

# Project to decrease alarm fatigue



**Project Description**

Resetting alarms from default settings to each individual patient will decrease the number of unactionable alarms. In decreasing the number of unactionable alarms, the noise heard in the telemetry unit will decrease and therefore the noise on the unit floor will also decrease. The decrease in unnecessary noise on the floor will increase patient outcomes by decreasing patient anxiety and increasing nurse response time. The identification of the need for telemetry monitoring also needs to be addressed. This needs to be a nurse driven protocol in which telemetry should be discontinued for patients who do not meet criteria for being monitored this way. The decrease in noise and alarm fatigue will also decrease nurse burnout.

Decreasing unactionable alarms from warning and crisis mode settings to something that is specific to each patient (Knox, 2014). This will in turn, will result in a noise reduction not only in the telemetry unit but also on the unit floor where the calls from telemetry would decrease. The reduction in noise on the floor will increase patient's overall outcome by decreasing anxiety (The Effects of Alarm Fatigue, 2017). Having a decrease in noise and a reduction of false alarms that are almost 72-99% of the time, will increase the nurse response time. In having numerous "boy who cried wolf" scenarios, nurses may feel that it is just another false alarm and not respond as quickly which could have a devastating effect on that one time when it was an actual emergency. Having more accurate alarms or calls will reduce nurse burnout (How Nursing is using EBP to Reduce Alarm Fatigue, 2016).

**Project Rationale**

**NEED:** Decreasing alarm fatigue, which is a sensory overload and desensitization of nurses from numerous alarms during shift which 72-99% are false. The number of false alarms called could cause a true emergency to be overlooked, missed or delayed (McKinney, 2014).

**JUSTIFICATION:** While our patients with telemetry are monitored in a central location and the alarms are not being sounded on the unit floor, the calls from our Telemetry unit are non-stop. This alarm fatigue is listed in the top 10 technology hazards in acute care settings (McKinney, 2014).

**BENEFITS:** Noise level is one of the determining questions in HCAHPS surveys which determine reimbursement. Another one of the survey questions relates to how well the patient is/was treated with respect, nurse listened, and nurse came when call light was answered in a timely manner. Noise level affects patient anxiety because it affects rest and makes healing difficult (McKinney, 2014).

**STAKEHOLDERS:** The numerous number of calls from the telemetry unit interfere with floor staff who already have an extensive number of tasks to perform in a set amount of time, and so going to rooms to frequently check a patient who may have one lead off or their pulse ox monitor may not be positioned correctly decreases the amount of quality time that nurses could be spent doing patient care (The Effects of Alarm Fatigue, 2017). Beyond the frontline healthcare team with direct patient care, due to the effects of excessive noise and in turn, alarm fatigue by nursing staff, there is a direct

correlation between noise and HCAPS scores (The Effects of Alarm Fatigue, 2017).

### Project Goals

Most of my patients have telemetry and are in normal sinus rhythm and/or their pulse ox remains > 90%, in reassessing these patients the number of times I have to stop what I am doing in order to reapply a telemetry patch or pulse ox monitor, will greatly increase the amount of time that I am able to spend with my patients and provide them with more attention and education during their hospital admission. Working on the urology/nephrology floor, we have many patients who have End Stage Renal Disease (ESRD) and many other patients who would fall in the Class III category, as identified by the ACC/AHA practice stands in which telemetry monitoring is not indicated (Navetta, 2014). These patients also have a high-risk of non-compliance to include keeping telemetry monitors on which brings into the questions of why monitor a patient that it is not clinically indicated and also does not wish to have on as well? In reassessing the patient's criteria for telemetry, the reductions of monitors used on our floor should decrease which would also have an increase of patient outcomes and thereby increasing HAP scores for reimbursement

Will having better policy and procedures for placing patients on telemetry help reduce alarm fatigue therefore, decrease patient anxiety, increase nurse response time, and overall improve patient outcomes?

**Research**

Increased technology over the years have developed its own set of hazards. New equipment developed to assist medical professionals in the monitoring of patients started what is commonly referred to as “ alarm fatigue”. When the Joint Commission saw that alarm safety/alarm fatigue as a national patient safety goal in 2014, they urged hospitals to develop systems that address this issue and implement new protocols which includes the following:

1. Ensure that there is a process for safe alarm management and response in areas identified by the organization as high risk.
2. Prepare an inventory of alarm-equipped medical devices used in high-risk areas for high-risk clinical conditions and identify the default alarm settings and the limits appropriate for each care area.
3. 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.
4. 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.
5. Inspect, check and maintain alarm-equipped medical devices to provide for accurate and appropriate alarm settings, proper operation, and detectability.

6. Base the frequency of these activities on criteria such as manufacturers' recommendations, risk levels and current experience. 8

Each of these areas described above are the basis of telemetry monitoring policies. The criteria for beginning telemetry monitoring is based on each individual patient's current status. Though many patients begin to be lumped into categories based on their initial ECG to find a baseline, the overall need for telemetry is to identify new lethal arrhythmias and monitor oxygen saturations. The parameters for both are usually set at a default but by adjusting to each individual patient's trends and patterns, the number of unactionable alarms and/or false alarms would decrease dramatically as well as decrease the unavoidable alarm fatigue seen by healthcare professionals. Patients may also be wearing cardiac monitors and have no clinical need for this. The identification of patients who are in NSR and adequate oxygenation should have their monitors removed in order to decrease in patient's anxiety and improved their overall healing process for whatever had brought them to the hospital in the first place.

### **Procedure**

- Patients should be assessed to see if they require monitoring.
  - Patients who had maintained Normal Sinus Rhythm/90% or greater O2 should be on a running list which would be presented to the physician for discontinuation of their telemetry monitoring.
  - Patients that frequently remove their telemetry on their own should be assessed if they require continuous monitoring due to their non-compliance

- Patients who require monitoring should have their settings adjusted individually
  - Current parameters are HR 20 above and 10-20 below if not bradycardic but an increase in some patients would still result in being called about a heart rate of 90bpm.
- Revise policy to have staff from telemetry adjust leads or O2 probes if they are not being ready appropriately.
  - Through training with the telemetry monitors, these individuals should be able to identify any problems with current equipment

### **Recommendations**

First, a team would need to reassess current telemetry protocols, which were dated 1979 yet updated last in 2011 and 2017. The changes put forth would present a new process to alarm management which would overall increase patient outcomes. The current method of calling the nurse ever five minutes is not an effective time management policy and the resources needed to call a selected nurse takes away those resources from other critical areas. Next, reviewing and adjustment of default parameters to be more patient specific would not only all a two RN team to critically analyze current telemetry trends to adjust the highs, low, critical and warning settings to each patient. This in turn will also assist physicians in determining when telemetry is no longer warranted on patients. Lastly, a thorough examination of all current telemetry monitors and all lead wires will determine if there are any shorts in wires or any dysfunction of the monitors themselves. This can dramatically decrease the number of false alarms that nurses are called about.

## Evaluations

The evaluation of a new telemetry monitoring system would need to be evaluated over time by a non-involved member of the healthcare team. To judge any successes, the evaluation should include the number of actionable versus non-actionable alarms. Another method to evaluate a new process is by nurse response or survey as well as any increase in HCPAP scores.

## References

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