



# **Awake and Walking ICUs: What's in it for Nurses**

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**Disclosure:** None. All images are obtained and shared with patient authorization.

# Today's Goals:

- Lay foundation for evidence-based sedation, delirium, and mobility practices
  - Debunk myths/challenge cultural norms
- Equip nurses with insights that to improve workload, safety, and patient outcomes

# Awake and Walking ICU



# “Normal ICU Care”

“Safe”

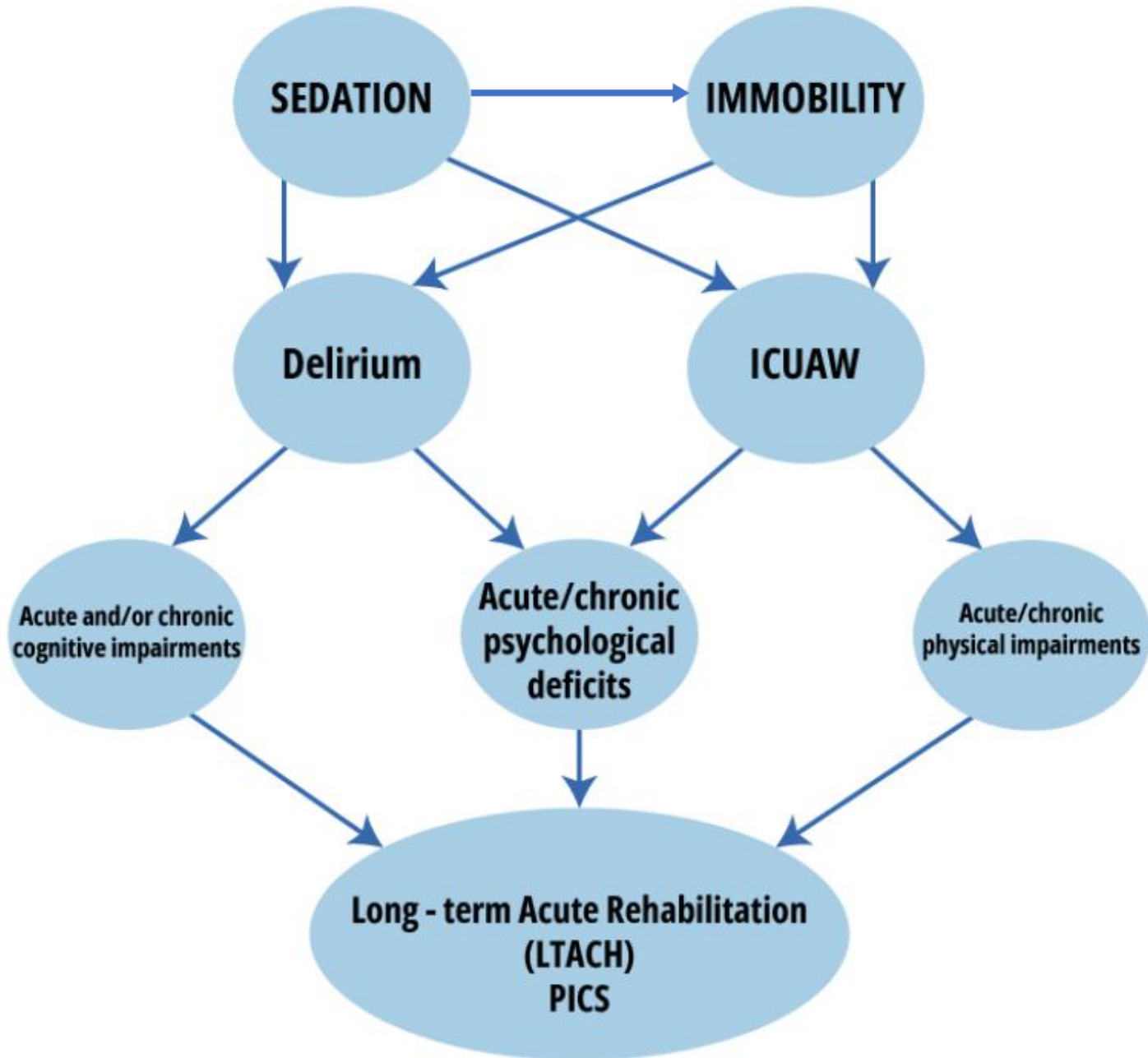
“Comfortable”

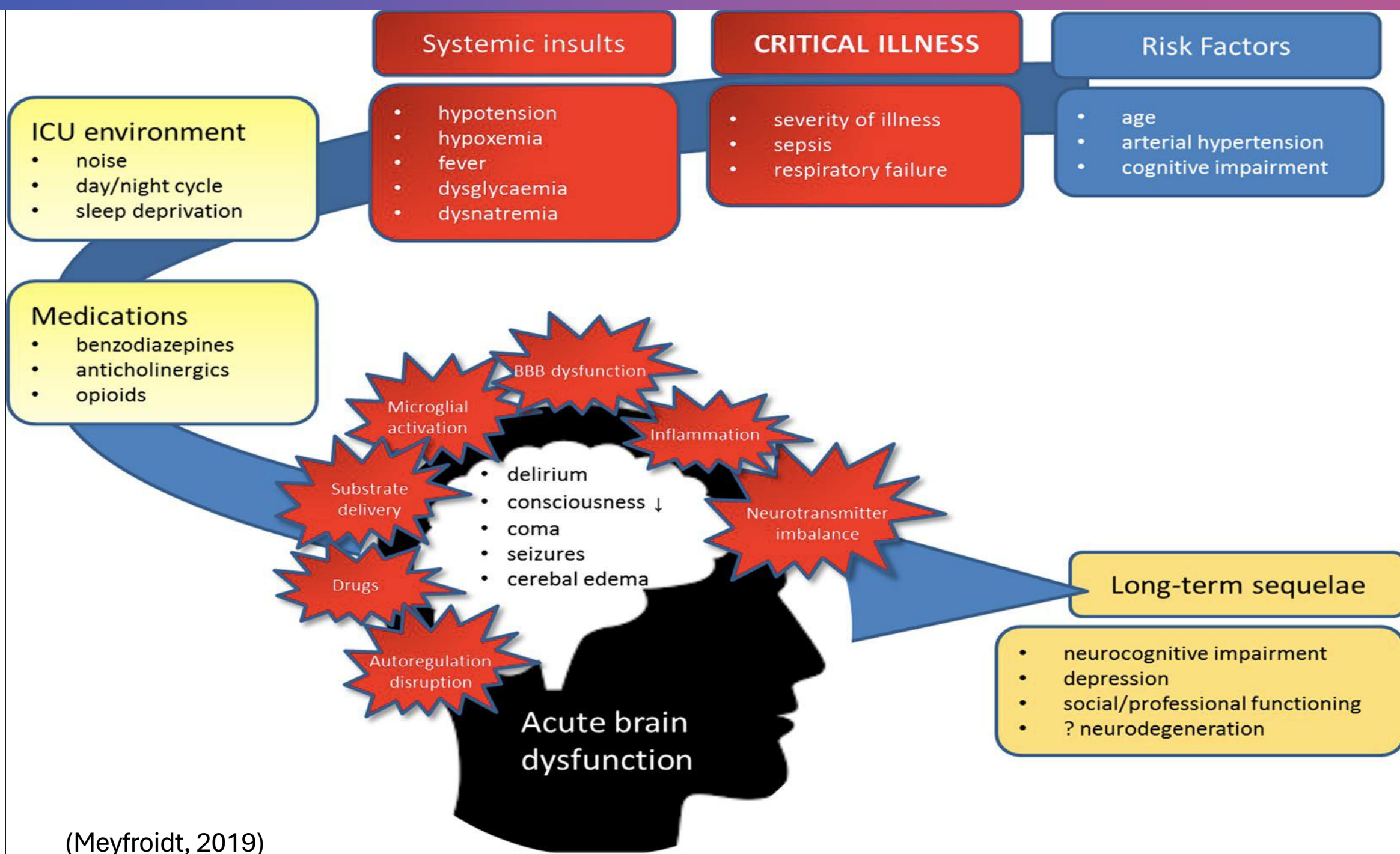
“Humane”



“Resting”

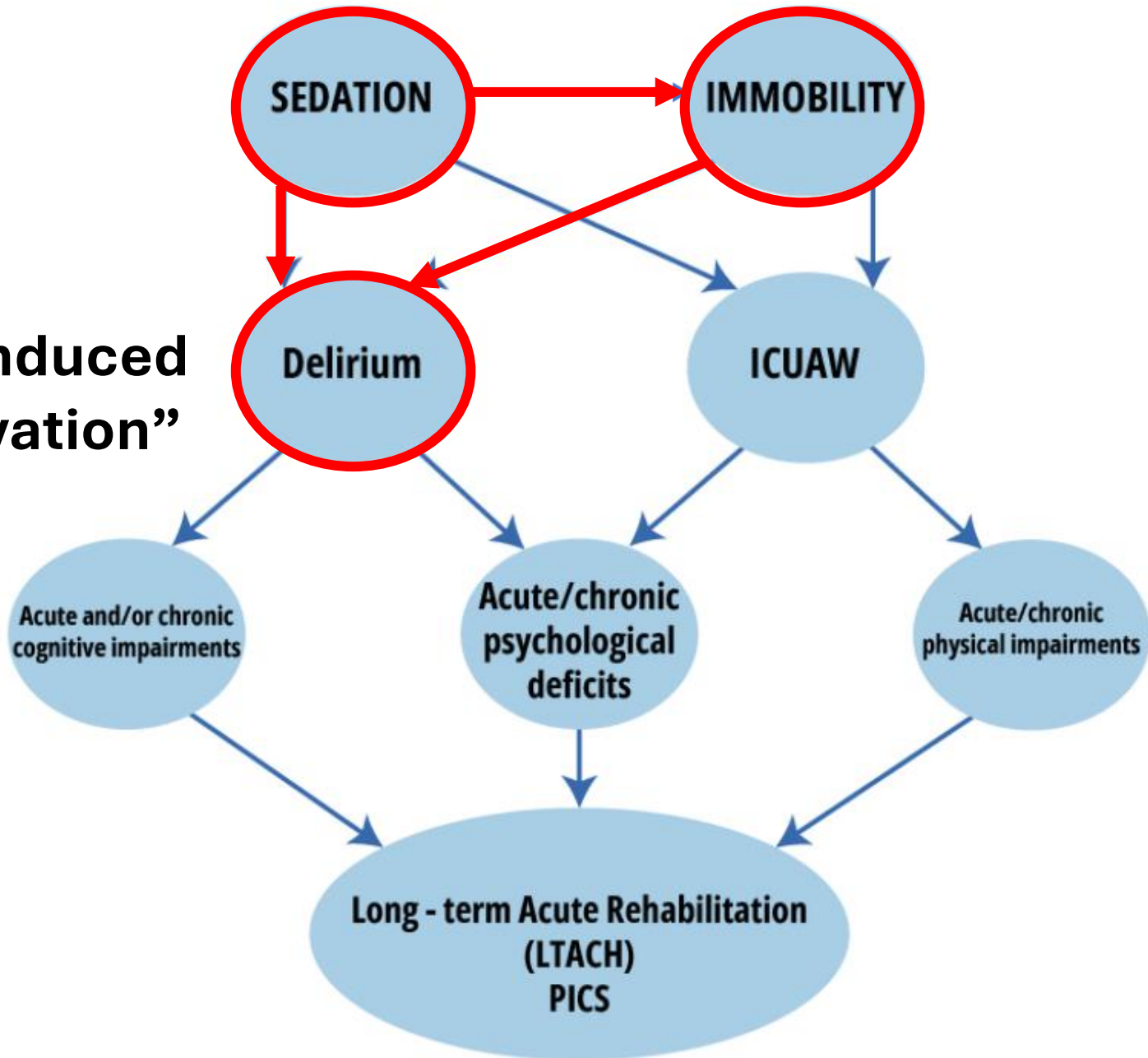
“Sleeping”





(Meyfroidt, 2019)

**“Sedation-induced  
sleep deprivation”**



What comes to mind when you  
hear the word “delirium”?

# Hyperactive Delirium

**33% of cases**



(Kumar, 2018)

**What are the challenges of caring for patients with hyperactive delirium?**

**What are your instinctive feelings when you receive a patient with hyperactive delirium?**

**Who carries the burden of managing  
hyperactive delirium on your unit?**

**What is in your toolbox to manage patients  
with hyperactive delirium?**

# Agitation Management

Sedation





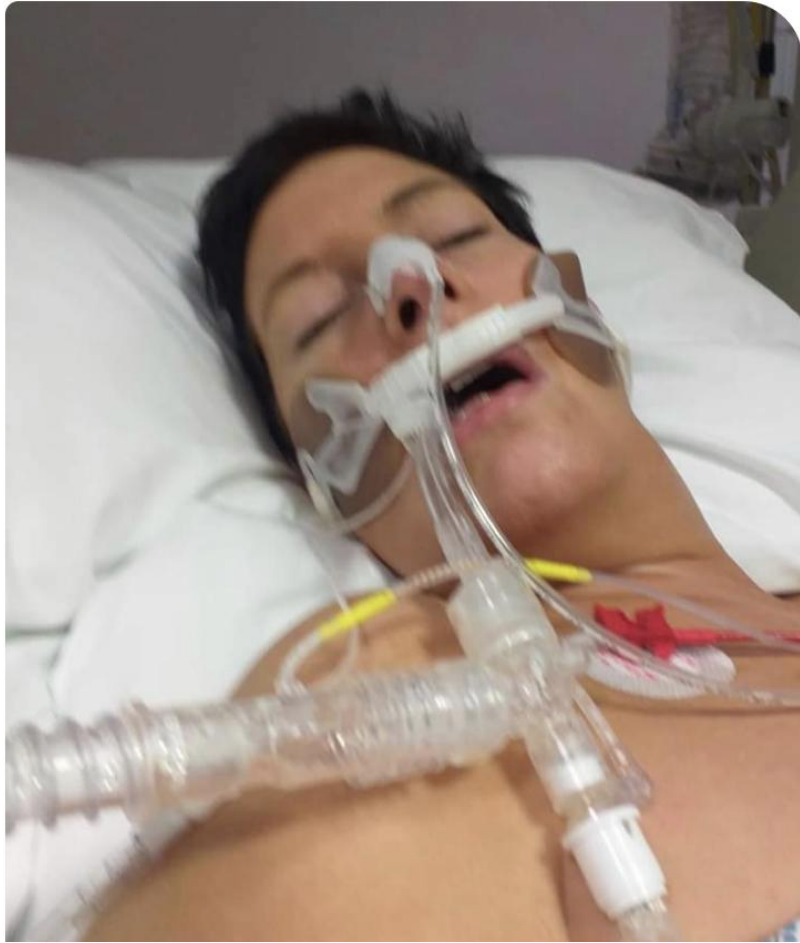
# Hypoactive Delirium

**44.5%**

# Mixed Delirium

**22.2%**

(Kumar, 2019)



**Is hypoactive delirium easy  
to manage?**



**How many people does it take to turn/boost a 200lb + patient?**

**What % of your intubated patients can turn and boost themselves?**

**0-25%**

**25-50%**

**50-75%**

**75-100%**

**What kind of outcomes do patients with delirium have?**

**How does this impact you as a nurse?**

**Who makes the decisions when a patient has delirium?**

**How does having another party make decisions for the patient impact you as the nurse?**

# Delirium increases risk of unplanned extubation by 11.6 xs



(Kwon, 2017)

# 75% of falls in the hospital occur in the setting of delirium



(Babine, 2016)

How do these events impact you as a nurse?

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# Workplace Violence

# Outcomes

## ⬆️ Length of stay

**4.77** days longer in ICU

**6.67** days longer in hospital

## ⬆️ Time on the ventilator

## ⬆️ Workplace Violence

## ⬆️ Line and tube removals

## ⬆️ Hospitalization and costs

⚠️ 39% higher ICU costs

## ⬆️ Healthcare costs

Total 1-year costs in elderly attributable to delirium:

⚠️ **\$16,303- \$64,401 PER PATIENT**

⬆️ **Workload – Double RN hours required for care**

# Discharges to Care Facilities

Delirium **TRIPLES** risk of discharge to care facility

Patients with delirium are **as likely** to discharge to skilled nursing facility as patients with Alzheimers or Dementia regardless of age

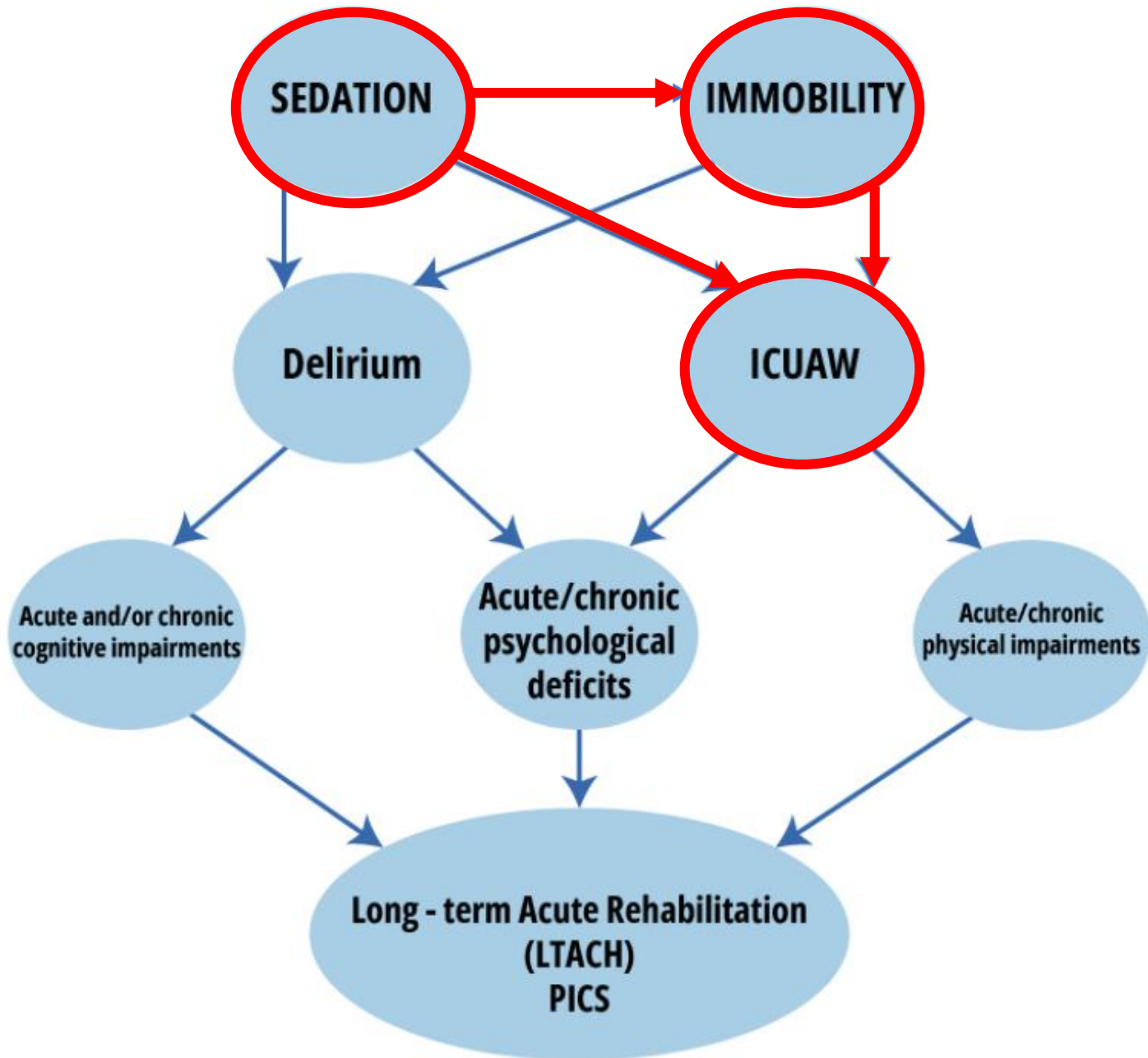
- Death rate with delirium is **135%** higher after discharge

# Readmissions

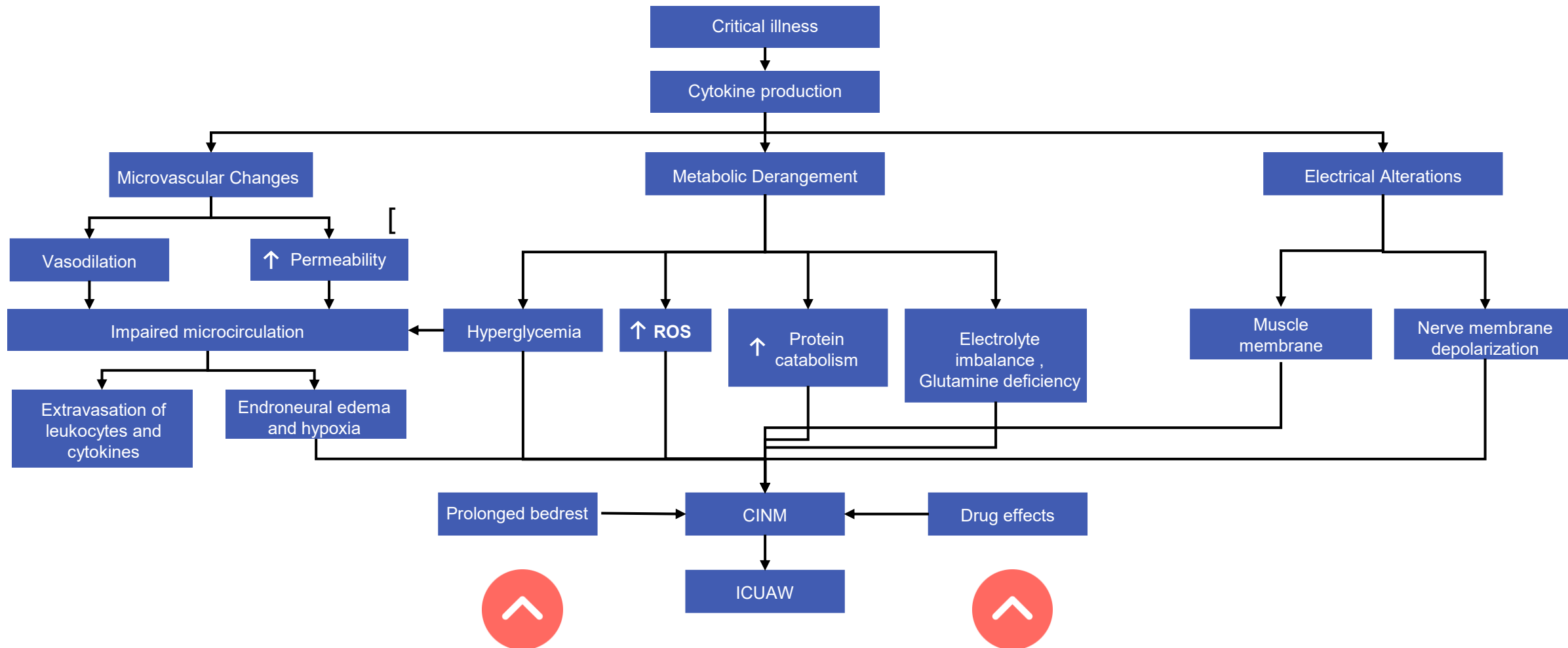
Patients with delirium are **2.6 times** more likely to be readmitted to the hospital within the first 30 days after discharge



In what ways does delirium increase your workload?



# WHAT HAPPENS TO THE MUSCULAR SYSTEM DURING CRITICAL ILLNESS?



What is the physical capacity of astronauts when they return to earth?



# Muscle loss, Bone Density Matter Loss, Orthostatic Hypotension



# Studies on prolonged space travel 3 and 60 day bedrest



Muscle loss, cardiac deconditioning, insulin resistance, carbohydrate metabolism impairment, increased risk of DMII

(Mulvara, 2018)

# MICRO-GRAVITY



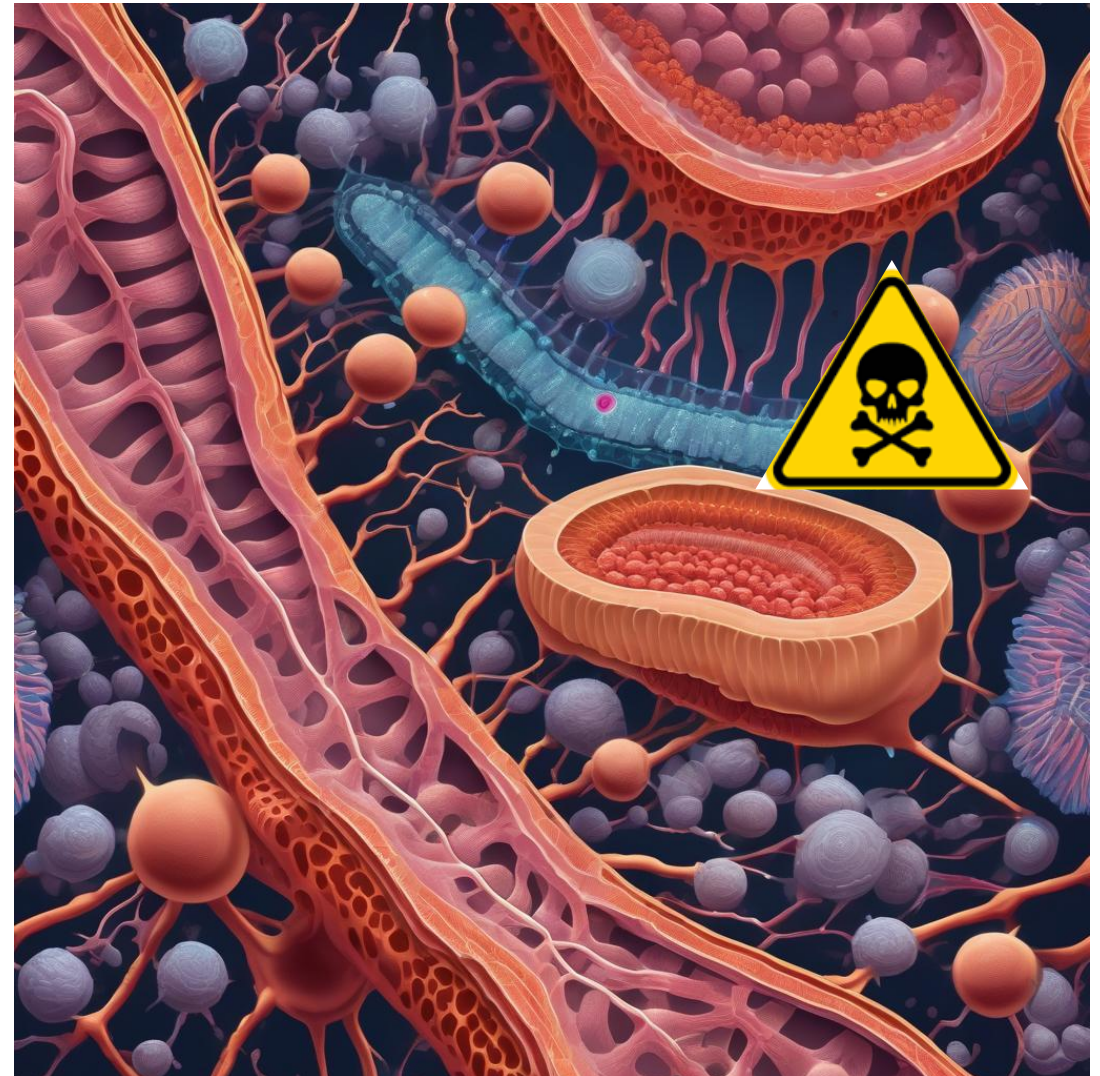
# Impact of Sedatives on the Muscles

IMMOBILITY- Absolute disuse

Propofol:

- Disrupts the sodium channels
  - Decrease muscle excitability
- Mitochondrial toxin
  - Muscle dysfunction/atrophy
- Increases insulin resistance in skeletal and cardiac muscle: **myotoxic effect**
- With and without mechanical ventilation, =

**diaphragm dysfunction**

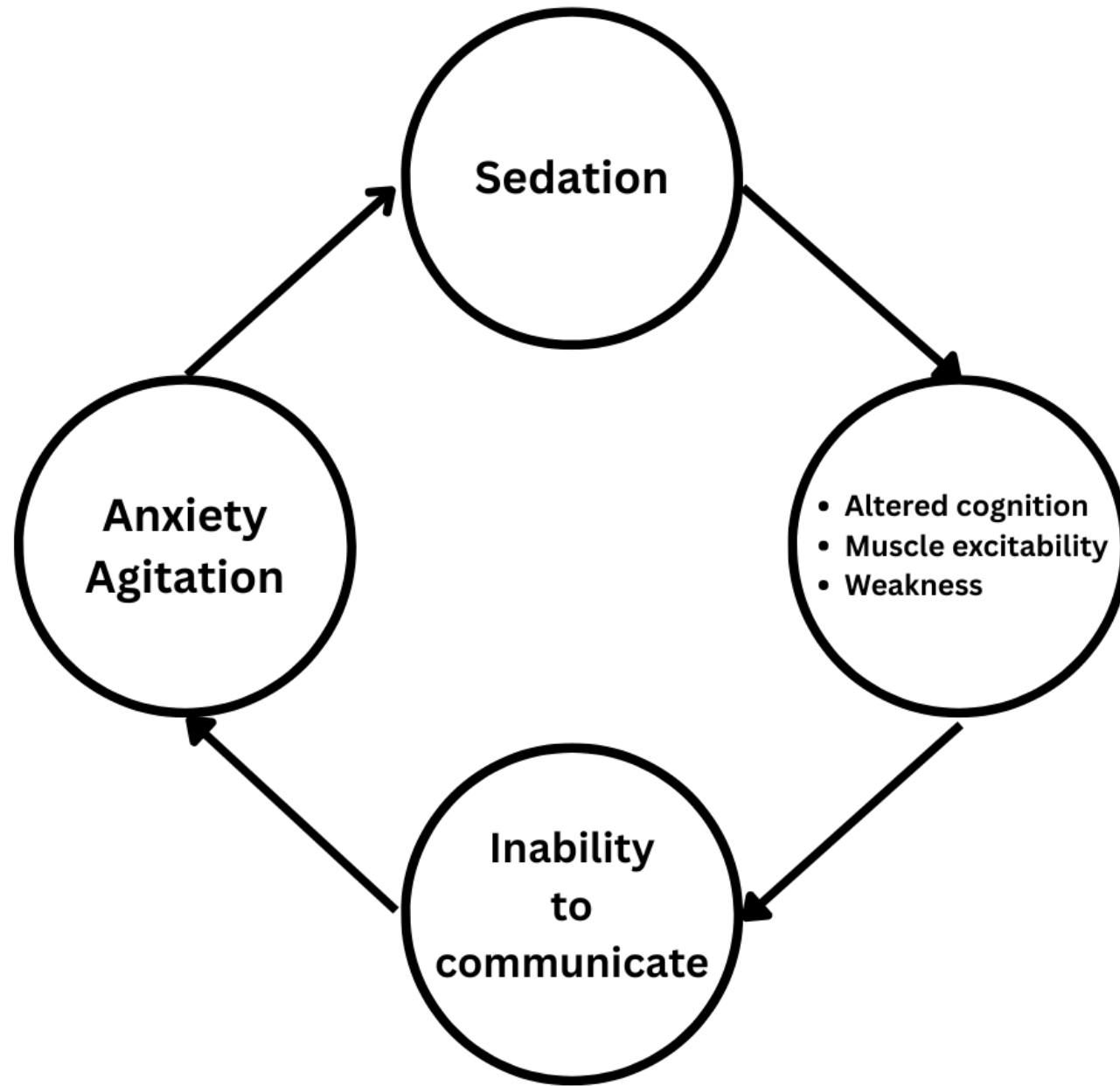


**How does ICU-acquired weakness impact  
your workload?**

**How does ICU-acquired weakness impact  
your teams' resources and dynamics?**

**How easy it for patients with delirium and/or  
ICUAW weakness to communicate?**

**How does this impact you as a nurse when patients are unable to write/spell/point?**

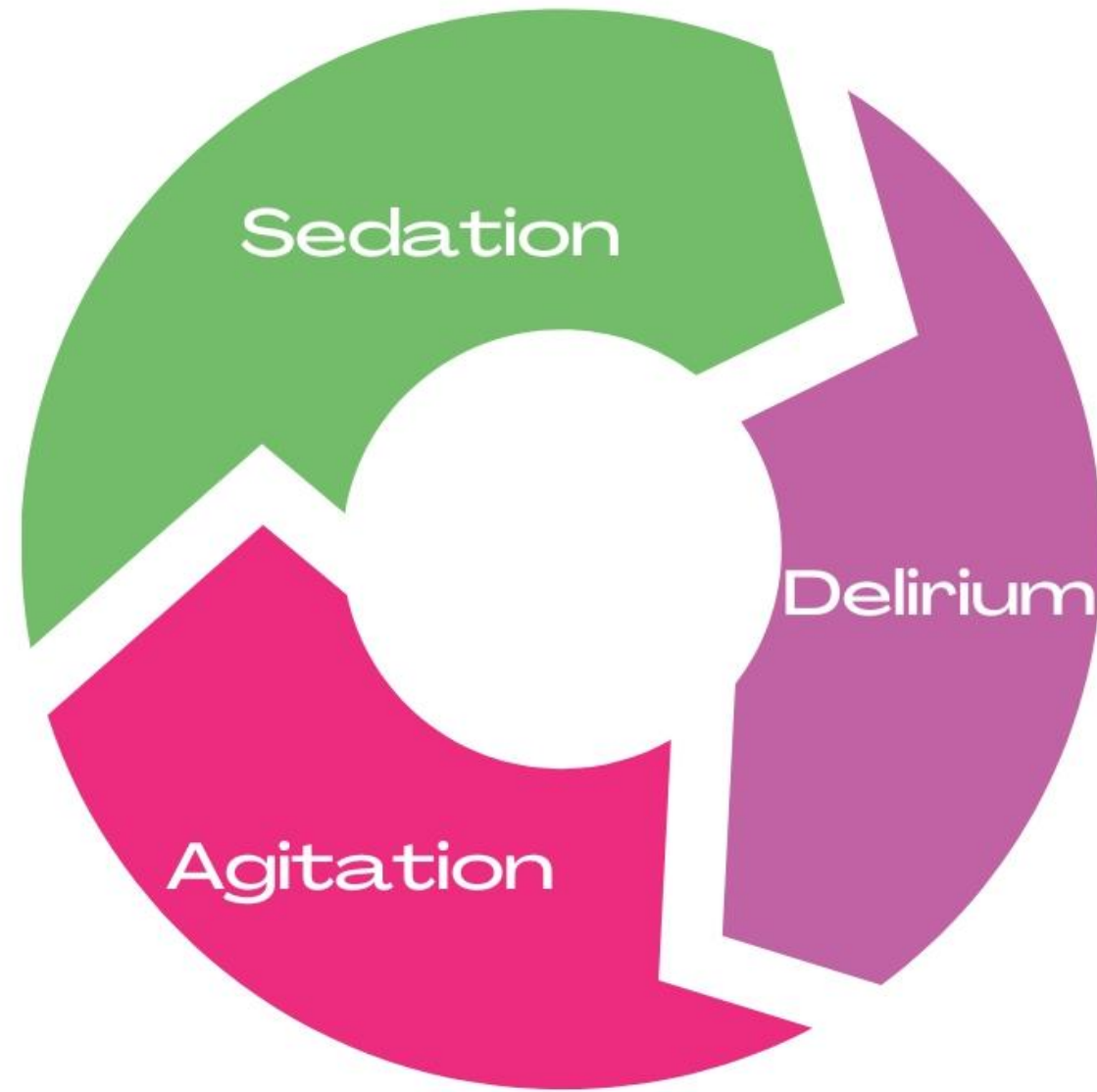


# Agitation Management

Sedation



**How much do you love doing awakening  
trials for extubation?**



**Automatically starting sedation...**



**for next week's SAT/SBT.**

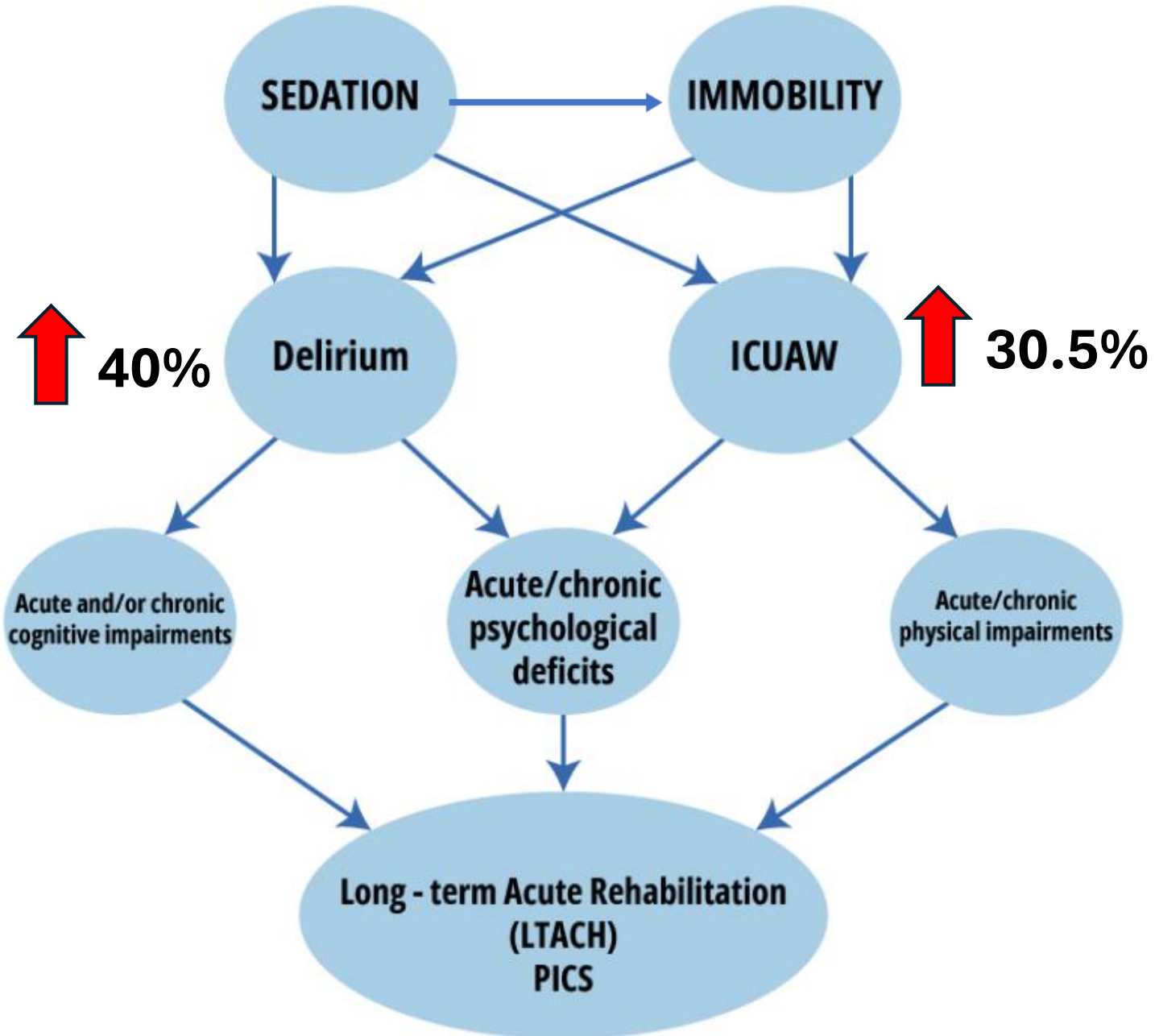
Do administer gravity to your patients?

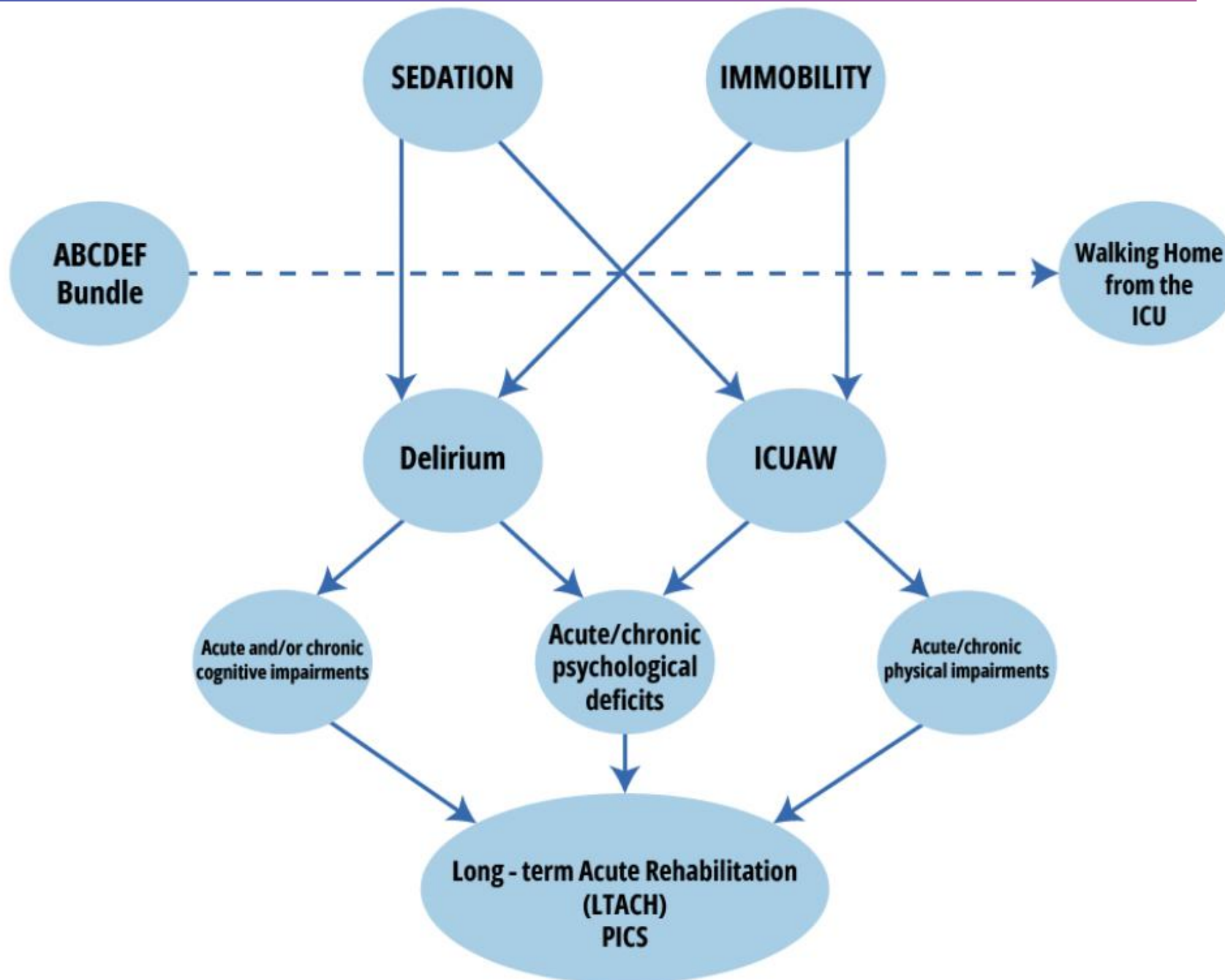
When does this usually happen?

- A. After extubation
- B. Close to extubation
- C. Near ICU Discharge
- D. We wait for PT and OT

What is like to mobilize a patient after days to weeks in the ICU?

# Impact of sedation and immobility on healthcare costs





Per bedside practices, what does your team understand the purpose of the ABCDEF Bundle to be?



**Awake**

**Communicative**

**Autonomous**

**Mobile**



# ABCDEF Bundle



A

**Assess**, prevent, and manage pain



B

**Both** spontaneous awakening and breathing trials



C

**Choice** of analgesia and sedation



D

**Delirium** assess and prevention



E

**Early** mobility



F

**Family** engagement

# Agitation Management

Verticalization  
therapy

Family

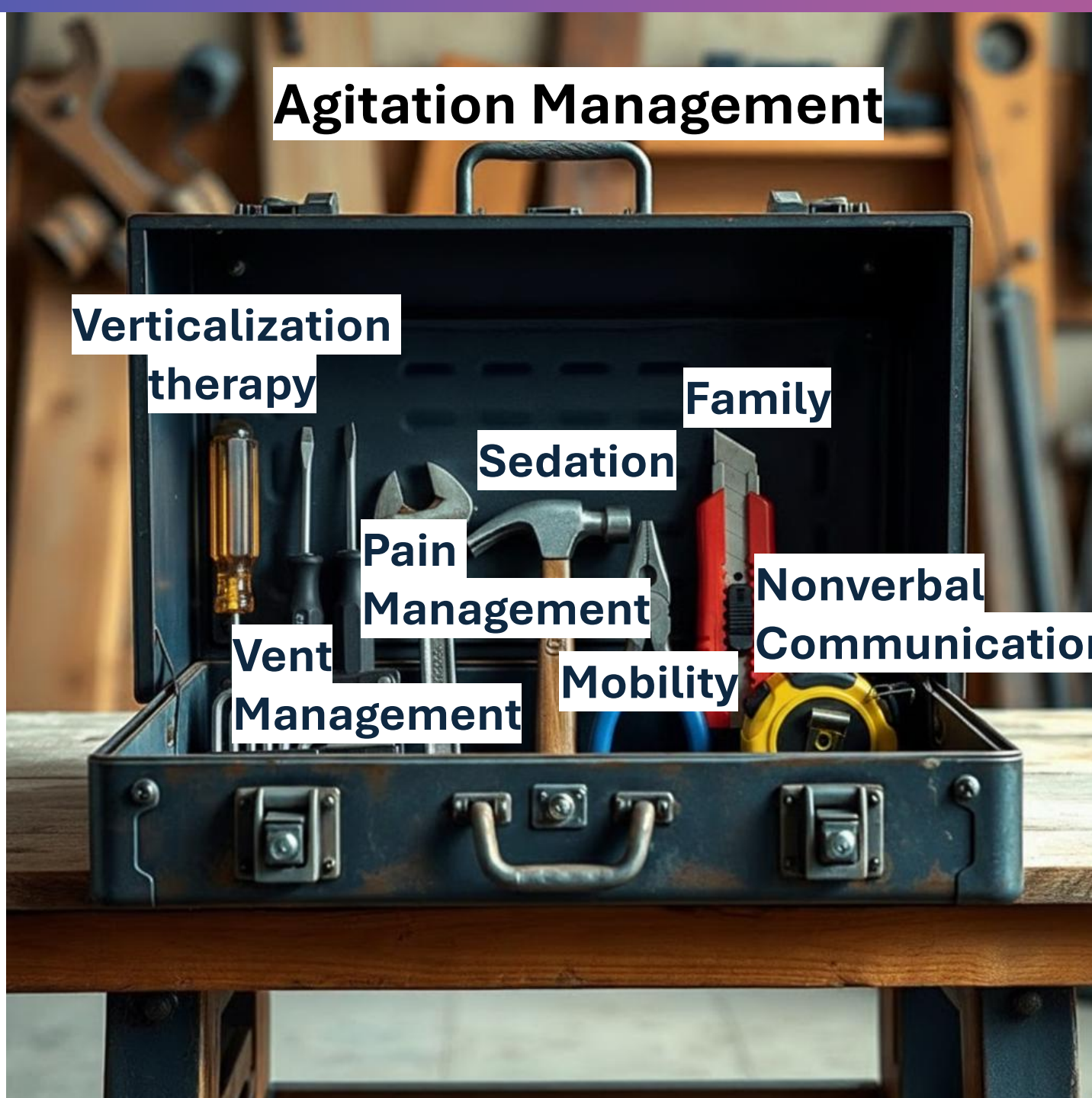
Sedation

Pain  
Management

Nonverbal  
Communication

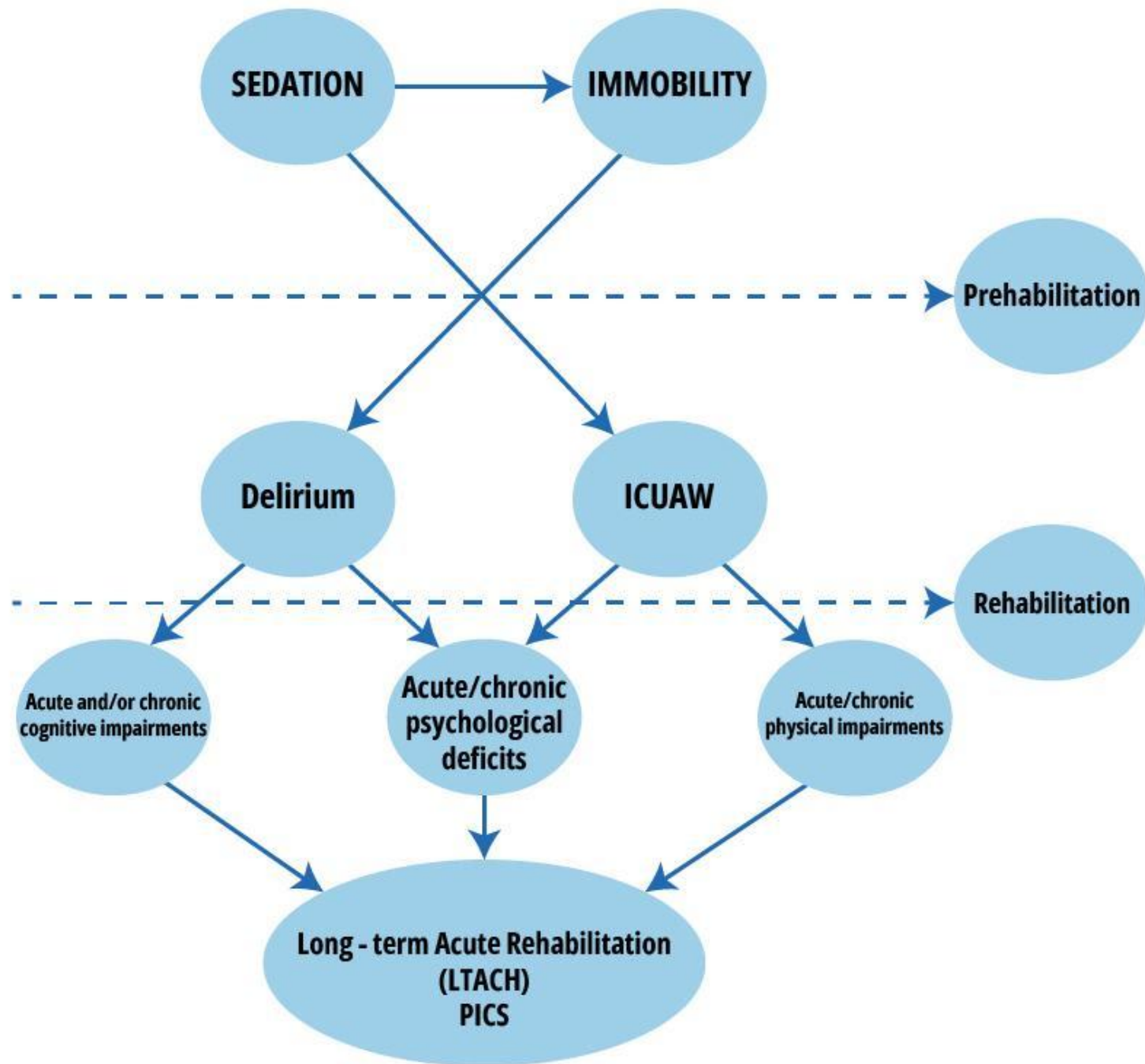
Vent  
Management

Mobility



# DELIRIUM **SWAT** TEAM







**Gravity**



Mplectainvice Pollecaist,  
Nocall yots agncalles  
Pounio formice mgloing

Does your team initiate the ABCDEF  
Bundle for prehabilitation or  
rehabilitation?

Which is likely easier?

Rehabilitation  
Or  
Prehabilitation?

How would *prehabilitation* make your  
job easier/safer/fulfilling?

Dan is a 48-year-old male retired IT engineer with obesity weighting 650 lbs on admission and a history of OSA, right heart failure, generalized lymphedema, DMII, and hypoventilation is admitted for acute hypoxic respiratory failure with hypercapnia due to CHF exacerbation and pulmonary edema.

At baseline he lived with his parents in a home with 2 steps to the entrance.

He is intubated in the ED and sent to the ICU.

How will caring for Dan impact your ICU team?

What kind of outcomes and risks do you assume will develop in Dan's course?

How long do you think Dan will need ventilator support?



Awake

Gravity

Communicative

Autonomous

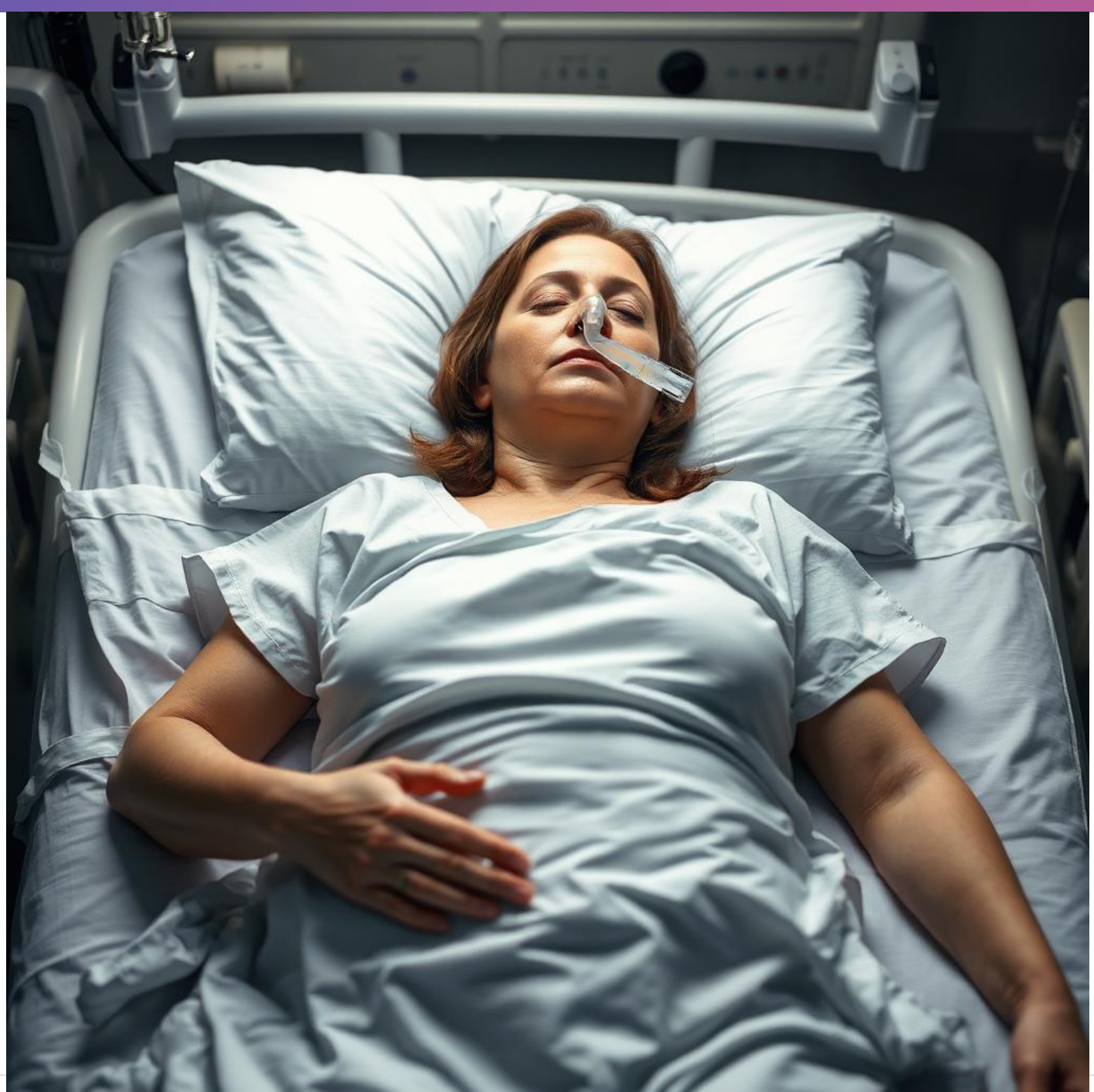
Dan's team turned sedation off 2 hrs after intubation.

They promptly transferred him to a verticalization bed and had him standing.

When his hypercapnia improved, he woke up standing. He was able to text with his cell phone.

He was extubated 2.5 days later and continued walking on the step-down unit where 100 lbs of fluid continued to be diuresed.

# Suzanne



She has a cuff leak 5 days later.

On which day should she be extubated?

+ 13 days of MV

- Vent checks, turns, sedation exchange, charting, boosting, ADLS, toileting, tube feeds

Can you team afford this extra workload?