

I am not sure how or when, but I fear it has happened. We physicians have lost control of nuclear medicine. I came to this conclusion recently while proofreading dictations from my radiology residents. Paroxysms of unintelligible verbiage erupt from the new voice recognition software our administration so proudly installed. Incredibly, a whole new era of Unclear Medicine is dawning.

Yet, this marvel of informational inefficiency pales next to a problem that is engulfing nuclear medicine. It's not just insurance companies and lawyers anymore. Entrepreneurial interests, self-serving and none too subtle, spearhead this encroachment. I believe this atypia began with SPECT and is now metastasizing to PET. One example is attenuation correction. We search longingly for this Holy Grail in tomography. Gandhi, once asked for his opinion of Western civilization, said, "I think it would be a good idea." Attenuation correction is a great idea. The problem is that no moving, sliding, shuttering, decaying transmission sources in rods, points, or any other shape has been able to provide the answer for SPECT reliably. Notwithstanding, we are offered these high-priced options and advised to simply read around the random artifacts that result from their use. The devil still hides in the details. PET has had more attenuation correction success but at the expense of making interpretation more complex. We spend hours poring over huge image sets with and without attenuation correction to sort lesion from artifact.

PET is the most demanding aspect of our work. Relatively, it is also the



least reimbursed. I have no idea who the geniuses were who sold us down the RVU river on PET professional fees, but the unnatural ratio of almost 30:1 for technical to professional revenue has truly perverted the practice of PET. Every businessperson with spare capital is rolling out PET in a truck or the local mall and asking an "imager" to read his or her "product." At the end of a long workday, I'd rather pay the \$76 and just go home.

In PET we are also being technically flimflammed. Who says one crystal material is dead just because someone's got a different one? What do we do with all the old machines? They're too slow? When in nuclear medicine have we ever demanded throughput over accuracy? Why are we tilting at that windmill? Speed may well be the goal of the entrepreneurs leasing all the PET/CT scanners. Faster scans equal more technical revenue, after all. The people who advocate turbo-PET must also be the ones who decided for us that 2-dimensional acquisition is extinct and 3-dimensional lives, that a

few angstroms of overlap between scanning bed positions is enough regardless of artifact produced, and that resulting grainy and streaked images are of "good enough" quality. When did our motto become "Strive for Good Enough"?

We now see the rise of otherwise-capable radiologists who have "gone to a course" and consider ^{18}F -FDG just an orange PET/CT contrast agent. At our oncology conferences we regularly review very normal PET images from elsewhere where a novice reader had naively described metastases in all body parts accumulating ^{18}F -FDG. Brain, heart, and kidney "lesions" are epidemic in every community where the PET truck stopped to scan for that reader. It will get very scary out there when we get beyond ^{18}F -FDG to more sophisticated molecular tracers.

The value unique to nuclear medicine has always come from the productive interface between its basic science and clinical advocates. That creative balance, now in jeopardy, has resulted in astounding advancements that are even now becoming more evident in the cutting edge of multidisciplinary molecular imaging. There is nothing wrong with entrepreneurship. But it should be the tail the dog wags, not the other way around. When our residents leave their academic incubator to make their way in the imaging world, I am at peace with them earning 2 or 3 times our academic salaries. It is a subtle distinction, but I hope that will be the result of their work and never become the primary goal of it.

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