

Foreword



Michael H. Crawford, MD
Consulting Editor

The nuclear technique most frequently used by cardiologists is nuclear perfusion imaging, which is a fairly mature technology. However, mature technologies can be tweaked, as is demonstrated by the first three articles in this issue. The combination of a nuclear camera with CT allows for the attainment of coronary anatomic, cardiac functional, and myocardial perfusion imaging from one piece of equipment. Also, nuclear processing software continues to improve. PET scanning has now entered the mainstream with smaller equipment and the use of rubidium as a tracer. PET/SPECT cameras can now assess perfusion, function, and metabolism. Assessing cardiac viability is now fairly routine with these enhancements to cardiac imaging.

Most of this issue is devoted to new applications of nuclear imaging, which have variably penetrated the clinical arena at this time. Imaging cardiac nerves has tremendous potential given the tight link between the heart and the nervous system. Of course the Holy Grail of imaging is atherosclerotic plaque imaging, which will detect the vulnerable plaque. Perfection of this imaging challenge will revolutionize how we treat coronary artery disease. As stem cell therapies become a reality,

imaging information on cardiac cell biology will become important. Accurate quantitation of myocardial blood flow has many clinical applications. For example, it could be used to determine the functional significance of borderline lesions seen on CT angiography. Finally, nuclear imaging techniques to assess cardiac dyssynchrony and its response to resynchronization therapy show great promise, and an accurate technique to guide this therapy is desperately needed.

Cardiac nuclear imaging shows great promise for solving all these clinical cardiac imaging problems. These topics are fully discussed by the world's leading experts, who have been assembled by Dr. Bengel in this superb issue of *Cardiology Clinics*. Get ready to be wowed.

Michael H. Crawford, MD
Division of Cardiology
Department of Medicine
University of California, San Francisco Medical Center
505 Parnassus Avenue, Box 0124
San Francisco, CA 94143-0124, USA

E-mail address:
crawfordm@medicine.ucsf.edu (M.H. Crawford)