



PRESS RELEASE

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Project: Memorial Sloan Kettering Cancer Center, New York City (two new minimally invasive surgery operating rooms, a control room, classroom, dry lab, and conference room—all within existing facility)

Architects: Jeffrey Berman Architects, New York City; Granary Associates, New York City; KMD Architects, New York City

Multimedia, audiovisual: Shen Milsom & Wilke, New York City; Pete Christensen, project manager; Brian Moores, lead designer

Completion: Autumn 2002

New Operating Room Technology at Memorial Sloan Kettering Cancer Center

Shen Milsom & Wilke participates in design of system to manage operating room media—including cameras, computers, and monitors

Operating rooms, especially minimally invasive ones in which physicians use cameras to guide their surgeries, are full of technology—tiny endoscopic cameras, room cameras, computers, monitors, and imaging equipment. Physicians and nurses must be able to manage all that technology simply and reliably whether they are calling up patient information on a computer, recording a procedure for students to observe later, or watching the monitor as they guide sensitive surgical equipment through the abdomen or the lungs.

Shen Milsom & Wilke recently designed the systems that manage the multimedia equipment for two new minimally invasive operating rooms at Memorial Sloan Kettering Cancer Center (MSKCC) in New York City. The operating rooms each include operative-field and room-overview cameras, digital videotape recorders, computers, and flat-panel monitors to review radiologic images or to monitor progress during surgery.

All this equipment has a variety of purposes. Because MSKCC is a teaching hospital, recording the events in the operating room is essential. Shen Milsom & Wilke set up the cameras so that digital images from the operating rooms can be recorded to a variety of formats, including digital video tape and direct to hard disk. These images can be sent to classrooms and conference rooms around the hospital. The cameras are set on booms so they will not compete for floor space but are easily manipulated.

Windows in the mezzanine above the operating rooms allow students and other medical personnel to view operating procedures. LCD shutter glass in the windows becomes opaque for privacy by pressing a button near the windows or from the operating rooms below.

It is also important for the operating room personnel to have the ability to communicate with other departments within the hospital, such as pathology or radiology, as well as physicians inside or outside of the facility. Physicians have the ability to capture images and transmit them, via videoconference capabilities, to other locations.

“MSKCC needed the highest quality images with the lowest transmission time,” says Peter Christensen, Shen Milsom & Wilke’s project manager for MSKCC. “You can’t have a half-second of latency when a surgeon is operating on a patient and consulting with another surgeon via a video conference.”

Surgeons and operating room staff also have the ability to access, view, and select patient archival and communication system (PACS) radiology images on any of the monitors in the operating room, including those surrounding the sterile field. They can also call up patient record information.

The operation of much of this equipment is based on easy-to-use, touch-screen control panels from Olympus America, based in Melville, N.Y., at two locations in the room: in the operating field (for physicians' use) and at the nurses' workstation. The specialized nurses' workstations also include controls for medical equipment specific to the operating room, such cameras, light sources, and electro-surgery equipment.

Shen Milsom & Wilke also designed the multimedia and cabling system for a new classroom, conference room, control room (where audiovisual elements are controlled), and dry lab; surgeons practice procedures in the dry lab using the same equipment that is found in the operating room. Obviously no patients are treated here. Rather surgeons practice on simulated organs and dummies using the same endoscopic cameras and audiovisual systems found in the operating room.

Weaving the new technology into MSKCC's existing computer network and providing for future pathways for new equipment (an important concern as healthcare equipment is updated and changed) was a form of surgery in itself.

"One of the primary challenges to the design team was upgrading two operating rooms while not interrupting patient care in adjacent rooms," Christensen says. Partitions were set up to seal off the construction areas from the functioning operating rooms and the hospital in general. Separate hallways, from outside the building all the way to the operating rooms, were designated for the construction workers.

Shen Milsom & Wilke is currently working with MSKCC to connect the minimally invasive surgery rooms to the pathology department. Surgeons can then confer with pathologists in real-time during procedures.

About Shen Milsom & Wilke, Inc.

Shen Milsom & Wilke [www.smwinc.com], an international technology consulting practice founded in 1986, offers comprehensive services in the areas of telecommunications, audiovisual/multimedia, acoustics, and security. The firm has offices in New York, Princeton, Washington, D.C., Chicago, Houston, Denver, San Francisco, Las Vegas, London, Dubai, and Hong Kong, and a staff of more than 140 professionals. Shen Milsom & Wilke was named one of the 100 fastest growing A/E/P firms in the nation by Zweig White & Associates for the years 2001 and 2002.

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