Executive Sponsorship of Delirium Initiatives

*Lessons from ICU Liberation*

J. Matthew Aldrich, MD
Co-Chair, SCCM ICU Liberation Committee
Associate Professor
Medical Director, Critical Care Medicine
UCSF
Disclosures

• SCCM, ICU Liberation
  – Collaborative, West Coast regional faculty member
  – Committee, Co-Chair

• NIH, R01 HL128679
  – Co-investigator
Acknowledgments

• SCCM, ICU Liberation Collaborative
  – Select slides and intellectual content
• ICU Liberation Collaborative faculty and Committee members
Outline

• Overview of the ICU Liberation Collaborative and Committee
• Outcomes related to delirium
• Role of executive sponsors
• Keys to successful implementation
Why does delirium matter?
Post Intensive Care Syndrome

• Proposed during 2010 SCCM interprofessional stakeholders’ conference

• Unifying definition for PICS:
  – “new or worsening impairments in physical, cognitive, or mental health status arising after critical illness and persisting beyond acute care hospitalization.”

Needham et al. Crit Care Med 2012; 40
The burden of ICU survivorship

“I nearly ended my life a few times. When I returned to work, the work I did before seemed foreign and unfamiliar. I became isolated and excluded from everyone. No one wanted to be around me. My wife of more than 36 years told me that I was just “feeling sorry” for myself, and I just needed to get on with my life. I nearly ended my life a few times. My family believed that I was just faking it all.”
Post Intensive Care Syndrome Factors

adapted from Crit Care Med 2012; 40
What can we do to reduce the burden of delirium and PICS and improve lives?
The path to ABCDEF

Understanding ICUAW & brain dysfunction

Initial delirium screening tools

SCCM ICU Liberation Committee

(P)ICU and ICU Liberation Collaboratives

SCCM PAD Guidelines 2013

RCTs of varying bundle elements

SCCM SA guidelines 2002

(Liberation Collaboratives)
ICU Patient Strategies

Clinical Practice Guidelines for the Management of Pain, Agitation, and Delirium in Adult Patients in the Intensive Care Unit

Juliana Barr, MD, FCCM1; Gilles L. Fraser, PharmD, FCCM2; Kathleen Puntillo, RN, PhD, FAAN, FCCM3; E. Wesley Ely, MD, MPH, FACP, FCCM4; Céline Gélinas, RN, PhD5; Joseph F. Dasta, MSc, FCCM, FCCP6; Judy E. Davidson, DNP, RN7; John W. Devlin, PharmD, FCCM, FCCP8; John P. Kress, MD9; Aaron M. Joffe, DO10; Douglas B. Coursin, MD11; Daniel L. Herr, MD, MS, FCCM12; Avery Tung, MD13; Bryce R. H. Robinson, MD, FACS14; Dorrie K. Fontaine, PhD, RN, FAAN15; Michael A. Ramsay, MD16; Richard R. Riker, MD, FCCM17; Curtis N. Sessler, MD, FCCP, FCCM18; Brenda Pun, MSN, RN, ACNP19; Yoanna Skrobik, MD, FRCP20; Roman Jaeschke, MD21
ABCDEF Bundle

A: Assess, prevent, manage pain

B: Both spontaneous breathing and spontaneous awakening trials (SAT & SBT)

C: Choice of sedation and analgesia

D: Delirium assessment, prevention, and management

E: Early mobility

F: Family engagement and empowerment
ICU Liberation Collaborative sites
Key components of ICU Liberation Collaborative

- Executive sponsorship
- Interprofessional team development
- ICU Liberation and ABCDEF Bundle are not just new tools!
Importance of Executive Sponsorship

MEMORANDUM
To: Diane Byrum, CCRN, RN, MSN, FCCM
Society of Critical Care Medicine
ABCDEF Improvement Collaborative Program Manager
Re: CEO Commitment Letter to Participate in ABCDEF Improvement Collaborative

CEO Commitment:

As the hospital CEO, I will support our hospital’s participating pilot unit team by:

- Designating a project implementation leader for the participating ICU
- Providing ongoing follow-up of adoption of the ABCDEF bundle
- Participating in periodic team meetings to lend support and resources as needed for success
- Supporting compliance with data collection and submission requirements by designating an individual who is able to enter data into the collaborative database
- Reviewing performance improvement data results with the ICU team
Collaboration
Guideline Recommendation = Teamwork

• “We recommend using an interprofessional ICU team approach that includes provider education, pre-printed and/or computerized protocols and order forms, and quality ICU rounds checklists to facilitate the use of pain, agitation, and delirium management guidelines or protocols in adult ICUs (+1B).”

ICU Liberation Committee

• Established by SCCM Council in 2016
• Interprofessional membership with expertise and interest in the activities of ICU Liberation, PAD guidelines, and A-F Bundle
• Primary responsibilities:
  • Education
  • Implementation
  • Promotion/Liaison activities
Delirium: Epidemiology and Short-Term Outcomes

• Prevalence
  – 50% to 80% of mechanically ventilated patients
  – 20% to 50% of lower severity patients

• Associated outcomes
  – Prolonged hospitalization
  – Increased mortality
  – Increased cost

Delirium: Long-Term Outcomes

• Mortality
  – Each day of delirium in the ICU increases the hazard of 1-year mortality by 10% ¹

• Cognitive Impairment
  – ICU delirium is an independent risk factor for long-term cognitive impairment ²,³
    34% with scores similar to moderate TBI
    24% with scores similar to mild Alzheimer disease

¹Pisani MA Am J Respir Crit Care Med. 2009;180:1092-1097.
PAD guidelines: delirium assessment

• **Routinely monitor for delirium** in all adult ICU patients (+1B)

• Use either:
  – Confusion Assessment Method for ICU (CAM-ICU)
  – Intensive Care Delirium Screening Checklist (ICDSC)

Barr J Crit Care Med. 2013;41
CAM-ICU

Pooled Test Characteristics:
- Sensitivity 80%
- Specificity 96%
- $\kappa > 0.91$
Interventions for delirium

• Early mobility and rehabilitation
• Sleep enhancement (via nonpharm and hygiene bundles)
• Reducing unnecessary and deliriogenic medications
• Structured reorientation
• Adequate oxygenation

Inouye SK *NEJM.* 1999;340(9)
McNamara L. *Am J Crit Care.* 2008;17
Executive Sponsors
How can health care executives support ICU Liberation as a primary delirium initiative?

• Join the team as executive sponsor
  – Attend regular Bundle team meetings and performance reports
  – Visit the ICUs (go to the GEMBA)
  – Understand and address barriers to implementation
    • IT/EHR
    • Operations and environmental issues
      – Family waiting rooms, consult rooms, sleep spaces
Executive support for meaningful recognition

• Critical Care Societies Collaborative support meaningful recognition as an intervention contributing to healthy work environments and may combat stress and Burnout Syndrome

• Recognize staff efforts to implement the ABCDEF Bundle
  – Staff recognition boards in waiting rooms
  – Huddle boards
  – Training efforts

Interventions benefiting from Executive sponsorship & support

- Hospital-wide initiatives
  - UCSF’s Delirium Reduction Initiative
- Patient family advisory councils
- Environment of Care changes
- Family-Centered Care
  - Palliative Care services
  - Case Management support for structured family meetings
1 in 3 cases of hospital acquired delirium can be prevented.

What is Delirium?

Dear Providers and Staff at UCSF,
Why is delirium important at UCSF?

<table>
<thead>
<tr>
<th>Patient Experience</th>
<th>Quality &amp; Safety</th>
<th>Our People</th>
<th>Financial Strength</th>
<th>Strategic Growth</th>
<th>Learning Health System</th>
</tr>
</thead>
<tbody>
<tr>
<td>Patient &amp; caregiver distress</td>
<td>Mortality</td>
<td>Staff burnout</td>
<td>Cost per case</td>
<td>Length of Stay</td>
<td>Education gap exists between current practice &amp; best practice</td>
</tr>
<tr>
<td>Institutionalization</td>
<td>Hospital-acquired complications</td>
<td>Safety attendant use</td>
<td>Safety attendant use</td>
<td>Readmissions</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Restraint use</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Dementia</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Slide courtesy of Stephanie Rogers, MD
Delirium as a quality indicator

- The Agency for Healthcare Research and Quality (AHRQ) correlates higher delirium rates with lower quality of hospital care
- Hospitals will increasingly be judged and rated on how they address delirium
Risk Factors

**AWOL**

All patients get AWOL, screening once upon arrival to the floor by their primary RN.

**Scoring**

<table>
<thead>
<tr>
<th>A</th>
<th>W</th>
<th>O</th>
<th>L</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age ≥ 80 years</td>
<td>Unable to correctly spell WORLD/ backwards</td>
<td>Not oriented to city, state, county, hospital name and floor</td>
<td>Nursing Illness severity assessment of moderately ill or more ill</td>
</tr>
<tr>
<td>1 point</td>
<td>1 point</td>
<td>1 point</td>
<td>1 point</td>
</tr>
</tbody>
</table>

**AWOL Score**

- 0 = 2%
- 1 = 4%
- 2 = 14%
- 3 = 20%
- 4 = 64%

≥ 2 = High risk for developing delirium

**NuDESC**

Nursing Delirium Demanding Scales

All patients are screened for delirium Q shift by their primary RN.

**Scoring**

If behavior is present at any point during your shift:
0 = no symptoms | 1 ( mild ) | 2 ( pronounced ) for each behavior

**BEHAVIORS**

- Disorientation
- Inappropriate behavior
- Inappropriate communication
- Illusions / Hallucinations
- Psychomotor retardation

Overall Score ≥ 2 = Positive Screen

1. Notify primary team
   - Communicate delirium risk or positive screen for delirium
   - Physician issues a delirium order and evaluates patient for underlying causes

2. Initiate delirium care plan
   - Individualize delirium care plan
   - Shift to shift
   - Floor to floor
   - Interfacility

3. Coordinate care
   - Coordinate and delegate tasks to ensure care plan is executed
   - Educate patient & family

4. Communicate
   - Delirium risk and delirium status

visit delirium.ucsf.edu for more information
Adult Critical Care Patient & Family Advisory Council is PIONEERING CARE for ICU patients, families and staff at UCSF
ICU PFAC: Major Accomplishments

• CCIG website
• Clinician/Public education
  – Grand Rounds
  – UCSF Mini Medical School
• Admission welcome
• Patient/Family education
  – Delirium
  – Emerge posters
• Holiday care packages
• Emerge PF portal
Patients & families are at the very heart of everything we do

The ICU can be overwhelming. Our team is dedicated to providing outstanding care and support to you and your loved one. We've created a website to help answer common questions and guide you through your ICU stay.

ccig.ucsf.edu

Every patient, every day

TRANSFORMING CRITICAL CARE

Provided education to clinicians on communication with patients and families:
- Hematology/Oncology Grand Rounds
- Surgery Grand Rounds
- ICU Fellow/Faculty Seminar
- Nursing Staff Meeting
- UCSF Mini Medical School for the Public
Signs and Symptoms
Brochure Example

• Handing patients and families written materials can be helpful in reinforcing education.
• Create documents at the appropriate reading level.
• Consider involving family members in the creation of materials.
Guidelines for Family-Centered Care in the Neonatal, Pediatric and Adult ICU

- 29 international experts with consultation from 27 former patients and family members
- Nascent field of research thus all recommendations are graded as weak based on very low-mod quality of evidence
Effective and Safety of an Extended ICU Visitation Model for Delirium Prevention: A Before and After Case Study

Regis Goulart Rosa, MD, MSc, PhD; Tulio Frederico Tonietto, MD; Daiana Barbosa da Silva, RN, MSc; Franciele Aparecida Gutierres, RN; Aline Maria Ascoli, MD; Laura Cordeiro Madeira, MD; William Rutzen, MD; Maicon Falavigna, MD, MSc, PhD; Caroline Cabral Robinson, PT, MSc; Jorge Ibrain Salluh, MD, PhD; Alexandre Biasi Cavalcanti, MD, PhD; Luciano Cesar Azevedo, MD, PhD; Rafael Viegas Cremonese, MD; Tarissa Ribeiro Haack, RN; Cláudia Severgnini Eugênio, RN; Aline Dornelles, CP, MSc; Marina Bessel, MSc; José Mario Meira Teles, MD; Yoanna Skrobik, MD, FRCP(c), MSc; Cassiano Teixeira, MD, PhD; for the ICU Visits Study Group Investigators

Crit Care Med 2017

- Prospective single center, before-after study of extended visitation model
- 31 bed med-surg ICU
- Change from restricted (4.5hr/d) to extended (12 hr/d) model
Delirium-free survival

Cumulative incidence of delirium:

Adjusted RR 0.50 (0.26-0.95)
P = 0.03
Implementation of the A-F Bundle

• Several recent studies demonstrate positive outcomes with bundle implementation
• Success likely depends on multiple strategies used to change practice and culture
• Organizational change and senior leadership support is essential
Bundle Implementation Success: key findings from a meta-analysis

• 21 studies, all including process measures and 9 with clinical outcomes data
Bundle Implementation Success:
key findings from a meta-analysis, cont’d

• A variety of programs improved process measures
  • e.g., 92% Delirium screening adherence
• Using more implementation strategies (6 or more) and integrating PAD guidelines or ABCDE bundle:
  • Statistically lower mortality and shorter ICU LOS
  • Delirium “incidence” static; delirium duration may be better metric
• Strategies targeting organizational changes in addition to provider behavior also associated with reduced mortality

Trogrlić Z. Critical Care 2015; 19:157
Effectiveness and Safety of the Awakening and Breathing Coordination, Delirium Monitoring/Management and Early Exercise/Mobility Bundle

- Single-center 18 month prospective, cohort study in six units
- 3 day improvement in vent-free days (p = 0.04)
- Reduced delirium (odds ratio, 0.55; 95% CI, 0.33–0.93; p = 0.03)
- Improved ICU mobilization

Balas M et al. *Crit Care Med* 2014; 42
California Study

Improving Hospital Survival and Reducing Brain Dysfunction at Seven California Community Hospitals: Implementing PAD Guidelines Via the ABCDEF Bundle in 6,064 Patients

• Prospective cohort quality improvement initiative
• For every 10% increase in:
  • Total bundle compliance ➔ 7% increase in hospital survival
  • Partial bundle compliance ➔ 15% increase in hospital survival
• More days without delirium and coma with total and partial bundle compliance

Barnes-Daly M. et al. 2016
Challenges to implementation

• ICUs often have multiple, possibly *competing*, QI initiatives
  – CAUTI, HAPU, VAP, Sepsis bundles, etc.
• Delirium interventions, including A-F Bundle, are different
  – Every patient, every day
  – Interprofessional approach
UCSF & ICU Liberation: lessons learned

• Early adopter of protocols (SATs/SBTs, CPOT, CAM-ICU, EM, etc.) but we still struggled with compliance and culture

• Recent surveys & data analysis demonstrate the need for daily work and commitment
  – RASS goals, SAT and SBT coordination, family engagement, interprofessional rounds
Lessons learned from ICU Liberation

• Rounds must be the focus and foundation of interprofessional practice. Maximum effort should be directed to establishing and sustaining true interprofessional rounds. IPT rounds facilitate:
  – Each professional practicing to the highest extent of his or her capabilities and expertise
  – Respect and optimal communication among all ICU professionals
  – Best coordinated care possible
Bundle-related changes

C: Choice of analgesia & RASS compliance
   – Sedation order set “defaults” with target RASS
   – Sedation order set with default to propofol & dexmed gtt
   – Emerge app

E: Early mobility
   – Dedicated PT and PT assistant to the ICU
   – Increased weekend PT staffing
   – Mobility equipment investments
   – Targeted light sedation (RASS 0 to -1) to facilitate mobility
   – Joint RN/RT CE class
   – Emerge app
Summary and conclusions

• ICU Liberation and other delirium initiatives require executive sponsorship
  – Resources (IT, EHR, staffing)
  – Recognition
  – Accountability

• Effective sponsorship is most effective when leaders are actively engaged with frontline providers, unit leaders, and patients and families
Questions and Discussion