Team-Based Interprofessional Approach to Managing ICU Acquired Delirium and Weakness: The ABCDE Bundle

Lois Colburn, Executive Director, Center for Continuing Education
Michele Balas, PhD, RN, AFRN, PC, PI
Assistant Professor, College of Nursing
David Gannon, MD, Critical Care Medical Director
Associate Professor, College of Medicine
University of Nebraska Medical Center
Julie Lazuren, MSN, RN, Executive Director, Critical Care, Emergency Trauma
The Nebraska Medical Center

The acute and chronic brain dysfunction expanded by intensive care unit (ICU) survivors is an emerging public health problem. Fully two-thirds of ICU patients develop delirium, which is associated with long duration. The impact on a person’s life is often devastating. Of ICU survivors suffer a functionally debilitating dementia-like illness, which appears related to delirium causative to delirium, weakness, and suboptimal patient outcomes (Figure 1). The ABCDE is a standard bundle of ICU measures that includes spontaneous awakening and breathing (Spontaneous Awakening and Breathing - SAB), mechanical ventilation, sedation, delirium monitoring and management, and early mobility. The overarching purpose of the ABCDE is to break the cycle of over-sedation and prolonged mechanical ventilation, which appear causative to delirium, weakness, and suboptimal patient outcomes (Figure 1).

Figure 1 ABCDE Bundle Illustrated

Spontaneous Breathing Trials
Early Mobility
Sedation
Delirium Monitoring & Management
Weakness
Spontaneous Awakening Trials
Mechanical Ventilation
Admitting ICU Diagnosis e.g. Sepsis, ARDS

Figure 2 Facilitators and Barriers to ABCDE Bundle Adoption

A total of 323 nurses, physicians, respiratory therapists and pharmacists completed the online module. Pre-activity, 32% of participants felt their knowledge about the ABCDE bundle was adequate. Post-activity, 92% felt their knowledge had been enhanced.

Figure 3 Evaluation of Online Educational Module

Evaluation of Online Educational Module
A total of 323 nurses, physicians, respiratory therapists and pharmacists completed the online module.
- Pre-activity, 32% of participants felt their knowledge about the ABCDE bundle was adequate. Post-activity, 92% felt their knowledge had been enhanced.
- Confidence in self-perceived ability to use the ABCDE bundle in clinical practice increased from 53% pre-activity to 86% post-activity.
- 92% of participants indicated they would make a change in their clinical practice.
- Perceived major factors facilitating change of practice included: o Potential for positive patient outcomes - 72%
 o ABCDE bundle is applicable to their practice - 64%
 o Institutional leadership is supportive of the change – 52%
 o Guidelines were evidenced based – 50%
 o % of learners indicated they did not perceive barriers to implementation of the bundle.
- Top perceived barriers were: o 72% mentioned time
 o 40% indicated treatment related adverse events
 o 32% indicated lack of support by institutional leadership or budget
- Data on patient, nursing quality and system outcomes are currently being analyzed and will be available summer 2012.