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Reporting Nuclear Medicine Injection Extravasations as Medical Events

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Reporting Nuclear Medicine Injection Extravasations as Medical Events; Notification of Docketing and Request for Comment

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General Comment

I am an academic cardiologist who frequently uses nuclear medicine studies to risk stratify my patients with chest pain and ischemic heart disease. It is important to note that in my years of practice, I have never had any particular concerns regarding the quality of care provided by my nuclear medicine colleagues; in fact, I have come to rely heavily on their partnership in order to safely manage innumerable individuals at risk for cardiovascular events. However, the concept of extravasation as it relates to nuclear cardiology studies was recently brought to my attention. While some of the literature notes that these events are rare, the frequency and impact of the inaccurate delivery of radiation may (in my opinion) be undermined by significant limitations in our current monitoring, detection, and reporting tools. Not only could extravasation put patients at risk for the sequelae of harmful radiation exposure, but could also greatly diminish the quality and interpretability of studies where this event has occurred. If the anticipated sensitivity or specificity of a nuclear cardiovascular stress test is influenced even a bit by extravasation, the potential impact on patient care cannot (and should not) be overstated.

In the history of medicine we have learned a lot from the careful and critical evaluation (and re-evaluation) of all of our diagnostic tools. By understanding the merits and limitations of every technique, through consistent monitoring and reporting, we have been able to offer the safest and most effective care to our patients. Quality is important to patients and providers, and must be regularly vetted and optimized. Unnecessary variations in care must be identified and corrected. It is my belief that systematic monitoring of nuclear medicine injection quality, and the reporting of infiltrations to the NRC, will do exactly what we have always looked to do in contemporary clinical care ensure quality, safety, and value. It is only through the recognition and characterization of extravasation events that we can hope to improve the performance characteristics of these studies, that we can better understand the short- and longer-term sequelae of unintended tissue and skin radiation exposure, and that we can equip patients and physicians with the most appropriate data from which to make informed decisions.

It is important to note that while my work dictates that I focus much of my comments on nuclear cardiology studies, I recognize that there are potentially many other areas of nuclear medicine where unintended extravasations may likewise influence care. In summary, I strongly believe that the NRC should modify its 1980 policy and remove the current infiltration reporting exemption. Thank you for providing an opportunity and forum on which to comment about this important topic.