders and anaphylaxis:** Clinicians should: a) order a bone marrow biopsy with staining for tryptase, CD25 immunohistochemistry and flow cytometry, and the KIT D816V mutation when there is strong suspicion for systemic mastocytosis; b) *not* rely on serum tryptase levels alone for diagnostic assessment of the likelihood that a patient does or does not have a clonal mast cell disorder; and c) measure baseline serum tryptase in patients with severe insect sting anaphylaxis, in all cases of recurrent unexplained anaphylaxis, and in patients with suspected mastocytosis.

FOCUSED UPDATE ON ADULT ACLS⁴

The American Heart Association (AHA) published a focused update in late December 2003 to address recent literature updates on several core topics that pertain to advanced cardiac life support (ACLS). The following are some key points.

- 1. Vasopressor medications:** The AHA continues to endorse epinephrine as the first-line vasopressor choice in the setting of cardiac arrest. For non-shockable rhythms, clinicians are encouraged to administer epinephrine as soon as feasible (Class 2a). For shockable rhythms, clinicians should administer epinephrine after initial defibrillator attempts have failed.
- 2. Nonvasopressor medications:** No nonvasopressor medications have been definitively proven to improve survival after cardiac arrest. Amiodarone or lidocaine may be considered for ventricular fibrillation or pulseless ventricular tachycardia if defibrillation attempts fail (Class 2b). The AHA also advises that the routine use of calcium, sodium bicarbonate, or magnesium in cardiac arrest is not recommended.
- 3. Extracorporeal cardiopulmonary resuscitation (ECPR):** Based on updated publications since 2020 on extracorporeal cardiopulmonary resuscitation, the AHA offers a new Class 2a recommendation stating that the use of extracorporeal cardiopulmonary resuscitation may be beneficial for selected patients with cardiac arrest that is refractory to standard ACLS. Who those “selected patients” are, however, remains unclear.
- 4. Percutaneous coronary intervention (PCI) after cardiac arrests:** Although post-arrest coronary angiography with possible PCI has been a source of debate in recent years, several recent randomized studies help to clarify which patients benefit from emergency angiography versus a delayed approach. The AHA gives a Class 1 indication for emergency angiography and a possible PCI for post-arrest patients with suspected cardiac cause and persistent ST-segment elevation after return of spontaneous circulation (ROSC).

For patients without ST-segment elevation, the AHA gives a Class 2a recommendation for emergency angiography if the patient has an “elevated risk of significant coronary artery disease where revascularization may provide benefit, such as those with shock, electrical instability, signs of significant myocardial damage, or ongoing

Choosing Wisely

Originally published in the Fall 2012 issue of JLGH in conjunction with the American Board of Internal Medicine's now-complete Choosing Wisely campaign, this edited reprint is offered to remind physicians of the importance of talking with patients about what tests, treatments, and procedures are needed — and which ones are not.

RECOMMENDATIONS FROM THE AMERICAN COLLEGE OF PHYSICIANS

- 1 In the evaluation of patients with simple syncope and a normal neurological examination, don't obtain brain imaging studies (CT or MRI).** In patients with witnessed syncope but no suggestion of seizure and no report of other neurologic symptoms or signs, the likelihood of a central nervous system problem being the cause of the event is extremely low and patient outcomes are not improved by brain imaging studies.
- 2 In patients with suspected venous thromboembolism (VTE) and a low pre-test probability of VTE, the initial diagnostic test should be a high-sensitivity D-dimer measurement, not imaging studies.** In such patients, i.e., those with a low pretest probability of VTE as defined by the Wells prediction rules, a negative high-sensitivity D-dimer measurement effectively excludes VTE and the need for further imaging studies. The American College of Radiology also includes pulmonary embolism in this context. They state that we should not be imaging for suspected pulmonary embolism (PE) without moderate or high pre-test probability. While DVT and PE are relatively common clinically, they are rare in the absence of elevated blood D-dimer levels and certain specific risk factors. Imaging, particularly CT pulmonary angiography, is a rapid, accurate, and widely available test, but has limited value in patients who are very unlikely to have a PE based on serum and clinical criteria. Imaging is not helpful to confirm or exclude PE for patients with low pre-test probability of PE.⁵

ing ischemia.” In the absence of these factors, recent evidence strongly suggests that emergency coronary angiography can be performed in a delayed or selective strategy. The AHA also specifies that these recommendations exist regardless of the patient's post-ROSC neurologic status (Class 2a).

- 5. Temperature control:** Nothing has changed here except the term “targeted temperature management” has been replaced with “temperature

control.” The AHA provides a Class 1 recommendation that post-arrest adults who do not follow commands after ROSC should receive treatment that is intended to maintain their core body temperature between 32°C and 37.5°C. That should be maintained for at least 24 hours.

NEW BREAST CANCER SCREENING RECOMMENDATION⁶

As with cervical cancer, breast cancer remains an area where conflicting recommendations between specialty groups persist. The incidence of breast cancer in women ages 40-49 rose 2% per year from 2015 to 2019.

Noting that foundational data on the effectiveness of breast cancer screening has not changed, the U.S. Preventive Services Task Force (USPSTF) earlier this year relied preliminarily on statistical modeling using data from six different breast cancer registries to analyze questions of starting and stopping ages and screening intervals.

The USPSTF recommendation grading scheme reports on both certainty of evidence and net benefits (benefits minus harms). A “B” recommendation is for moderate evidence of a moderate net benefit, and a “C” recommendation is for moderate evidence of a small net benefit. Recommendations are:

1. Screening is recommended every two years in women ages 40-74 years (B recommendation). The clinical considerations section states that conventional mammography or digital breast tomosynthesis (DBT, 3-D mammography) are both effective.
2. There is insufficient evidence for:
 - Screening in ages 75 and above.
 - Breast ultrasound or MRI for dense breast tissue.

Heterogeneous recommendations for breast cancer screening from other specialty societies complicate the public health message, although the USPSTF’s new recommendation helps to reduce the differences. For instance, the American College of Obstetricians and Gynecologists suggests offering screening between ages 40-49 years and recommends screening every one to two years between ages 50 and “at least” 75 years.

The American Cancer Society suggests offering the option to start yearly screening between ages 40-44 years, recommends yearly screening routinely between ages 45-55 years, and recommends screening every one to two years for ages >55 years until life expectancy is limited to under 10 years.

Finally, the American College of Radiology recommends yearly screening starting at age 40 for average-

age risk women but endorses assessing breast cancer risk beginning as early as age 25 for high-risk populations (lifetime risk >20%) and implementing both MRI surveillance and yearly mammograms.

As noted above, the USPSTF has now included 3-D mammography as an adjunct to conventional mammography and its recommended screening methods, noting that while there is a slight increase in positive predictive value with digital breast tomosynthesis, no trials have shown that difference in outcomes with its use.

REFERENCES

1. Leask H. Cervical cancer screening: U.S. clinicians unclear about best practices. Medscape. May 1, 2024. Accessed June 12, 2024. <https://www.medscape.com/viewarticle/cervical-cancer-screening-us-clinicians-unclear-about-best-2024a10008fq>
2. Michel AD, Fontenot HB, Fuzzell L, et al. Attitudes toward the American Cancer Society’s 2020 cervical cancer screening guidelines: a qualitative study of a national sample of US clinicians. *Cancer*. 2024;130(13):2325-2338.
3. Golden DBK, Wang J, Wasserman S, et al. Anaphylaxis: a 2023 practice parameter update. *Ann Allergy Asthma Immunol*. 2024;132(2):124-176.
4. Perman SM, Elmer J, Maciel CB, et al. 2023 American Heart Association focused update on adult advanced cardiovascular life support: an update to the American Heart Association guidelines for cardiopulmonary resuscitation and emergency cardiovascular care. *Circulation*. 2024;149(5):e254-e273.
5. Torbicki A, Perrier A, Konstantinides S, et al. Guidelines on the diagnosis and management of acute pulmonary embolism: the Task Force for the Diagnosis and Management of Acute Pulmonary Embolism of the European Society of Cardiology (ESC). *Eur Heart J*. 2008;29(18):2276-2315.
6. U.S. Preventive Services Task Force. Screening for breast cancer: U.S. Preventive Services Task Force recommendation statement. *JAMA*. 2024;331(22):1918-1930.

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The museum is open Wednesday through Saturday, 11:00 a.m. to 3:00 p.m., except for the first Saturday of each month, when it is closed. Admission is free to Lancaster General Health employees with a badge and children under 3; \$8:00 for all others.