Imaging the Aging Brain is an authoritative multi-authored reference on brain aging and imaging. This book contains chapters from experts in the fields of brain imaging, clinical neuroscience, and cognitive neuroscience who have studied the aging brain. Topics covered include technical factors in brain imaging, pathological basis of age-related structural and functional changes, neurochemistry and genetics of brain imaging in aging, and the use of imaging techniques in diagnosis, longitudinal testing, drug development and testing, and presymptomatic detection. The book is intended to be both a detailed review of the current status of brain imaging and aging and to serve as an introduction to the field for those who may be starting investigations using imaging techniques of PET, structural MRI, and functional MRI. It covers basic science approaches such as using fMRI to probe networks, as well as recent developments like amyloid imaging and the use of imaging as a biomarker in clinical trials.