

Abstract: Podium

Title: Reducing Nuisance Alarms in a Cardiovascular Surgical Unit

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Background: Clinical teams in the hospital setting monitor physiologic parameters using medical devices which generate various types and large numbers of alarms. Certain arrhythmia alarms known as yellow alarms contribute to nuisance and noise without heralding serious medical conditions. Clinicians exposed to excessive numbers of alarms day after day can become desensitized. Still most alarms are noticed in some way. Unit clerks notify RNs who stop what they are doing to explore the reasons for the alarm.

Purpose: The purpose of this project was to measure the number of audible yellow cardiac alarms on a Cardiovascular Care Unit and estimate the time and cost savings spent following alarm resolution.

Methods: In this quality improvement project, interdisciplinary leaders created standard work around the setting and management of yellow arrhythmia alarms. Investigators used standard work and followed alarms on a small group of nine patients during a four hour period. Later, the entire unit of 30 patients underwent the same testing. The standard work included five steps, such as team awareness, heart monitor electrode condition or replacement, silencing yellow alarms, new admissions and alarm customization. Premature ventricular complexes (PVCs) alarms were raised to 10 rather than six per minute. Clinical engineering adjusted audible alarm defaults by turning off multiform PVCs, paired PVCs, and irregular heart rate.

Results: The small pilot group of nine patients appreciated 412 fewer audible alarms during the test of change. In a larger group, standard work adjustments silenced 3,407 alarms in a four hour period for 30 patients. No adverse events occurred in either the small or large group. Financial experts estimate a cost savings of \$2,564.00 in hourly wages during the four hour test of change on the whole unit.

Conclusion: Patients remain safe and work efficiency is improved by turning off yellow arrhythmia alarms.