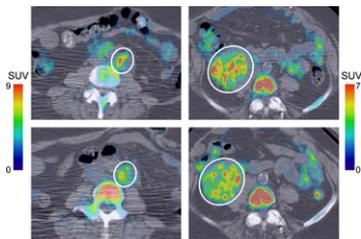


Size matters: Boellaard provides perspective on the need for harmonized PET/CT procedures and scanner performance and previews an article in this issue of *JNM* on the effects of varying standardized uptake value metrics on treatment evaluation. **Page 1**

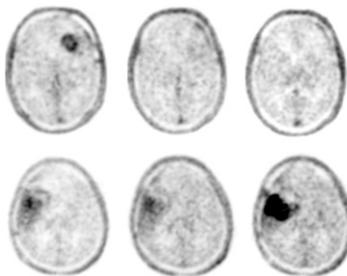
SUV_{peak} for response quantification: Vanderhoek and colleagues explore the impact of different definitions of peak region of interest on quantification of peak standardized uptake value and individual tumor response. **Page 4**



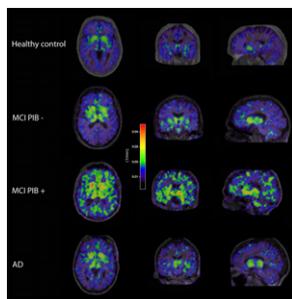
PVE correction and PET: Hatt and colleagues investigate the results of partial-volume effect correction on the predictive and prognostic value of metabolically active tumor volume measurements on ¹⁸F-FDG PET baseline scans in esophageal cancer patients. **Page 12**

EBV DNA and PET parameters: Chang and colleagues examine the association of ¹⁸F-FDG PET functional parameters and Epstein-Barr virus DNA load with clinicopathologic characteristics and clinical outcomes in patients with nasopharyngeal carcinoma. **Page 21**

PET and glioma survival: Schwarzenberg and colleagues compare the value of ¹⁸F-FLT PET and MRI for early outcome predictions in patients with recurrent malignant glioma on bevacizumab therapy. **Page 29**



PET and astrocytosis: Carter and colleagues describe a multitracer PET investigation, including ¹¹C-DED to measure monoamine oxidase B in astrocytes, conducted in healthy volunteers and individuals with varying degrees of dementia. **Page 37**



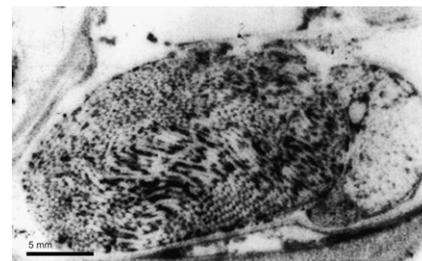
Resynchronization and myocardial scar: Xu and colleagues determine the effect of scar location, scar burden, and left ventricular lead position on cardiac resynchronization therapy outcomes. **Page 47**

“Staging” atherosclerosis: Ogawa and colleagues describe the effect of foam cell formation on ¹⁸F-FDG uptake on PET using cultured mouse peritoneal macrophages to identify the stage at which atherosclerotic lesions can be detected. **Page 55**

PET and dementia: Bohnen and colleagues provide an educational review of scientific literature since 2000, with evi-

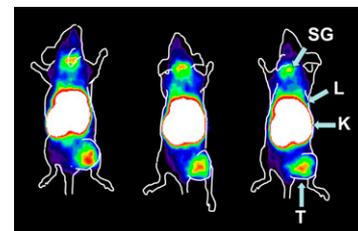
dence for the value of ¹⁸F-FDG PET in dementia growing through autopsy and clinical studies, cohort investigations, and multicenter analyses. **Page 59**

Small-scale dosimetry of testes: Larsson and colleagues present a small-scale dosimetry model for calculation of S factors for several different source-target configurations within human testicular tissue. **Page 72**



¹⁷⁷Lu-cG250 RIT: Stillebroer and colleagues estimate radiation-absorbed doses to normal tissues and tumor lesions during radioimmunotherapy with ¹⁷⁷Lu-cG250 in patients with metastasized renal cell carcinoma and assess resulting data for accuracy and correlation with toxicity. **Page 82**

IGF-1-targeting Affibody molecule: Tolmachev and colleagues evaluate the feasibility of in vivo radionuclide imaging of insulinlike growth factor type-1 receptor expression in prostate cancer xenografts using a small nonimmunoglobulin-derived binding protein. **Page 90**

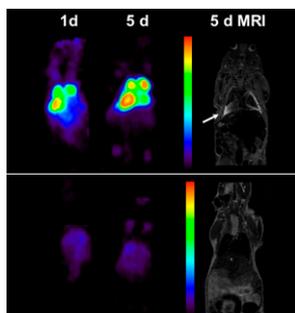


Beyond the Warburg effect: Qu and colleagues report a method to prepare L-[5-¹¹C]-

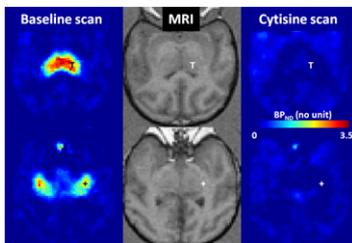
glutamine, a probe with potential use in assessing metabolism in glutaminolytic tumors, and evaluate the tracer through in vitro and in vivo studies. **Page 98**

Genotoxicity of cobalt ferrite: Hwang and colleagues explore changes in gene expression profiles influenced by silica-coated cobalt ferrite magnetic-fluorescence nanoparticles and silica-free cobalt ferrite magnetic-core nanoparticles in vivo and in vitro. **Page 106**

Targeted immuno-imaging of metastasis: Nayak and colleagues contrast the utilities of MRI and PET using ⁸⁹Zr-panitumumab to assess the status of human epidermal growth factor receptor 1 in different models of distant metastasis. **Page 113**

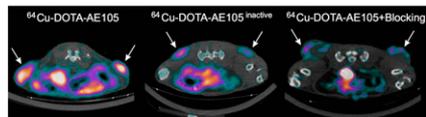


¹⁸F-AZAN PET: Kuwabara and colleagues perform preclinical studies on a new radiolabeled antagonist of the main cerebral subtype of nicotinic acetylcholine receptors and discuss the potential for clinical PET in drug investigations. **Page 121**

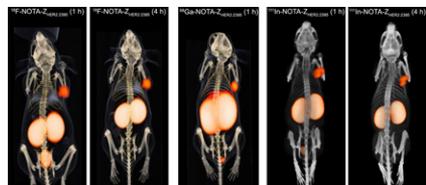


Automated LBM evaluation from PET/CT: Chan describes the development of a computerized method that assesses whole-body lean body mass based on CT data from the limited whole-body coverage typically acquired in PET/CT studies. **Page 130**

Quantitative PET and human uPAR: Persson and colleagues investigate whether PET can be used to quantify expression levels of urokinase-type plasminogen activator receptor, a biomarker of poor prognosis in a number of human cancers. **Page 138**



HER2 imaging with ¹⁸F-NOTA-Z_{HER2:2395}: Heskamp and colleagues determine whether an ¹⁸F-labeled Affibody molecule is a suitable agent for imaging of HER2 expression and describe potential applications in patient selection for targeted therapies. **Page 146**



¹²³I-Ioflupane SPECT: Djang and colleagues introduce an SNM practice guideline on dopamine transporter imaging with an agent that can detect degeneration of dopaminergic nigrostriatal pathways, allowing differentiation of some causes of parkinsonism and of essential tremor from presynaptic parkinsonian syndromes. **Page 154**

ON THE COVER

Although most functional neuroimaging research has focused on identifying cerebral changes of Alzheimer disease, the sensitivity and specificity of PET as an imaging adjunct in diagnosing other dementia conditions has also been investigated. Specific patterns of ¹⁸F-FDG hypometabolism have now been validated in association with the most common types of neurodegenerative dementias.

See page 65.

