

Choosing Wisely in Nuclear Medicine and Molecular Imaging

Nuclear medicine and molecular imaging are vital elements of today's medical practice, adding an additional dimension to diagnoses that can change the way common and devastating diseases are understood and treated. However, it is a complicated, fast-evolving specialty that is not necessarily well understood by primary care or even referring physicians. Nuclear medicine procedures are sometimes inappropriately ordered and the results not always well understood. With this in mind, SNMMI is proactively participating in the American Board of Internal Medicine Foundation's Choosing Wisely campaign.

The Choosing Wisely campaign is designed to help physicians, patients, and other health care stakeholders think and talk about the best use of health care resources in the United States. By identifying specific tests or

procedures that physician specialty societies say are commonly used but not always necessary in their respective fields, the societies aim to stimulate discussion about the need—or lack thereof—for many frequently ordered tests or treatments, many of which are requested by patients.

Each society participating in the campaign has developed a list of "Five Things Physicians and Patients Should Question." To create its list, SNMMI convened a working group made up of SNMMI leadership; presidents of the SNMMI Brain Imaging, Cardiovascular, General Clinical Nuclear Medicine,



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TABLE 1 Five Things Physicians and Patients Should Question

1. Don't use PET/CT for cancer screening in healthy individuals.
 - The likelihood of finding cancer in healthy adults is extremely low (around 1%), based on studies using PET/CT for screening. Imaging without clear clinical indication is likely to identify harmless findings that lead to more tests, biopsy or unnecessary surgery.
2. Don't perform routine annual stress testing after coronary artery revascularization.
 - Routine annual stress testing in patients without symptoms does not usually change management. This practice may lead to unnecessary testing without any proven impact on patient management.
3. Don't use nuclear medicine thyroid scans to evaluate thyroid nodules in patients with normal thyroid gland function.
 - Nuclear medicine thyroid scanning does not conclusively determine whether thyroid nodules are benign or malignant.
 - Cold nodules on thyroid scans will still require biopsy.
 - Nuclear medicine thyroid scans are useful to evaluate the functional status of thyroid nodules in patients who are hyperthyroid.
4. Avoid using a computed tomography angiogram to diagnose pulmonary embolism in young women with a normal chest radiograph; consider a radionuclide lung study ("V/Q study") instead.
 - When the clinical question is whether or not pulmonary emboli are present, a V/Q study can provide the answer with lower overall radiation dose to the breast than can CTA, even when performed with a breast shield.
5. Don't use PET imaging in the evaluation of patients with dementia unless the patient has been assessed by a specialist in this field.
 - Without objective evidence of dementia, the potential benefit of PET is unlikely to justify the cost or radiation risk.
 - Dementia subtypes have overlapping patterns in PET imaging. Clinical evaluation and imaging often provide additive information and should be assessed together to make a reliable diagnosis and to plan care.
 - For β -amyloid PET imaging, it is not currently known what a positive PET result in a cognitively normal person means; this method is not established for an individual prediction.

Nuclear Oncology, and Pediatric councils; and several at-large members. The council presidents worked with their respective members to identify examples of nuclear medicine procedures that may not be used appropriately. Members who were not a part of the councils were encouraged to submit their suggestions by e-mail. After a list was created, the working group determined the final “Five Things.”

On February 21, SNMMI joined with 16 other medical specialty societies and released its list at a press conference in Washington, DC. SNMMI’s list provides specific, evidence-based recommendations physicians and patients should discuss to help make wise decisions about the most appropriate care based on individual situations. Table 1 shows SNMMI’s list; references can be found at www.snmmi.org/choosingwisely.

This effort could have a direct impact on SNMMI members, on patients, and on the profession. This is an ideal opportunity for the nuclear medicine profession to

improve patient care by establishing a new, positive channel of communication with health care providers. The initiative is supported by influential consumer-oriented partners such as *Consumer Reports*, AARP, and Wikipedia. SNMMI has also conducted extensive public relations and communications outreach surrounding the list.

SNMMI’s participation in the Choosing Wisely campaign is indicative of the society’s dedication to increasing understanding and sound practice of nuclear medicine and molecular imaging among the medical community and consumers. By encouraging doctors and patients to talk about nuclear medicine and molecular imaging procedures, we hope to ensure that patients continue to receive the most personalized, most appropriate care and that physicians make optimal use of limited health care resources.

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