

PET and PET-CT in Oncology

P. Oehr, H.-J. Biersack, and R.E. Coleman, eds.

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The intent of the editors and 60 coauthors was to give an overview of the present technical state of the art of PET and PET/CT that can apply to medical oncology for combining biologic approaches with molecular medicine. Generally, this book amply fulfills its goals of serving as both a reference and a starting point for physicians and technologists using PET or PET/CT for evaluating cancer patients. This book is organized into 3 parts: "Basics," "Experimental Oncology," and "Clinical Applications." Part 1 describes the physical principles of PET and PET/CT systems, the metabolism of glucose and FDG, ^{18}F -FDG production, image fusion, and quality control. Part 2 deals with experimental PET in oncology, PET in cell cultures, and animal PET in oncology. Part 3 forms a major portion of the book and focuses on the clinical applications of PET in tumors of the brain, head and neck, thyroid, lung, breast, pancreas, stomach and esophagus, liver, colon and rectum, ovaries, uterus, bladder, kidneys, prostate gland, testes, and musculoskeletal system as well as melanoma and lymphoma.

Each clinical chapter describes basic information about the incidence, etiology, epidemiology, histologic classification, diagnosis, and treatment of cancer; the use of PET in

diagnosing and staging primary and metastatic cancer; and assessment of therapeutic responses with visual and quantitative analysis in addition to technical discussion. Part 3 also deals with PET in surgery, radiotherapy, and cancer screening, as well as the cost-effectiveness and reimbursement of PET studies in Europe and the United States.

This book is well written and concise, and each chapter concludes with extensive references. There are 157 good figures, some in color, and 60 tables. However, some of the clinical chapters include relatively few illustrations. I would highly recommend this book to nuclear physicians; diagnostic radiologists; and medical, surgical, and radiation oncologists as a reference on the proper use of PET or PET/CT in managing cancer patients.

This book may also be useful to nuclear medicine technologists and to residents in nuclear medicine and radiology who are learning about modern diagnostic devices for cancer evaluation.

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