

Optical Imaging Shines In Vivo

Noninvasive molecular imaging can be employed to quantitatively assess numerous physiological processes in vivo and is, therefore, an ideal metric to rapidly profile the initiation and progression of disease and its response to therapy.

The entire field of molecular imaging has experienced considerable growth over the last decade, and much of this growth has come as a result of interest in preclinical imaging of small animals. Today, a myriad of imaging hardware that spans nearly all modalities is readily available. Although each modality has a unique array of advantages and limitations, the optical paradigm is among the most suitable for preclinical studies for numerous reasons, notably imaging throughput, sensitivity, ease of use, and overall cost.

Molecular imaging studies designed to assess aspects of in vivo physiology, such as response to a complex therapeutic regimen, often require large numbers of animals to reach statistical significance. Optical imaging, with routine throughput of up to 60 small animals per hour, offers a key ad-

vantage compared with other molecular imaging techniques such as PET/SPECT, where the typical throughput is much lower.

A second key advantage of optical imaging is the potential for exquisite sensitivity, with major gains in recent years stemming from developments in imaging hardware and near infrared (NIR)-based imaging reagents. Bioluminescence and fluorescence imaging are theoretically capable of similar levels of sensitivity, yet, in practice, bioluminescence imaging typically exhibits a considerable sensitivity advantage (detecting several hundred to a few thousand cells) over fluorescence imaging (tens of thousands of cells) because bioluminescence produces no background emission.

Recently, however, multispectral fluorescence imaging systems have become commercially available, and these

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MAINTENANCE OF CERTIFICATION

MOC Fees: An Inconvenient Truth

A common complaint about meeting maintenance of certification (MOC) requirements is that physicians must pay not only MOC fees and examination fees to the American Board of Nuclear Medicine (ABNM) but also fees for continuing medical education (CME) and self-assessment modules to other organizations. In fact, physicians are doubly burdened by MOC; not only must they pay all these costs, but these activities take time away from activities that generate revenue. The inconvenient truth is that the current cost of MOC (and all postgraduate medical education) is borne by physicians. Because MOC benefits everyone in the health care system, a more equitable way of sharing these costs should be developed. Some malpractice insurance companies are already giving some physician groups discounts for participating in MOC.

MOC has resulted in greatly increasing the work of the ABNM. When first established in 1971, the board had a single interaction with its diplomates, who were issued lifetime certificates. Beginning in 1992, the board began to have episodic (every 10 years) contact with its newer

diplomates, who were issued time-limited certificates. With the advent of MOC in 2006, the ABNM is endeavoring to have continuous contact with all diplomates. MOC requires all credentialing boards to have a credible, ongoing system to monitor all diplomates' professional standing, lifelong learning, and practice performance, in addition to periodic secure testing of each diplomate's specialty knowledge. To meet this increasing workload, the full-time paid staff of the ABNM has been increased from 2 to 3 and will likely be increased in the future.

Implementation of MOC is especially difficult for small boards, which cannot benefit from economies of scale. The ABNM is concerned about making sure that unnecessary costs are not passed on to diplomates. We are working with other specialty boards to minimize MOC costs to diplomates

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ABMS Launches Certification PSA

The American Board of Medical Specialties (ABMS) announced on November 23 the launch of a television public service announcement (PSA) campaign to educate Americans about the significance of physician board certification as a credential to consider when selecting a physician. The "Certification Matters: How to Choose a Doctor" PSA is being distributed as part of the "Spotlight On" series on national public television. The 5-minute program is

directed toward patient consumers, encouraging research in selecting a physician. "While the specialization of medicine has brought better, more precise care, patients can often get overwhelmed when they need to choose a new health care provider," explained Stephen H. Miller, MD, MPH, president and CEO of ABMS. "We hope that this segment encourages viewers to take an active part in who administers their care by becoming educated about the importance of board certification."

The PSA is also available on the ABMS Web site (www.abms.org), along with additional information about board certification and physician specialties. Members of the public can determine the certification status of a doctor by clicking on the "Is Your Doctor Certified?" link. The PSA is part of an ongoing campaign by the ABMS to educate the public on the purpose and value of certification. The PSA can be viewed at www.trivue.org/All_Movies/Doctors.html.

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systems are complemented by the use of NIR-based imaging reagents designed to exploit the tissue transparency window (700–900 nm). These developments have improved the sensitivity of fluorescence imaging in vivo. Finally, the reduced cost of purchasing, using, and maintaining hardware for optical imaging (which is devoid of the constraints imposed by radioactivity) is attractive for small and large imaging centers alike.

As part of a new series called Focus on MI, this issue of *The Journal of Nuclear Medicine* features a review article from Kathryn Luker, PhD, and Gary Luker, MD (see page 1), summarizing the current state of optical imaging. This article should fascinate anyone with an interest in the future of molecular imaging in the practice of medicine.

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who have multiple certifications. Although board members are not paid, they donate several weeks of their time each year to the ABNM and its diplomates. The only source of income for certifying boards is their diplomates. Because MOC will benefit all diplomates, the ABNM has developed policies to equitably distribute the cost of MOC among all of its diplomates.

The ABNM and SNM are independent organizations with many common interests. The ABNM estab-

lishes the requirements for certification and MOC but relies on other organizations, such as SNM, to provide the products (e.g., CME and self-assessment modules) to meet these requirements. The organizations providing these products independently establish their costs.

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