

# Clinical Positron Emission Tomography (PET): Correlation with Morphological Cross-Sectional Imaging

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Philadelphia, PA: Lippincott, Williams, and Wilkins Inc., 2000, 260 pages

*Related Fields of Medicine.* Imaging; PET.

*Format.* Hardcover book.

*Audience.* Nuclear medicine specialists, oncologists, neurologists, and others interested in clinical PET.

*Content.* This new atlas covers the entire field of clinical PET. Part I deals with the basic aspects of clinical PET imaging, including 7 chapters on physical principles and practical aspects, radiopharmacy, radiation doses and radiation protection, financial considerations, image fusion, and results in healthy subjects. Part II covers the brain, with 4 chapters discussing brain tumors and inflammation, epilepsy, cerebrovascular disease, and dementias. Part III is divided into 2 chapters focused on coronary artery disease and other diseases of the heart and vascular system. Part IV is dedicated to oncology, including head and neck cancer, thyroid cancer, chest tumors, breast carcinoma, tumors of the abdomen and pelvis, lymphoma, and melanoma. Part V covers inflammatory diseases. An appendix of the book deals with the status of reimbursement of PET studies in various disease states.

*Highlights.* During the past few years, the increasing significance of PET has resulted in many new textbooks and atlases. This text provides the reader with a comprehensive review of the clinical use of PET. One of the important strengths of this book is the comparison of PET with CT, MRI, and coronary angiography. The images are all of high

quality. The information contained in the 6 chapters dedicated to oncology is particularly useful, as are the tables on clinical usefulness and reimbursement, which provide an excellent summary of the current state of clinical PET in the United States and Europe (particularly Germany).

*Limitations.* With respect to whole-body tomography, imaging using transmission scans and attenuation correction would have been desirable. A discussion of the use of amino acids and D<sub>2</sub>-receptor agents for brain imaging would also have been useful. However, <sup>11</sup>C-flumazenil and <sup>13</sup>N-ammonia are discussed in the chapter on epilepsy. A chapter on neuroimaging in psychiatric diseases was not included, though the results of cerebrovascular disease imaging using <sup>15</sup>O-water are described in detail. Only 12 pages are dedicated to PET imaging of the heart, though results with <sup>13</sup>N-ammonia are presented and 1 paragraph is devoted to a discussion of cardiac receptors.

This is a well-written mixture of a textbook and an atlas providing the reader with much useful information and references to other materials on this rapidly changing subject.

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