

Keeping Critical Equipment Close at Hand

There is no denying that the surgical field is in the midst of a technological revolution. New and better surgical systems and medical devices are being developed, tested and brought to market at a staggering rate and simply keeping abreast of the latest innovations can be a trying experience.

This is by no means a bad thing, of course. All of the new technology and equipment is aimed at helping the surgeon better ply his trade and improving overall patient outcome and safety. This abundance of new technology, however, does present a major problem in certain surgical settings.

In many operating rooms space is already at a premium, so with each new piece of equipment introduced into the surgical arena, the issue of where to place it, store it and plug it in needs to be dealt with carefully.

OR Equipment Booms provide an efficient way to tackle this problem. These equipment management systems allow the OR staff to not only neatly stack and store equipment, but also to integrate the systems, organize the hardware and wiring and position the equipment where it is needed most.

Here are some of the innovative equipment boom systems that can help to keep ORs organized and efficient.



TRUMPF Medical Systems offers the TRUMPF KREUZER line of equipment booms.

TRUMPF Medical Systems (Charleston, SC) provides the TRUMPF KREUZER line of equipment booms. These booms include customizable single and tandem arm solutions and are offered for use in the OR and the ICU. Since TRUMPF is the manufacturer, every boom is custom-designed and built for each medical facility to meet virtually any need or application. Also, the custom design and installation of each boom ensures 350 degree movement with tandem arms able to freely pass each other. This allows OR setup to be optimized easily from procedure to procedure.

The TRUMPF KREUZER booms offer a number of superstructure solutions that provide free and easy movement of heavy equipment in OR. These boom systems utilize cylinder bearings as opposed to ball bearings, eliminating a contact point that can cause metal fatigue and failure. The cylinder bearings distribute weight across the surface of each cylinder allowing it to move easily and freely when fully loaded for many, many years. In addition, TRUMPF uses a unique and dependable pneumatic assist braking system that prevents drift and allows the boom to be moved more easily.

Another feature of the TRUMPF booms is the internal throat opening. TRUMPF's unique design provides enlarged internal dimensions within the arms and bearing cages, allowing up to 16 gas and power lines to move freely without abrasion, crimping or kinking. These enlarged openings permit the booms to accommodate additional cables and wiring for telemedicine, PACS and IT related technologies.

STERIS Corporation (Mentor, OH) offers ceiling systems with single or double arms in lengths ranging from 40 inches through 100 inches, as well as straight drop units with no arms. There are also several column configurations available from 20 inches to 50 inches and horizontally-oriented supply heads. The units can be customized for specific surgical applications or for a broad range of procedures in the OR.

The STERIS arm systems come in light, medium and heavy strength and can hold loads up to 595 pounds. In addition, the ceiling systems provides sufficient capacity in the arms of the equipment booms to route all of the necessary cabling required to support an integrated OR. There is also sufficient capacity on the panels of the unit to provide electrical and data connections.

STERIS's Harmony EMS system has a number of safety and convenience features. This equipment management system has a cable management solution for shelving that reduces the contamination risk of exposed cords. The system's adjustable depth shelving accommodates all of the user's equipment and plugs without increasing surface area. The Harmony EMS comes in a convenient packaging and shipment configuration that requires minimal effort to unpack and install the system. It can also help to optimize the OR with over 300 accessories available to manage supplies required in a clinical setting.



TELETOM Equipment Management Systems from Berchtold are versatile and highly configurable.

The TELETOM Equipment Management Systems from Berchtold Corporation are versatile and highly configurable. Each boom system is designed and manufactured at Berchtold's headquarters in Charleston, SC, allowing the company to work with customers on unique, custom solutions. The units are available in single and dual arm, fixed height and vertically articulating and with two types of service modules; one for equipment management and services delivery and a smaller module for service delivery only.

The booms feature Berchtold's Conform2 Platform which adjusts to the width and depth of the equipment placed on it. By eliminating nonessential surface areas, this feature reduces the boom's footprint and prevents clutter. Two electrical outlets are built into each of the platforms, as is a cord "stuff box" to provide a place to hold the excess cable length. This helps to keep the cabling organized and safely out of the way.

TELETOM employs a unique modular approach with the platform system. The boom is offered with only one size service module, but with multiple platform systems which all connect to that same service module. This allows for quick conversion (for example, from a three to four platform system) with no recertification of gas and electric services needed. This ability for a quick, economical adaptation helps eliminate costly downtime and makes it easy to upgrade the boom with new equipment.

CompView Medical (Beaverton, OR) manufactures the floor-mounted NuBOOM, an all-in-one equipment management and visualization system that supports two nine-foot booms that distribute video monitors around the patient and working zone. The system comes with three cabinet bays for customer use and three external shelves on the cabinet base. It is also equipped with all the video integration equipment needed to allow the various video signals available in the OR to be displayed on any of the monitors.

NuBOOM is able to distribute four monitors around the patient and safely holds all the cabling within the system's cabinet and booms. It is also able to be re-configured, even after initial installation. Therefore, should an OR wish to be dedicated to a specific type of procedure, a specialized configuration can be accomplished in a matter of hours.

As a floor mounted system, installation of the NuBOOM does not require invasive construction or enhancement to interstitial spaces in the OR. The system can be installed in two days—literally over the weekend—virtually eliminating OR downtime and reducing lost revenue. NuBOOM is also an excellent retrofit solution for those ORs that are limited by room size, ceiling height and infrastructure limitations. NuBOOM can be installed into rooms as small as 300 square feet and with ceilings under nine feet.



The MAQUET MODUTEK Ceiling Service Units from Getinge USA can meet an OR's current and future needs.

Getinge USA (Rochester, NY) offers a wide range of OR boom systems with over twenty-five different arm systems in light-, medium-, strong- and heavy-weight models with multiple lengths that can be configured with one of over thirty-five different distribution module models of various shapes, sizes and lengths. In addition to the standard arm systems, the company offers fixed columns, retractable columns, rotary columns and a multi-port mounting system that combines booms and lights on the same down-tube.

The MAQUET MODUTEK Ceiling Service Units offered by Getinge USA are designed to meet the immediate needs of the OR as well as those of the future. The large, 120-mm internal channel is ideal for current usage and future capacity requirements, including multimedia systems. In addition, the modular design allows for outlets to be added to the distribution module as needed, while the integrated accessory tracks make it easy to add and adjust accessories to accommodate new equipment.

The MODUTEK modules are also designed to be fully ergonomic and promote safety. The units are easy to position due to the positioning handles with integrated joint controls, smooth moving tapered roller bearings and a reliable electro-pneumatic brake system. The modules are designed to locate outlets directly behind equipment and minimize exposed cables. Integrated cable ports and cable wraps are also available to store excess wire.

Skytron (Grand Rapids, MI) offers an extensive array of equipment carrier systems to help organize and manage medical devices in the OR. To accommodate any number of equipment items needing to be housed within a boom system, they provide 40-, 50- and 60-inch long equipment carriers with three, four or five shelves. Each shelf can support 100 pounds and is available in widths of 16.5 or 19.5 inches.



Skytron's Central Tandem Mount provides an equipment carrier, display arm and surgical lights from a single mounting hub.

To better accommodate smaller and lighter medical equipment (ie. high-definition flat panel displays versus older CRT monitors), Skytron is now offering small, lean and easy to move equipment carriers, or mini-carriers. These carriers are typically 40 inches long and 16.5 inches wide, but are equipped with the ability to support medical gases, electrical outlets, smoke evacuation, video and data outlets and accessories, such as baskets, gcx arms, rails systems for vacuum slides and CO2 bottles if CO2 gas cannot be piped into the room.

Skytron offers all of their equipment carriers delivered in a variety of ways. They can be delivered from a dual radial arm set with or without powered height adjustment or as a detachable equipment carrier which permits medical devices housed in it to be portable. The equipment carrier can also be delivered as a very efficient and ultimately flexible Central Tandem Mount (CTM) from a single mounting hub, providing the equipment carrier and services, separate flat panel display arm and surgical lights from one mounting hub, maximizing flexibility to cover the entire surgical field.