

Addressing Alarm Fatigue

Physiological monitor alarms increase patient safety by alerting and communicating to the nurse any changes in a patient's condition. Alarm fatigue occurs when there is an increased number of medical devices alarming, causing sensory overload for the nurse. False or nuisance alarms are created when alarm thresholds are set too rigid and trigger an alarm which is clinically irrelevant. The continuous beeping of alarms results in the nurse becoming desensitized to the noise. This desensitization leads to a slowed response or a lack of response by the nurse to address what is alarming, which has the potential to cause life threatening patient events.

The 2015 Joint Commission Hospital National Patient Safety Goals listed using alarms safely which includes ensuring alarms on medical equipment are heard and responded to appropriately. Family/patient engagement in the cardiac monitor care process will assist in improving patient outcomes. Each institution is responsible for developing and maintaining a standardized process to decrease excessive alarms and minimize the effects of alarm fatigue. The following key points should be included in cardiac monitor care process:

Customized Monitor Delay and Increased Threshold Settings

Customized monitor delays and increased parameter threshold settings have been shown to be an effective method for reducing false alarms. The SpO2 alarm delay should be evaluated, considering the majority of SpO2 alarms self-correct in 5-10 seconds. The high respiratory rate should also be evaluated due to the frequency of false high respiratory rates.

Standardized Process of Initial Ordering and setting of the cardiac monitor based on age appropriate standards.

Initial monitor parameters should be specific to patient age and evaluated frequently for changes in clinical condition. An age appropriate order set with baseline parameters should be created in the electronic medical record.



With the use of this order set, the staff will be able to change the monitor settings, if needed.

Daily Replacement of Electrodes

Following manufacturer's recommendations, the electrodes must be replaced daily to prevent conductivity issues. Prolonged electrode duration can result in signal impedance and increased signal noise due to decreased conductivity, which lead to increased false alarms. The electrodes have a water soluble gel that dries out and then causes interferences with the monitoring. Electrode removal can be done easily and without causing pain by soaking the adhesive with water for a few minutes prior to removal. Also, when placing the electrodes

make sure you are using the appropriate cables, leads and electrodes based on the patient's age and weight.

Daily Individualized Assessment of Cardiac Monitor Settings

Intermittent adjustments to cardiac monitor settings, via provider order, is based on the patient's clinical status. A daily assessment of the patient's current medical condition by the bedside nursing staff should be reviewed each day by the medical team during daily patient rounding. Excessive false alarms are identified and corrected by the provider, in order for

nursing to change the monitor settings in a timely manner.

Reliable Process for Appropriate Discontinuation of Monitor

Timely removal of cardiac monitors when there is no clinical indication for their use is assessed daily by both providers and nurses. For patients on a monitor secondary to patient-controlled analgesia use, the pain team created a reliable system to verify discontinuation of the monitor once it was no longer needed.

A significant decrease in the number of alarms occurred with the implementation of the cardiac monitor care process. Provide education on monitoring systems and alarms to nurses and all other health care staff. With fewer false alarms, nurses can respond to relevant alarms more promptly and patients and caregivers routines are less interrupted.

Kristen Coleman and Melissa Hayward work at Cincinnati Children's Hospital.

NOTES:
