


Brigham and Women’s Hospital Advanced Multimodality Image Guided Operating Suite  
Boston, MA



SQ FT  
5,700 DGSF



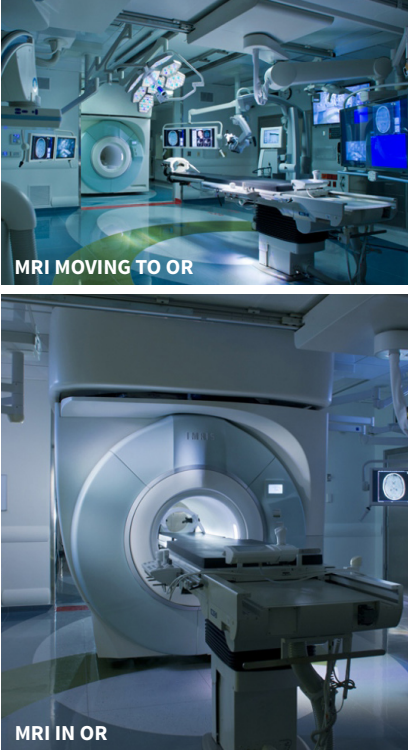
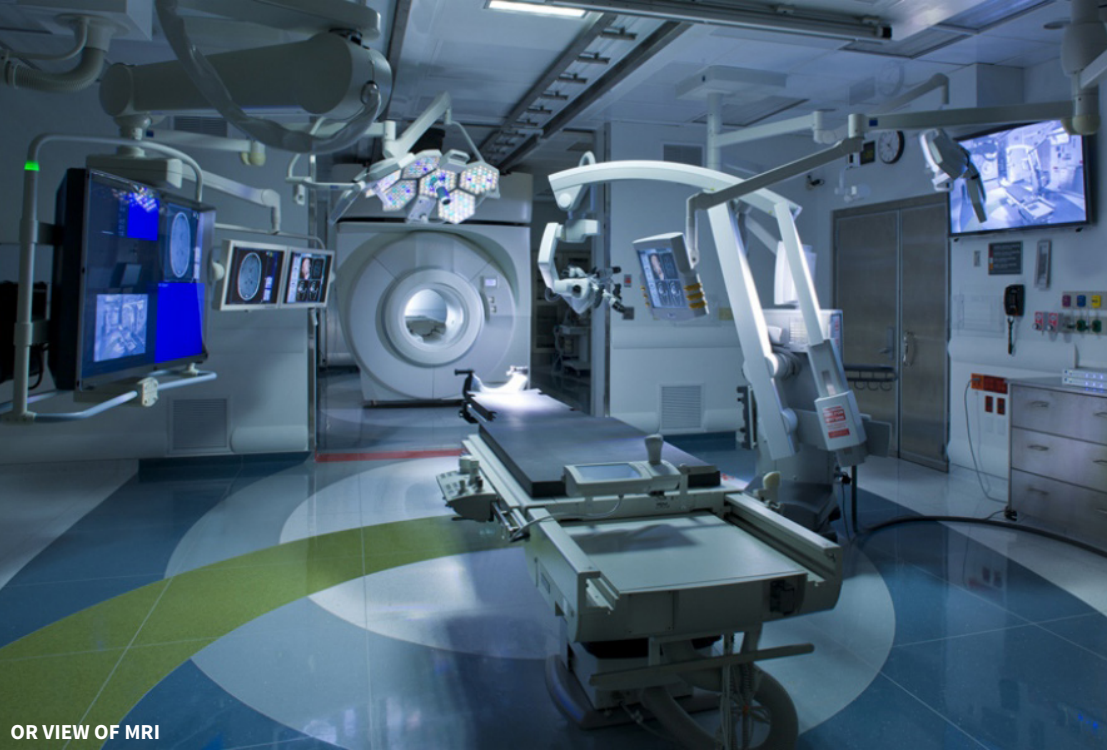
OWNER/AFFILIATION  
Partners HealthCare



ARCHITECT(S)  
Payette Associates



COMPLETION DATE  
2011

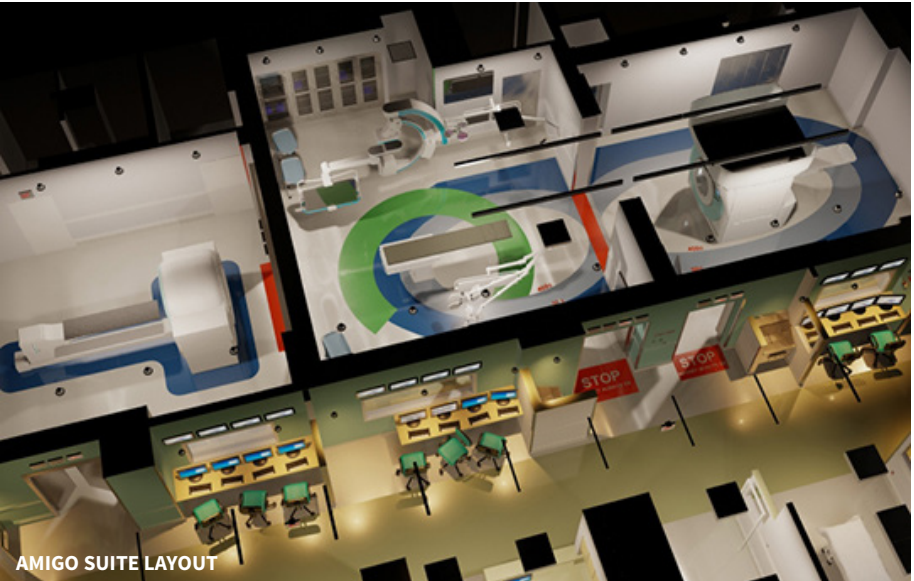


ABOUT | DESIGN INTENTIONS

In this groundbreaking clinical research facility, an operating room is linked to adjacent imaging suites, enabling the patient to remain static while the machines—including a 33,000-pound MRI—move from one chamber to another in the midst of a surgical procedure. The array of infrastructure necessary to enable this technology was deftly concealed behind walls and above ceilings, which were kept neutral in appearance so as not to compete with critical patient information displays. The kinetic qualities of the suite are captured on the floor, where the arc of the operating table’s rotation and the limits of the magnet’s Gaussian surfaces are vividly rendered in a palette of colors derived from the facility’s cutting-edge equipment.



PET/CT ROOM



AMIGO SUITE LAYOUT



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*citation from Payette*

## DESIGN STRATEGIES

### Advanced Surgical Theater

The Advanced Multi-Modality Image Guided Operating (AMIGO) Suite represents a significant development in integrating imaging and surgery into one space. The Suite is located in a basement level of one of the nation's premier hospitals. Three diagnostic and procedure rooms allow imaging to be utilized before, during and after surgery with minimal disruption to the patient and the surgical procedure. **This suite provides clinicians and researchers with new opportunities for improving surgical techniques and developing new clinical methodologies.**



SECTION THROUGH AMIGO SUITE



SECTION THROUGH AMIGO SUITE



PET/CT TO MRI VIEW

## SITE PLAN

### AMIGO Suite – Basement Plan



- 1 Cath Labs
- 2 Angiography
- 3 EP Labs
- 4 Pre-OP
- 5 Radiology

## DESIGN STRATEGIES

### Transformations

**Movable ceiling-hung equipment allows the room to transform from an operating room into an imaging suite while the patient remains stationary on the table.** Ceiling booms supporting monitors, anesthesia equipment and lights swing aside to clear the immediate magnetic field. Then the MRI glides on an overhead track and the patient and room are ready for imaging. Alternatively, the table can be rotated or extended to allow for angiography or PET/ CT imaging. Once the images have been completed and reviewed, the MRI glides out, the ceiling booms rotate back into place, the shielded door slides shut and surgery can continue. The kinetic qualities of the Suite are captured on the floor where the arc of the operating table's rotation and the limits of the magnet's Gaussian surfaces are vividly rendered in a palette of colors derived from the facility's cutting-edge equipment.

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## DESIGN STRATEGIES

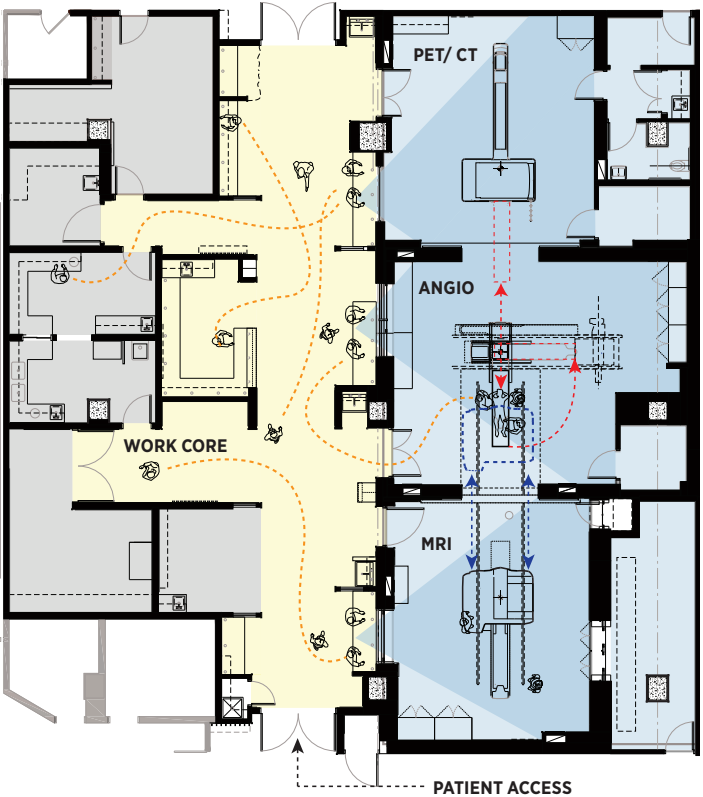
### Technology and Innovation

In this groundbreaking clinical research facility, an operating room is linked to adjacent imaging suites, **enabling the patient to remain static while the machines—including a 33,000-pound MRI—move from one chamber to another in the midst of a surgical procedure.** The array of infrastructure necessary to enable this technology was deftly concealed behind walls and above ceilings, which were kept neutral in appearance so as not to compete with critical patient information displays.

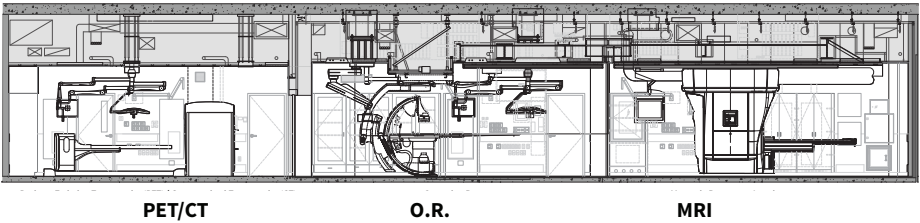
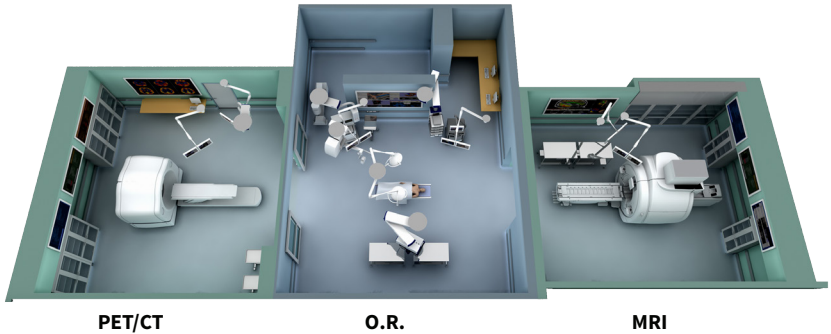
## KEY

- OR/ MRI / CT
- Work Core
- Support

## FLOOR PLAN



## KEY SPACES



## DESIGN STRATEGIES

### Activity and Infrastructure

The OR table and the immediate surrounding space of approximately 80 square feet is the sterile operating field. Beyond that space, the AMIGO Suite is comprised of concentric outer zones of distinct types of activity. The first surround is the area of movable equipment used during surgery while the outer edges of the room holds fixed equipment. The floor patterns indicate the zones of use and activity. The room enclosure marks the edge of the RF shielded environment and the interstitial space above the finished ceiling and the slab above contains all the infrastructure to support the equipment and room requirements.

## KEY SPACES:

- ▶ Operating Room (650sf)
- ▶ MRI (550 sf)
- ▶ PET/CT (550 sf)
- ▶ Staff Work core (1236sf)
- ▶ Support (1084 sf)

## DEPARTMENTAL GROSS SQUARE FOOT TAKE-OFFS

|                     | Net   | Gross |
|---------------------|-------|-------|
| Amigo Suite         | 3,900 | 5,700 |
| Net to gross factor |       | 1.46  |



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## DESIGN STRATEGIES

### Team Collaboration Space

The AMIGO Suite is a **laboratory for groundbreaking research and the work that occurs there involves large and diverse teams including surgeons, clinical staff, radiologists, researchers and bioengineers.** Therefore the Suite becomes a true operating theater where the ability to observe and interface remotely becomes very important. The AMIGO Suite was built with large vision windows into each room, supplemented with many TV monitors, and generous team work spaces necessary to foster a collaborative process.



## PROJECT SUMMARY:

**Project:** Brigham and Women’s Hospital Advanced Multimodality Image Guided Operating Suite

**Project location:** Boston, MA / United States

**Owner/Client:** Brigham and Women's Hospital

**Architect:** PAYETTE

## AIA/AAH DESIGN AWARD WINNER

**Category:** Innovations in Planning and Design Research, Built and Unbuilt

## JURY COMMENTS

- ▶ 2013 AIA National Healthcare Design Award for Innovations in Planning and Design Research, Built and Unbuilt
- ▶ 2012 Boston Society of Architects Healthcare Facilities, Citation
- ▶ This is an excellent and innovative solution to a long standing problem of integrating good planning, technology and human scale within a laboratory for further innovation in surgical techniques. A simple diagram for the complexity of equipment; it has efficient use of equipment and space with the patient as the focal point where it should be. This concept should set a new standard for AMIGO procedures.

