

The Vitals

of Vital Signs Monitoring



Patient safety starts with user-friendly devices.

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Ambulatory surgery depends on safe, expertly controlled anesthesia, and safe anesthesia demands accurate patient monitoring. For anesthesiologists, vital signs monitors are second nature. We master them the first week of residency and they become instinctive. But the rest of your OR team is also critical in staying on top of the EKG, blood pressure, pulse oximetry, end tidal CO₂ and temperature readings. Here's advice on getting the most out of your monitors so that they can contribute more significantly to patient care.

Having a say

If you're in the position of purchasing vital signs monitors for your facility, get the input and buy-in of your anesthesiologists, nurses and technicians before making a deal. You wouldn't consider buying an anesthesia machine without consulting with your OR staff and allowing them the opportunity to trial the equipment, but sometimes this

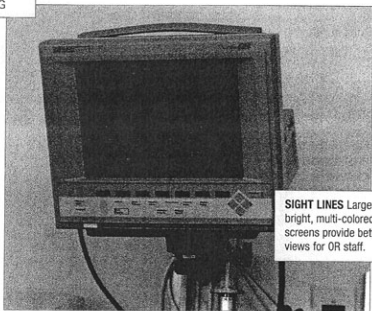
doesn't happen with monitors.

Administrative purchasing decisions are often made based on a facility's budget situation, the accessibility or reliability of a particular vendor or the facility's relationship with that vendor. But these factors don't take into account whether an OR staffer will find the monitor easy to use on a regular basis, and that may trump cost in terms of patient care.

Uniform devices

It may be to your, and your staff's, advantage to ensure uniformity among the monitors used at your facility as well as compatibility between your intra-op, transport-type monitors and those used in pre-op and PACU. They don't all have to be the exact same monitor, but consider purchases from the same company.

There are three big reasons for this. First, simi-



SIGHT LINES Large, bright, multi-colored screens provide better views for OR staff.

lar monitors throughout means seamless room-to-room use by OR nurses and techs while also maintaining the routine that anesthesiologists count on. Second, patient transfer is a potentially problematic journey. You want to focus as much as possible on the patient. One problem you don't want to have is monitoring, whether that's device operation, plugging and unplugging or switching from one to another. Uniform monitors can help prevent that. Third, they come in handy as backup machines, to swap in for a malfunctioning monitor or for the exchange of worn or broken parts.

Alarm control

Ask a surgeon what the most commonly heard sound in the hallways of the OR suite is, and it's likely he'll tell you it's the beeping of monitor alarms after a case is done. And, the surgeon will probably say, it's a really annoying sound. The

machine, disconnected from the patient, doesn't know the case is over and is still in patient mode. Someone has to fiddle with its buttons and screens to turn it off.

That's one reason you should seek out monitors with easy-to-modulate alarm screens. Too few of

them feature one-button controls that let you silence an alarm or put the machine in standby mode between cases. If you have to toggle through a handful of screens just to perform a simple on-off function, what will it be like when you need to do something more complicated, such as set up the machine for a pediatric patient?

Some alarms are a necessity, of course. Currently, the American Society of Anesthesiologists' Standards for Basic Anesthetic Monitoring requires the following monitor alarms: a low oxygen concentration limit during general anesthesia; a variable pitch pulse tone and low-threshold alarm when using a pulse oximeter; an end-tidal CO₂ alarm when using capnography or capnometry during intubation or LMA; and a component disconnection alarm during mechanical ventilation.

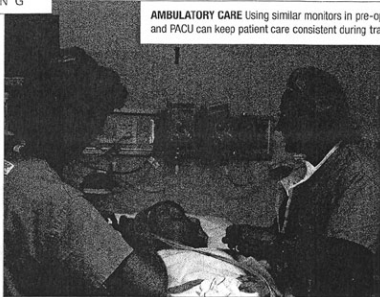
But a monitor's alarms can get in the way of

It may be to your, and your staff's, advantage to ensure uniformity among the monitors.

patient care if you don't carefully consider the functionality of its features. The inability to effectively modulate and set certain alarm features may lead to general irritation and inappreciate disregarding of the alarms altogether. That's where safeguards such as a time delay alarm that gives you a minute or two to get the problem corrected before it sounds again — instead of making you turn it off entirely — show their value.

User-friendly

It's highly advisable to equip your OR with monitors that are physically easy for your staff to use. For instance, monitors with large, bright, multi-colored screens make for better visualization and lessen eyestrain under varying surgical lighting and at different angles. Or, the anesthesia and nursing workstations that they're placed on



AMBULATORY CARE Using similar monitors in pre-op, OR and PACU can keep patient care consistent during transfers.

should be stable and ergonomically friendly for more effective clinical practice and decreased work-related injuries.

Weightier matters aside, if there's space in the OR, give some thought to the chair the anesthesia provider will be sitting in. I've never heard anybody comment on that, but it's a valid point. They're generally pinned among the cords and wires, writing, observing and operating the anesthesia machine, and the height of the chair in comparison to the height of the cart often presents a less-than-ideal working situation.

For the records

The capability to print a hard copy of vital signs and EKG tracings has long been an essential for monitors. For any new purchases, though, seriously consider obtaining modules that are able to be adapted to an electronic medical record system, as this is the next big thing in monitoring and record keeping.

The increased use of EMRs will be accompanied by the learning curve of getting used to completing its template for drugs and procedures instead of writing it down on paper. But in terms of storage and retrieval, EMR data is more complete and speaks for itself. **OSM**

Monitor Features

Gotta-have-it features

To meet the minimum standard of care for patients undergoing outpatient surgery, you want a monitor that can measure these parameters, plus print out that data and an EKG strip for you: EKG, BP, pulse oximetry, end tidal CO₂, and temperature.

Neat-and-nice features

- Disposable cuffs
- Variable alarm tones that differentiate severity
- Rolling stand for portable monitors, with basket for supplies

The super monitor

- Wireless technology
- Networks systemwide
- BIS module
- Drug calculations
- Built-in reliable arrhythmia analysis

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