August 1, 2022

Richard Migliori, MD
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Dear Dr. Migliori,

On behalf of the Society of Nuclear Medicine and Molecular Imaging (SNMMI)[1], the American College of Radiology[2], and the Society of Interventional Radiology[3]. We appreciate the opportunity to comment on your pre-authorization denial payment for Y-90 SPECT/CT imaging. The appropriate use criteria (AUC) and practice parameters that set the standards for quality practice in the field of nuclear medicine and molecular imaging include many references to the use of SPECT/CT, and we draw on these documents to present the following evidence for more appropriate coverage of SPECT/CT for several clinical indications.[i]

SPECT/CT is not an "experimental" imaging modality. It has been in use for many years and provides significant value to nuclear medicine physicians. Furthermore, there is considerable evidence in many peer-reviewed articles that support its diagnostic value; and several examples are included in this document, including both national and international guidelines developed by multidisciplinary teams with the goals of improving patient care while minimizing long-term costs.[ii] SPECT/CT is also included in several AUC.[iii] Significantly, the new 2020 CPT® SPECT/CT codes and CMS payment schedules, which allow reimbursement for SPECT/CT, underwent considerable scrutiny prior to their adoption. However, despite this wealth of information supporting the value of SPECT/CT and everyday clinical use across the United States and elsewhere, yet United Healthcare continues to label SPECT/CT as "experimental".

We believe there is a fundamental lack of understanding among commercial payers' medical review panels regarding the everyday clinical value of SPECT/CT. SPECT/CT has the same relationship to stand-alone SPECT as PET/CT has to stand-alone PET, in that addition of CT improves diagnostic accuracy and reduces false positives and equivocal results, and thereby reduces the need for additional more costly imaging studies that delay care. SPECT/CT has evolved similarly to PET/CT: The improved anatomic localization of any abnormal uptake leads to increased confidence in image interpretation and improved accuracy in the clinical diagnosis, which in turn leads to better patient care.[iv] While there are a number of instances where planar scintigraphy or SPECT imaging without CT is sufficient, in more complex cases or when image interpretation is uncertain, SPECT/CT is the best solution.

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[1] SNMMI is a medical society composed of more than 15,000 members who set the standard for molecular imaging and nuclear medicine practice by creating guidelines, sharing information through journals and meetings, and leading advocacy on key issues that affect patient care, practice, molecular imaging and therapy, and research.
[2] The American College of Radiology (ACR®) is a professional organization representing nearly 40,000 radiologists, radiation oncologists, interventional radiologists, nuclear medicine physicians, and medical physicists. The ACR, founded in 1924, is a professional medical society dedicated to serving patients and society by empowering radiology professionals to advance the practice, science, and professions of radiologic care.
[3] The Society of Interventional Radiology (SIR) is a professional medical association representing approximately 8,000 members, including most US physicians practicing in the specialty of vascular and interventional radiology. The Society is dedicated to improving public health through pioneering advancesin minimally invasive, image-guided therapies.

Some of the ways SPECT/CT imaging can improve patient care include:

Precise localization of abnormal uptake:
The patient remains in a nearly identical position on the same scanner for the SPECT and CT images with little to no movement, which aids in the exact localization and characterization of abnormal uptake.[v] SPECT/CT is also very important when performing imaging after therapies such as hepatic tumor radiation with Y-90 microspheres. If there is inadvertent delivery of microspheres to other organs near the liver (e.g., stomach, duodenum, gallbladder or pancreas), it is almost impossible to localize this on planar or SPECT-only images, but the fused SPECT/CT images will allow precise localization.[vi]

Dosimetry and therapeutic tumor targeting:
Yitrium-90 brachytherapy for the treatment of liver cancer is an established locoregional therapy with recommendations in both the Barcelona Clinic Liver Cancer and National Comprehensive Cancer Network guidelines for hepatocellular carcinoma (HCC). Personalized dosimetry in the Y-90 brachytherapy treatment of liver cancer has demonstrated improved tumor response rates and doubled overall survival with specific mention of absorbed doses >205 Gray for HCC in the NCCN guidelines.[vii]Personalized dosimetry requires SPECT/CT to calculate prescribed doses in the therapeutic range as evidenced by the methodology in the trials referenced in the guidelines above.

Post Y-90 brachytherapy implantation SPECT/CT is critical to early identification and management of non-target embolization of Y-90 microspheres that may result in radiation ulcers and non-target organ toxicities. Additionally, the post implantation SPECT/CT allows for tumor absorbed dose calculations when evaluating for retreatment and estimating dose deposition for organ toxicity concerns particularly in the era of combination therapies.[viii]

More expedient for the patient and clinician:
SPECT/CT potentially saves time and effort for the patient, which leads to faster disease management decisions.[ix]

Next best step:
SPECT/CT can, in many cases, help guide the “next best step”, eliminating unnecessary separate imaging procedures while expediting clinical decision making.[x]

Reduced costs:
A one-step approach of performing additional SPECT/CT scans while the patient is still in the Nuclear Medicine Department can be cost-effective by aiding clinical decision making without the need for additional imaging or other tests.[xi]

Reduced radiation exposure:
Given that the CT used in SPECT/CT is a low-dose CT, the decision to acquire additional SPECT/CT scans instead of other follow-up imaging such as a diagnostic CT can reduce the overall radiation dose to the patient while maintaining or improving the overall diagnostic accuracy.[xii]

Fewer incorrect interpretations:
Being able to better localize abnormal uptake with SPECT/CT has been shown to help prevent inaccurate or equivocal interpretations.[xiii] SPECT/CT has been proven to be more sensitive and more specific than planar imaging alone in a variety of clinical situations, including sentinel lymph node localization for melanoma, head and neck cancers, breast cancer and other malignancies, the detection of regional node

metastasis in thyroid cancer, the differentiation of pulmonary thromboembolism versus other lung pathology, and more accurate localization of infections. In bone imaging, planar imaging are often unable to detect the smaller lesions, especially in the pelvis, cervical, and thoracic spine. SPECT/CT can improve not only sensitivity, but also specificity when there are indeterminate areas of increased radiotracer uptake in the bone. Examples include, metabolic grading of spinal fractures or detection of pseudoarthrosis in patients with prior spinal fusions/instrumentation. Additionally, the lower sensitivity of planar imaging may result in under-staging of patients being evaluated for cancer.[xiv] Planar imaging's lower specificity can also delay patient care when additional imaging is required to characterize indeterminate areas of uptake. The CT component of SPECT/CT alleviates this problem.

Improved timing of correlative functional and anatomic findings:
The near simultaneous functional and anatomic imaging offered by SPECT/CT improves localization of an abnormality. For example, an active gastrointestinal bleed not be seen if the SPECT and CT images are acquired at different times.[xv]

Based on this abundance of evidence, we respectfully request a revision of your policy on reimbursement for SPECT/CT imaging. SPECT/CT imaging is clearly not experimental, and SPECT/CT imaging provides a strong clinical benefit for patients. Furthermore, it is becoming the standard-of-care for high-quality nuclear medicine imaging, and SPECT-only (without CT) scanners are increasingly seen as obsolete.

In this vein, we kindly request the opportunity to discuss this issue with you. Please contact Julia Bellinger, Director of Health Policy & Regulatory Affairs, at jbellinger@snmmi.org to schedule a call.

Sincerely,

Munir Ghesani

Munir Ghesani, MD
President, SNMMI

Gregory N. Nicola M.D.

Gregory N. Nicola, MD, FACR
Chair, Commission on Economics

Ammar Sarwar, MD, FSIR
SIR, Chair, Economics Committee

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[ii] For more information on these guidelines, please see the SNMMI website: http://www.snmmi.org/ClinicalPractice/content.aspx?ItemNumber=6414

[iii] For Appropriate Use Criteria, please see the SNMMI website: http://www.snmmi.org/ClinicalPractice/content.aspx?ItemNumber=15666

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