Embedding Evidence in Bedside Practice

CAROLYN HOLDER, RN, MN, CCRN, ANP-C, CCNS
CLINICAL NURSE SPECIALIST
MEDICAL INTENSIVE CARE UNIT
EMORY UNIVERSITY HOSPITAL
The Bedside Nurse

- Identifies problems
- Assists in finding solutions, review of evidence
- Assists CNS and interdisciplinary team in development of new protocols/policies
  - Unit Practice Councils/Shared Governance
  - Specialty Councils/Entity & System Councils
  - Critical Care Committee/Medical Practice Practice Committee
- Implementation of evidence-based protocols
Clinical Nurse Specialist

- Development of & revision of evidence-based protocols and patient care procedures
- Strategize to meet the multifaceted needs of complex critically ill patients and groups of patients through advanced care planning
- Provide formal and informal evidence-based education to nursing staff, interdisciplinary partners, patients and families in ICU
- Serve as leader and team member on interdisciplinary quality improvement teams across the entity or healthcare system
“Maintaining an optimal level of comfort and safety for critically ill patients is a universal goal for critical care practitioners”

_Crit Care Med._ 2002; 30:119-41
Clinical Practice Guidelines for the Management of Pain, Agitation, and Delirium in Adult Patients in the Intensive Care Unit

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Pain and/or Discomfort Should **ALWAYS** Be Considered a Cause of ICU Agitation
Developing a Protocol

- Interdisciplinary protocol developed for pain, agitation and delirium and implemented across five hospitals
  - Pharmacy, nursing, information systems (IS), and physicians across multiple hospitals
- **Richmond Agitation Sedation Scale (RASS)** - an assessment tool used to assess the quality and depth of sedation and test cognition
  - The most valid and reliable sedation assessment tool; supported by critical care literature
  - Redesign of electronic documentation for sedation & 10 other protocols & policies
Multi-faceted Approach is the Key

- Pain Management
- Sedation/Agitation Management
- Delirium Management
- Spontaneous Awakening Trials
- Early Mobility
- Spontaneous Breathing Trials

Courtesy J Barr, MD
Algorithm developed for management of pain, agitation and delirium in mechanically ventilated patients utilizing the RASS score.

### Pain, Agitation, and Delirium Protocol for Mechanically Ventilated Patients

1. **PAIN/ANALGESIA**
   - **In Pain?**
     - Yes: Fentanyl 25 to 100 mcg prn or Morphine 2 to 4 mg prn or Hydromorphone 0.25 to 1 mg prn
     - No: Controlled with 3 bolus doses/hour?
       - Yes: Fentanyl 0.25 to 5 mcg/kg/hr drip
       - No: Fentanyl 25 to 100 mcg bolus with each rate increase
   - Analgesia may be adequate to reach RASS target
   - Reassess q 4 hrs and as needed

2. **AGITATION/SEDATION**
   - **Over-sedated** (RASS -2 to -5)
     - Hold analgesic and/or sedative to achieve RASS target. Restart at 1/2 previous dose if clinically indicated.
   - **RASS at target?** (Goal is 0 to -1)
     - Yes: Reassess q 4 hrs and as needed
     - No: Under-sedated (RASS +1 to +4)
       - Propofol 5 to 80 mcg/kg/min
       - Dexmedetomidine 0.2 to 1.5 mcg/kg/hr
       - Midazolam 1 to 4 mg prn** or lorazepam 1 to 4 mg prn**
   - **SAT + SBT daily**

3. **DELIRIUM***
   - **Negative**
     - Reassess q 12 hrs and as needed
   - **Positive**
     - Non pharmacological management
     - Pharmacological management

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* Goal RASS of 0 to -1 unless otherwise specified by provider's order
** If more than 3 midazolam or lorazepam boluses per hour then contact provider to consider starting midazolam 1 to 10 mg/hr drip or lorazepam 1 to 10 mg/hr drip
*** Delirium diagnosed by using the Confusion Assessment Method for the ICU (CAM-ICU)

Revised 4/2/2013
Implementation

- **Satellite Education**
  - Education from nursing and pharmacy detailing the new protocol and implementation.
  - Provided to “champions” across the system (CNS, RNs) who educated their own units

- **Email update sent to all medical providers (MD/PA/NP)**

- **Restructure of CAM-ICU in electronic medical record**

- **Redesign of PowerPlans in electronic medical record for ventilated patients**
  - Consulted bedside nurses and IS to make changes “nurse friendly” and “provider friendly”
CAM-ICU Begins with RASS

### CAM ICU Delirium Assessment

**RASS** - Right click in cell to view reference text

<table>
<thead>
<tr>
<th>RASS</th>
<th>Definition</th>
</tr>
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<tbody>
<tr>
<td>+4 Combative</td>
<td>Combative, violent, immediate danger to staff</td>
</tr>
<tr>
<td>+3 Very Agitated</td>
<td>Pulls or removes tube(s) or catheter(s); aggressive</td>
</tr>
<tr>
<td>+2 Agitated</td>
<td>Frequent nonpurposeful movement, fights ventilator</td>
</tr>
<tr>
<td>+1 Restless</td>
<td>Anxious, apprehensive but movements are not aggressive or vigorous</td>
</tr>
<tr>
<td>0 Alert &amp; Calm</td>
<td>Not fully alert, but has sustained awakening to voice (eye opening &amp; contact &lt; 10 sec)</td>
</tr>
<tr>
<td>-1 Drowsy</td>
<td>Briefly awakens to voice (eye opening &amp; contact &lt; 10 sec)</td>
</tr>
<tr>
<td>-2 Light Sedation</td>
<td>Movement or eye opening to voice (but no eye contact)</td>
</tr>
<tr>
<td>-3 Moderate Sedation</td>
<td>No response to voice, but movement or eye opening to physical stimulation</td>
</tr>
<tr>
<td>-4 Deep Sedation</td>
<td>No response to voice or physical stimulation</td>
</tr>
</tbody>
</table>

Can the Remainder of the Delirium Assessment be completed?

<table>
<thead>
<tr>
<th>Option</th>
<th>Why Not?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td>No</td>
<td>Unable to hear</td>
</tr>
<tr>
<td></td>
<td>Unable to follow commands</td>
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</tbody>
</table>

CAM-ICU Stopped Due To RASS
RASS Reference Text

Definitions Next To RASS Score

Procedure for RASS Assessment

1. **Observe patient**
   a) Patient is alert, restless, or agitated. (score 0 to +4)

2. If not alert, state patient’s name and **SAY to open eyes and look at speaker.**
   b) Patient awakens with sustained eye opening and eye contact. (score 1)
   c) Patient awakens with eye opening and eye contact, but not sustained. (score 2)
   d) Patient has any movement in response to voice but no eye contact. (score 3)

3. When no response to verbal stimulation, physically stimulate patient by shaking shoulder and/or rubbing sternum.
   e) Patient has any movement to physical stimulation. (score 4)
   f) Patient has no response to any stimulation. (score 5)

RASS Scale

- +4 **Combative**
- +3 **Very Agitated**
- +2 **Agitated**
- +1 **Restless**
- 0 **Alert and Calm**
- -1 **Drowsy**
- -2 **Light Sedation**
- -3 **Moderate Sedation**
- -4 **Deep Sedation**
- -5 **Unarousable**

Right click in cell to view reference text.
## Evaluation: Metrics and Outcomes

<table>
<thead>
<tr>
<th></th>
<th>PAIN</th>
<th>AGITATION</th>
<th>DELIRIUM</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>ASSESS</strong></td>
<td>% of time pain is monitored ≥4x/shift</td>
<td>% of time sedation assessments are performed ≥4x/shift</td>
<td>% of time CAM-ICU performed q shift</td>
</tr>
<tr>
<td><strong>TREAT</strong></td>
<td>% of time pts are in significant pain ≥4</td>
<td>% of time pts are sedated to achieve RASS goal of 0 to -1</td>
<td>% of time CAM-ICU is positive (delirium is present)</td>
</tr>
<tr>
<td></td>
<td>% of time pain med is given within 30 mins of detecting significant pain</td>
<td>% of time pts are under sedated RASS &gt;0</td>
<td>% of time benzodiazepines are given to pts with documented delirium (not due to ETOH or benzo withdrawal)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>% of time of over sedated RASS &lt; -2</td>
<td></td>
</tr>
<tr>
<td><strong>PREVENT</strong></td>
<td>% of time pts receive pre-procedural analgesia</td>
<td>% failed SBTs due to sedation issues</td>
<td>% pts receiving early mobility/PT</td>
</tr>
<tr>
<td></td>
<td>% compliance with ICU pain protocol</td>
<td>% compliance with sedation protocol</td>
<td>% pts receiving ICU sleep promotion</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>% compliance with delirium protocol</td>
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Evidence-Based Practice and the Clinical Nurse Specialist

- Incorporated into ALL aspects of work as a CNS
  - Patient/Family Meetings
  - Interdisciplinary Rounds
  - Clinical judgments and decision-making
  - Protocol/Policy development
  - Education
  - Collaboration/Consultation with other disciplines
  - Research
  - Quality Initiatives
Questions