Achieving the Triple Aim: Decreasing Use of Inappropriate Telemetry Monitoring

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Objectives

- Learners will understand the appropriate use criteria for telemetry monitoring.
- Learners will learn how to lead a collaborative interdisciplinary team to build an evidence based order set to drive appropriate telemetry use.
- Learners will understand how to implement new practice among RNs and providers to support the new criteria.
St. Luke's Health System, Idaho

Boise Campus

Meridian Campus
Goals of Program

- Align cardiac monitoring (telemetry) with the national standards and evidence.
- Assure the safety of patients.
- Provide appropriate level of care.
- Reduce telemetry monitored days.
- Reduce costs associated with telemetry monitoring.
Review of the Evidence

- American Heart Association Guidelines for Cardiac monitoring 2004
- American Heart Association Stroke guidelines 2013
- Support articles: NEJM, JAMA, Internal Medicine, AACN, Emergency Hospital Medicine, JC 2014, ECRI (Environmental Risk Communications Inc.)
Does Over-Utilization of Telemetry Matter?

- “alarms are intended to alert caregiver of potential patient problem, but if not managed they can compromise safety”.
  
  JC 2014 National Patient safety goal

- “technology is top safety hazard in healthcare”.
  
  ECRI

- 72-99% of alarms are false or benign

- Telemetry adds significantly to hospital bills:
  
  Additional costly and unnecessary workup
What’s the Harm?

- Wasted resources
- Increased RN time
- Unnecessary tests
- Provider time-calls from RNs
- Alarm fatigue
- Increased supply costs
- Overutilization leads to:
  - Delays in bed placement

“I’m sure they do make your shift easier. However, I don’t think roller skates are in the dress code.”
Internal Audit

- February 2013
- No current standard
- Manual process
  - Diagnosis, rhythms & alarms
- Results
  - 755 patients
  - 30 days
  - 65% didn’t meet AHA criteria
  - Consistent with PULSE trial
- Informal surveyed Internal Medicine providers
  - Preferred tele floor
  - Education
Gathering Support

- Present the evidence
  - Directors, administrators, providers, bedside RNs
- What’s the consequence
  - Projected revenue drop
  - Patient safety concern
Support Re-ignited

- Internal Medicine Physician Assistant
- Internal Medicine Medical Medical Director
- Director Physician Practice and Quality
- President and CEO of System
- Repeated survey October 2014
  - Using charge code
  - Diagnosis codes
  - Sorted into AHA classes I-III
October 2014

Total

- Did Not Meet Criteria
- Telemetry For 24 Hrs
- Telemetry For 48 Hrs
- Telemetry for Entire Stay

Class I
- Primary cardiac - entire stay
- N=177

Class II
- Cardiac Intervention - 48 hrs
- N=79

Class III
- Cardiac history, non-cardiac admission - 24 hrs
- N=243
The Financial Implications

- Finance and revenue department
- Project numbers
  - Gross revenue vs net revenue loss
- Cost (gross)
  - $720/8hrs
- Actual (Net)
  - DRG based payment
- Presented to the CFO & COO

<table>
<thead>
<tr>
<th>Boise and Meridian Telemetry</th>
<th>FY16 Impact</th>
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<tbody>
<tr>
<td>Projected Loss</td>
<td></td>
</tr>
<tr>
<td>Gross Revenue</td>
<td>19,542,056</td>
</tr>
<tr>
<td>Net Revenue</td>
<td>1,031,744</td>
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Time to Implement

Collaboration-Who’s on the team?
- Providers
- Bedside RNs
- Financial
- Revenue cycle
- Nurse managers
- Monitoring company
- Partner data analyst
- Performance improvement department
The Criteria

- Developing orders
- Multiple versions
- Content important
- Layout was just as important
- Provider buy-in
- “One more piece of paper”
- Allow for individual practice

**Telemetry will be automatically discontinued based on criteria below. Patient must also be normal sinus rhythm or stable rate controlled a-fib, HR < 120, and SBP > 90, without a cardiac event requiring provider notification in last 24 hours. (see back for notification parameters)**

Patient admitted meets the following criteria for telemetry monitoring:

- **Case I**
  - Acute Coronary Syndrome
  - Acute Decompensated Heart Failure
  - Acute Myocardial Infarction
  - Cardiac resuscitation
  - Acute Dysrhythmias specified:
  - Hemodialysis w/ Case 1 conditions
  - Post Open Heart
  - Stroke/TIA
  - Temporary pacers
  - Wolff-Parkinson-White

- **Case II**
  - Drug Overdose
  - PCI
  - Cardiac Ablation
  - Syncope
  - Severe Sepsis

- **Case III**
  - Acute Coronary Syndrome-Negative serial enzymes
  - Chronic/history of Heart Failure
  - Electrolytes abnormalities now WNL
  - Non-interventional Post-CCL
  - Post-pacer/ICD implant
  - Post-surgical high cardiac risk
  - Patients may meet criteria for telemetry monitoring with history of CAD, arrhythmia, or heart failure

**AND:**
- COPD/ Asthma
- GI bleed
- Pulmonary Embolism
- Severe O2 dependence

- **Provider order required to discontinue telemetry. Reason:**
- **Provider Signature:**
Nursing/Staff Support

- Bedside staff champions
- Presenting the evidence
- Developed workflow
- Used Team Work Boards
- Address their concerns
- Telemetry Clerks - Key to success!
  - Required orders when requested for box
  - Managed time frames - qued RNs of expiring orders
Our Successes

- Intervention started in mid-October 2015
- As of September 2016
  - 23% reduction in telemetry over the first 11 months
  - **Reduced charge to patients of $10.8 million**
- Collaboration with providers
- A couple of updates/clarification to orders
% Telemetry Utilization*

Implementation Oct 2015

23%
Moving Forward

- System wide implementation October 2016
- Implemented as a protocol
- Electronic record impact
- Can we reduce more?
  - Better order management
  - Quarterly reports
  - Audit with new medical record
References


2013- American Heart Association- Guidelines for the Early Management of Patients with Acute Ischemic Stroke. DOI: 10.1161/STR.0b013e318284056a


2014 -The Practical Use of the Latest Standards of Electrocardiography (PULSE) Trial: Nursing-Focused Intervention Improves Nurses’ Knowledge and Quality of ECG Monitoring. 2014; 130(2).
Thank You!

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