

EXECUTIVE SUMMARY

Chelsea DeRienzo, RN BSN

IESD, Ward 5D

VA Portland Healthcare System (VAPORHCS)

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Refining Telemetry Utilization

Background

As our hospital has increased its number of acute care beds, there has been an increased demand for the use of telemetry monitoring. This has led to additional purchasing of telemetry licenses and equipment. In addition, with telemetry orders having expiration dates in CPRS, it has resulted in the order falling off the patient's chart and at times making it unclear to nursing if the patient should be removed from telemetry, as there may still be clinical indication for further monitoring with no clear discontinuation order. As a result, patients often remain on telemetry for lengthy times with no active orders in CPRS and potential inappropriate use.

Objective

In the acute care setting, does having standardized guidelines for implementation and removal of cardiac telemetry help to improve utilization and cost of care?

Evidence Informing Project

A literature review was performed looking at quality improvement studies for the use of telemetry over the last five years. Six articles were looked at, and it was noted each article heavily relied on the American Heart Association's recommendations for improving their telemetry monitoring, as the American Heart Association provides their recommendations from physicians with relevant areas of expertise and literature publications made in between their previous recommendations. Most studies found it difficult to decrease the length of stay a patient had on telemetry and a multidisciplinary approach, with ongoing discussion of clinical indication, had the best outcomes for reduction.

Methods

An initial audit was done of patients placed on telemetry over a fiscal quarter. From this audit, it was noted that 206 patients were on telemetry without active orders. This was due to either the orders not being renewed or the orders never being initially placed. It was also noted that 63% of patients without active orders were being followed by the general medicine teaching teams. To prevent telemetry orders from falling off a patient's chart, orders were changed to only have an initiation date. This then would require the provider to put in a discontinuation order when telemetry was no longer necessary, making it clear to nursing staff.

To help prevent prolonged use of telemetry on patients, telemetry techs began providing written requests, via Microsoft Teams, for reconsideration of clinical indication of telemetry use every 48 hours a patient remained on telemetry from their initial start date. The 48-hour interval was chosen due to average length of time the American Heart Association recommends patients

stay on telemetry per clinical diagnosis. Telemetry techs made their written requests to the medicine team's assigned resident prior to the start of the medicine team's interdisciplinary meeting. Meetings were held with hospitalists in charge of resident education to provide education on the changes made in CPRS and the American Heart Association's recommendations. The hospitalists then disseminated this education to physician residents. In addition, training was provided to the telemetry techs on how to provide the written requests to physicians and the changes made in CPRS.

A standard form was used by the telemetry techs to keep track of each patient a request was sent to and which provider was contacted. There was a spot for techs to indicate if they received a response from the physician and if that response translated over to CPRS, for example, if a physician responded to discontinue telemetry to the tech, but then did not make the change in CPRS.

A chart review was done on each patient a written request was made for. The chart review included the patient's admitting telemetry diagnosis, the number of days the patient was on telemetry, the number of requests a tech made on that patient, if the patient was removed from telemetry after a request for reconsideration of clinical indication was made, if the use of telemetry matched the American Heart Association's guidelines, the number of days a patient's length of stay was decreased based off the intervention, and the potential days that could have been decreased based off clinical indication. Initial data was looked at over a 30-day period where the intervention for requesting reconsideration for clinical indication of the use of telemetry was made.

Results

After the first 30 days, it was noted that requests for reconsideration were made on 139 patients. From those 139 patients, 17 were removed after the request was made, providing an initial savings of \$13,364.64. Savings were determined on the continued hospital stay per patient once removed from telemetry, multiplied by the cost per day based on which telemetry class was ordered for the patient.

Despite having an initial reduction in the use of telemetry, it was noted that there are still areas to improve our use. From the initial chart review of the first 30 days, it was noted an additional 50 patients could have been removed from telemetry earlier than they were, with a potential savings of \$18,486.60. This was determined after noting documentation such as the patient was medically stable for discharge but remained in house for skilled nursing placement, discharge orders were placed the day before, or it was clearly documented patients remained in house due to lack of transportation or per their request. On average, patients were left on 1-2 days longer than the clinical picture painted need for.

Conclusion

With initial improvement on our use of telemetry by having routine reminders to evaluate clinical indication, there still remains continued need for improvement. Patients with admitting diagnoses of acute decompensated heart failure and atrial fibrillation have ongoing lengthy telemetry uses, despite at times no longer having clinical indication. Ongoing education related to the use of telemetry is needed, with a continued multidisciplinary approach to improving our hospital's use of telemetry.

Recommendations/Next Steps

As we work to continue to improve our use of telemetry, additional education for clinical indication is needed, specifically with the cardiac diagnoses of acute decompensated heart failure and atrial fibrillation. As the current American Heart Association's guidelines are four years old, an additional literature review is needed for the use of telemetry in these diagnoses. A more updated literature review may help to provide a reduction in the length of telemetry use these diagnoses have. In addition, meeting with the cardiology department to create a potential metric for clinical indication of telemetry in acute decompensated heart failure may also be beneficial in helping to reducing the use of telemetry. Additionally, expanding the requests to review clinical indication of telemetry to our hospitalist and surgical teams may help to provide an additional reduction in use.

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