Best Practices in Managing Alarm Fatigue: Putting Patients First

The machines used in acute and critical-care settings make it possible to identify irregular heart rhythms, abnormal respiration rates, and other serious problems before they harm patients. Many lives have been saved because of the alarms issued by these machines, but alarm fatigue is quickly becoming a serious safety issue in hospitals throughout the United States. The Joint Commission issued a Sentinel Event Alert on this issue in April 2013, and the ECRI Institute identified alarm fatigue as the top health technology hazard for 2013.

Excessive monitoring at play

The number of patients being monitored has risen substantially, increasing the risk for alarm fatigue in healthcare facilities. Marjorie Funk, PhD, RN, delivered a presentation on alarm fatigue at the 2013 National Teaching Institute and Critical Care Exposition sponsored by the American Association of Critical-Care Nurses. In the Practical Use of the Latest Standards of Electrocardiography (PULSE) trial, Funk and her colleagues reviewed the use of electrocardiographic monitoring in the cardiac units of 17 hospitals.

They also reviewed medical records to find out if patients had any Class I or Class II indications for QTc interval, arrhythmia, or ST-segment ischemia monitoring. During the study, nurse researchers made a total of 4,678 observations. Twenty-six percent of them had no indications for monitoring. The researchers concluded the number of alarms associated with this excessive monitoring is "likely substantial." Funk says one way to reduce alarm fatigue is to reduce the number of patients being monitored unnecessarily. Because 72 to 99 percent of the alarms produced turn out to be false, doing so would make it easier to identify true alarms.

ANA issues practice alert

The American Association of Critical-Care Nurses recently issued a practice alert about alarm fatigue. AACN experts say nurses can do several things to prevent false alarms in both acute and critical-care settings. Preparing the skin properly for electrode placement will ensure good signal quality and reduce the likelihood of false alarms. AACN recommends washing the electrode area or wiping the area with gauze or a rough washcloth. Because alcohol can dry the skin, avoid alcohol wipes when preparing the skin for electrodes. Changing electrodes daily can also reduce the number of false alarms produced by monitoring devices.

Using the same alarm settings for every patient increases the likelihood of false alarms, so customize alarm parameters to prevent this from happening. The AACN recommends setting customized alarms no more than one hour after taking over a patient's care. Customized alarm settings should be adjusted accordingly as the patient's condition changes. Nurses should work with physicians and other healthcare providers to ensure patients are not monitored unnecessarily. Those in supervisory positions should also provide ongoing education about the potential for alarm fatigue and the steps healthcare professionals should take to avoid false alarms.

Joint Commission issues a sentinel alert for "alarm fatigue"

In June, the Joint Commission instructed healthcare facilities to make this issue one of their top priorities. Facilities that do not comply with the directive risk losing their accreditation. In the three-and-a-half-year period ending in June 2012, the Joint Commission received nearly 100 reports of alarm-related incidents. Many of these incidents involved alarms that were not audible in all areas or alarms that had been turned off completely.

Commission representatives say the number of reports made is significantly lower than the number of events that actually occurred because reporting this type of incident is voluntary. The number of alarm-related incidents that led to death, serious injury, or the risk of either is actually closer to 1,000 for the same period. Starting in January, hospitals will have to identify the machines that pose the biggest risk to patient safety because their alarms are often ignored or they create too much noise, making it harder to hear the alarms produced by other machines. By 2016, hospital administrators will have to determine who has the authority to turn off alarms.

Muted alarm leads to patient death

Several recent cases illustrate the importance of addressing alarm fatigue and taking steps to prevent it in hospitals, surgery centers, and other medical facilities. In one of the most notable, a 17-year-old girl died after a tonsillectomy. The painkiller she received after the surgery slowed her breathing, but the alarm on her respiratory monitor was muted. Twenty-five minutes passed before nurses checked on her, leaving the girl with an irreversible brain injury. She died 15 days after the tonsillectomy. The surgery center responded by implementing several policy changes, one of which prohibits staff members from muting alarms.

Although alarm fatigue is getting a lot of attention these days, it is not a new issue. Children's National Medical Center was involved in an alarm-related incident ten years ago. Details about the incident are scarce, but Linda Talley, the vice president of nursing for critical care, says the event prompted hospital-wide changes. Staff members review data monthly to determine the number of alarms that occurred and how long it took to respond to those alarms. Healthcare providers are reducing the number of non-critical alerts by customizing alarm settings based on age and other factors. Standardizing the equipment used in all patient care areas has also been helpful.

Reducing alarm fatigue in medical facilities

Alarm fatigue puts patients at risk and leaves hospitals exposed to the threat of medical malpractice lawsuits, so nurses and other medical professionals must work together to address the issue. You can reduce the number of false alarms in your unit by cleaning the patient's skin thoroughly before applying electrodes, changing electrodes daily, and customizing alarm settings to match individual monitoring needs. Doctors and nurses must also work together to eliminate unnecessary monitoring and reduce the amount of alarm noise in acute and critical-care areas.