This book provides detailed, state-of-the-art information and guidelines on the latest developments, innovations, and clinical procedures in image-guided and adaptive radiation therapy. The first section of this volume discusses key methodological and technological issues in image-guided and adaptive radiation therapy, including use of implanted fiducial markers, management of respiratory motion, image-guided stereotactic radiosurgery and stereotactic body radiation therapy, three-dimensional conformal brachytherapy, target definition and localization, and PET/CT and biologically conformal radiation therapy.

The second section provides practical clinical information on image-guided adaptive radiation therapy for cancers at all common anatomic sites and for pediatric cancers, and the third section offers practical guidelines for establishing an effective image-guided adaptive radiation therapy program.