

## **A Revolution in the Outfitting of Operating Suites for Minimally Invasive Surgery (MIS).**

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Recently I was invited to observe the installation of a new piece of equipment in an existing OR for Open and MIS surgical procedures. This installation took place on Friday, March 10, 2006 in OR #9, Harper University Hospital, on the Campus of the Detroit Medical Center, Detroit, Michigan. The resident OR surgeon, Dr. Weaver, had been introduced to this new product at a convention exhibit for surgeons, approx. 6 months prior to this installation. He immediately recognized it as the solution to a growing problem in his Operating Suites: *The increasing need for visual monitors and cart mounted surgical devices, with their supporting cables, that were competing for limited floor space, and that were causing barricades and inconvenient sight lines, resulting in neck strain and tripping hazards for the surgeons, nurses and anesthesiologists.*

This new product, called NuBOOM, has only been on the market since last fall, and is manufactured by CompView Medical, a company known for Audio/Visual System Integration Services for the surgical environment. The CompView technicians that I met at 9:00am, on the loading dock of Harper Hospital, informed me that this was to be the third installation of their new product, and that they intended to be completed, including anchoring, wiring, calibrations and training of staff, by Monday morning. This was going to be interesting.

Opening of the shipping crates revealed a cabinet, approximately six feet tall, and measuring 25 inches wide by 30 inches deep. Additional smaller crates contained components for boom arms and pre-tested pre-approved AV hardware. The taller cabinet was shipped with temporary casters, and it was easily wheeled thru corridors, elevators and door openings to OR #9. Upon arriving at the surgical department, we donned infection control outfits and met the staff for the purpose of locating the equipment.



Together with Dr. Weaver, there were four nurses, and an anesthesiologist, collaborating with the CompView technicians on the optimal location for the cabinet and its articulating boom arms. A “site”, at 45 degrees to the head of the surgical table, was tentatively selected for this OR suite, to avoid the sterile zones and to clear the anesthesia equipment. Dr. Weaver then requested one more meeting, later in the afternoon, to reconfirm the final location prior to anchoring in place, and with the articulating boom arms installed.

At 3:00pm, the staff reconvened in OR #9, and were able to position the assembled boom arms, complete with monitors, in numerous configurations. The site for the fixed-in-place cabinet was confirmed and we were left to complete the installation. The hospital provided an electrician to extend two, 20 amp electrical circuits, and data cables into the cabinet from the ceiling, plus a carpenter to install the required cabinet anchors into the concrete floor. This work was completed, with minimal mess, and without the need for special infection control procedures, by early Friday evening.



A meeting was then arranged with the lead RN for 5:30am Monday to demonstrate and train in the use of the touch-screen control panel. The training is simple, and is expected to take less than 30 minutes. It was Dr. Weaver's spoken intent to schedule OR #9 for procedures on Monday.

I did not stay thru the weekend, when the technicians would be spending a few hours calibrating, fine-tuning equipment, and setting the fixed sections of the articulating arms in time for Monday morning. Compared with the time and

disruption typically required for installing ceiling mounted articulating booms for A/V monitors, this 3-day renovation of an OR, into a state-of-the-art MIS surgical suite, was amazing. Dr. Weaver was obviously very happy, and was pleased to announce that he already had funding in place for a second NuBOOM installation in another of his Operating Rooms.

Back to the problem that CompView's NuBOOM product has addressed: There can be as many as seven monitors providing visual modalities during surgery, all requiring visual access by the surgeon and/or nurses, i.e.: medical records, cat scans, x-rays, ultrasound, computerized diagnostic and procedural info, fluoroscopy, endoscopic cameras, and physiological data. The placement of these video screens, at varying elevations, on numerous portable carts, causes clutter, tripping hazards, and ergonomic problems with neck strain and tension.

CompView Medical has literally wrapped their arms around this problem with the design of this freestanding cabinet (that occupies the floor space typically used by only one portable cart). From the top corners of this cabinet, the two articulating arms (booms) extend out 9'-6" and are hinged in three segments, and can cover 300 sq.ft. of floor space. The totally assembled system is 7'-11" tall and can be installed in an existing room with ceilings as low as 8'-1". Up to 6 monitors can be mounted on the arms (3 on each boom), plus there are accommodations for more monitors at the cabinet sides. NuBOOM is provided with 4 monitors and a touch-screen control panel as standard equipment. The cabinet also has an open portal and outside shelves for the placement of printers and other medical equipment. The boom arms can be wrapped around the operating table, in multiple configurations, with placement of the monitors at the convenience of the surgeon and nurses. Once in position, at a height comfortable to walk under, the monitors may be easily lowered to eye level for ease, and safety of viewing by surgeons, nurses and anesthesiologists during the procedures. Multiple power outlets and data ports are located on the exterior, and in the open portal areas, of the cabinet, so that all required equipment connections are terminated without cords or cables running on the floor in the work areas.

To architects, medical planners, physicians and care-givers, NuBOOM not only solves the problems described above, but does it in a manner that provides aesthetics, flexibility, efficiencies, time and cost savings. All this in the unbelievable turn-around time of 3-days from delivery, to installation, calibration and training. This, compared to an O.R. shutdown of at least 46 weeks for the installation of ceiling mounted articulating booms, preceded by at least 6 months for the required architectural and structural engineering design, agency review and approval process.

**Very Impressive!**

