DelTrain™ Adult ICU Delirium Virtual Reality Education

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INSTRUCTOR GUIDE

CLINICAL EDITION

Learning Objectives

Understand key features of Delirium

Understand consequences of Delirium

Recognize behaviors and warning signs of Delirium

Apply prevention, safety measures and treatment

Recognize opportunities for Sedation minimization in ICU

Implement early mobility

What is Delirium?

Disturbance of consciousness occurs, with reduced ability to focus, sustain, or shift attention.

Change in cognition

Develops from hours to days and tends to fluctuate during throughout the day.

Caused by a direct physiologic consequence of a general medical condition

DSM IV Criteria

Ali M, Cascella M. ICU Delirium. 2022 Aug 8. In: StatPearls [Internet]. Treasure Island (FL): StatPearls Publishing; 2022 Jan–. PMID: 32644706

Types of Delirium

1. Hypoactive: when the patient is not active or seems sleepy, tired, or depressed
2. Hyperactive: when the patient is restless or agitated
3. Mixed: when the patient fluctuates back and forth between being hypoactive and hyperactive.

Differential Diagnosis

Decline, Depression, Dementia

Key point: **Baseline cognitive status** is important in the assessment of decline associated with delirium, depression, and dementia

Harris M. Cognitive Issues: Decline, Delirium, Depression, Dementia. Nurs Clin North Am. 2017 Sep;52(3):363-374. doi: 10.1016/j.cnur.2017.05.001. PMID: 28779819.

How Common is Delirium?

Delirium is common in acute hospitals

Up to 80% Medical ICU intubated patients

Ali, M., & Cascella, M. (2022). ICU Delirium. In StatPearls. StatPearls Publishing.

Causes of Delirium

Medications/ Sedation	Withdrawal	Illness/injury	Metabolic imbalances	Fever	Acute infection (Pneumonia, UTI)
Restraints/ Immobility	Malnutrition	Dehydration	Sleep deprivation	Emotional distress	Pain
Surgery/ Anesthesia	Sensory Deprivation (eye glasses, hearing aids)	Lack of Family	Noise	Staff Conversation	Confinement to a room

Symptoms

Reduced awareness of the environment

Cognitive impairment

Behavior changes

Emotional disturbances

Prevention

Environmental Factors:

- Hearing aids
- Glasses
- Orientation aids
- Lighting
- Communication aids

Encourage:

- Food and fluid intake
- Mobility
- Maintain sleep pattern
- Involve relatives and caregivers
- Reorientation
- Day and Night cycle orientation

Avoid:

- Sedation
- Restraint
- Constipation
- Catheters
- Bed or Ward moves
- Arguing with the patient
- Sleep/sedation during the daytime hours

Complications

Physical

- Aspiration pneumonia
- Pressure ulcers
- Weakness
- Falls
- Malnutrition
- Mortality

Treatment-related

- Unplanned extubation
- IV/line dislodgement
- Aggression toward staff

Cognitive

- Hyperactivity
- Hypoactivity
- Sleep disturbance
- Persistent long-term cognitive impairment

Long-term Effects

Dementia

PICS

PTSD

Readmissions

Increased Caregiver needs

Management

Bedside sitter

Safe restraint alternative/Refraint

Sedation avoidance

Sedation choice (short > long-acting)

Family/Friend/Staff interaction

The Richmond Agitation-Sedation Scale (RASS)

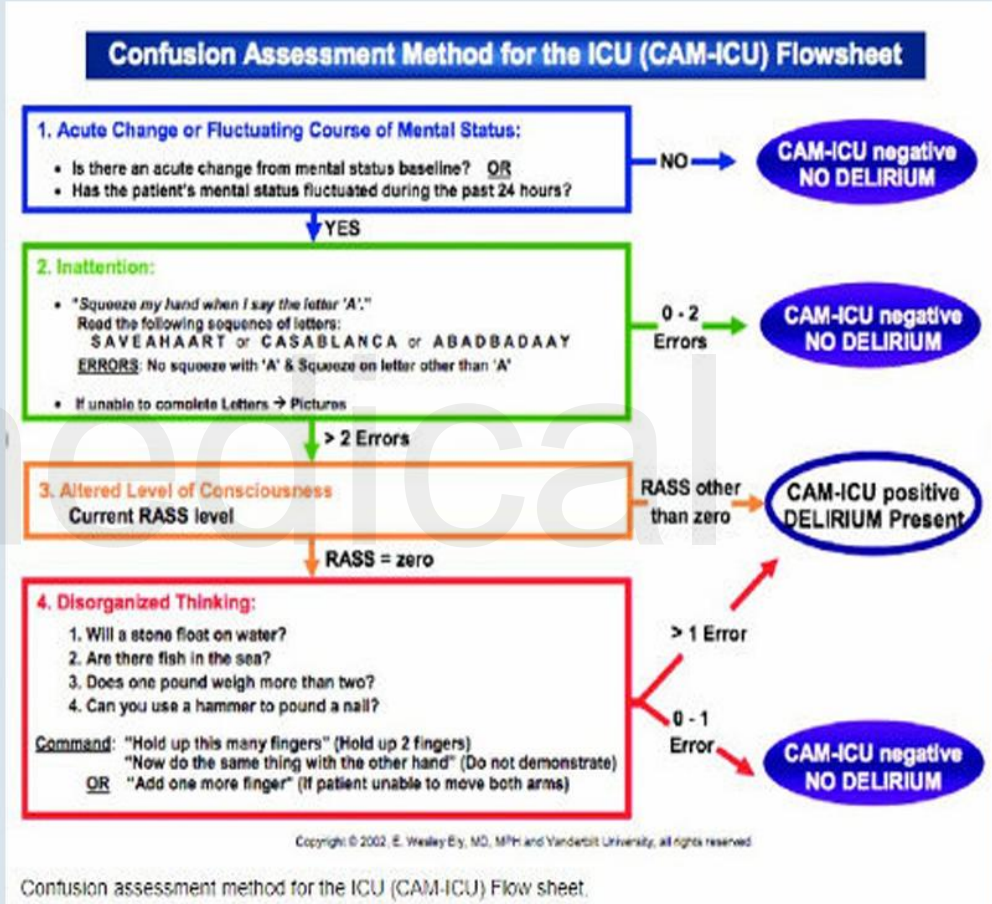
Medscape

Richmond Agitation and Sedation Scale (RASS)		
+4	Combative	violent, immediate danger to staff
+3	Very Agitated	Pulls or removes tube(s) or catheter(s); aggressive
+2	Agitated	Frequent non-purposeful movement, fights ventilator
+1	Restless	Anxious, apprehensive but movements not aggressive or vigorous
0	Alert & calm	
-1	Drowsy	Not fully alert, but has sustained awakening to *voice* (eye opening & contact ≥ 10 sec)
-2	Light sedation	Briefly awakens to *voice* (eye opening & contact < 10 sec)
-3	Moderate sedation	Movement or eye-opening to *voice* (but no eye contact)
-4	Deep sedation	No response to voice, but movement or eye opening to *physical* stimulation
-5	Unarousable	No response to *voice or physical* stimulation

Source: Pain Manag Nurs © 2009 W.B. Saunders

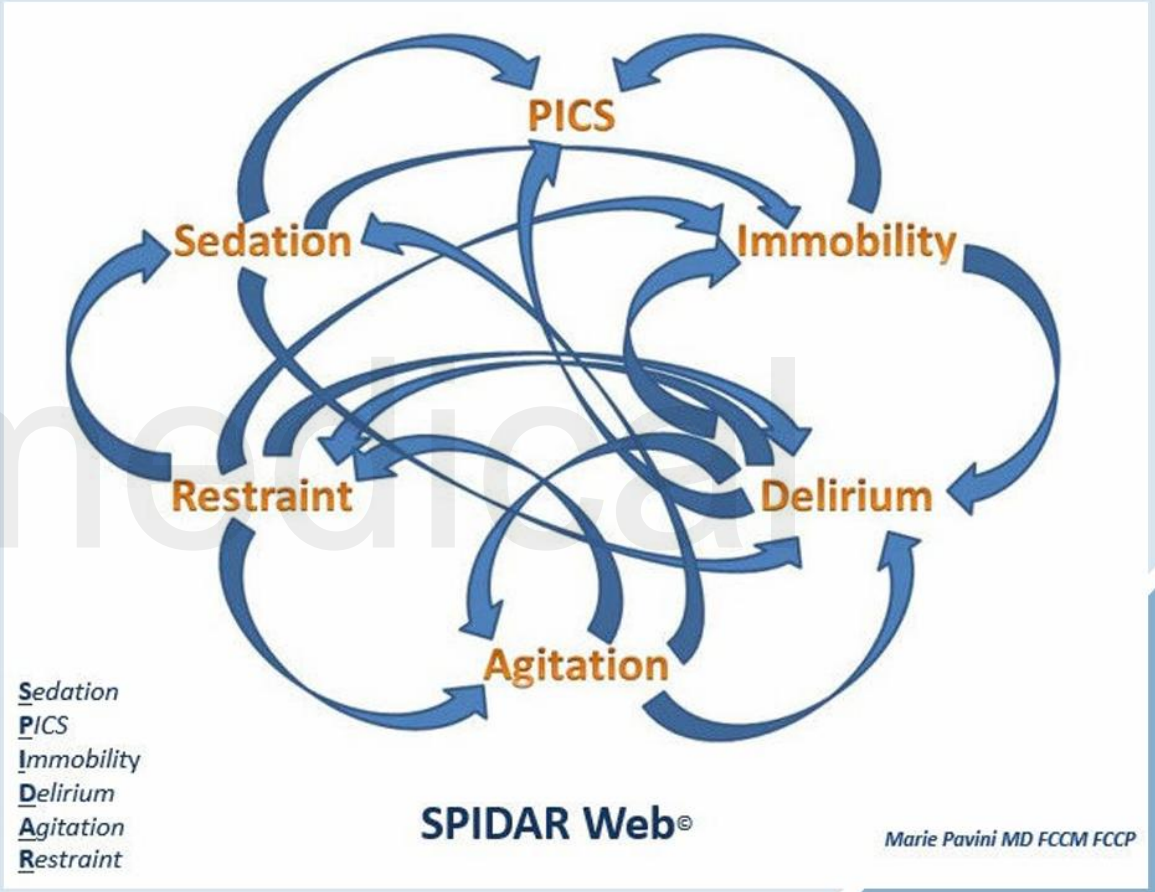
The Confusion Assessment Method for the ICU (CAM-ICU)

A tool that can be used to determine if a patient is experiencing delirium



Confusion assessment method for the ICU (CAM-ICU) Flow sheet.

Restraint



Sedation

Intended to assist the patient with comfort and maintain safety

Manage physiologic parameters such as heart and respiratory rate

The catch: Sedation can worsen vital signs, worsen safety, and cause uncomfortable hallucinations

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Pain

Agitation/sedation

Delirium

Immobility

Sleep disturbance

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Traditional restraint consequences

- ↑ Medication use
- ↑ Risk for delirium
- ↑ Unplanned extubations
- ↑ Unintentional device removal (IV, ART Lines, ET tube)
- ↑ ICU length of stay

ERAS

Enhanced Recovery After Surgery:

The mission of the ERAS® Society is "to develop perioperative care and to improve recovery through research, education, audit and implementation of evidence-based practice."
History - ERAS® Society (erassociety.org)

Delirium contributes to delayed recovery. Utilizing techniques to reduce the risk of delirium such as restraint and sedation reduction have potential to enhance a patient's recovery time.

Refraint

The **Exersides Refraint System** allows patients to move while containing and deflecting vital tubes and lines. It negates the need for traditional restraints. The Refraint can be titrated to set desired range of motion using its optional bed straps including a resistance band strap.

ICU Liberation Bundle (A-F)

Assess, prevent, and manage pain

Both SAT and SBT

Choice of analgesia and sedation

Delirium: Assess, prevent, and manage

Early mobility and exercise

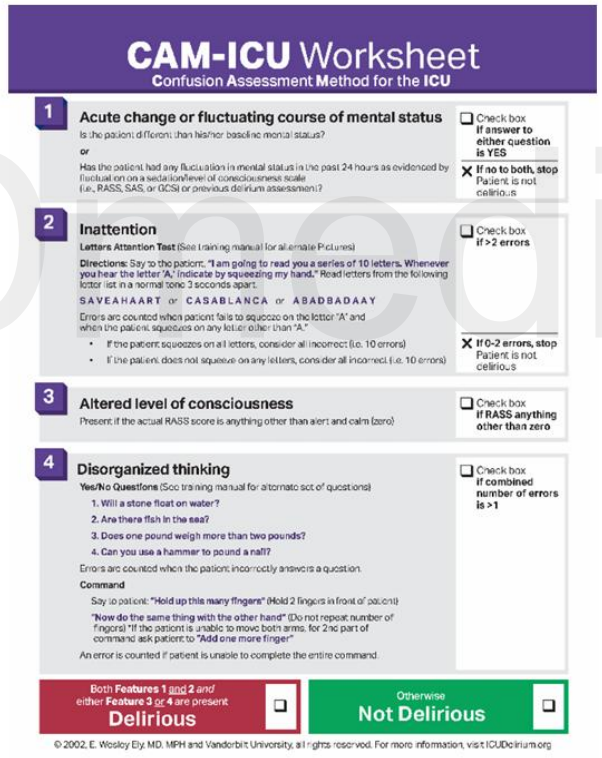
Family Engagement and Empowerment

CAM https://www.cgakit.com/p-2-delirium

bCAM (brief), pCAM (pediatric), FamCAM (informant-based), CAM-ICU (ICU)

Based on:

A. Acute onset
B. Inattention
C. Disorganized thinking
D. Altered level of consciousness



CAM-ICU Worksheet
Confusion Assessment Method for the ICU

1 Acute change or fluctuating course of mental status
Is the patient different than his/her baseline mental status?
or
Has the patient had any fluctuation in mental status in the past 24 hours as evidenced by fluctuation on a sedation/level of consciousness scale (i.e., RASS, SAS, or GCS) or previous delirium assessment?

☐ Check box if answer to either question is YES
✕ If no to both, stop Patient is not delirious

2 Inattention
Letters Attention Test (See training manual for alternate Pictures)
Directions: Say to the patient: **"I am going to read you a series of 10 letters. Whenever you hear the letter 'A,' indicate by squeezing my hand."** Read letters from the following letter list in a normal tone 3 seconds apart.
SAVEAHAART or CASABLANCA or ABADBADAAY
Errors are counted when patient fails to squeeze on the letter "A" and when the patient squeezes on any letter other than "A."
- If the patient squeezes on all letters, consider all incorrect (i.e. 10 errors)
- If the patient does not squeeze on any letters, consider all incorrect (i.e. 10 errors)

☐ Check box if >2 errors
✕ If 0-2 errors, stop Patient is not delirious

3 Altered level of consciousness
Present if the actual RASS score is anything other than alert and calm (zero)

☐ Check box if RASS anything other than zero

4 Disorganized thinking
Yes/No Questions (See training manual for alternate set of questions)
1. Will a stone float on water?
2. Are there fish in the sea?
3. Does one pound weigh more than two pounds?
4. Can you use a hammer to pound a nail?

Errors are counted when the patient incorrectly answers a question.
Command
Say to patient: **"Hold up this many fingers"** (Hold 2 fingers in front of patient)
"Now do the same thing with the other hand" (Do not repeat number of fingers) *If the patient is unable to move both arms, for 2nd part of command ask patient to **"Add one more finger"***
An error is counted if patient is unable to complete the entire command.

☐ Check box if combined number of errors is >1

Both **Features 1** and **2** and either **Feature 3** or **4** are present **Delirious** ☐

Otherwise **Not Delirious** ☐

RASS or SAS

Sedation/Agitation Score

Richmond Agitation Sedation Scale (RASS) *

Score	Term	Description	
+4	Combative	Overtly combative, violent, immediate danger to staff	
+3	Very agitated	Pulls or removes tube(s) or catheter(s); aggressive	
+2	Agitated	Frequent non-purposeful movement, fights ventilator	
+1	Restless	Anxious but movements not aggressive vigorous	
0	Alert and calm		
-1	Drowsy	Not fully alert, but has sustained awakening (eye-opening/eye contact) to *voice* (≥**10 seconds**)	Verbal Stimulation
-2	Light sedation	Briefly awakens with eye contact to *voice* (**<10 seconds**)	Verbal Stimulation
-3	Moderate sedation	Movement or eye opening to *voice* (**but no eye contact**)	Verbal Stimulation
-4	Deep sedation	No response to voice, but movement or eye opening to *physical* stimulation	Physical Stimulation
-5	Unarousable	No response to *voice or physical* stimulation	Physical Stimulation

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)**

* Sessler CN, Gosnell M, Grap MJ, Brophy GT, O'Neal PV, Keane KA et al. The Richmond Agitation-Sedation Scale: validity and reliability in adult intensive care patients. Am J Respir Crit Care Med 2002; 166:1338-1344.

* Ely EW, Truman B, Shintani A, Thomason JWW, Wheeler AP, Gordon S et al. Monitoring sedation status over time in ICU patients: the reliability and validity of the Richmond Agitation Sedation Scale (RASS). JAMA 2003; 289:2983-2991.