Creating a Paradigm Shift

ABCDEF 2016

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Kettering Health Network
A paradigm shift (or revolutionary science) is, a change in the basic assumptions, or paradigms, within the ruling theory of science.

“A paradigm is what members of a scientific community, and they alone, share"

_The Structure of Scientific Revolutions_ (1962)
(The Essential Tension, 1977).
The Problem

- 4 million ICU admissions / year in USA
- 80-90% survive ICU
- 50% unable to return to previous work > 1 year
  - Cognitive, psychological & physically disabling side effects
- 78% ICU survivors cognitive impairment
  - Hopkins & Jackson, Neurorehabilitation 2012;31
- PTSD at discharge (44%), 5 (25%) and 8 (24%) years later
  - Psychosom Med 2008;70
Problem Identification

- Increased length of stay on the ventilator, ICU, hospital
- Associated with aspiration, VAP, hospital acquired pressure ulcers, DVT (Seeling, Heymann & Spies, 2009)
- Increased mortality at six months and one year (Lat et al. 2009)
- Increased healthcare costs (Leslie et al. 2008)
- Acute brain dysfunction that has lasting effects on cognitive abilities (Balas et al. 2012)
The Problem

- Survivors suffer as a result of processes acquired or accelerated by ICU stay.

- These symptoms typically arise from two common and often unrecognized conditions that have a significant impact on the quality and quantity of life following critical illness: ICU delirium and ICU-acquired weakness and their chronic sequelae.
The Problem

• “Health care today harms too frequently and routinely fails to deliver potential benefits”
  • Crossing the Quality Chasm: A New Health System for 21st Century-2001
Risk Factors: ICUAD & ICUAW

- Severity of Illness
- Sepsis
- Dementia
- Time on Vent
- Sedation /NM blockade
- Immobility
Relationship between ICU-acquired delirium and weakness in a patient with sepsis.

Vasilevskis E E et al. Chest 2010;138:1224-1233
The Answer = ABCDEF

- ABCDEF implementation independently reduces:
  - HLOS & Delirium incidence
  - Increase return to independent functioning

- Schweickert WD,. Lancet. 2009;3739678:1874-1882
ABCDEF is a multicomponent process that is intentionally interdependent and designed to:

1. Improve collaboration among clinical team members
2. Standardize care processes
3. Break the cycle of over sedation and prolonged ventilation, which appear causative to delirium and weakness
ABCDEF BUNDLE

- Minimal Expense

- Interdisciplinary (not multidisciplinary)

- Complex Bundle Difficult to Implement and Therefore:
  - Poorly Executed
Assess and Manage Pain
Both Spontaneous Awakening and Breathing Trial - Coordinated
Careful Selection of Analgesic and Sedative
Delirium Assessment, Prevention and Management
Early Mobility
Family Engagement/Involvement

Barr et al. 2013. Critical Care Medicine 41(1), 263-306
The Problem = ICU Providers !!

- 40% use SAT (60% don’t)
- 31-42% use SBT (58% don’t)
- 33% use delirium assessment tool (67% don’t)
- 50% use sedation monitoring scale (50% don’t)

OUTCOMES 2000

- Extubation
- Survival

OUTCOMES 2014

- Extubation
- Survival
- Functionality
  - Cognitive
  - Mobility
ABCDEF – Analgesia First Approach

Definition of Pain

The International Association for the Study of Pain defines pain as an: “unpleasant sensory and emotional experience associated with actual or potential tissue damage, or described in terms of such damage”.

Barr et al. 2013. Critical Care Medicine 41(1), 263-306
Many critically ill patients experience pain during hospitalization in the critical care unit.

More than 30% have significant pain at rest.

More than 50% have significant pain during routine care such as turning, endotracheal suctioning and wound care.

Untreated pain can result in negative consequences including multisystem complications.

Pain Assessment

- The patient’s self report is the “gold standard” for pain assessment. This self report can be given by speaking, nodding, or pointing.

- The 0-10 numerical rating scale is the most valid tool when the patient can self report.

Barr et al. 2013. Critical Care Medicine 41(1), 263-306
Avoid the use of **Vital Signs** as **primary** assessment for pain

- Vital signs should be considered *cues* to begin further pain assessment; but should never be used as the sole indicator of pain.

CPOT

- Measures presence or absence of pain
- Does not measure severity or intensity

- CPOT of 2 or greater indicates presence of pain
- Measurement of CPOT after intervention for pain decreases by at least 2 = “may be associated with effectiveness of pain management interventions”
### Critical Care Pain Observation Tool (CPOT)

<table>
<thead>
<tr>
<th>Indicator</th>
<th>Description</th>
<th>Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>Facial expression</td>
<td>No muscular tension observed</td>
<td>Relaxed, neutral 0</td>
</tr>
<tr>
<td></td>
<td>Presence of frowning, brow lowering, orbit tightening, and levator contraction</td>
<td>Tense 1</td>
</tr>
<tr>
<td></td>
<td>All of the above facial movements plus eyelid tightly closed</td>
<td>Grimacing 2</td>
</tr>
<tr>
<td>Body movements</td>
<td>Does not move at all (does not necessarily mean absence of pain)</td>
<td>Absence of movements 0</td>
</tr>
<tr>
<td></td>
<td>Slow, cautious movements, touching or rubbing the pain site, seeking attention through movements</td>
<td>Protection 1</td>
</tr>
<tr>
<td></td>
<td>Pulling tube, attempting to sit up, moving limbs/ thrashing, not following commands, striking at staff, trying to climb out of bed</td>
<td>Restlessness 2</td>
</tr>
<tr>
<td>Muscle tension</td>
<td>No resistance to passive movements</td>
<td>Relaxed 0</td>
</tr>
<tr>
<td>Evaluation by passive flexion and extension of upper extremities</td>
<td>Resistance to passive movements</td>
<td>Tense, rigid 1</td>
</tr>
<tr>
<td></td>
<td>Strong resistance to passive movements, inability to complete them</td>
<td>Very tense or rigid 2</td>
</tr>
<tr>
<td>Compliance with the ventilator (intubated patients)</td>
<td>Alarms not activated, easy ventilation</td>
<td>Tolerating ventilator or movement 0</td>
</tr>
<tr>
<td></td>
<td>Alarms stop spontaneously</td>
<td>Coughing but tolerating 1</td>
</tr>
<tr>
<td></td>
<td>Asynchrony: blocking ventilation, alarms frequently activated</td>
<td>Fighting ventilator 2</td>
</tr>
<tr>
<td>OR</td>
<td>Talking in normal tone or no sound</td>
<td>Talking in normal tone or no sound 0</td>
</tr>
<tr>
<td></td>
<td>Sighing, moaning</td>
<td>Sighing, moaning 1</td>
</tr>
<tr>
<td></td>
<td>Crying out, sobbing</td>
<td>Crying out, sobbing 2</td>
</tr>
<tr>
<td>Total, range</td>
<td></td>
<td>0-8</td>
</tr>
</tbody>
</table>

Source: Am J Crit Care © 2006 American Association of Critical-Care Nurses
Analgesia First!

- Inter-related
- Assess using validated tools
- Lack of treatment of pain can result in many complications including delirium
- Treat pain first
- Preemptive
Preemptive Analgesia

- Patients undergoing painful procedures should have *preemptive analgesia* (analgesia given before the procedure begins)
- Non-pharmacologic interventions should also be used to help alleviate pain (such as positioning, heat/cold, relaxation or music)

Barr et al. 2013. Critical Care Medicine 41(1), 263-306
Awakening-SAT

KEEP CALM AND STAY AWAKE
Vent Wean / Liberation

- 70% Simple Weaning OK on 1st attempt
  - When is the first attempt
- 20% Difficult Weaning: 7-14 days
- 10% Prolonged Weaning
Daily Interruption of Sedatives

- 128 patients

- Intervention group = Sedatives interrupted until awake

- Control group = Sedatives interrupted at discretion of the clinicians

Kaplan–Meier Analysis of the Length of Stay in the Intensive Care Unit (ICU), According to Study Group.

Continuous infusions of sedative drugs in the intensive care unit may:

- Prolong duration of mechanical ventilation,
- Prolong the ICULOS and the HLOS
- Impede daily neurologic examinations
- Increase the need for tests to assess alterations in mental status

Daily interruption of sedative infusions in critically ill patients undergoing mechanical ventilation

- Days Mechanical Ventilation
  - 4.9 (I) vs. 7.3 (C)  \( P=0.004 \)

- ICULOS (days)
  - 6.4 (I) vs. 9.9 (C)  \( P=0.02 \)

CONCLUSIONS: In patients who are receiving mechanical ventilation, daily interruption of sedative-drug infusions decreases the duration of mechanical ventilation and the length of stay in the intensive care unit.

SAT Not Used Around World

- Canada –40% get SATs (273 physicians in 2005)
- U.S. –40% get SATs (2004-05)
- Germany –34% get SATs (214 ICUs in 2006)
- France –40-50% deeply sedated with 90% on continuous infusion (44 ICUs in 2005)
- UK –28% use sedation breaks, 82% use midazolam when on > 24 hours
- Brazil –32% get SATs (1,015 MDs in 2008)

Mehta S, CCM 2006;34:374-80.
Devlin J, CCM 2006;34:556-57.
Payen JF, Anesthes 2007;106:687-95.
Ramaswamy S, Intens Care Med (ESICM 2009)
Salluh J, J Crit Care 2009
JAMA 2007 MENDS

Precedex vs. Ativan

Precedex

- 4 days Less Coma & Delirium
- Better 28 day Survival
  - (83% vs. 73%)
JAMA 2009 SEDCOM

Precedex vs. Versed

Precedex

- 23% Less delirium
- 3 days less mechanical ventilation
Sedation Assessment

- RASS
  - Richmond Agitation-Sedation Scale

- SAS
  - Riker Sedation Assessment Scale

- Both SAS and RASS led to similar rates of delirium assessment using the CAM-ICU.

Richmond Agitation Sedation Scale (RASS)

<table>
<thead>
<tr>
<th>Score</th>
<th>Descriptor</th>
<th>Characteristics</th>
</tr>
</thead>
<tbody>
<tr>
<td>+4</td>
<td>Combative</td>
<td>Combative, violent, immediate danger to staff</td>
</tr>
<tr>
<td>+3</td>
<td>Very agitated</td>
<td>Pulls or removes tube(s) or catheter(s); aggressive</td>
</tr>
<tr>
<td>+2</td>
<td>Agitated</td>
<td>Frequent nonpurposeful movement, fights ventilator</td>
</tr>
<tr>
<td>+1</td>
<td>Restless</td>
<td>Anxious, apprehensive but movements not aggressive or vigorous</td>
</tr>
<tr>
<td>0</td>
<td>Alert and calm</td>
<td>Not fully alert, but has sustained awakening to voice (eye opening and contact &gt;10 seconds)</td>
</tr>
<tr>
<td>-1</td>
<td>Drowsy</td>
<td>Briefly awakens to voice (eye opening and contact &lt;10 seconds)</td>
</tr>
<tr>
<td>-2</td>
<td>Light sedation</td>
<td>Movement or eye opening to voice (but no eye contact)</td>
</tr>
<tr>
<td>-3</td>
<td>Moderate sedation</td>
<td>No response to voice, but movement or eye opening to physical stimulation</td>
</tr>
<tr>
<td></td>
<td>Deep sedation</td>
<td>No response to voice or physical stimulation</td>
</tr>
<tr>
<td>-5</td>
<td>Unarousable</td>
<td></td>
</tr>
</tbody>
</table>
PAD Guidelines 2013

- Light Sedation vs. Deep Sedation
  - Earlier extubation \((2.2 \text{ vs. } 7.7 \text{ days})\)
  - Improved Hospital survival
  - Improved 180 day survival
  - Lower PTSD scores

Spontaneous awakening trial

- Collaboration between nursing and respiratory therapy when doing SAT and SBT
- Tough love
- Pain Controlled?
- Home meds reconciled?
Spontaneous Awakening Trial-BOTH groups getting patient targeted sedation

SAT Safety Screen
- No active seizures
- No alcohol withdrawal
- No agitation
- No paralytics
- No myocardial ischemia
- Normal intracranial pressure

SAT Failure
- Anxiety, agitation, or pain
- Respiratory rate > 35/min
- $\text{SpO}_2 < 88\%$
- Respiratory distress
- Acute cardiac arrhythmia

SAT Safety Screen
- Perform SAT
- q24 hrs
- Pass
- Fail
- Restart sedatives at 1/2 dose
- Fail
- Pass
Breathing-SBT

KEEP CALM AND BREATHE DEEPLY
## Two Decades of Progress

<table>
<thead>
<tr>
<th>Year</th>
<th>Location</th>
<th>Event Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>1995 Esteban</td>
<td>Madrid</td>
<td>SBT vs. IMV, PSV</td>
</tr>
<tr>
<td>1996 Ely</td>
<td>WF</td>
<td>Daily Screen, SBT</td>
</tr>
<tr>
<td>2000 Kress</td>
<td>UC</td>
<td>SAT</td>
</tr>
<tr>
<td>2008 Girard</td>
<td>Vand</td>
<td>SAT, SBT</td>
</tr>
<tr>
<td>2009 Schweickert</td>
<td>UPa</td>
<td>Early Mobility</td>
</tr>
</tbody>
</table>
The Length of Time from Initiating Weaning to Extubation in the Four Groups.

Table 2. The Length of Time from the Initiation of Weaning to Successful Extubation in the Four Groups.

<table>
<thead>
<tr>
<th>Weaning Technique</th>
<th>Median</th>
<th>First Quartile</th>
<th>Third Quartile</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intermittent mandatory ventilation</td>
<td>5</td>
<td>3</td>
<td>11</td>
</tr>
<tr>
<td>Pressure-support ventilation</td>
<td>4</td>
<td>2</td>
<td>12</td>
</tr>
<tr>
<td>Intermittent trials of spontaneous breathing</td>
<td>3</td>
<td>2</td>
<td>6</td>
</tr>
<tr>
<td>Once-daily trial of spontaneous breathing</td>
<td>3</td>
<td>1</td>
<td>6</td>
</tr>
</tbody>
</table>

Successful 2 Hr SBT (Ely)

(Now 30 minutes)

RR < 35
SATS > 90
HR < 140
BP, HR Stability (<20% change)
No Anxiety, Diaphoresis

Kaplan–Meier Analysis of the Duration of Mechanical Ventilation after a Successful Screening Test.

SBT Weaning Protocol

- a) Improvement or resolution of the underlying disease process that precipitated need for mechanical ventilation.
- b) \( \text{PaO}_2 > 60 \text{ mm Hg} \) on PEEP/FiO\(_2\) Requirements of \(< 8 \text{ cm H}_2\text{O} \) and \( \text{FiO}_2 < 0.50. \)
- c) Stable oxygenation: PEEP/FiO\(_2\) requirements not increased in the past 24 hrs
- d) No use of neuromuscular blocking agents; no evidence of persistent blockade.
- e) pH > 7.30
- f) Consistent patient-triggered breaths at baseline A/C settings. If not, ↓ minute ventilation by 50% and observe for 2 min
Efficacy and safety of a paired sedation and ventilator weaning protocol for mechanically ventilated patients in intensive care (Awakening and Breathing Controlled trial): a randomised controlled trial

ABC Trial Objectives

To determine the efficacy and safety of a protocol combining daily interruption of sedatives and spontaneous breathing trials (SBTs)

Measured Outcomes
- Ventilator-free days
- ICU and hospital length of stay
- Survival
- Duration of coma and delirium
- Long-term neuropsychological outcomes

Awakening and Breathing Controlled Trial (ABC)

- 2008 - Paired SAT with SBT
- 336 MV patients, Randomly assigned
- Intervention - SAT + SBT (168 pts.)
- Control – Usual Sedation + daily SBT (167 pts.)

Awakening and Breathing Controlled Trial

SAT + SBT
Reduced Hospital Stay by 4 days

Reduced Mortality by 14%

Survival was 14% higher at 1 year among the intervention group (SAT coordinated with SBT) vs. the control group (usual care plus SBT).
Spontaneous Breathing Trial

**SBT Safety Screen**
- No agitation
- Oxygen saturation ≥ 88%
- FiO2 ≤ 50%
- PEEP ≤ 7.5 cm H2O
- No myocardial ischemia
- No vasopressor use
- Inspiratory efforts

**SBT Failure**
- Respiratory rate > 35/min
- Respiratory rate < 8/min
- SpO2 < 88%
- Respiratory distress
- Mental status change
- Acute cardiac arrhythmia

*Adapted from Girard TD et al. Lancet 2008;371:126-34*
Careful Selection of Analgesics & Sedative
Data from Pandharipande et al. indicate that lorazepam dose in the preceding 24 h is an independent predictor for transitioning to delirium in the ICU.

Vasilevskis E E et al. Chest 2010;138:1224-1233
2013 PAD Sedation Guidelines

- Benzodiazepines avoided
  - Midazolam & Lorazepam

- Analgesia first sedation (Analgosedation)
  - More vent free days
  - Shorter ICU & Hospital days
  - More agitated delirium days
Delirium Monitoring
• Temporary alteration in cognition characterized by inattention and disorganized thinking

• Hyperactive 75% of ICU patients
• Hypoactive
• Mixed

• Morandi, Int Rev Psych 2009; 21
Question

- How often do you or your ICU team document in the medical record the level of delirium or agitation?
  - Always
  - Sometimes
  - Never
Delirium Assessment and Management

- Identifying patients at risk for developing delirium is the first step in prevention.

- Assessment for delirium should be done once a shift in all critically ill patients using the Confusion Assessment Method-ICU (CAM-ICU).

AACN Practice Alert: Delirium Assessment and Management. 2011
Delirium Measurement

- Assess multiple times daily using:
  - CAM-ICU
    - Confusion Assessment Method for ICU
  - ICDSC
    - Intensive Care Delirium Screening Checklist
Confusion Assessment Method in the ICU

RASS is above -4 (-3 through +4)
Proceed to next Step

If RASS is -4 or -5
Stop
Reassess patient at later time

Delirium Assessment (CAM-ICU): 1 AND 2 AND (Either 3 OR 4)

1 Acute Onset or Fluctuating Course
   An acute change from mental status baseline?
   Or Patient's mental status fluctuating during the past 24hrs
   Yes
   No
   Stop
   No delirium

2 Inattention
   Please read the following ten letters: SAVE AHAART
   Scoring:
   Error: when patient fails to squeeze on the letter "A"
   Error: when the patient squeezes on any letter other than "A."
   ≥3 Errors
   < 3 Errors
   Stop
   No delirium

3 Altered Level of Consciousness ("actual" RASS)
   If RASS is zero, Proceed to next step
   If RASS is other than zero
   Stop
   Patient is Delirious

4 Disorganized Thinking
   1. Will a stone float on water? (Or: Will a leaf float on water?)
   2. Are there fish in the sea? (Or: Are there elephants in the sea?)
   3. Does one pound weigh more than two pounds? (Or: Do two pounds weigh more than one?)
   4. Can you use a hammer to pound a nail? (Or: Can you use a hammer to cut wood?)
   5. Command:
      Say to patient: "Hold up this many fingers" (Examiner holds two fingers in front of patient)
      "Now do the same thing with the other hand" (Not repeating the number of fingers).
      If patient is unable to move both arms for the second part, ask patient "add one more finger"
   ≥2 Errors
   < 2 Errors
   Stop
   No delirium
Early Mobility
Mobility is Medicine!

The following are health benefits of physical activity:

- Improves blood sugar homeostasis
- Enhances cardiovascular function
- Decreases chronic inflammation
- Regulates hormone levels
- Preserves musculoskeletal and neuromuscular integrity
- Decreases depression and improves cognition
ICUAW

- Disabling weakness 50% of ICU survivors of sepsis, MOF or prolonged mechanical ventilation due to:
  
  - Inflammatory & metabolic changes
  
  - Prolonged best rest
Axonal Polyneuropathy/ Myopathy present in 65% of Patients in ICU for 7 days
Comparison of Representative Case and Control Diaphragm-Biopsy Specimens with Respect to Fiber Size.

**Early PT & OT Ventilated Pts.**

**Lancet 2009**

<table>
<thead>
<tr>
<th></th>
<th>PT/OT</th>
<th>Control</th>
</tr>
</thead>
<tbody>
<tr>
<td>Independent at discharge</td>
<td>59%</td>
<td>35%</td>
</tr>
<tr>
<td>Delirium Days</td>
<td>2.0</td>
<td>4.0</td>
</tr>
<tr>
<td>Vent Free Days (out of 28)</td>
<td>23.5</td>
<td>21.1</td>
</tr>
</tbody>
</table>
Early Mobilization Protocol in Mechanically Ventilated Patients

Early physical and occupational therapy in mechanically ventilated, critically ill patients: a randomised controlled trial

William D Schweickert, Mark C Pohlman, Anne S Pohlman, Celerina Nigos, Amy J Pawlik, Cheryl L Esbrook, Linda Spears, Megan Miller, Mietka Franczyk, Deanna Deprizio, Gregory A Schmidt, Amy Bowman, Rhonda Barr, Kathryn E McCallister, Jesse B Hall, John P Kress

Summary

Background Long-term complications of critical illness include intensive care unit (ICU)-acquired weakness and neuropsychiatric disease. Immobilisation secondary to sedation might potentiate these problems. We assessed the efficacy of combining daily interruption of sedation with physical and occupational therapy on functional outcomes in patients receiving mechanical ventilation in intensive care.

24% improvement (1.7-fold better) return to independent functional status at discharge
ABCDEF is an ICU-acquired delirium and weakness mitigation strategy.

Unsuccessful SAT, SBT, or Extubation

Daily Exercise

Reduce Sedation by ½ the Current Dose and Titrate as Needed
Continue Sedation and Delirium Monitoring

Assess for Sedation and Delirium

Daily Spontaneous Awakening Trial (SAT) PASS

Daily Spontaneous Breathing Trial (SBT) PASS

Consider Extubation PASS

Extubate
Exercise
Continue Sedation and Delirium Monitoring

ICU Patient

Morning

Time

Vasilevskis EE et al. Chest 2010;138:1224-1233
Family Engagement and Empowerment
Family Involvement in Bedside Rounds
Implementation ABCDE 2011
Grant Medical Center Trauma Service
Columbus Ohio

- **Goals:**
  - **↓** Time on Vent by 0.5 to 1.0 days
  - Decrease HLOS & ICULOS
  - Improved Survival
SAT/SBT Lessons Learned

- Failures
  - Not done at a consistent time
  - Staff did not understand SAT
  - Varied physician practice
  - Incorrect restart of medications
  - Poor documentation by RN
  - Poor communication at shift change
SAT/SBT Lessons Learned

- Communication with Respiratory therapy
- Physician understanding of SAT/SBT
- Sedation minimization not done appropriately prior to SAT/SBT
SAT/SBT Process Improvement

- Timing of SAT/SBT
- Communication
  - RT, Physician, Nurses
- Sedation Minimization
- Educations for all involved
- Ownership and daily oversight by ICU leadership
Daily Evaluation / Huddle

- SAT done?  
  If not WHY not?

- SAT passed?  
  If not WHY not?

- SBT done?  
  If not WHY not?

- Pt. + SAT/SBT not extubated? WHY not?
Electronic Medical Record

- Include prompts or links to support critical thinking
Build medication orders with **appropriate** ranges and sedation targets.

**Fentanyl (SUBLIMAZE)** 1,000 mcg in 0.9% sodium chloride 100 mL infusion

12.5-300 mcg/hr = 1.3-30 mL/hr, Intravenous, TITRATED, Starting Today at 1300, For 10 days

Start infusion at 12.5 mcg/hour. Titrate to keep patient comfortable. Weaning Instructions - Call physician regarding weaning - Recommend 10-25% taper per day to prevent withdrawal symptoms if greater than 7 day therapy and bolus fentanyl may help gain acute pain control.
Electronic Medical Record

• Build reports that capture assessment and interventions so readily viewed by all team members

• Build assessments that limits errors
  • CAM- ICU build
Sustaining practice....

- Creating organization memory
- Knowledge reservoirs
- Create passion

Knowledge Reservoir

Include prompts or links to support critical thinking

Critical-Care Pain Observation Score

Value Information

0
Taken by:
Rebecca A Ragle, RN at 09/15/14 0400 (today)
Recorded by:
Rebecca A Ragle, RN at 09/15/14 0401 (today)

Row Information

- Suspect pain if the Critical-Care Pain Observation Tool Score (CPOT Score) is greater than 2 or if the CPOT Score has increased by 2 from the baseline score.
- A decrease in CPOT Score by 2 or more would indicate that the intervention was effective in relieving pain.


Conclusions: ABCDEF Protocol

- Reduces ICU and HLOS
- Reduces Ventilator days
- Improves In hospital and 128 day survival
- Improves cognitive and performance function status at 1 year
The Problem = ICU Providers !!

- 40% use SAT \hspace{1cm} (60% don’t)
- 31-42% use SBT \hspace{1cm} (58% don’t)
- 33% use delirium assessment tool \hspace{1cm} (67% don’t)
- 50% use sedation monitoring scale \hspace{1cm} (50% don’t)

Don’t be a Problem - Be a Solver

- Institute ABCDEF protocol
- Create a paradigm shift at your institution
Thank You !!!!!
Questions???