

ABCDE Protocol in the ICU

Philip C. Hawley M.D.
 Medical Director for Critical Care
 Quality, OhioHealth
 Nov 8, 2011

OUTCOMES 2000

Extubation

Survival

OUTCOMES 2011

Extubation

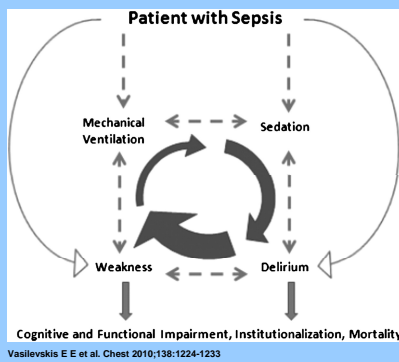
Survival

Functionality

Cognitive

Mobility

Relationship between ICU-acquired delirium and weakness in a patient with sepsis.



©2010 by American College of Chest Physicians



Risk Factors for ICUAD and ICUAW

- Severity of Illness
- Sepsis
- Dementia
- Time on Vent
- Sedation /NMB
- Immobility

ABCDE

- Awakening
- Breathing
- Coordination
- Delirium Monitoring
- Early Mobility

ABCDE Bundle

- Minimal Expense
- Interdisciplinary (not multidisciplinary)
- Poorly Executed

Two Decades of Progress

- 1995 Esteban Madrid SBT vs. IMV, PSV
- 1996 Ely WF Daily Screen, SBT
- 2000 Kress UC SAT
- 2008 Girard Vand SAT, SBT
- 2009 Schweickert UPa Early Mobility

Comparison of Outcomes between Study Groups.

TABLE 2. COMPARISON OF OUTCOMES BETWEEN STUDY GROUPS.

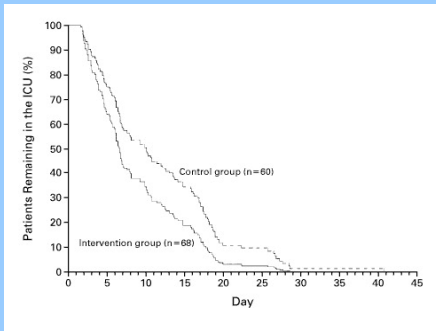
END POINT	INTERVENTION GROUP (N=149)	CONTROL GROUP (N=151)	P VALUE
	median no. of days (interquartile range)		
Wearing time*	1 (0-2)	3 (2-7)	<0.001
Mechanical ventilation	4.5 (2-9)	6 (3-11)	0.003
Intensive care	8 (4-18)	9 (5-16)	0.17
Hospital care	14 (9-26)	15.5 (6-30)	0.93

*Wearing time was defined as the number of days from the time the patient had a successful screening test to the discontinuation of mechanical ventilation.

Ely EW et al. N Engl J Med 1996;335:1864-1869.



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



Kress JP et al. N Engl J Med 2000;342:1471-1477.



Girard Lancet 2008 Awakening and Breathing Controlled Trial (ABC)

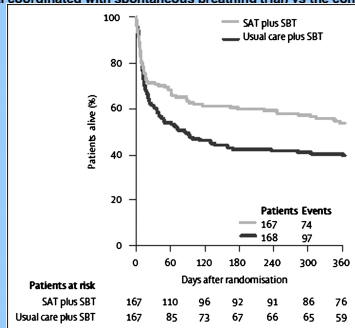
SAT + SBT 167

SBT 168

SAT + SBT Reduced Hospital Stay by
4 days

Reduced Mortality by
14%

One-year survival analysis of the Awakening and Breathing Controlled Trial from Girard et al. Survival was 14% higher at 1 year among the intervention group (spontaneous awakening trial coordinated with spontaneous breathing trial) vs the control group (usual



Vasilevskis E E et al. Chest 2010;138:1224-1233

©2010 by American College of Chest Physicians

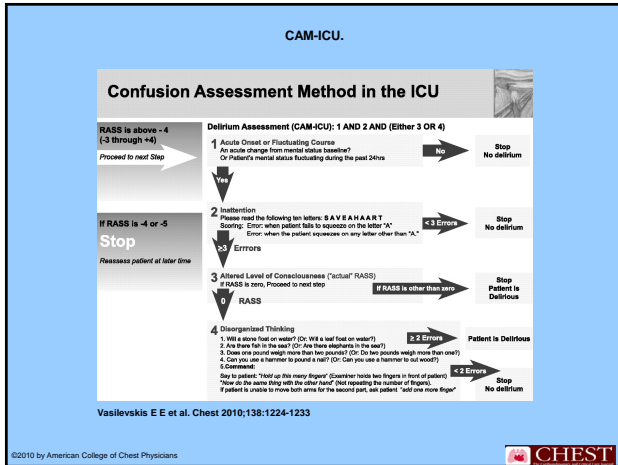


ICUAD

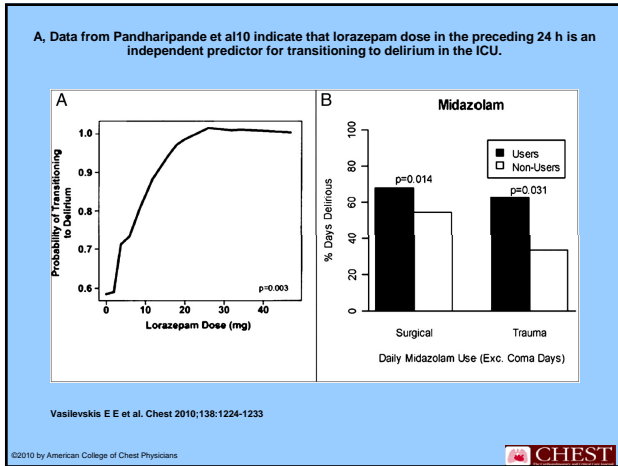
Delirium is an acute fluctuating change in consciousness and cognition that develops over a brief period of time.

Hyperactive

Hypoactive



- ## Delirium and Outcomes
- Increased Vent Times
 - Increased Mortality
 - Decreased IQ
 - Increased ECF Placement



JAMA 2009 SEDCOM

Dex vs. Versed
375 Patients

Dex Group
less delirium (54% vs. 77%)
quicker extubation (3.7 days vs. 5.6)

Delirium Protocol

Prevention

Treatment

- ## ICUAW
- Axonal Polyneuropathy / Myopathy
 - MRC Score / Handgrip Strength
 - 65% of Patients in ICU for 7 days

ICUAW RISK FACTORS

- Sepsis/Severity of Illness
- Hypotension
- Time on vent
- Immobility
- NMB
- Steroids
- Preexisting Weakness/Malnutrition
- Age
- Hyperglycemia

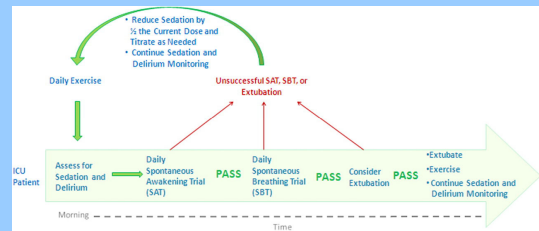
Lancet 2009 Early PT and OT Vent pts 104 pts

	PT/OT	Control
Independent at discharge	59%	35%
Delirium Days	2.0	4.0
Vent Free Days (out of 28)	23.5	21.1

CCM 2010

Feasibility of Early PT and OT (104 pts)
 Safety Screen
 Time from Intubation to first PT/OT:
 1.5 vs. 7.4
 89% of Patients had Barriers to Implementation
 One DESAT episode (<80%) in 498 Therapy Sessions

ABCDE is an ICU-acquired delirium and weakness mitigation strategy.



Vasilevskis E E et al. Chest 2010;138:1224-1233

©2010 by American College of Chest Physicians

