TOP TIPS FROM FAMILY PRACTICE

Beers Criteria, Heart Guidelines, Radon-Leukemia Link, Breast Cancer Screening

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BEERS CRITERIA MEDICATION UPDATE[1]

The most recent update to the American Geriatric Society Beers Criteria® includes new guidance on several medications commonly used in primary care.

The Beers Criteria were established by the American Geriatric Society in 1991 as a guide for physicians about medications that may possess more risk than benefits in older patients, specifically those aged 65 years and older. A discussion of deprescribing using the Beers Criteria as a guide was recently published in this journal.[2]

Approximately 100 medications comprise the list. Criteria used to establish the list include medications to avoid in individuals over the age of 65 years in an outpatient setting, medications to avoid in certain medical conditions, medications to avoid that may interact with other medications, medications to avoid with renal impairment, and medications to avoid where harmful side effects outweigh possible benefits. The American Geriatric Society updates the list as new published evidence becomes available.

Regarding anticoagulation, warfarin should be avoided as initial therapy and apixaban should be used in patients with reduced renal function. This is based on new evidence regarding nonvalvular atrial fibrillation and venous thromboembolism. In addition, the use of aspirin is no longer recommended in older adults.

Although many of us have been moving away from prescribing sulfonylureas for some time, the Beers Criteria now suggest we avoid prescribing all sulfonylureas in our patients over 65 years of age. This is an update from the suggestion in previous iterations that we avoid the long-acting formulations of these medications. If a sulfonylurea is necessary, use of a short-acting agent is advised.

Keep in mind that these are broad recommendations and not patient specific. Clinicians should evaluate individual medical needs on a case-by-case basis.

GUIDELINES UPDATED FOR NONCARDIAC SURGERY

The 2024 Guidelines for Perioperative Cardiovascular Management for Noncardiac Surgery, published in *Circulation*,[3] offer evidence-based guidance from preoperative assessment through postoperative care. Key updates and recommendations include:

- Team-based care is emphasized for managing patients with complex anatomy or unstable cardiovascular disease.
- Preoperative stress testing should be performed judiciously, particularly in lower-risk patients, and only when it is appropriate independent of the planned surgery.
- A stepwise approach to perioperative cardiac assessment is recommended to help clinicians determine when surgery should proceed or when further evaluation is necessary.
- New therapies for diabetes, heart failure, and obesity have potential perioperative morbidity. Sodium-glucose cotransporter-2 inhibitors should be discontinued three to four days before surgery to reduce the risk of perioperative ketoacidosis.
- Diagnosing myocardial injury after noncardiac surgery (MINS) requires that there be evidence of injury, for example with a change in troponin levels, as well as the exclusion of non-ischemic causes. Management must be individualized depending on the degree of injury.
- Perioperative bridging of oral anticoagulant therapy should be used selectively and reserved for patients with the highest risk of thrombotic complications.
- In patients with unexplained hemodynamic instability, emergency-focused cardiac ultrasound can be used for perioperative evaluation.
- Frailty assessment is recommended in patients aged 65 years and older or those under 65 years with perceived frailty. The Fried frailty phenotype criteria is one assessment tool that can be used.[4]
- The Duke Activity Status Index (DASI) is recommended for estimating functional capacity in patients undergoing elevated-risk surgery. Functional capacity below 4 METs is linked to a higher risk of adverse perioperative cardiovascular events.
- For patients with known cardiovascular risk fac-

tors, a 12-lead electrocardiogram is recommended preoperatively to establish a baseline and to guide perioperative management.

- Patients with valvular heart disease or pulmonary hypertension should be evaluated for right ventricular dysfunction, which is associated with perioperative cardiovascular risks. Echocardiography may be used for this assessment.

RADON, EVEN AT LOW LEVELS, LINKED TO CHILDHOOD LEUKEMIA[5]

A study of more than 700 counties across multiple U.S. states found a link between childhood leukemia and levels of radon gas, including those lower than the federal guideline for mitigation. The research was published last September in *Science of the Total Environment* and described an 18-year statistical modelling study of counties across 14 states.[6]

Radon, a naturally occurring gas, is a product of the radioactive decay of uranium, which is present in certain rocks and soils. When radon escapes from the ground, it decays and emits radioactive particles that can collect in body tissues. Those particles can then damage or destroy cell DNA which can cause cancer.

Becquerels per cubic meter (Bq/m^3) is a unit for expressing the concentration of radioactive decay in a given volume of air. The EPA says no level of radon is safe and advises that mitigation efforts — passive or active ventilation in basements and crawl spaces — be taken when radon concentration reaches 148 Bq/m^3. This study considered concentrations as low as half of that.

Choosing Wisely

Originally published in the Spring 2013 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 RADIOLOGY

❶ **Patients being evaluated for headache who do not have any clinical neurological findings that suggest structural disease, or risk factors such as multiple family members with brain tumors, are not likely to require an imaging study, as it probably will not change their management or improve their outcomes.** Those with a significant likelihood for structural disease obviously require immediate attention and are detected by clinical screens that have been validated in many settings. Incidental imaging findings lead to additional medical procedures and expenses that do not improve patient well-being.[7]

❷ **For suspected pulmonary embolism, do not image if there is not a moderate or high probability of positive findings.** While deep vein thrombosis and pulmonary embolism (PE) are relatively common clinically, they are rare in the absence of elevated blood D-dimer levels and certain specific risk factors. Imaging — particularly computed tomography (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.

❸ **Avoid admission or preoperative chest x-rays for ambulatory patients with an unremarkable history and physical exam.** Only 2% of such images lead to a change in management. Obviously, a chest radiograph is reasonable if acute cardiopulmonary disease is suspected or there is a history of chronic stable cardiopulmonary disease in a patient older than 70 years who has not had chest radiography within six months.

❹ **For the evaluation for suspected appendicitis in children, an ultrasound should be the first option.** In experienced hands, an ultrasound is nearly as good as a CT, reduces radiation exposure, and is cost effective. A longitudinal assessment demonstrates that diagnostic accuracy in any given institution improves with the use of an ultrasound-first protocol.[8] If the results of the ultrasound are equivocal, it may be followed by a CT.

❺ **Clinically inconsequential adnexal cysts do not require follow-up imaging.** Hemorrhagic cysts and simple cysts in women of reproductive age are almost always physiologic. Small simple cysts in postmenopausal women are common and are likewise inconsequential. Ovarian cancer, while typically cystic, does not arise in these benign-appearing cysts. After a quality ultrasound in women of reproductive age, do not recommend follow-up for classic *corpus luteum* or simple cysts under 5 cm in greatest diameter. Use 1 cm as a threshold for follow-up imaging of a simple cyst in postmenopausal women.[9]

Leukemia, the most common cancer in children, affects the blood and bone marrow. About 3,000 new cases of childhood leukemia — defined in the study and by the National Institutes of Health as involving patients up to age 19 years — are diagnosed in the United States each year. The annual incidence rate is 4.8 cases per 100,000 children.

This study demonstrated that childhood leukemia risk is associated with average radon levels below the level at which the U.S. Environmental Protection Agency recommends mitigation (148 Bq/m^3) and that elevated risks correlate with rising levels. Further research is warranted.

ACOG UPDATES BREAST CANCER SCREENING GUIDELINES

The American College of Obstetricians and Gynecologists (ACOG) late in 2024 updated its breast cancer screening guidelines, recommending that individuals at an average risk for breast cancer should begin mammography screening at age 40 years.

ACOG had previously recommended that individuals at average risk of breast cancer be offered mammography screening at age 40 years and that those who had not initiated screening in their 40s begin by age 50 years. However, new data — such as an increasing incidence of invasive breast cancer in younger women, a demonstrated greater net benefit of earlier screening, and an opportunity to improve health inequities — led to the updated recommendation.

New cases of invasive breast cancer among women aged 40-49 years increased by an average of 2% per year from 2015 to 2019, demonstrating the importance of earlier screening to identify invasive breast cancer.

Earlier initiation of breast cancer screening may also help reduce racial inequities in breast cancer outcomes for patients. Data have demonstrated that Black women have the highest rate of breast cancer mortality among all women, even when adjusting for age of the patient and stage of the cancer at diagnosis. Black women also have a higher incidence of triple-negative breast cancer.

The clinical practice update acknowledges that there are still structural inequities that must be addressed to further improve breast cancer care.

Recent evidence has further prompted ACOG to revise its recommendations for individuals assigned female at birth, including cisgender women, transgender men, and nonbinary individuals. The updated guidance includes individuals with dense breast tissue or a family history of breast cancer but excludes those with higher risk factors, such as a personal history of breast cancer or a previous high-risk lesion on a breast biopsy, genetic mutations linked to higher risk, or a history of high-dose radiation therapy to their chest at a young age.[10]

Under the new guidelines, routine screening mammography should start at age 40 and can be performed annually or every two years, based on an informed, shared decision-making process that considers the benefits and potential harms of frequent screening.

The updated recommendation to begin routine screening at age 40 is consistent with guidelines from the U.S. Preventative Services Task Force, the National Comprehensive Cancer Network, the American College of Radiology, and the Society of Breast Imaging.

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