

Multimodality imaging

Computed tomography (CT) and magnetic resonance image (MRI) data have been widely used to for navigation in various neurosurgical operations. However, delicate intracranial structures cannot be displayed using only one imaging method. Navigation with multimodality imaging was developed to better visualize these structures in glioma removal

see [Intraoperative magnetic resonance imaging](#).

Advanced Multimodality Image Guided OR (AMIGO).

The Advanced Multimodality Image Guided Operating (AMIGO) suite is a state-of-the-art medical and surgical research environment that houses a complete array of advanced imaging equipment and interventional surgical systems. Multidisciplinary teams of specialists use this equipment array and the unique design of the suite to efficiently and precisely guide treatment — before, during, and after surgery — without the patient or medical team ever leaving the operating room. This innovative operating and imaging research suite encourages collaboration among multidisciplinary teams of surgeons, interventional radiologists, imaging physicists, computer scientists, biomedical engineers, nurses, and technologists. Harnessing the benefits of advanced technology and an efficient three-room design, the AMIGO teams aim to develop and deliver the safest and most-effective state-of-the-art therapies in a patient-friendly environment.

Brigham and Women's Hospital is home to the National Center for Image-Guided Therapy (NCIGT), which is the National Institutes of Health's (NIH) central resource for all aspects of research into image-guided procedures. Our multimodality image-guided operating suite is instrumental to advancing the mission of the NCIGT — to provide more-effective patient care. Physicians use the suite to incorporate research protocols designed to enhance standard clinical procedures and to develop new therapeutic approaches, including image-guided therapy in open brain surgery, radiation treatment of prostate cancer and gynecological tumors, breast conserving therapy, MRI-guided cryoablation (removing tissue via extreme cold), treatment of atrial and ventricular fibrillation and brain tumor laser ablation.

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