

Moral Courage: Meeting the Challenges of a Contemporary Healthcare System  
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# Delirium in the ICU: the latest evidence

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# Workshop content

## ➤ Preventing delirium

*Risk factors*

## ➤ Detecting delirium

*Tools for successful diagnosis*

## ➤ Managing delirium

*Non-pharmacologic interventions*

**What does delirium mean to you?**

# The Evidence



## Clinical Practice Guidelines for the Prevention and Management of Pain, Agitation/Sedation, Delirium, Immobility, and Sleep Disruption in Adult Patients in the ICU

John W. Devlin, PharmD, FCCM (Chair)<sup>1,2</sup>; Yoanna Skrobik, MD, FRCP(c), MSc, FCCM (Vice-Chair)<sup>3,4</sup>; Céline Gélinas, RN, PhD<sup>5</sup>; Dale M. Needham, MD, PhD<sup>6</sup>; Arjen J. C. Slooter, MD, PhD<sup>7</sup>; Pratik P. Pandharipande, MD, MSCI, FCCM<sup>8</sup>; Paula L. Watson, MD<sup>9</sup>; Gerald L. Weinhouse, MD<sup>10</sup>; Mark E. Nunnally, MD, FCCM<sup>11,12,13,14</sup>; Bram Rochweg, MD, MSc<sup>15,16</sup>; Michele C. Balas, RN, PhD, FCCM, FAAN<sup>17,18</sup>; Mark van den Boogaard, RN, PhD<sup>19</sup>; Karen J. Bosma, MD<sup>20,21</sup>; Nathaniel E. Brummel, MD, MSCI<sup>22,23</sup>; Gerald Chanques, MD, PhD<sup>24,25</sup>; Linda Denehy, PT, PhD<sup>26</sup>; Yoon-Jung Cho, MD, PhD<sup>27,28</sup>; Gilles L. Ferron, PharmD, MSc<sup>29</sup>; Joseph E. Herrin, OT, PhD<sup>30</sup>.

# Delirium



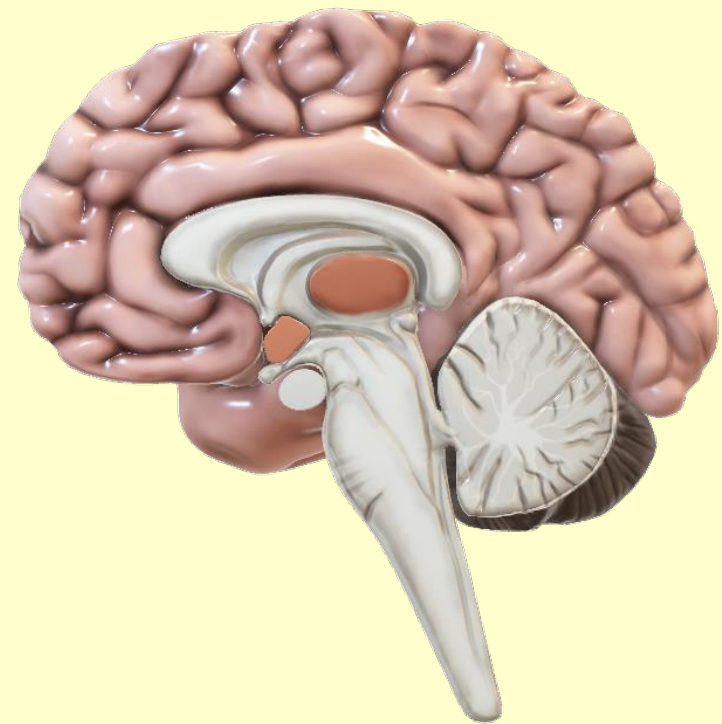
- It is an acute brain dysfunction
- 20-84% of patients experience delirium (Herling et al. 2018)
- Can be life-threatening
- Linked to poorer outcomes
- Independent predictor of mortality, ↑ventilator days, hospitalisation & long-term cognitive impairment (Ely et al. 2004)
- Frequently overlooked, misdiagnosed, unrecognised (Patel et al. 2009)

# Signs and symptoms (Ramoo et al. 2018)

- Inattention
- Disorientation
- Impaired memory
- ↓conscious level
- Emotional changes
- Perseveration
- Hallucinations
- Delusions
- Anxiety
- Agitation
- Restlessness
- Sleeplessness

# Categorising Delirium

- Hyperactive
- Hypoactive
- Mixed



# Is Delirium Preventable?

Yes

No



# Risk Factors (Devlin et al. 2018)

## Modifiable (Strong Evidence)

- Benzodiazepine use
- Blood transfusions

## Moderate Evidence

- H/x Hypertension
- Neurological d/x
- Trauma
- Psychoactive meds

## Non-modifiable (Strong Evidence)

- > Age
- Dementia
- Prior coma
- Pre-ICU surgery/trauma
- Higher APACHE/ASA scores

# Can we predict delirium?

There are validated tools capable of predicting delirium in ICU (Devlin et al. 2018)

*Age, cognitive impairment, alcohol abuse, urea, admission type, MAP, Respiratory failure, med use*

*Think proactive not reactive*



SCAN ME

# CAM-ICU

- Discussions between **staff & patients/relatives** may relieve distress
- Studies show delirious patients feel **greater trust toward & encouragement** from family members
- Early detection may benefit patients by fostering **reassurance** when frightening symptoms occur

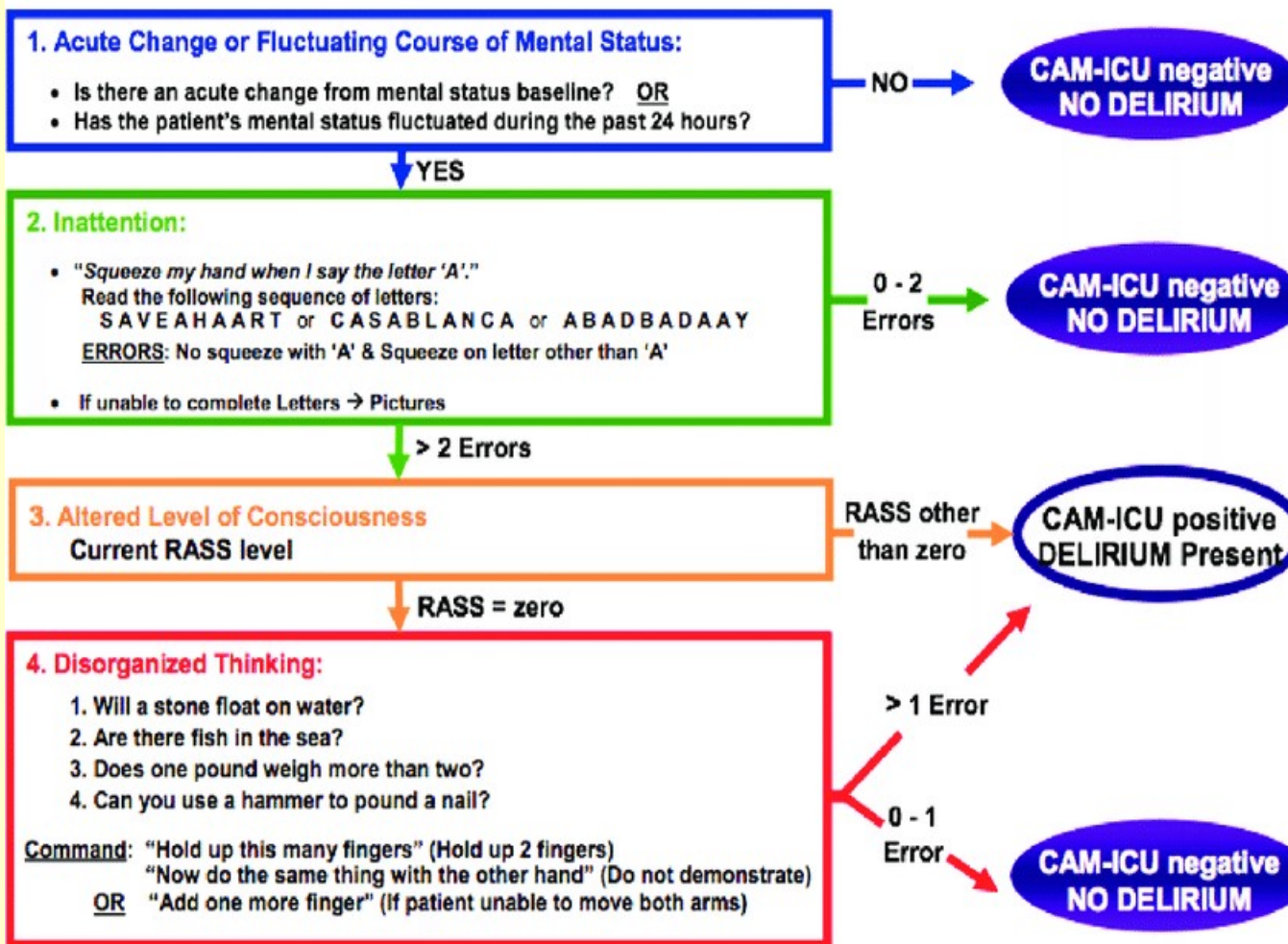
# What are the perceived barriers to using CAM-ICU?

Top

# CAM-ICU

- Level of arousal may influence CAM-ICU ( $\geq$ RASS -2)
- False-positive screening (rare)
- Burdensome
- Complex
- Difficulty with MDT
- Rapidly reversible delirium = similar to never having delirium
- **Benefits of widespread delirium assessment far outweigh any potential disadvantages**

## Confusion Assessment Method for the ICU (CAM-ICU) Flowsheet



## RASS score

Richmond Agitation & Sedation Scale			CAM-ICU
Score	Description		
+4	Combative	Violent, immediate danger to staff	RASS $\geq$ -2 Proceed to CAM-ICU assessment
+3	Very agitated	Pulls at or removes tubes, aggressive	
+2	Agitated	Frequent non-purposeful movements, fights ventilator	
+1	Restless	Anxious, apprehensive but movements not aggressive or vigorous	
0	Alert & calm		
-1	Drowsy	Not fully alert, sustained awakening to voice (eye opening & contact >10 secs)	Voice
-2	Light sedation	Briefly awakens to voice (eye opening & contact < 10 secs)	
-3	Moderate sedation	Movement or eye-opening to voice (no eye contact)	Touch
-4	Deep sedation	No response to voice, but movement or eye opening to physical stimulation	
-5	Un-rousable	No response to voice or physical stimulation	
			RASS < -2 STOP Recheck later

# Pharmacology to prevent delirium?

Society of Intensive Care Medicine (2018) suggest not using Haloperidol, Dextor, or Ketamine to prevent delirium

They also suggest not using Haloperidol to treat delirium

***So what do they suggest?***

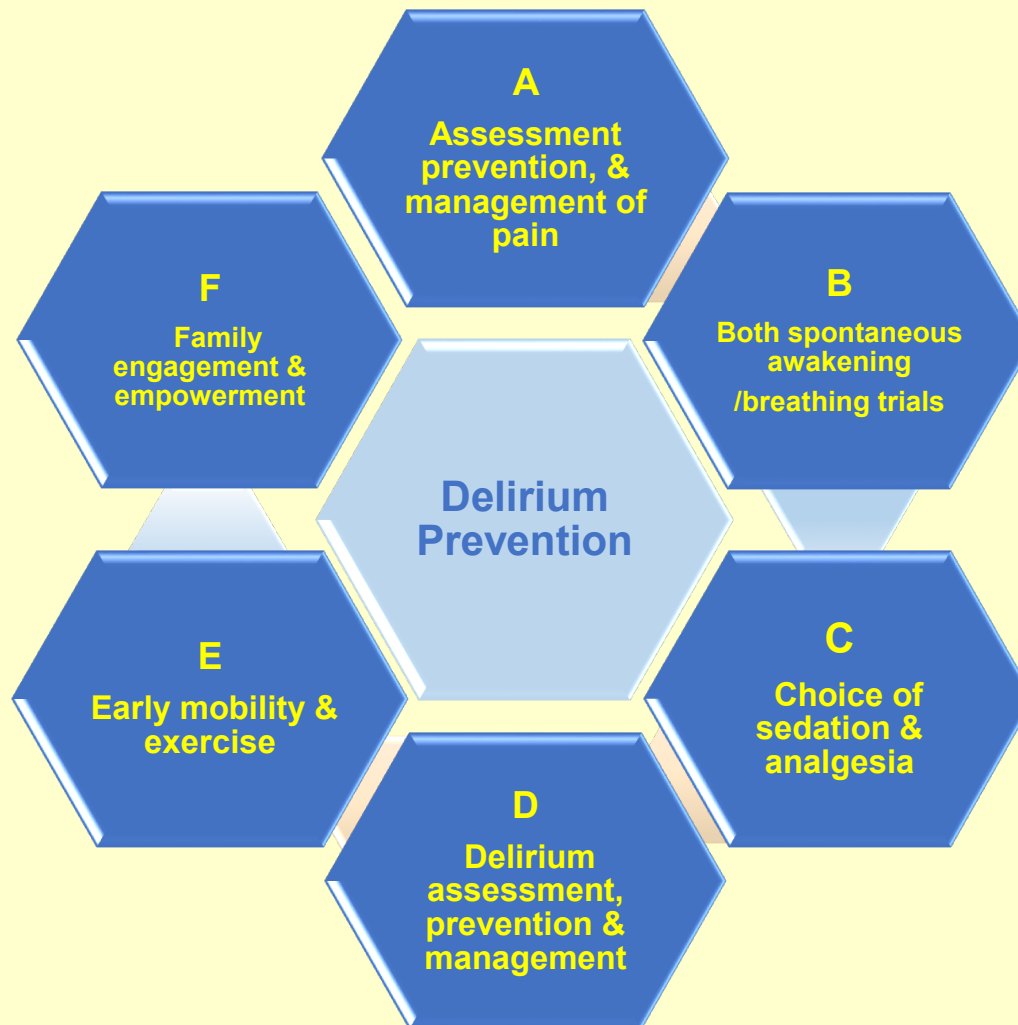




# Exceptions do exist (Devlin et al. 2018)



- Patients at risk of physical harm to themselves or others
- Short-term use of haloperidol
- Agitation precluding weaning/extubation?
- Suggest dexor for delirium



# What do you think are the non-pharmacological interventions for managing delirium?

Top

# Managing Delirium

## Use a multi-component, *Non-pharmacologic intervention*

- Reduce modifiable risk factors
- Improve cognition
- Optimise sleep
- Optimise mobility
- Optimise hearing
- Optimise vision

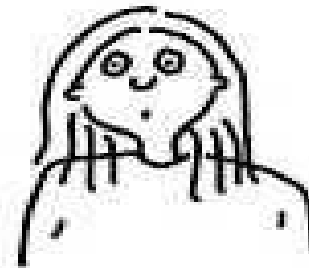
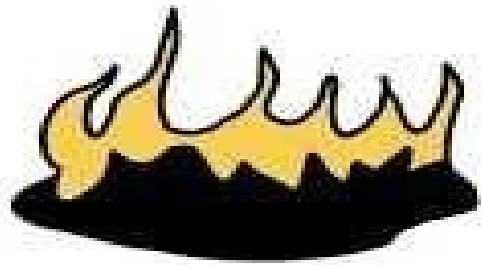


# Delirium Top Tips

- Speak clearly, use fewer words, be visible
- Allow time to respond
- Don't argue with or correct them
- Comfort them, safety
- Leave background radio/TV off

# Research Required

- Family involvement
- Individual interventions of the non-pharmacological bundle
- Music therapy in reducing sedation
- Risk factors
- Impact on these involved
- Level of arousal affect on delirium



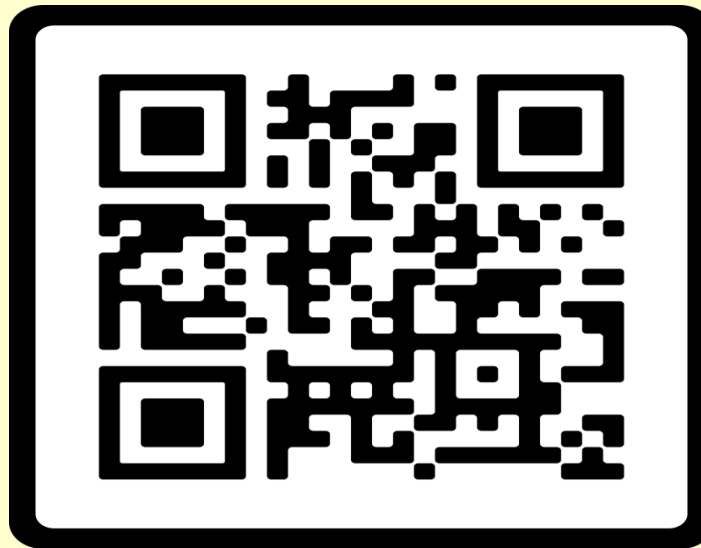
DELIRIUM IN THE ICU

**Name one thing thing that you will do differently after today?**

**Top**



# References





Thank you for your time  
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