Joint Commission Alert: Medical Device Alarm Safety in Hospitals
Action urged to be sure alarms are not ignored

(OAKBROOK TERRACE, Ill. – April 8, 2013) The constant beeping of alarms and an overabundance of information transmitted by medical devices such as ventilators, blood pressure monitors and ECG (electrocardiogram) machines is creating “alarm fatigue” that puts hospital patients at serious risk, according to a Sentinel Event Alert issued today by The Joint Commission.

The Joint Commission Alert urges leaders at hospitals to take a focused look at this serious patient safety issue. Over a recent four-year period, a U.S. Food and Drug Administration (FDA) database shows that there were more than 560 alarm-related deaths and The Joint Commission’s sentinel event database includes reports of 80 alarm-related deaths and 13 serious alarm-related injuries during a similar period. Patient deaths related to alarms on monitoring devices have also been the focus of national media attention and special reports by the Association for the Advancement of Medical Instrumentation (AAMI) and ECRI Institute. The Joint Commission, AAMI, ECRI Institute and American College of Clinical Engineering also brought together patient safety and health care experts at a 2011 summit to seek solutions to problems with medical device alarms.

Alarms are intended to alert caregivers of potential problems, but can compromise patient safety if they are not properly managed. Many patient care areas have numerous alarms and the barrage of warning noises tend to desensitize caregivers and cause them to ignore alarms or even disable them. Other issues associated with effective alarm management include too many medical devices with alarms or individual alarms that are difficult to hear. Pre-set or default settings also may cause problems because the device sounds a warning even when no action or decision by a caregiver is required. Rather than calling attention to a patient’s needs, these settings may distract caregivers.
These issues vary greatly among hospitals and even within different units in a single hospital. Although there are many variables, the Alert makes it clear that in order to reduce risks related to alarms on medical devices, a series of actions still needs to occur related to people, processes and technology.

“Alarm fatigue and management of alarms are important safety issues that we must confront,” says Ana McKee, M.D., executive vice president and chief medical officer, The Joint Commission. “The recommendations in this Alert offer hospitals a framework on which to assess their individual circumstances and develop a systematic, coordinated approach to alarms. By making alarm safety a priority, lives can be saved.”

The Joint Commission Alert recommends that health care organizations take the following actions, which correspond with recommendations made by both AAMI and ECRI Institute:

- Ensure that there is a process for safe alarm management and response in areas identified by the organization as high risk.
- Prepare an inventory of alarm-equipped medical devices used in high-risk areas and for high-risk clinical conditions, and identify the default alarm settings and the limits appropriate for each care area.
- Establish guidelines for alarm settings on alarm-equipped medical devices used in high-risk areas and for high-risk clinical conditions; include identification of situations when alarm signals are not clinically necessary.
- Establish guidelines for tailoring alarm settings and limits for individual patients. The guidelines should address situations when limits can be modified to minimize alarm signals and the extent to which alarms can be modified to minimize alarm signals.
- Inspect, check and maintain alarm-equipped medical devices to provide for accurate and appropriate alarm settings, proper operation, and detectability. Base the frequency of these activities on criteria such as manufacturers’ recommendations, risk levels and current experience.

The Joint Commission Alert also recommends training and education for all clinical care team members on safe alarm management and response in high-risk areas. In addition, organizations should consider how to reduce nuisance alarm signals and to determine whether critical alarm signals can actually be heard in patient care areas. Seeking input from patient care providers, health care engineers, risk managers and information technology professionals,
organizations should also establish policies and processes for alarm safety that include the regular review of trends and patterns that reveal improvement opportunities. Finally, the Alert urges organizations to share information about alarm-related incidents, prevention strategies and lessons learned with organizations such as AAMI, ECRI, the FDA and The Joint Commission.

Beyond the Alert, The Joint Commission is considering the possible creation of a National Patient Safety Goal to help health care organizations address this issue. A field review of the proposed Goal occurred in February and the public comments are now under review. The Joint Commission already has numerous accreditation standards in place related to alarm safety. The standards address issues such as leadership, the environment of care, provision of care and staff training and education.

The warning about medical device alarms is part of a series of Alerts issued by The Joint Commission. Much of the information and guidance provided in these Alerts is drawn from The Joint Commission’s Sentinel Event Database, one of the nation’s most comprehensive voluntary reporting systems for serious adverse events in health care. The database includes detailed information about both adverse events and their underlying causes. Previous Alerts have addressed risks associated with the use of opioids, health care worker fatigue, diagnostic imaging risks, violence in health care facilities, maternal deaths, health care technology, anticoagulants, wrong-site surgery, medication mix-ups, health care-associated infections and patient suicides, among others. The complete list and text of past issues of Sentinel Event Alert can be found on The Joint Commission website at www.jointcommission.org.

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