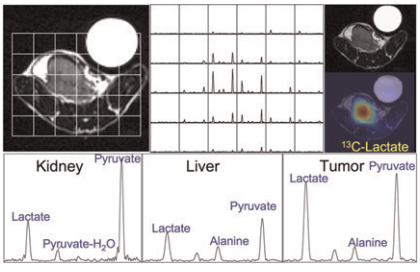
Defining a gold standard: Maurer calls the attention of the nuclear medicine community to a new interdisciplinary consensus report that establishes a standardized methodology for performing gastric emptying studies. . . . . ***Page 339***

Potential of radiopharmaceutical therapy: Divgi highlights several reasons behind the current underuse of radioisotope-based treatments and previews an article in this issue of *JNM* on locoregional therapy for hepatocellular carcinoma. . . . . ***Page 340***

Clinical ^{13}C-labeled MRS: Kurhanewicz and colleagues review the current and potential clinical roles of ^{13}C-labeled magnetic resonance spectroscopy, with a focus on applications in prostate cancer and hyperpolarized imaging of metabolic change. . . . . ***Page 341***

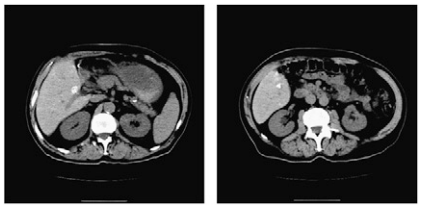


A new PET technology: Chatziioannou discusses an article in this issue of *JNM* on virtual-pinhole PET, a novel approach that provides PET imaging with the geometric considerations and associated magnification advantages of pinhole SPECT. . . . . ***Page 345***

^{11}C-MP4B radiation dosimetry: Virta and colleagues detail the estimated human radiation-absorbed doses for this radioligand with 2 data acquisition protocols and discuss possible applications in PET assessment of brain butyrylcholinesterase activity. . . . . ***Page 347***

PET/CT in colorectal restaging: Soyka and colleagues investigate the value of contrast-enhanced PET/CT as a first-line restaging tool, with a special focus on the importance of intravenous contrast. . . . . ***Page 354***

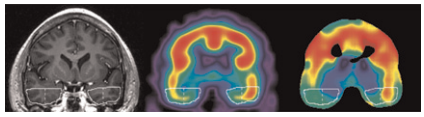
Adjuvant ^{131}I-lipiodol for resected HCC: Boucher and colleagues update follow-up results on the effectiveness of a single postoperative injection of ^{131}I-labeled lipiodol in the hepatic artery at the time of resection for hepatocellular carcinoma. . . . . ***Page 362***



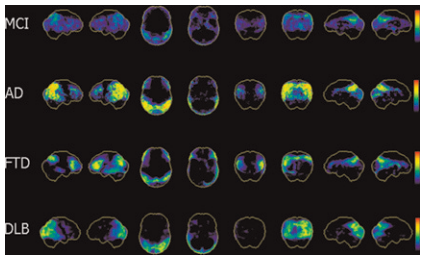
Imaging breast estrogen receptors: Peterson and colleagues compare ^{18}F-fluoroestradiol uptake on PET with in vivo immunohistochemistry assessment of estrogen receptor expression in patients with primary or metastatic breast cancer. . . . . ***Page 367***

^{99m}Tc-MDP studies of bone remodeling: Moore and colleagues compare 3 methods of measuring whole-skeleton plasma clearance of this tracer in osteoporotic women and discuss the importance of reliable quantitative measures of bone remodeling in research and treatment. . . . . ***Page 375***

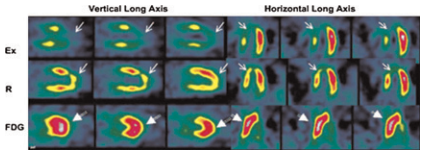
MRI-corrected SPECT: Kato and colleagues describe the use of MRI-based partial-volume effect correction in ^{123}I-iomazenil SPECT detection of cortical epileptogenic foci in patients with intractable epilepsy. . . . . ***Page 383***



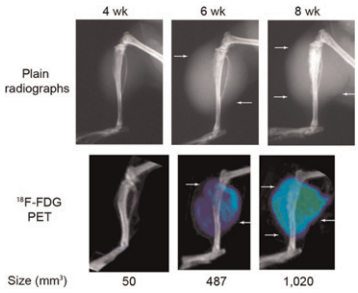
PET in early dementia: Mosconi and colleagues report on a multicenter study of standardized, automated analysis of ^{18}F-FDG PET measures in the differential diagnosis of common dementias and disease-specific patterns in mild cognitive impairment. . . . . ***Page 390***



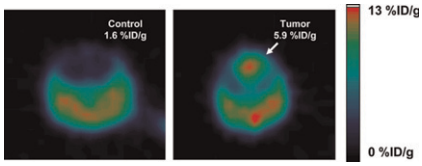
Future of nuclear stress testing: Vesely and Dilsizian provide an educational overview of SPECT and PET technologies in cardiac stress testing and describe developing areas in which these techniques will target molecular and intracellular processes and support innovative therapeutic interventions. . . . . ***Page 399***



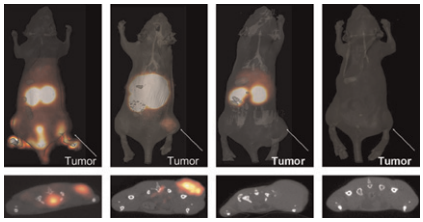
PET/CT plus conventional CT: Hsu and colleagues combine small-animal PET/CT and high-resolution CT scans to characterize lesions induced by human prostate cancer in a mouse model and discuss the potential of this approach in treatment monitoring. . . . . ***Page 414***



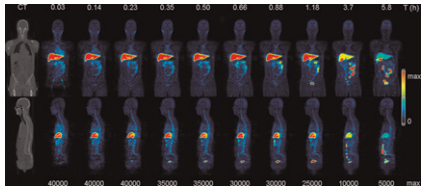
^{18}F-FLT PET in mouse gliomas: Bradbury and colleagues describe the use of ^{18}F-FLT for detecting and characterizing high-grade gliomas in mice, with the goal of developing a reliable method of kinetic analysis for the quantitative evaluation of tumor proliferation. . . . . ***Page 422***



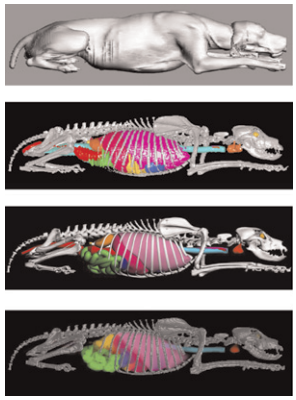
Molecular imaging of *bcl-2*: Jia and colleagues report on development and initial studies of ^{111}In-labeled conjugates targeting *bcl-2* gene expression and discuss possible applications in identifying patients with lymphoma at risk for relapse and treatment failure. . . . . ***Page 430***



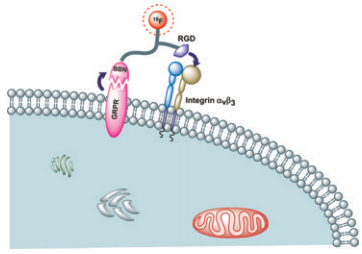
Radiation dosimetry of ^{18}F-MK-9470: Van Laere and colleagues use whole-body PET/CT to characterize the biodistribution and dosimetry of a novel high-affinity, subtype-selective radioligand for the cannabinoid type-1 receptor in humans. . . . . ***Page 439***



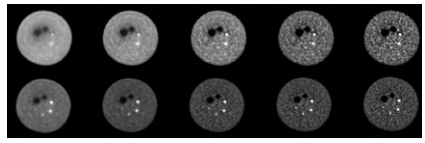
Canine dosimetry phantom: Padilla and colleagues describe the construction of a 3-dimensional computational phantom of a large dog and review the importance of canine models in current preclinical testing of antineoplastic agents. . . . . ***Page 446***



^{18}F-labeled bombesin–RGD heterodimer: Li and colleagues report on the tumor-targeting efficacy and pharmacokinetics of a peptide ligand recognizing both gastrin-releasing peptide receptors and integrin $\alpha_v\beta_3$. . . . . ***Page 453***



Time-of-flight PET: Karp and colleagues explore the benefits of time-of-flight PET techniques in experimental phantoms to determine whether and how these benefits translate into improved performance for clinical imaging. . . . . ***Page 462***

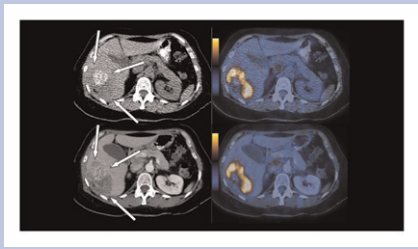


Virtual-pinhole PET: Tai and colleagues devise and test a novel geometry for PET system design that is analogous to pinhole SPECT and produces high-resolution images. . . . . ***Page 471***

^{18}F-FDG PET in oncology: Fletcher and a multiinstitutional consortium of nuclear medicine experts report on a metaanalysis of studies on ^{18}F-FDG PET in a range of cancers and provide consensus recommendations for optimal clinical applications. . . . . ***Page 480***

ON THE COVER

Data suggest that contrast-enhanced PET/CT might be considered the first-line restaging tool for suspected recurrence of colorectal cancer. At top, unenhanced PET/CT reveals a large, hypodense ^{18}F-FDG–avid lesion in the right liver lobe. At bottom, enhanced PET/CT clearly reveals the liver vessels and their relationship to the lesion and clearly identifies the lesion margins. This patient, who had been treated earlier for sigmoidal carcinoma, was referred because of an increasing carcinoembryonic antigen level. The patient underwent surgery, and the lesions were confirmed histologically.



See page 360.