Can Daily EKG Electrode Changes Reduce Alarms on a Cardiac Unit?

Cristin Phillips, MS,RN,ACNS-BC
Maryann Moon, MSN,RN,ACNS-BC
Acknowledgements

Thank you to the Froedtert Alarm Management Committee

- Sarah Cypher,
- Melissa Gregor
- Lauren Dulde
- Katie Schrauth
- Chis Emanuel
- Trevor Joswick
- 3NW Nursing Staff

- Jovo Acamovic
- Erin Green
- Cheryl Jenks
- Pamela Scherff
- Sara.Krill
- Dr. Lee Biblo
- Beth Lanham
Introduction

• Beginning in January, 2016 JCAHO mandates all organizations have a plan in place for managing alarms

• Survey was completed in 2014 and telemetry was identified by staff as being the alarm with the greatest potential for patient harm and the highest incidence of non-critical alarms
Framework

John Hopkins Nursing Evidence Based Practice Model

Source: Urol Nurs © 2012 Society of Urologic Nurses and Associates
Practice Question

• Will changing EKG electrodes reduce alarms on a cardiac unit?
• Alarm Management Committee formed to determine how we could reduce alarms and regular meetings were scheduled
• Piloted interventions on 3NW due to the high volume of telemetry patients
Practice Question

• 3NW experiences approximately 4,000-8,000 telemetry alarms daily
• This is an average of 165 alarms/hour
• Most common alarms:
  – PVCs>10/minute=1112 alarms/day
  – Artifact Alarms=574 alarms/day
  – Tachycardia=544 alarms/day
  – Couplet=270 alarms/day
  – Bradycardia=150 alarms/day
Evidence

• [http://www.nacns.org/docs/AF-CrosswalkLitTable.pdf](http://www.nacns.org/docs/AF-CrosswalkLitTable.pdf)

• Developed interventions based on what current literature/research states are evidence based practice interventions
Evidence Summary

• Research demonstrates that increasing the frequency of patch changes and proper skin preparation can result in a significant decrease in telemetry alarms, specifically artifact alarms

• Manufacturer recommends daily changes

• Lack of documentation with current every 72 hour change requirement=audit on 3NW demonstrated 0% compliance
Translation/Action Plan

• Alarm Management Committee determined this intervention would be appropriate to pilot on 3NW for a 2 week period

• Pre and Post Surveys were conducted on 3NW to ask:
  – Are you desensitized to Telemetry Alarms?
  – Can you distinguish between critical and non-critical alarms?
  – What do you believe are common alarms on 3NW?
Translation/Action Plan

- 3NW Staff (RN and PCA/PCT’s) changed telemetry patches every 24 hours
- Education provided on proper skin preparation
- EPIC flow sheet updated to include skin/mucous membrane intervention section to document patch changes
Outcomes

• Cost/Benefit analysis demonstrates an approximate increase to the organization of a little over $4000 annually

• Compliance with documentation increased to 86%

• Reduction in Artifact alarms of 30.2% over a 2 week period/adjusted per patient day
Recommendations

• To decrease non-critical Artifact alarms and to decrease RN time spent in responding to these alarms…recommendation is to change the policy to require EKG patch changes daily
Next Step/Future State

• Phase 2: PVC alarms
  – Research/Literature demonstrates that eliminating nuisance/non-critical alarms can significantly decrease alarm fatigue amongst caregivers.
  – The PVCs>10/minute alarm if not considered a critical alarm, however, is the most frequent telemetry alarm on 3NW at over 46-158 alarms/hour
Questions
References
