Positron Emission Tomography of the Heart. S.R. Bergmann and B.E. Sobel, eds. Futura Publishing Company, Mount Kisco, NY, 313 pp, $98.00.

Since positron emission tomography (PET) was developed by Ter-Pogossian and Phelps in 1975, the field has evolved rapidly. During these 17 yr, there have been a number of books about PET, However, there are few books devoted solely to cardiac PET. Doctors Ter-Pogossian, Sobel, Bergmann and their colleagues at Washington University created an excellent PET center for both research and clinical purposes. Their experience with cardiac PET makes them well qualified to write this authoritative text.

This book covers basic concepts of PET, including instrumentation, physics, radiopharmaceuticals and clinical aspects of cardiac PET, such as evaluation of moycardial perfusion, metabolism and sympathetic nerve function. Of the 11 chapters, the first half are devoted to describing the basic science aspects of PET. The authors translate the sophisticated concepts into practical procedures applicable to quantitative analysis of myocardial perfusion and biochemistry in vivo. The last half of the book deals with clinical aspects of cardiac PET. Since PET has the unique capability to obtain quantitative information characterizing perfusion and metabolism in vivo in human subjects, its application to cardiac disease may provide an accurate estimation of myocardial blood flow, energy metabolism and other biochemical processes. These chapters clearly demonstrate the value and limitations of quantitative analysis of myocardial blood flow and metabolic analysis. Particularly, PET should play an important role in the identification of reversible ischemia and jeopardized myocardium, and thus, the selection of appropriate treatment. The chapter on the assessment of myocardial viability written by Porenta et al. reviews this role using myocardial perfusion and glucose metabolism. I believe that this is the most important part of this book. The final chapter reviews clinical applications of cardiac PET. In this chapter, Gropler et al. again stress the importance of assessing myocardial viability as well as detecting coronary artery disease using PET.

Evaluation of oxygen metabolism and sympathetic nerve function are two chapters of special interest to me. They include old historical questions and new solutions using this new and elegant technique. They describe the limitations of assessing myocardial energy metabolism via fatty acid or glucose pathways, partly due to utilization of a wide variety of energy substrates. However, assessment of oxygen utilization using PET and ^{11}C-acetate may hold promise for direct estimation of myocardial energy metabolism. At the same time, PET should assist in the evaluation of sympathetic nervous function in the heart. These current topics are nicely covered, with recent references from 1990 and 1991. These new applications of PET will provide insights into the severity of ischemia and pathophysiology in various myocardial disorders. The clinical roles of these new techniques remain to be clarified in future study.

Drs. Bergmann and Sobel are to be congratulated for creating a book reviewing cardiac PET from both a basic and clinical point of view. I believe that the advances in diagnosis made possible by cardiac PET will contribute to the development and assessment of novel treatments and facilitate early detection of cardiac disorders. It is my hope that this book will help both investigators and clinicians to apply this powerful technique effectively in cardiac research and clinical cardiology.

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High Resolution CT of the Lung. W.R. Webb, N.L. Müller and D.P. Naidich, New York, Raven Press, 1992, 166 pp, $79.00.

This book is a state-of-the-art monograph by three leading thoracic radiologists who are experts in the field of high-resolution CT (HRCT). This book is also a scholarly review of the current literature. The content is comprehensive, extremely well organized and easy to read.

With the development of any new technique, it is essential to establish uniform and clearly defined terminology. The authors have succeeded in this regard, and it represents the greatest strength of this book. The HRCT findings are defined in relation to specific anatomic structures and, as stated by the authors, they have intentionally avoided speculation. The HRCT findings are beautifully illustrated by high quality CT images, pathologic specimens and line drawings. There is also a glossary of HRCT terms with cross references to illustrations throughout the text.

In the chapter devoted to HRCT technique, the authors have reached a practical consensus as to the recommended technique. The technique is clearly outlined along with an explanation of the underlying physical principles employed by the technique. There is also adequate discussion and illustration of common artifacts seen on HRCT images. Both normal and abnormal HRCT findings are described and illustrated in detail. The chapter devoted to abnormal findings is organized according to specific HRCT findings, with in-depth discussions of specific disease entities that present with those findings. Easy to read tables summarize common HRCT findings for specific disease. There is a single chapter devoted to HRCT of the pleura. The final chapter discusses the clinical utility of HRCT.

This book is sufficiently instructive for those not familiar with HRCT techniques and interpretation, yet comprehensive enough to be interesting reading for those who are versed in the technique. This book should be required reading for all radiology residents, thoracic radiology or CT fellows and any radiologist who performs CT examinations of the lung. It is also recommended reading for pulmonary physicians.

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Selected Atlases of Bone Scintigraphy. S.H. Abreu, D. Van Nostrand, H.A. Zeissman. Springer-Verlag, New York, 1992, 140 pp, $69.00.

This book consists of four chapters, including a series of cases of skeletal trauma, SPECT cross-sectional anatomy of the spine, pelvis, hips and skull, SPECT quality control and the normal