Delirium Reduction Strategies For The Critically Ill

June Chaves
Maine Medical Center

Sam Canonico
Maine Medical Center

Will Cheney
Maine Medical Center

Tammy Corey
Maine Medical Center

Gil Fraser
Maine Medical Center

Follow this and additional works at: https://knowledgeconnection.mainehealth.org/mmc

Recommended Citation

Chaves, June; Canonico, Sam; Cheney, Will; Corey, Tammy; Fraser, Gil; Kowalewski, Alex; Low, Jen; Cardiac Intensive Care Unit; Pelletier, Haley; Palleschi, Cathy; Tyzik, Stephen; Nayak, Suneela; and Hanselman, Ruth, "Delirium Reduction Strategies For The Critically Ill" (2017). Maine Medical Center. 4.
https://knowledgeconnection.mainehealth.org/mmc/4

This Article is brought to you for free and open access by the All MaineHealth at MaineHealth Knowledge Connection. It has been accepted for inclusion in Maine Medical Center by an authorized administrator of MaineHealth Knowledge Connection. For more information, please contact mckeld1@mmc.org.
**Project:** CICU - Reducing Delirium  
**Last Updated:** 8/21/2017

**Executive Sponsor:** Mark Parker  
**Facilitator:** Haley Pelletier & Cathy Palleschi

**Team Members:** June Chaves, Sam Canonico, Will Cheney, Tammy Corey, Gil Fraser, Alex Kowalewski, Jen Low, Suneela Nayak, Stephen Tzyzik, Ruth Hanselman

---

### Problem/Impact Statement:
Delirium, an acute and fluctuating disturbance of consciousness and cognition, is a common manifestation of acute brain dysfunction in critically ill patients, occurring in up to 80% of the sickest intensive care unit (ICU) populations. Patients in the Cardiac Intensive Care Unit (CICU) at Maine Medical Center (MMC) are at high risk for developing delirium. Patients with delirium have longer hospital stays and lower 6-month survival than do patients without delirium, and preliminary research suggests that delirium may be associated with cognitive impairment that persists months to years after discharge. A literature search, root cause analysis, and a fishbone diagram have been developed to analyze and help to mitigate this high delirium rate, as previous initiatives to combat this problem did not make an impact.

### Scope:
**In scope:** Clinical staff in CICU at MMC who care for patients at risk for developing delirium  
**Out of scope:** Clinical staff not in CICU who care for patients at risk for developing delirium

### Goal/Objective:
**Overall Goal:** Reduce the prevalence and severity of delirium in patients on CICU  
**KPI 1:** 100% of the time, all eligible ventilated patients will be mobilized  
**KPI 2:** 100% of the time, eligible patients in CICU will have documentation of progressive mobilization

### Baseline Metrics/Current State:
**Definition:** Delirium is defined as a disturbance of consciousness with inattention accompanied by a change in cognition or perceptual disturbance that develops over a short period of time (hours-days) and fluctuates over time. Ventilated Patients • High concern for delirium • Less potential for mobilization Non-ventilated Patients • If well enough, concern for delirium is lower

**Current state:** Staff were fearful that ventilated patients would have an adverse event in mobilized. In CICU, many members of the healthcare team did not believe that delirium could be prevented. The predominant view, in MMC as well as similar tertiary care centers, was that clinically ill patients, especially those who are intubated and ventilated, are too ill to mobilize while ventilated. Recent research suggests that early mobilization in patients in the ICU is extremely beneficial in reducing delirium.

**Baseline Metrics:**
- **KPI 1:** 100% of the time, all eligible ventilated patients will be mobilized
- **KPI 2:** 100% of the time, eligible patients in CICU will have documentation of progressive mobilization

### Countermeasures:

<table>
<thead>
<tr>
<th>Action</th>
<th>Owner</th>
<th>Due Date</th>
<th>Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>100% of the time, all vent pts will have a SAS score = to &gt; 3 will have a CAM assessment</td>
<td>June Chaves</td>
<td>6/6/2016</td>
<td>Complete</td>
</tr>
<tr>
<td>Distribute survey on staffs perception of early mobilization of ventilator pts</td>
<td>June, Maria &amp; Cathy</td>
<td>6/27/2016</td>
<td>Complete</td>
</tr>
<tr>
<td>Results of staff survey &amp; education on early mobilization</td>
<td>June, Gil Fraser</td>
<td>7/16/2016</td>
<td>Complete</td>
</tr>
<tr>
<td>Implement concurrent KPI, centered around providing the most quiet care environment possible</td>
<td>Jen Low &amp; Tammy Corey</td>
<td>8/23/2016</td>
<td>Complete</td>
</tr>
<tr>
<td>Distribute 6 month f/u survey on staffs perception of early mobilization</td>
<td>June, Chaves &amp; Alex Kowalewski</td>
<td>2/22/2017</td>
<td>Complete</td>
</tr>
<tr>
<td>KPI 1: “100% of the time, all eligible ventilated patients will be mobilized”</td>
<td>June Chaves</td>
<td>8/23/2016</td>
<td>Complete</td>
</tr>
<tr>
<td>Adopt Bedside Mobility Assessment Tool (BMAT) to ICU pt. population</td>
<td>Sam Canonico &amp; Will Cheney</td>
<td>5/12/2017</td>
<td>Complete</td>
</tr>
<tr>
<td>Revised Bedside Mobility Assessment Tool (BMAT) to match the Epic mobility documentation flow sheet</td>
<td>Sam Canonico</td>
<td>6/27/2017</td>
<td>Ongoing</td>
</tr>
</tbody>
</table>

### Outcomes:
- **Survey Questions Pre education Post Education % chg. to strongly agree**
  - I believe the risk of unintended extubating is increased when patients are in a chair
    - Pre: 13%  
    - Post: 4%  
    - % chg. to strongly agree: -65%
  - I believe early mobilization of intubated patients decreases length of stay as well as incidence of VAP, DVT, and skin breakdown
    - Pre: 48%  
    - Post: 78%  
    - % chg. to strongly agree: 64%
  - I am comfortable mobilizing an intubated patient out of bed to a chair
    - Pre: 29%  
    - Post: 40%  
    - % chg. to strongly agree: 59%

### Next Steps:
- Reassess the validity of CICU’s current Bedside Mobility Assessment Tool in other adult ICUs at MMC.
- Conduct a prospective study of the effect this KPI might have on decreasing duration of ventilation days as well as overall length of stay.

---

**Project Summary:**
- **Executive Sponsor:** Mark Parker  
- **Facilitator:** Haley Pelletier & Cathy Palleschi  
- **Team Members:** June Chaves, Sam Canonico, Will Cheney, Tammy Corey, Gil Fraser, Alex Kowalewski, Jen Low, Suneela Nayak, Stephen Tzyzik, Ruth Hanselman

**Project Goal:** Reduce the prevalence and severity of delirium in patients on CICU

**KPIs:**
- **KPI 1:** 100% of the time, all eligible ventilated patients will be mobilized
- **KPI 2:** 100% of the time, eligible patients in CICU will have documentation of progressive mobilization

**Countermeasures:**
- Implement concurrent KPI, centered around providing the most quiet care environment possible
- Adopt Bedside Mobility Assessment Tool (BMAT) to ICU pt. population
- Revised Bedside Mobility Assessment Tool (BMAT) to match the Epic mobility documentation flow sheet

**Outcomes:**
- Survey Questions Pre education Post Education % chg. to strongly agree
  - I believe the risk of unintended extubating is increased when patients are in a chair
    - Pre: 13%  
    - Post: 4%  
    - % chg. to strongly agree: -65%
  - I believe early mobilization of intubated patients decreases length of stay as well as incidence of VAP, DVT, and skin breakdown
    - Pre: 48%  
    - Post: 78%  
    - % chg. to strongly agree: 64%
  - I am comfortable mobilizing an intubated patient out of bed to a chair
    - Pre: 29%  
    - Post: 40%  
    - % chg. to strongly agree: 59%

**Next Steps:**
- Reassess the validity of CICU’s current Bedside Mobility Assessment Tool in other adult ICUs at MMC.
- Conduct a prospective study of the effect this KPI might have on decreasing duration of ventilation days as well as overall length of stay.

---

**Problem/Impact Statement:**
Delirium, an acute and fluctuating disturbance of consciousness and cognition, is a common manifestation of acute brain dysfunction in critically ill patients, occurring in up to 80% of the sickest intensive care unit (ICU) populations. Patients in the Cardiac Intensive Care Unit (CICU) at Maine Medical Center (MMC) are at high risk for developing delirium. Patients with delirium have longer hospital stays and lower 6-month survival than do patients without delirium, and preliminary research suggests that delirium may be associated with cognitive impairment that persists months to years after discharge. A literature search, root cause analysis, and a fishbone diagram have been developed to analyze and help to mitigate this high delirium rate, as previous initiatives to combat this problem did not make an impact.

**Scope:**
- **In scope:** Clinical staff in CICU at MMC who care for patients at risk for developing delirium
- **Out of scope:** Clinical staff not in CICU who care for patients at risk for developing delirium

**Goal/Objective:**
- **Overall Goal:** Reduce the prevalence and severity of delirium in patients on CICU
- **KPI 1:** 100% of the time, all eligible ventilated patients will be mobilized
- **KPI 2:** 100% of the time, eligible patients in CICU will have documentation of progressive mobilization

**Baseline Metrics/Current State:**
- **Definition:** Delirium is defined as a disturbance of consciousness with inattention accompanied by a change in cognition or perceptual disturbance that develops over a short period of time (hours-days) and fluctuates over time.
  - Ventilated Patients • High concern for delirium • Less potential for mobilization
  - Non-ventilated Patients • If well enough, concern for delirium is lower
- **Current state:** Staff were fearful that ventilated patients would have an adverse event in mobilized. In CICU, many members of the healthcare team did not believe that delirium could be prevented. The predominant view, in MMC as well as similar tertiary care centers, was that clinically ill patients, especially those who are intubated and ventilated, are too ill to mobilize while ventilated. Recent research suggests that early mobilization in patients in the ICU is extremely beneficial in reducing delirium.

**Countermeasures:**
- Implement concurrent KPI, centered around providing the most quiet care environment possible
- Adopt Bedside Mobility Assessment Tool (BMAT) to ICU pt. population
- Revised Bedside Mobility Assessment Tool (BMAT) to match the Epic mobility documentation flow sheet

**Outcomes:**
- Survey Questions Pre education Post Education % chg. to strongly agree
  - I believe the risk of unintended extubating is increased when patients are in a chair
    - Pre: 13%  
    - Post: 4%  
    - % chg. to strongly agree: -65%
  - I believe early mobilization of intubated patients decreases length of stay as well as incidence of VAP, DVT, and skin breakdown
    - Pre: 48%  
    - Post: 78%  
    - % chg. to strongly agree: 64%
  - I am comfortable mobilizing an intubated patient out of bed to a chair
    - Pre: 29%  
    - Post: 40%  
    - % chg. to strongly agree: 59%

**Next Steps:**
- Reassess the validity of CICU’s current Bedside Mobility Assessment Tool in other adult ICUs at MMC.
- Conduct a prospective study of the effect this KPI might have on decreasing duration of ventilation days as well as overall length of stay.