Critical Thinking to Optimize the ABCDEF Bundle

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Scan for Slido!

SPECTRUM OF COMPLIANCE WITH THE ABCDEF BUNDLE

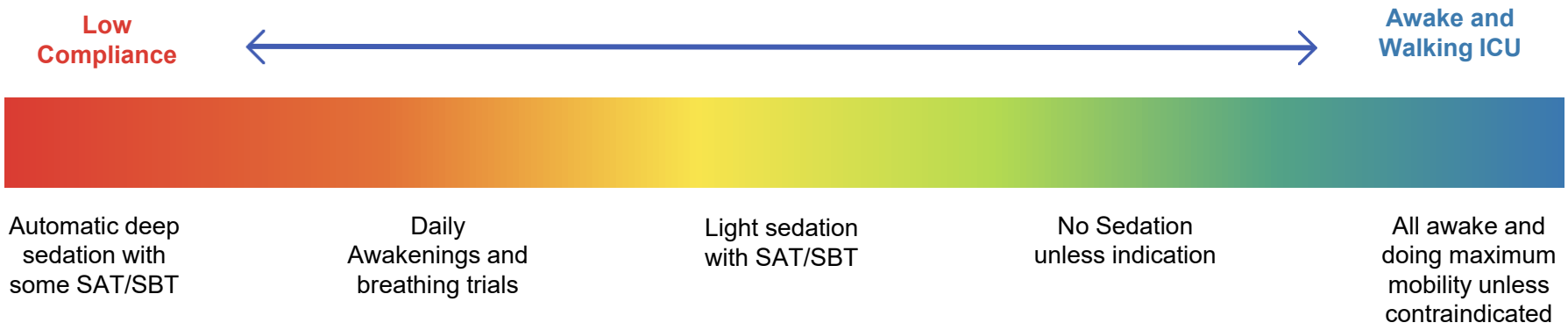
Automatic deep sedation with some SAT/SBT	Daily Awakenings and breathing trials	Light sedation with SAT/SBT	No Sedation unless indication	All awake and doing maximum mobility unless contraindicated

ICU Liberation Collaborative Study

+15,000 Patients
68 Facilities

100% Compliance: 8%
12% Bearing weight OOB

(Pun, 2019)



Increased likelihood of:

- ICU and hospital discharge

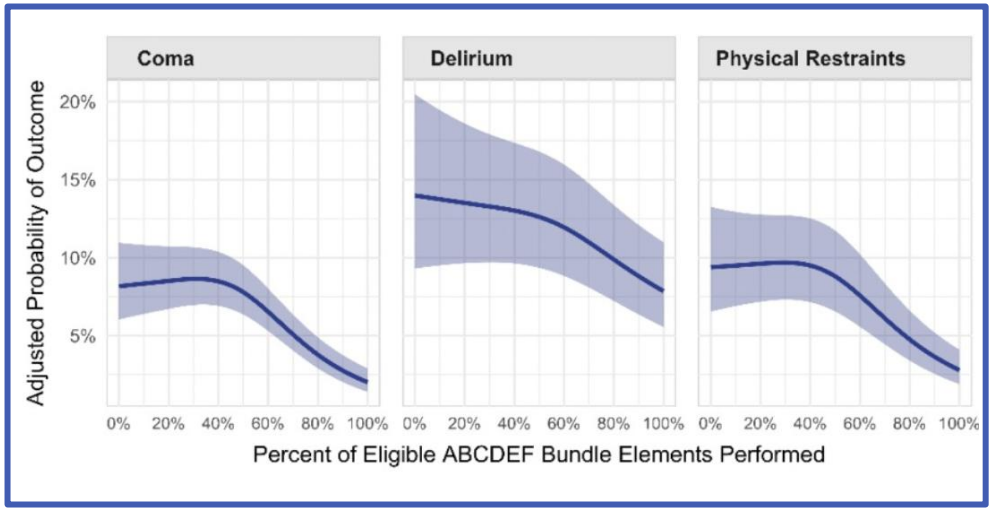
Decreases likelihood of:

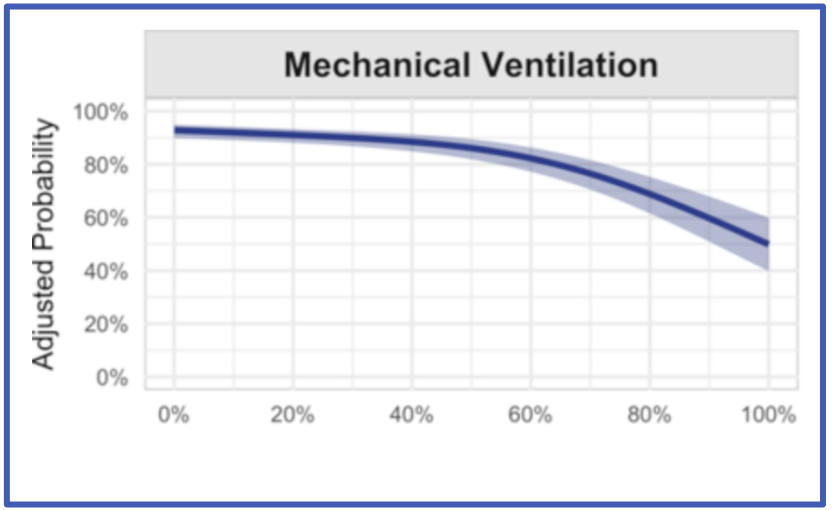
- 7-day mortality by **68%**
- Coma and Delirium **25-50%**
- Physical restraint **>60%**
- Mechanical ventilation
- ICU readmission by **46%**
- Discharge to destination other than home, by **36%**
- **Outcomes "dose-dependent"**

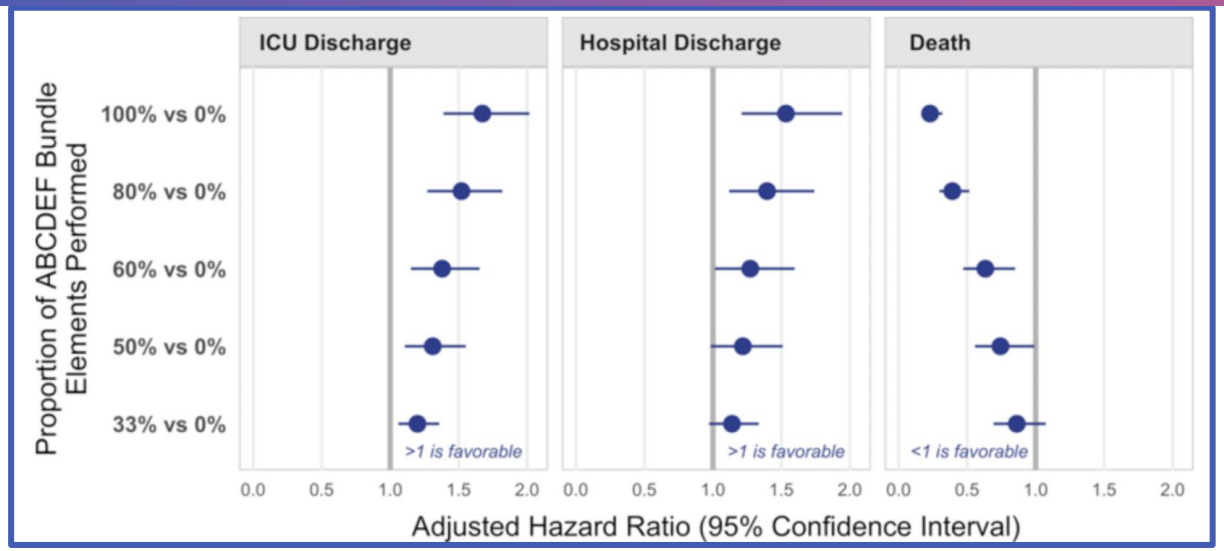
(Pun, 2019)

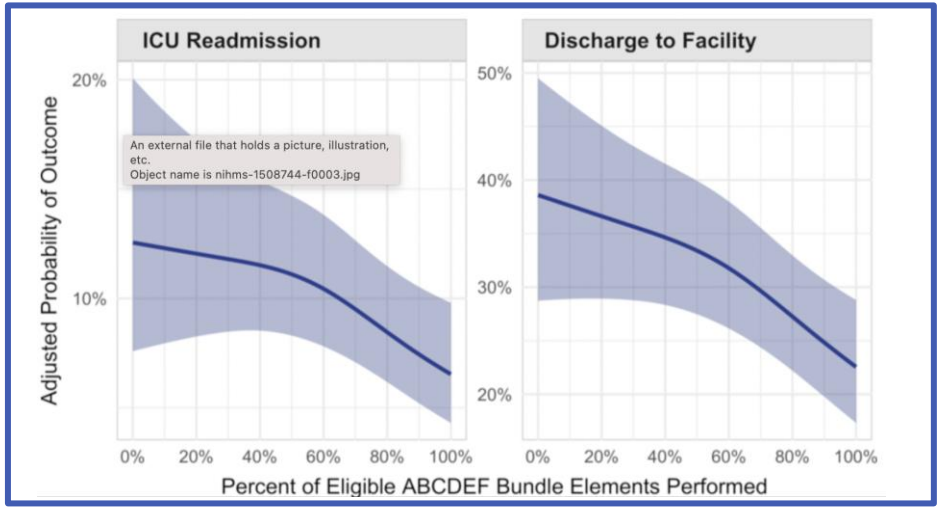
ABCDEF BUNDLE

Outcomes are ”dose-dependent”






ICU Discharge
Hospital Discharge
Death
Proportion of ABCDEF Bundle Elements Performed
100% vs 0%
80% vs 0%
60% vs 0%
50% vs 0%
33% vs 0%
>1 is favorable
>1 is favorable
<1 is favorable
0.0
0.5
1.0
1.5
2.0
Adjusted Hazard Ratio (95% Confidence Interval)


ICU Readmission
Discharge to Facility
Adjusted Probability of Outcome
20%
10%
50%
40%
30%
20%
An external file that holds a picture, illustration, etc.
Object name is nihms-1508744-f0003.jpg
0%
20%
40%
60%
80%
100%
Percent of Eligible ABCDEF Bundle Elements Performed

(Pun, 2019)

A: **ASK** if they're in pain.

CPOT during sleep / exceptions

B: Both SAT/SBT

Take sedation **<u>OFF</u>** when there is *not* an indication for sedation.
Turn off the vent ASAP.

C: Choice of Sedation/Analgesia

Ask: "***<u>Is there an indication for sedation?</u>***" - After every intubation

If "yes", choose safest sedative, lowest dose, shortest duration possible

D: Prevent, Assess, Treat Delirium

1. Avidly avoid deliriogenic medications

2. Family engagement

3. REAL sleep

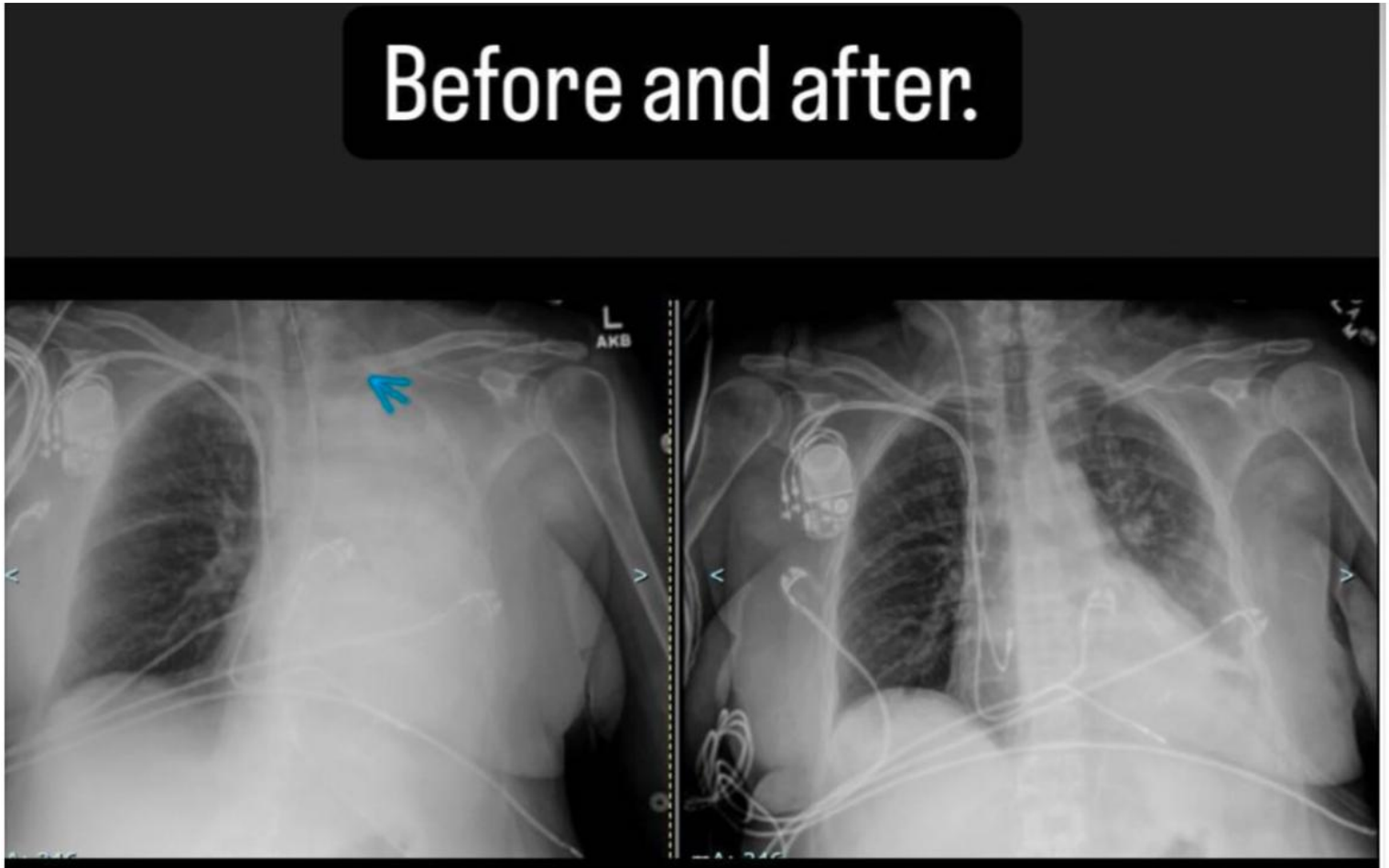
4. Mobility

DELIRIUM SWAT TEAM

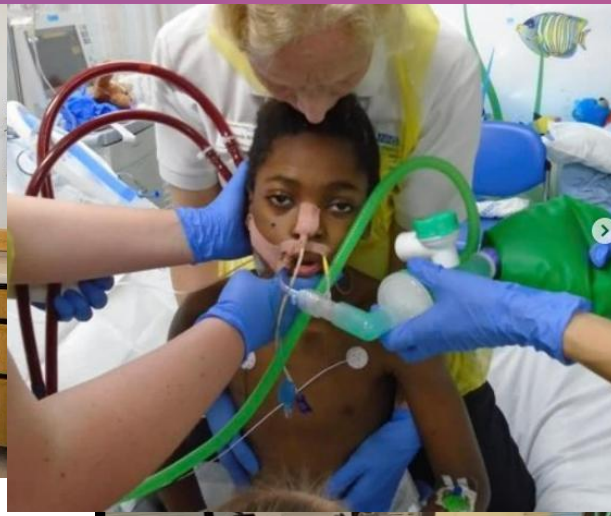
E: EARLY Mobility

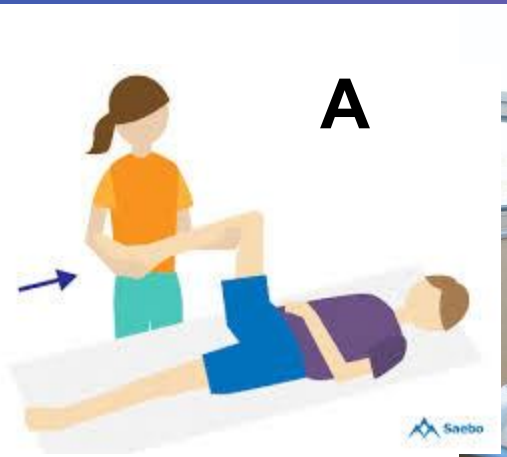
GOALS OF MOBILITY

- ✓ Physical and Cognitive **ENGAGEMENT**
- ✓ Preserve/restore baseline physical function
- ✓ Return to gravity
- ✓ Muscle preservation/rehabilitation
- ✓ Largest muscles
- ✓ Diaphragm
- ✓ Preserve vestibular function
- ✓ Fluid shift - Prevent orthostatic hypotension
- ✓ Pulmonary toileting
- ✓ Anxiety/agitation/delirium Management

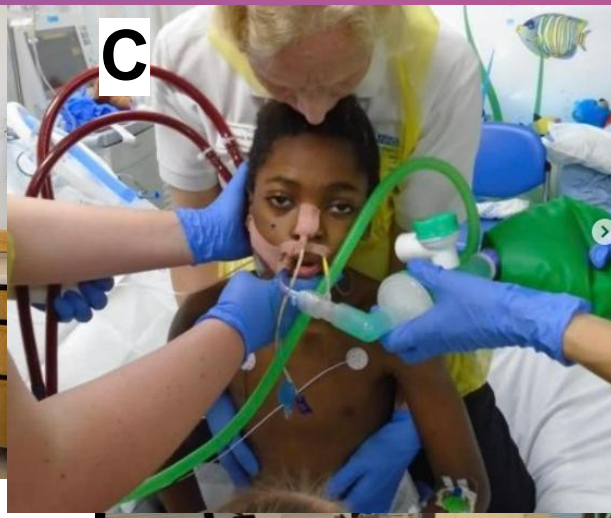

Before and after.
L
AKB


Saeba




A
Saebo


B


C

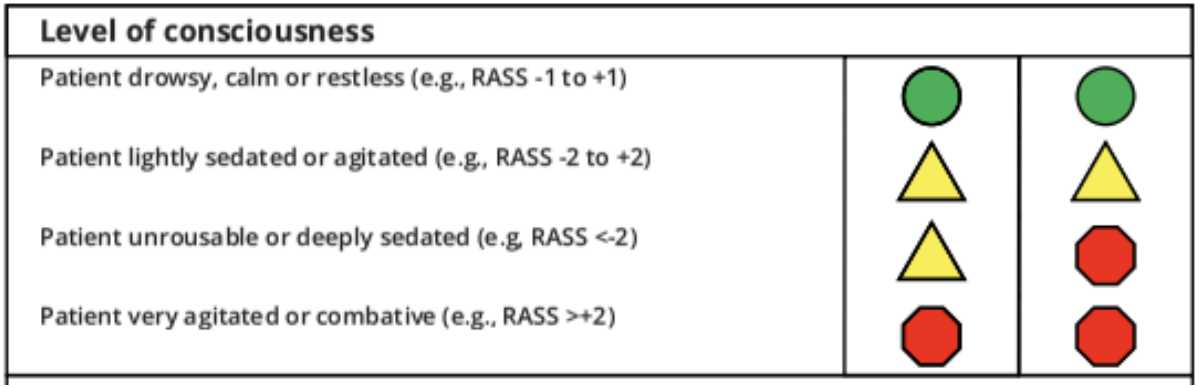

D


E

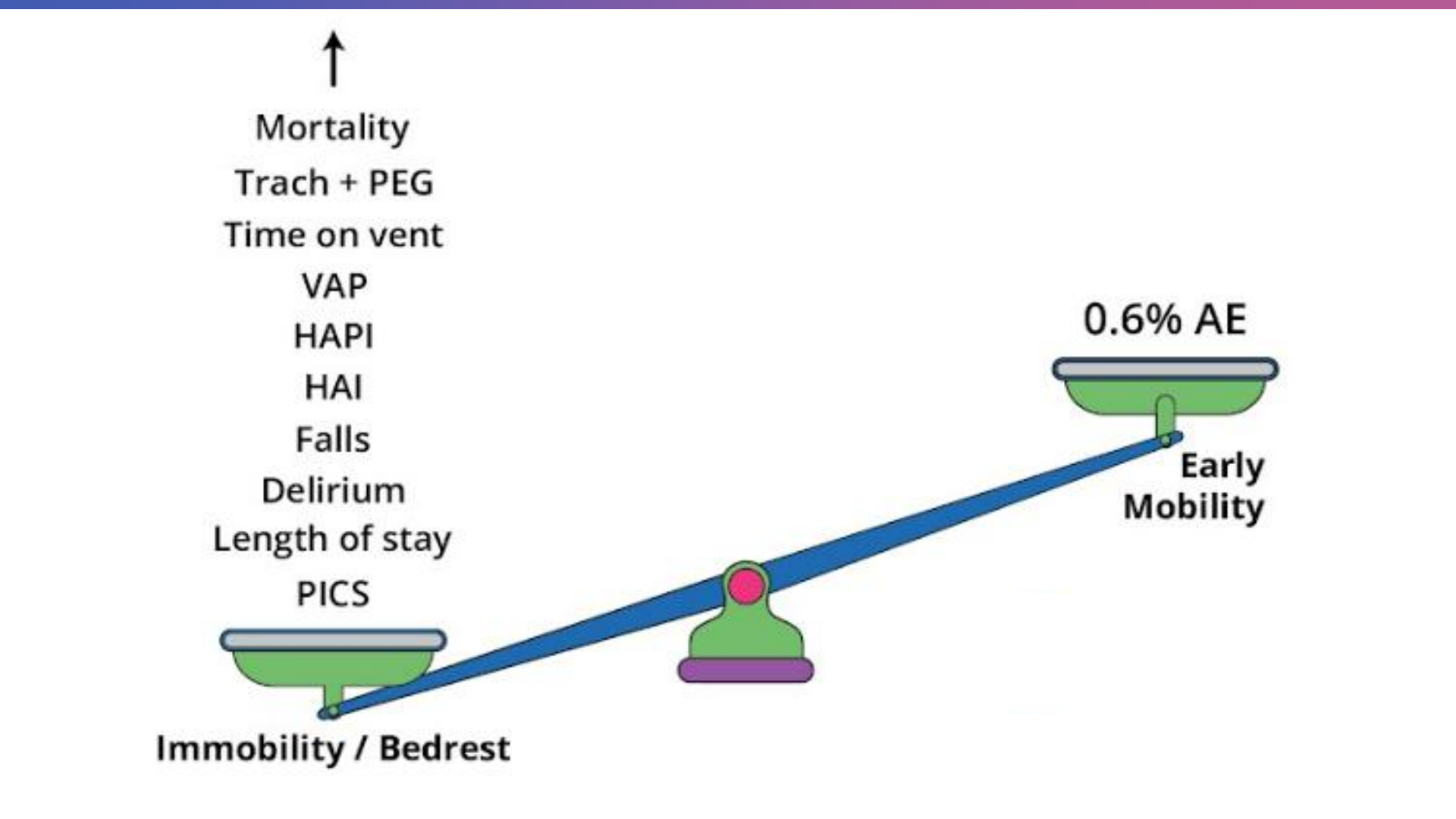

F

“Is there a contraindication to mobility? What is it?”

- **Median P/F ratio 89**
- **Decision Tree/Algorithm Guidelines**



(Bailey, 2007), (Hodgson, 2014)


Mortality
Trach + PEG
Time on vent
VAP
HAPI
HAI
Falls
Delirium
Length of stay
PICS
Immobility / Bedrest
0.6% AE
Early Mobility

“We do early mobility”

Level of mobility

Timing

Dose

Timing of Mobility

- Mobilizing patients within 36 hours after intubation:
  4 day decrease in delirium and time on the ventilator by **2 days**, and improves discharge to home and return to baseline function by **24%**.

- Mobility must be provided within 72 hours after intubation to have an impact on post-ICU syndrome.

- A no-sedation approach vs daily SAT decreases time on the ventilator by **4.2 days**

(Schweikert, 2009), (Patel, 2023), (Liu, 2019), (Strom, 2010)

Dose

Every 10 additional minutes of EM in the ICU = **1.2 day decrease** in hospital LOS

Each unit of out of bed mobility decreases time on the ventilator by **24%**

(Jenkins, 2023), (Fazzio, 2024)

Case Study #1

Diane is a 54-year-old female with a history of methamphetamine abuse. She lives with friends in a trailer park and works as a marijuana washer. She has a son that lives an hour away from her. She is 5 ft 2” and weight 103 lbs.

She arrived to the ED on the evening of 6/17 with shortness of breath and hypoxia. After intubation, she was admitted to the ICU last night for acute respiratory failure secondary to multifocal pneumonia, septic shock, and AKI.

Toxicology screen was + for amphetamines and THC.

Case Study

Day 1

Vitals: HR: 104, BP: 95/53 MAP 67, Sp02: 93%, RR: 20, Temp: 39.4

Vent settings: TV 440, CMV 20, PEEP 10, FiO2 0.5, PEEP 8

Infusions:

Propofol 30 mcg/kg/min

Fentanyl 50 mcg/hr

Norepinephrine 0.2 mcg/kg/min

Vasopressin 0.03 units/min

“RASS -1”

Case Study #1: “Day 1”

- Sedation off shortly after arrival to the ICU
- Cell phone in her hand for communication
- Pain assessed
- Sat edge of bed
- Walk to chair

Case Study #1: “Day 2”

PS 5/10 Fi02 50%

SBT- Pass and extubated to HFNC —> Oxymizer

Case Study #1: Day 3

On NC walking around the unit and transfer to the acute care floor.

Case Study - Real Day 2

A/C: Fi02 50%, PEEP 8, 20

“RASS -2”

VS: 87, 94/68, 92%, 20, 37.5

Propofol 30 mcg/kg/min
Fentanyl 50 mcg/hr
Midazolam 6 mg total IVP
Norepinephrine 0.2 mcg/kg/min
Vasopressin 0.04 units/min

SAT: None
SBT: None
CAM: UTA
EM: “Bedrest”

Case Study - Real Day 3

A/C: Fi02 50%, PEEP 8, 20

“RASS -2”

VS: 87, 94/68, 92%, 20, 37.5

Propofol 30 mcg/kg/min
Fentanyl 50 mcg/hr
Midazolam 6 mg total IVP
Norepinephrine 0.2 mcg/kg/min
Vasopressin 0.04 units/min

SAT, SBT, CAM, EM- none

Case Study - Real Day 3

A/C: Fi02 40%, PEEP 5, 20

“RASS -2”

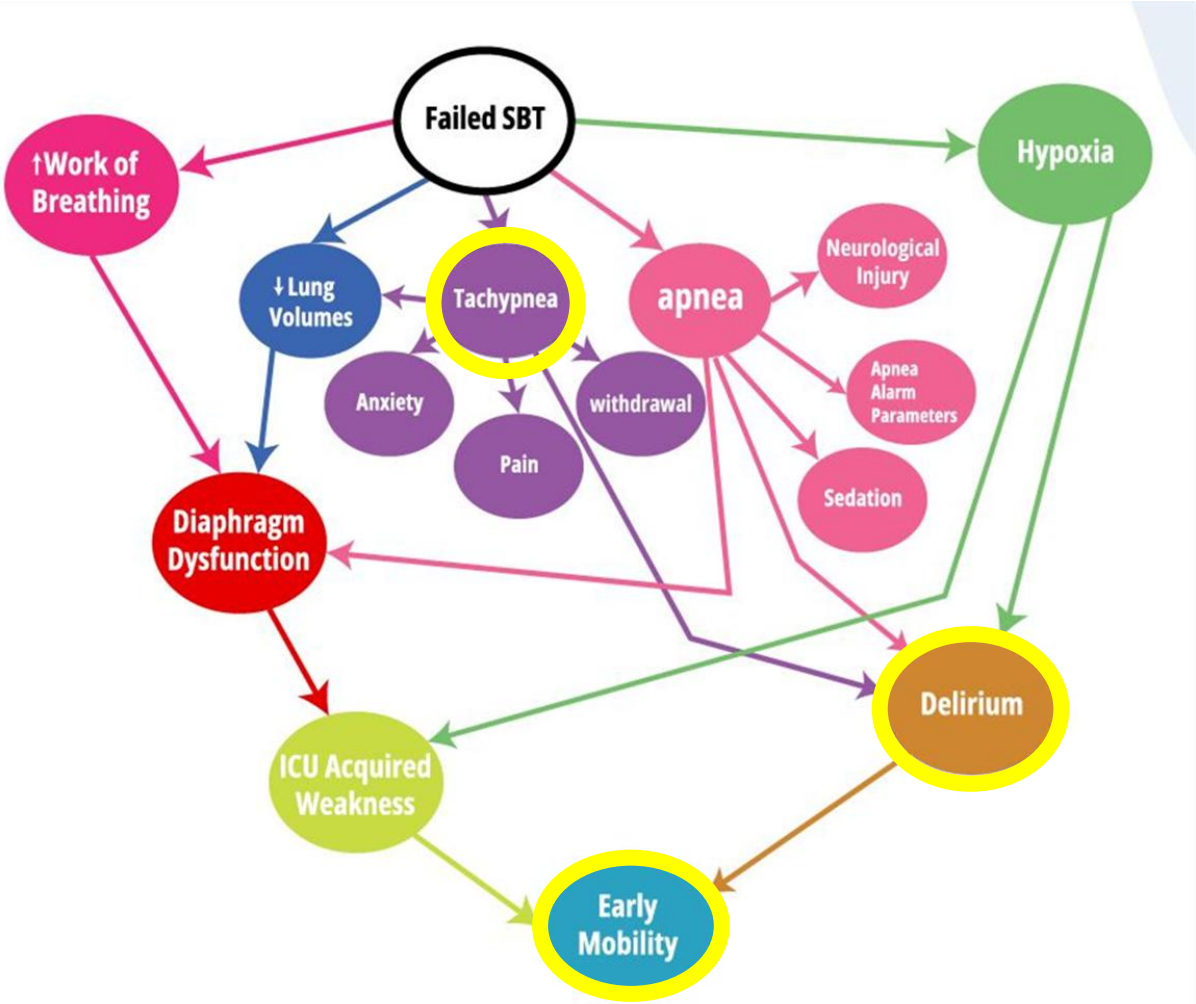
VS: 87, 94/68, 92%, 20, 37.5

Propofol 30 mcg/kg/min
Fentanyl 50 mcg/hr
Midazolam 6 mg total IVP
Norepinephrine 0.06 mcg/kg/min
Vasopressin OFF

SAT- RASS +2 - failed for “Agitation”
SBT- Failed for tachypnea
CAM: “UTA”
EM: “Bedrest”

Sedation resumed

Femoral dialysis catheter placed


Failed SBT
↑Work of Breathing
Hypoxia
↓Lung Volumes
Tachypnea
apnea
Neurological Injury
Anxiety
withdrawal
Apnea Alarm Parameters
Pain
Sedation
Diaphragm Dysfunction
Delirium
ICU Acquired Weakness
Early Mobility

Case Study - Real Day 4

Fi02 A/C 30%, PEEP 5, 20

VS: 87, 105/69, 92%, 20, 37.5

Propofol 35 mcg/kg/min
Fentanyl 50 mcg/hr
Midazolam total: 4 mg IVP

RASS “-2”
SAT, SBT: None
EM: “Bedrest?”
CAM: UTA

Wound care consulted for dark area on buttocks

Sedation continued

Case Study - Real Day 5

Fi02 A/C 40%, PEEP 5, 20

VS: 87, 102/65, 95%, 20, 37.5

Propofol 35 mcg/kg/min
Fentanyl 50 mcg/hr
Midazolam total: 4mg IVP
RASS “-2”

SAT- RASS +1
SBT failed for tachypnea
CAM- UTA

Sedation resumed

Case Study - Real Day 6

A/C: Fi02 90%, PEEP 10, 20

VS: 87, 102/65, 95%, 20, 38.2

Propofol 50 mcg/kg/min
Fentanyl 150 mcg/hr
Midazolam total: 16mg
Oxycodone total: 20mg

RASS “-2” - “+3”

CAM + - First document at 1900

Case Study - Real Day 7

A/C: Fi02 85%-60% PEEP 10-8, 20

VS: 87, 102/65, 95%, 20, 37.5

Propofol 50 mcg/kg/min
Fentanyl 150 mcg/hr
Midazolam: 10 mg total IVP
Oxycodone total: 40mg

SAT, SBT, EM: None, CAM +

Case Study - Real Day 8

A/C: Fi02 85%-60% PEEP 10-8

Propofol 50 mcg/kg/min
Fentanyl 150 mcg/min
Midazolam 10mg total IVP
Oxycodone total: 40mg

SAT, SBT, EM: None, CAM +

Case Study - Real Day 8

A/C: Fi02 50%, PEEP 8, 20
VS: 87, 102/65, 95%, 20, 37.5

Propofol 50 mcg/kg/min
Fentanyl 150 mcg/hr
Midazolam total: **32mg**
Oxy total: 40mg

SAT- Propofol was briefly decreased for SBT and fentanyl continued – "RASS +1"
CAM: +
EM: "Bedrest"

Case Study - Real Day 9

Prop off at 0830 and pt. extubated at 1145 to HFNC.

Dexmedetomidine 0.5 mcg/kg
Haldol 15mg
Midazolam total 17mg
Oxy total: 20 mg

No mobility, CAM +, femoral devices removed.

Day 10

Extubated to highflow nasal cannula. No mobility provided.

Day 11

Patient helped with turns in bed. PT and OT ordered

Day 12

On nasal cannula and PT transferred patient to the chair.

Day 13

Took steps in the room.

Case Study - Day 14

Diane left AMA with a walker, stage III HAPI, and cognitive impairments.

Do you think she'll be back here?

What is Diane at risk of?

$$$$$ Diane $$$$$

Costs:

- VAP- $10-40k
- Stage III HAPI- $8,700
- 7 extra days on the ventilator
- 9 additional days in ICU- $45k

Risks:

- Fall
- Infection
- Hospital readmission
- Death
- Loss of job
- Long-term cognitive, psych, and physical impairments

Did sedation and immobility ease the workload and improving staffing demands on her ICU team?

Which process of care would you like to be a part of as the RN?

Case Study #2

Rodrigo is a 55 year old spanish speaking male roofer without a medical history admitted to the ICU for PE. Shortly after, he suffered a PEA arrest and was intubated.

Day 2: He became “agitated” and versed infusion was started prior to going to IR for thrombectomy. After IR, a pericardial tear and effusion was discovered from a sternal fracture which was address by CT surgery including a sternotomy. RASS - 4

Day 3- Cardiogenic shock from RV failure - shock liver and ARF - norepinephrine, vasopressin, epinephrine, midazolam 7 mg/hr, and fentanyl 75 mcg/hr- RASS -5

Does Rodrigo have an indication for sedation?

What is his indication for sedation?

Is midazolam an appropriate choice of sedation for Rodrigo?

What are the risks of midazolam?

What are Rodrigo's risk factors for delirium?

What are his nurses' role in minimizing/avoiding those risks?

What should his RASS goal be?

How will Rodrigo's delirium impact your workload and experience with him?

How might delirium impact Rodrigo's life?

How might Rodrigo's ethnicity impact his care and outcomes?

Racial Disparities and the ABCDEF Bundle

Early deep sedation is an independent predictor of mortality

- Hispanic patients are 5x more likely to be deeply sedated

Delirium doubles the risk of dying

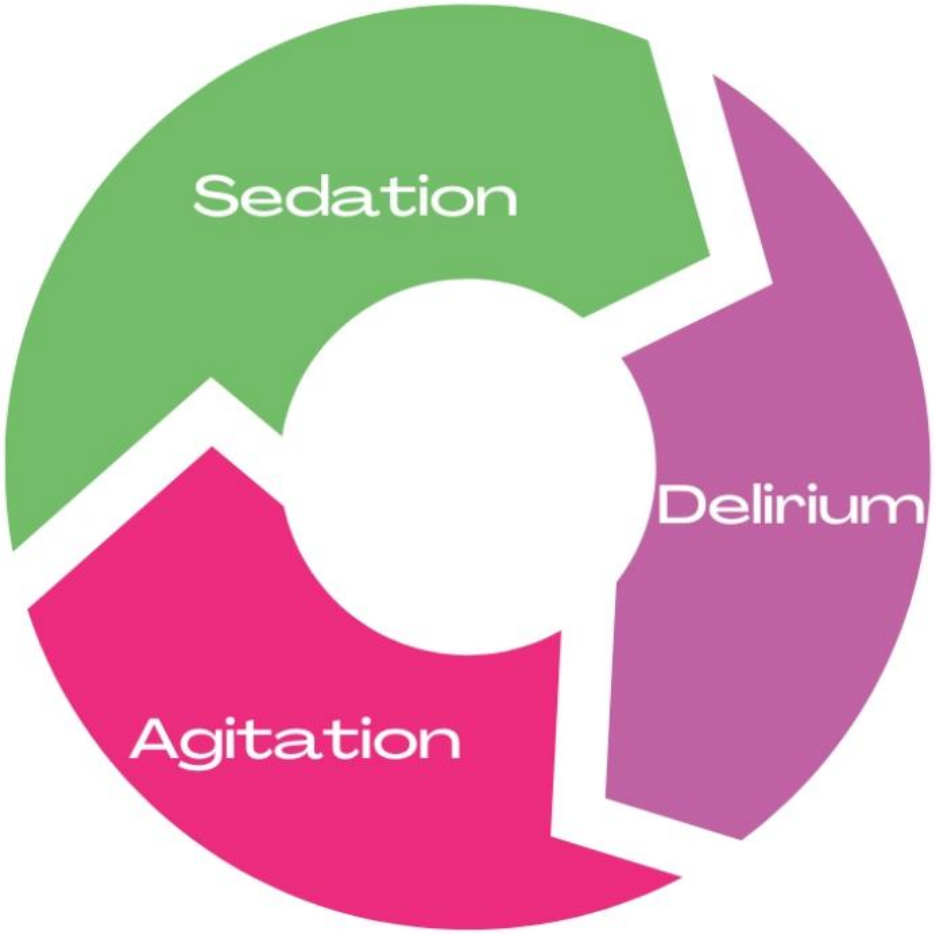
- Hispanic patients are 50% less likely to be screened for delirium

Benzodiazepines increase mortality and delirium

- Hispanic patients are more likely to receive benzodiazepines

Shehabi Y, et al. *Crit Care Med.* 2018;46(6):850-859.
DeMellow JM, et al. *Intensive Critical Care Nurs.* 2020;60: 102873.
Salluh JIF, et al. *BMJ*. 2015;3:350:h2538.
Armstrong-Hough, et al. *Ann Am Thorac Soc*. 2024;21(4):620-626.
Valley TS, et al. *Am J Respir Crit Care Med.* 2021;203(9).

Does your ICU have tools for nonverbal communication in multiple languages?


Sedation
Delirium
Agitation

What are Rodrigo's risk factors for ICU-acquired weakness?

How can we minimize the risk of delirium for Rodrigo?

How will ICU-acquired weakness impact Rodrigo's life?

Does Rodrigo have any contraindications to mobility?

Specify the contraindication

How can we give Rodrigo doses of gravity?

Case Study

“Day 4”- Vasopressin and norepinephrine OFF, and epinephrine on and off
Midazolam/Fentanyl OFF - RASS 0 - (+1) - EXTUBATED

“Day 5”- Verticalization bed/marching at the bedside/walking/transfer to acute care

Case Study

REAL LIFE COURSE

Day 4- Vasopressin and norepinephrine OFF, and epinephrine on and off - RASS - 5
PEEP 5/40%

Why is Rodrigo still intubated?

The CT surgeon told the nurse after surgery, "Don't touch the midazolam dose." - What do you do?

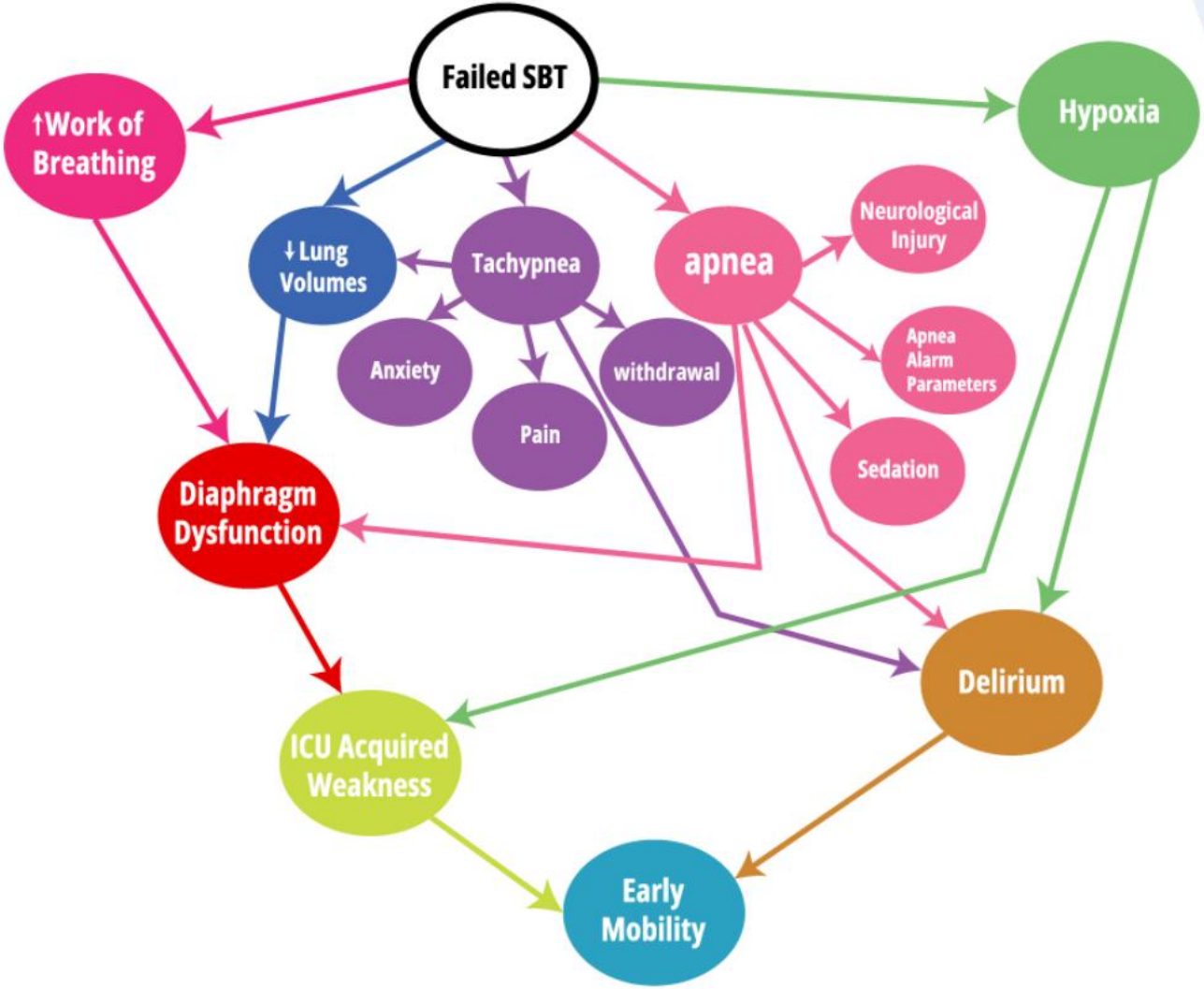
Case Study

REAL LIFE COURSE

A/C Fi02 40%, PEEP 8

Day 5- Midazolam OFF - RASS -5

Day 6- Fentanyl OFF- RASS -5


Failed SBT
↑Work of Breathing
Hypoxia
↓Lung Volumes
Tachypnea
apnea
Neurological Injury
Anxiety
withdrawal
Apnea Alarm Parameters
Pain
Sedation
Diaphragm Dysfunction
Delirium
ICU Acquired Weakness
Early Mobility

Why is he still intubated?

Case Study

REAL LIFE COURSE

Day 7- renal function improving - RASS -4 CT (-) CVA

Day 8 - Barely passes SBT and is extubated - RASS -1 - RN dangles at the side of the bed

Day 9: PT SIGNED OFF UNTIL PT IS “oriented, able to follow commands consistently, and has passed 15 second mobility screen”

Case Study

“Too weak or too confused for PT”

=

“Too infected for an antibiotic”

Case Study

Awake and Walking ICU approach would have prevented:

- 4 days of mechanical ventilation
- The occurrence/severity/duration of delirium
- Loss of mobility
- Admission to care facility
- Months/years of suffering and disability

Case Study #3

Michael is a 45-year-old male case manager that lived independently and walked with a walker. He is 6 ft 2” with a history of obesity weighing 480 pounds, hypoventilation syndrome, HTN, GERD, lymphedema bilateral lower extremities, scrotal\abdominal, Diabetes, Systolic HF with EF 30-25%, Pul HTN, COPD, sleep apnea, insomnia, and anxiety.

He was intubated and admitted to the ICU for hypercapnia (PC02 62) and pulmonary edema due to CHF exacerbation.

A/C Fi02 40%, PEEP 8, RR 20

What do you think Michael's mental status was like before intubation?

What are your concerns for mechanical ventilation for patients of size?

Case Study #3

ABCDEF Bundle Approach:

No sedation after RSI paralytic is done

Assess for pain

Wait for Michael to become more alert as hypercarbia improves and diuresis works (300-500ml/hr x 24hr)

When Michael wakes up, let him communicate/sit/stand/walk himself to the chair if he can.

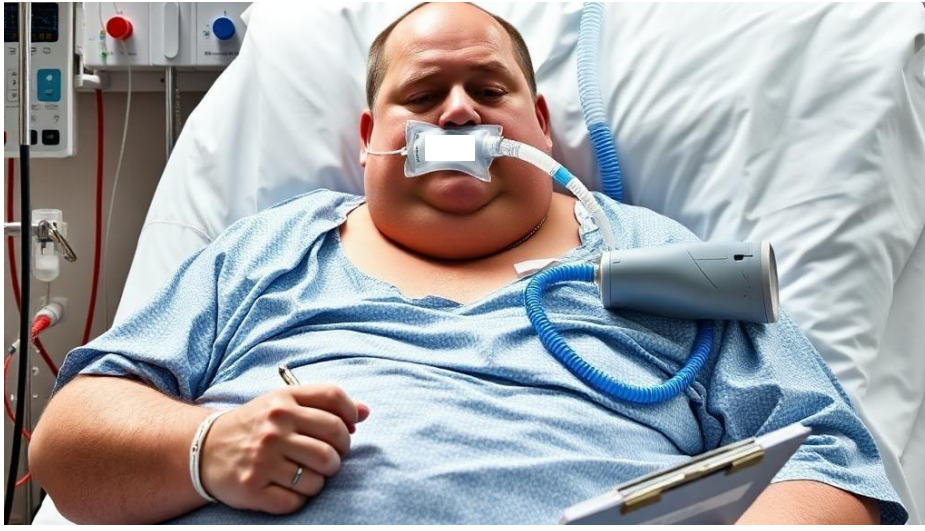
When pulmonary edema is improved with diuresis, extubate!

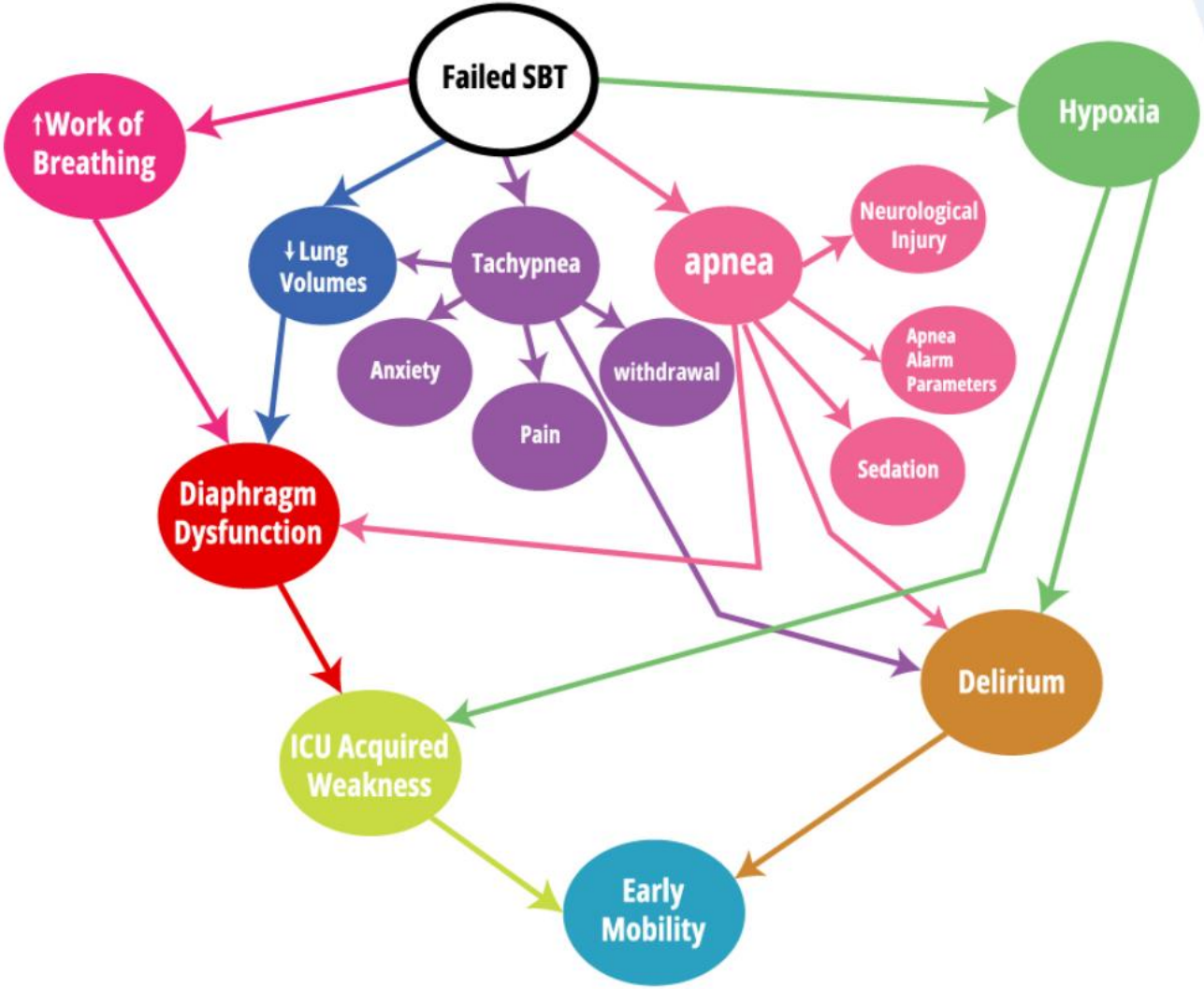
Day 2- Pc02 32, UO: 8-10L, awake, RASS 0 - +1, — EXTUBATE

Case Study #3

Real Life “Normal Care”:

Day 2: RASS -2 - (-4), CAM UTA, no SAT/SBT, EM- “Bedrest”
Day 3: Sedation “Interruption”- SBT - tachypnea

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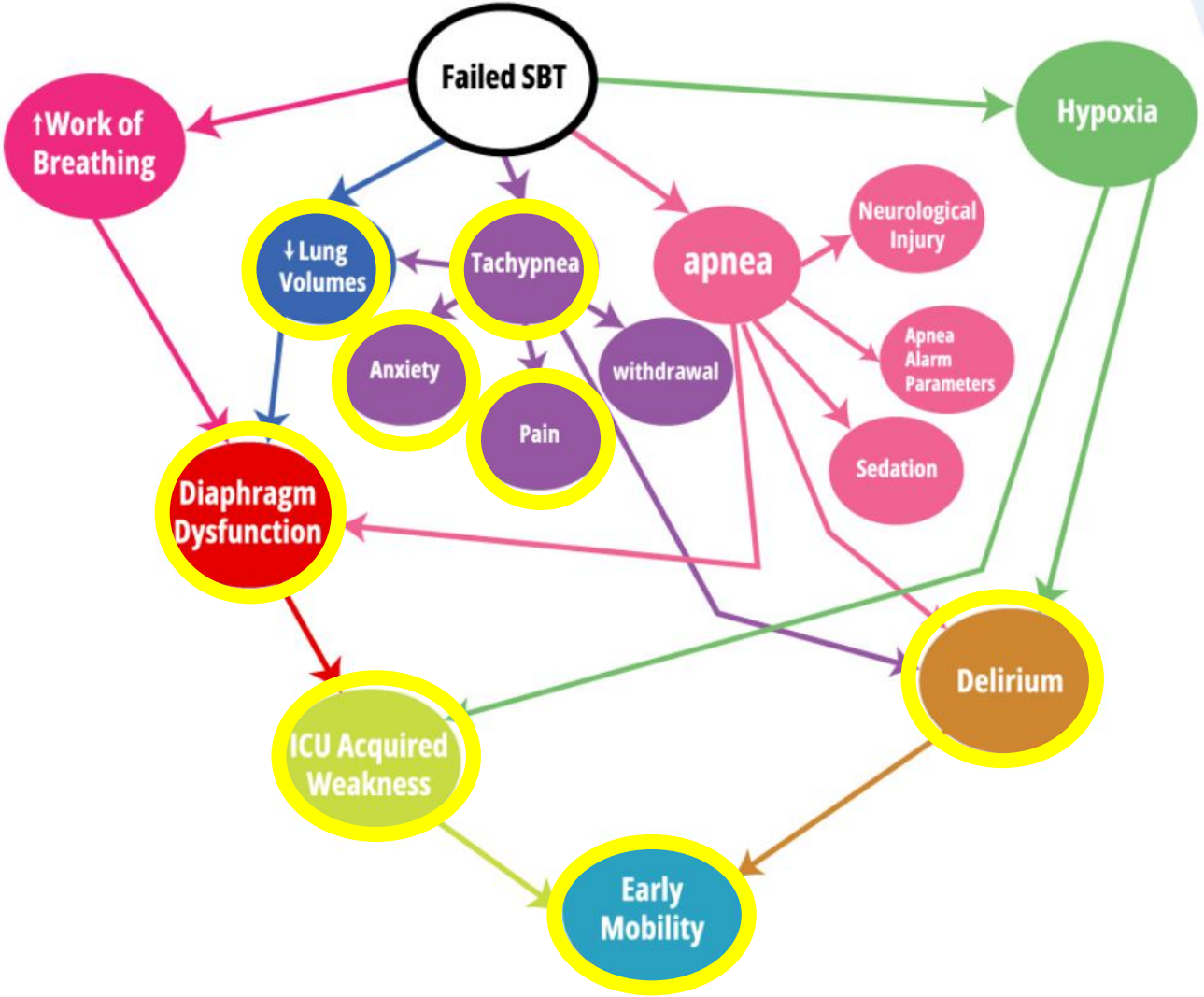
What were possible causes of the tachypnea?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Case Study #3

Respiratory therapists:

How do you communicate your assessment of the root cause(s) of failed SBT and lead the team to set Michael up for future success?

Case Study #3

Nurses:

What is your role in assessing and “fixing” this failed SBT?

Case Study #3

MDs/APPs:

You hear in report, “SAT passed and SBT failed for high respiratory rate and low tidal volumes. He became agitated so sedation was resumed.”

What is your next move?

Case Study #3

Occupational Therapists:

What services do you bring to the table that would benefit Michael?

Rest of the team: How can our OTs most effectively jump in an advocate for the “Michaels”?

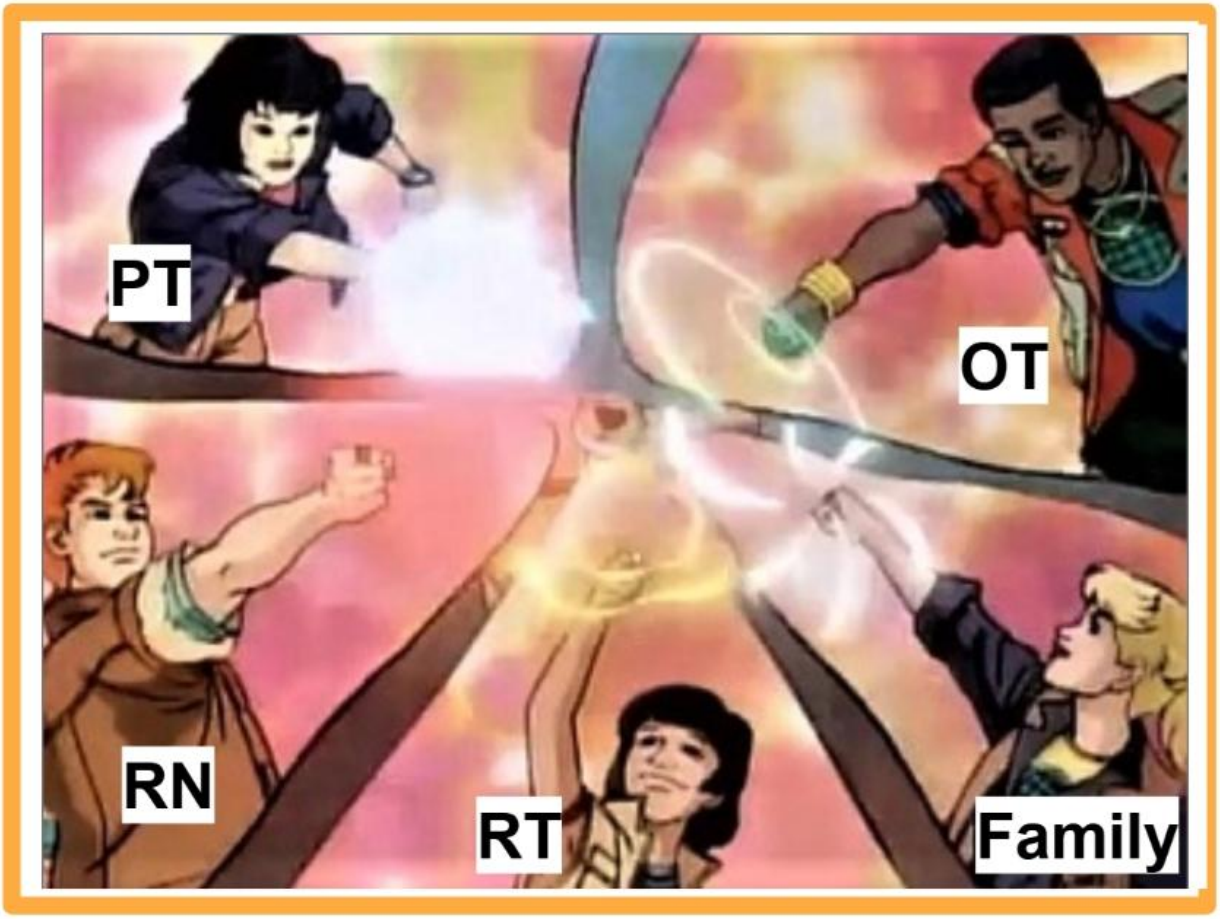
Case Study #3

Physical Therapists:

What services do you bring to the table that would benefit Michael?

Rest of the team: How can our PTs most effectively jump in an advocate for the “Michaels”?

Extubation Crew



Case Study #3

Real Life “Normal Care”:

Day 5-10: Daily awakening trials/breaks with SBTs failing for respiratory distress/tachypnea- ICDSC+, no mobility

Day 11: Sedation OFF - sit EOB

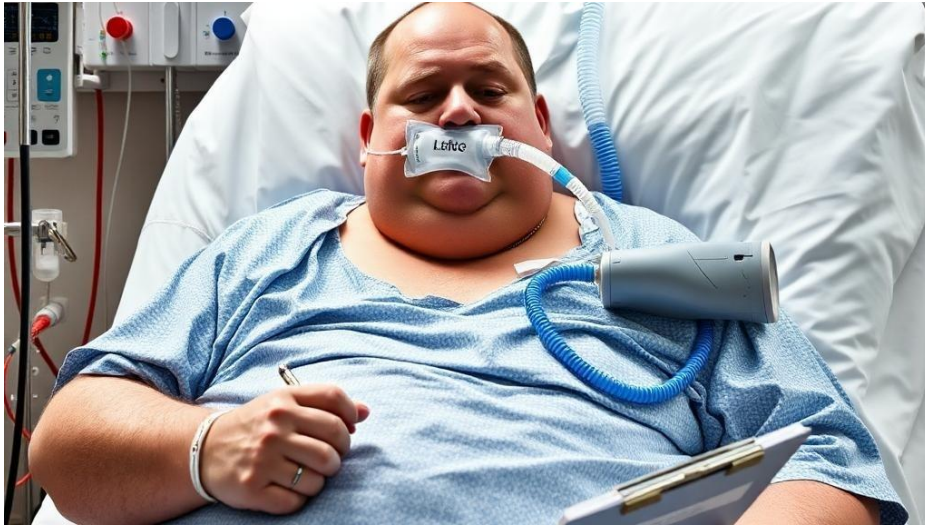
Day 12: Mobility held for Afib

Day 13: 10 min EOB

Day 14: Lifted to chair

Day 15: Lifted to chair - trach - CAM -

Day 19- Discharged to LTACH



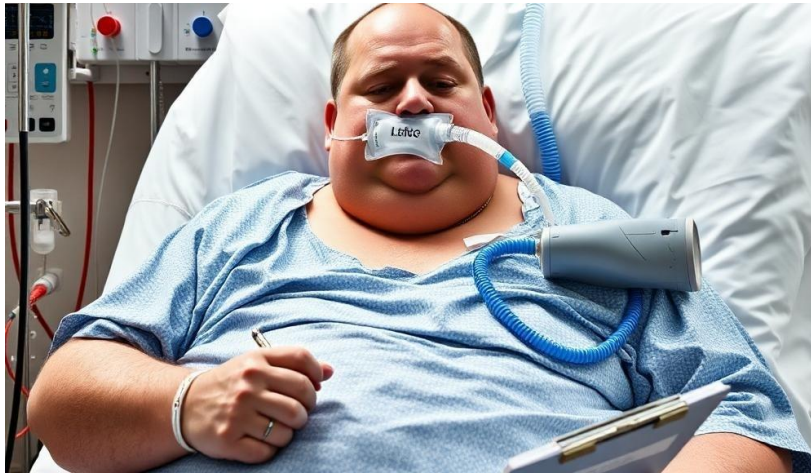
Case Study #3

Cost of normal care:

12+ additional days of mechanical ventilation

Burden on staffing:
- Extra days in ICU
- Extra people for turning/boosting/mobilizing

Delirium
ICUAW
LTACH
High risks of readmission



Case Study #3

Case Study #4

James was a 39 year old man with a history of housing insecurity, opioid, and benzodiazepine dependence.

He was admitted to the ICU on HFNC for aspiration pneumonia following an overdose.

He was intubated overnight and given Versed pushes in addition to a propofol drip.

In the AM:

Vent settings: A/C Fi02 0.9, PEEP 16, 20 — Spo2 91%

Propofol 50 mcg/kg/min

Case Study #4

“Why is he sedated?”

“Because he is intubated and he has high ventilator settings.”

“Why is the propofol at 50 and he is so comatose?”

“He was agitated last night.”

“Why was he agitated?”

What could be causing his agitation?

Case Study #4

Formulate a plan with your team and prepare to present your next 5-10 steps.

Case Study #4

James was a 39 year old man with a history of housing insecurity, opioid, and benzodiazepine dependence.

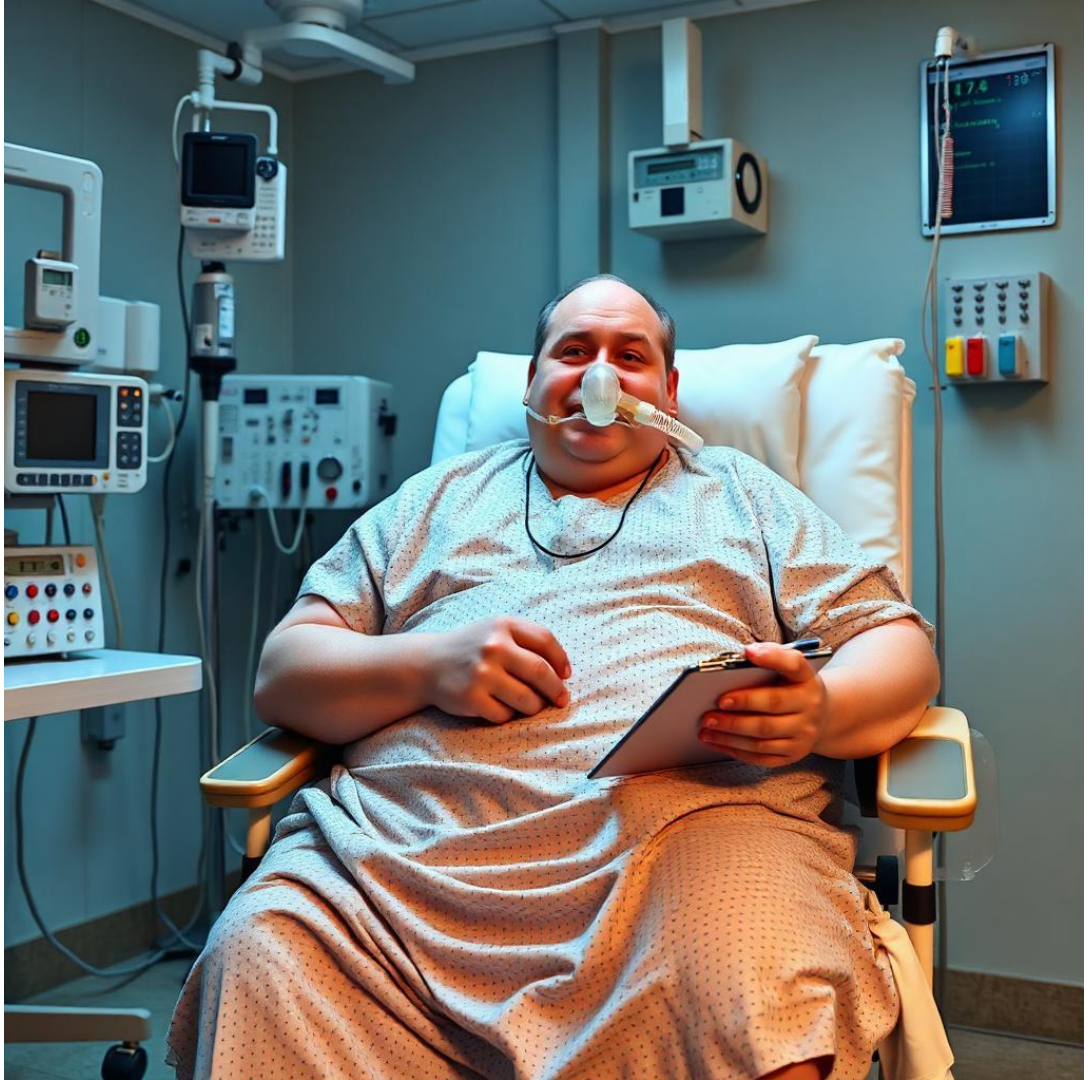
He was admitted to the ICU on HFNC for aspiration pneumonia following an overdose.

He was intubated overnight and given midazolam pushes in addition to a propofol drip.

In the AM:

Vent settings: A/C Fi02 0.9, PEEP 16, 20 — Spo2 91%

Propofol 50 mcg/kg/min



Awake and Walking ICU Example

Bryan is a 59-year-old man, married with 6 children, and works as an internet security engineer. Bryan has a history of Type 1 diabetes, hypertension, hypothyroidism, and obstructive sleep apnea.

On admission to a community hospital, Bryan was found to be in acute respiratory failure and septic shock due to pneumococcal pneumonia.

On his third day of hospitalization,Bryan was intubated for worsening respiratory failure and acute respiratory distress syndrome (ARDS). Three days after intubation, he was transferred to an Awake and Walking intensive care unit (ICU).

(Dayton, 2026)

Day 3 ventilator settings: PRVC Assist/Control, PEEP 12 mmHg, FiO2: 0.7

Actual Case: Bryan was transferred to a higher acuity AWICU for worsening ARDS.

Sedation: Continuous **RASS:** -3 (target) **Mobility:** Passive ROM **Communication:** None	**Sedation:** **RASS:** -3 **Mobility:** None **Communication**: None	**Sedation:** No sedative infusion **RASS:** 0 **Mobility:** Sat EOB for 20 min x 2, sitting in the chair during the day. **Communication:** Writing on a clipboard, interacting with his wife.

Day 4 ventilator settings: PRVC Assist/Control, PEEP 12 mmHg, Fi02 0.8

Actual Case:

Sedation: Continuous **RASS:** -3 (target) **Mobility:** Passive ROM **Communication:** None	**Sedation:** Continuous **RASS:** -3 **Mobility:** None **Communication**: None	**Sedation:** No sedative infusion **RASS:** 0 **Mobility:** Walked 400 ft in hallway x 3 **Communication:** Writing on a clipboard, interacting with his wife.

Day 5 ventilator settings: PRVC Assist/Control, PEEP 18 mmHg, Fi02 1.0

Actual Case: Bryan became unable to oxygenate with movement. The care team discussed with him the option and indication for pronation, sedation, and paralysis. Bryan consulted with his wife and decided to proceed with pronation, sedation, and paralysis.

Sedation: Continuous RASS: -5 (target) **Mobility:** Passive ROM **Communication:** None	**Sedation:** Continuous **RASS:** -5 **Mobility:** None **Communication**: None	**Sedation:** No sedative infusion **RASS:** 0 **Mobility:** Walked 400 ft in hallway x 1 **Communication:** Writing on a clipboard, interacting with his wife.

Days 6-7 ventilator settings: Assist/Control, PEEP 20 mmHg, Fi02 0.8

Actual Case:

Sedation: Continuous includes midazolam **RASS:** -5 (target) **Mobility:** prone position none **Communication:** None	**Sedation:** Continuous deep **RASS:** -5 **Mobility:** None **Communication**: None	**Sedation:** Propofol and Fentanyl Infusion **RASS:** -5 **Mobility:** None **Communication:** None

Days 8-13 ventilator settings: Assist /Control PEEP ranged 8-16 mmHg, Fi02 ranged 0.4-0.5 **Actual Case:** Bryan was able to tolerate being supine and an awakening trial was performed. When it was noted that he was able to oxygenate with movement, sedation was discontinued, he continued to communicate and mobilize.		
Sedation: Continuous **RASS:** -3 **Mobility:** Passive ROM **Communication:** None	**Sedation:** Continuous with interruption for mobility **RASS:** -4 **Mobility:** Bed-level mobility **Communication**: Mouthing words and head-nods (Unable to write due to ICUAW)	**Sedation:** No sedation **RASS: 0** **Mobility:** Sat at the edge of the bed x1 and marched at the bedside x 2 **Communication:** Writing on a clipboard, interacting with his wife.
Sedation: Continuous **RASS:** -3 **Mobility:** bed level exercise and sitting EOB **Communication:** None	**Sedation:** Continuous with interruption for mobility **RASS:** -3 **Mobility:** Bed-level mobility **Communication**:	**Sedation:** No sedation **RASS: 0** **Mobility:** Walked 200 ft in the hallway x 3 **Communication:** Writing on a clipboard, interacting with his wife.

Sedation: Continuous with interruption for mobility **RASS:** -3 **Mobility:** bed exercise, sitting EOB **Communication:** None	**Vent mode:** Failed CPAP trial **Sedation:** Continuous with interruption for mobility **RASS:** -2 **Mobility:** Sitting EOB 15 minutes **Communication**: Mouthing words, head-nods, point to words	**Sedation:** No sedation **RASS: 0** **Mobility:** Walked 1,000 ft x 2 and 1,200 ft x 1 **Communication:** Writing on a clipboard, interacting with his wife.
Vent mode: Failed CPAP trial **Sedation:** Continuous with interruption for mobility **RASS:** -3 **Mobility:** bed exercise, sitting EOB **Communication:** None	**Vent mode:** Failed CPAP trial **Sedation:** Continuous with interruption for mobility **RASS:** -2 **Mobility:** Sitting EOB 20 minutes **Communication**: Mouthing words, head-nods, point to words	**Sedation:** No sedation **RASS: 0** **Mobility:** Walked 1,000 ft x 3 **Communication:** Writing on a clipboard, interacting with his wife.

Vent mode: Failed CPAP trial **Sedation:** Continuous with interruption for mobility **RASS:** -3 **Mobility:** bed exercise, sitting EOB **Communication:** None	**Vent mode:** Failed CPAP trial ***Tracheostomy placed*** **Sedation:** Discontinued **RASS:** -1 **Mobility:** Standing with tilt table **Communication**: Mouthing words, head-nods, point to words	**Sedation:** No sedation **RASS: 0** **Mobility:** 1,800 ft x 1 and 1,500 ft x 2 **Communication:** Writing on a clipboard, interacting with his wife.
Vent mode: Failed CPAP trial; plan for tracheostomy **Sedation:** Continuous with interruption for mobility **RASS:** -3 **Mobility:** bed exercise, sitting EOB **Communication:** None	**Sedation:** No sedation **RASS:** 0 **Mobility:** Standing with tilt table **Communication**: Mouthing words, head-nods, point to words **trial inline passy-muir valve, prepare for inpatient rehabilitation transfer**	**Sedation:** No sedation **RASS: 0** **Mobility:** 2,000ft x 3 **Communication:** Writing on a clipboard, interacting with his wife.

Day 14: Extubated

Actual Case: Bryan was able to eat on day 15. He was transferred out of ICU on day 18 and discharged to home on day 21. Before hospital discharge, he walked the stairs and scored a 28/30 on his Montreal Cognitive Assessment. He returned to work 2 months after discharge without cognitive, physical function, or psychological impairments. He was on supplemental oxygen and had some ongoing shortness of breath.

(Dayton, 2025)

Big picture outcomes		
Tracheostomy and ventilator dependent	Tracheostomy and ventilator dependent	Discharge home without home health services on NC.
Discharge to LTACH	Discharge to LTACH	No Post-ICU Syndrome
Weeks-months of rehabilitation	Weeks-months of rehabilitation before discharge home with home health.	Return to work, hobbies, relationships, etc.
Possible HAPI, HAI, falls, readmission	Possible HAPI, HAI, falls, readmission	No readmissions, falls, etc.
Probable life-long PICS	Probable life-long PICS	

Standard of Care *(Theoretical case)*	**ABCDEF Bundle Care** *(Theoretical case; <50% compliance)*	**Awake and Walking ICU Care** *(Actual case; 100% ABCDEF bundle compliance)*
Day 0- Ventilator Settings: PRVC/A:C PEEP 10-16, Fi02 0.7-1.0, P/F ratio: 67 **Actual Case:** Upon arrival to the Awake and Walking ICU at 1700, sedation was discontinued and Joan was awake and oriented to her situation, equipment, and staff by her husband and ICU team.		
Sedation: Continuous **RASS** -3 (target) **Mobility**: None **Communication**: None	**Sedation**: Continuous **RASS**: -3 **Mobility**: None **Communication**: None	**Sedation**: None **RASS**: 0 (target) **Mobility**: In-bed mobility **Communication**: Writing on a clipboard, interacting with her husband.

16% had COPD, ARDS, Emphysema
Mean PEEP- 9
Mean P/F Ratio: 226

Day 1- Ventilator settings: PRVC/A:C PEEP 16, Fi02 0.6 **Actual Case:** Joan found relief with coughing, gagging, and anxiety by sitting up in the chair during most of the day.		
Sedation: Continuous **RASS:** -3 (target) **Mobility:** Passive ROM **Communication:** None	**Sedation:** Continuous **RASS:** -3 **Mobility:** None **Communication**: None	**Sedation:** No sedative infusion **RASS:** 0 **Mobility: Ambulated 200-400 ft x 3** **Communication:** Writing on a clipboard, interacting with her husband and children at the bedside, texting friends on her phone.

Day 2- Ventilator Settings: PRVC/A:C PEEP 12-16, Fi02 0.5, P/F ratio 89

Actual Case: Joan walked to the shower and was able to shower with some assistance. She remained sitting in the chair for most of the day. She was a standby assist to sit, stand, and walk. She suctioned her own mouth, brushed her own teeth at the sink, walked to the toilet, and put her own socks on while sitting.

Sedation: Continuous **RASS:** -3 (target) **Mobility:** Passive ROM **Communication:** None	**Sedation:** Continuous **RASS:** -3 **Mobility:** None **Communication**: None	**Sedation:** No sedative infusion **RASS:** 0 **Mobility:** Ambulated 200ft and 400ft **Communication:** Writing on a clipboard, interacting with her husband and children at the bedside, texting friends on her phone.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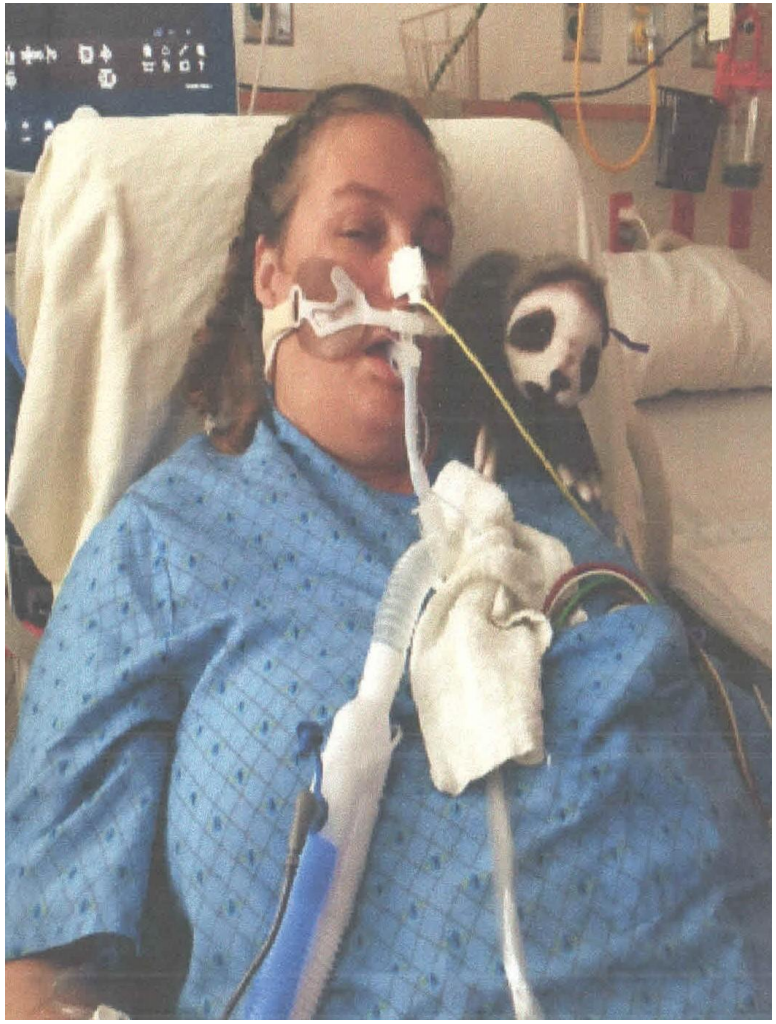
Day 3- Ventilator Settings: PRVC/A:C PEEP 14-16, Fi02 0.5

Actual Case: She remained sitting in the chair for most of the day. She was a standby assist to sit, stand, and walk. She suctioned her own mouth, brushed her own teeth at the sink, walked to the toilet, and put her own socks on while sitting.

Sedation: Continuous RASS: -3 (target) **Mobility:** Passive ROM **Communication:** None	**Sedation:** Continuous with sedation vacation **RASS:** -3 **Mobility:** Passive range of motion **Communication**: None	**Sedation:** No sedative infusion **RASS:** 0 **Mobility:** Ambulated 200 ft x 3 **Communication:** Writing on a clipboard, interacting with her husband and children at the bedside, texting friends on her phone



Day 4- Ventilator Settings: PRVC/A:C - CPAP with Pressure support of 5, PEEP 5-12, Fi02 0.4, P/F Ratio 160

Actual Case: She remained sitting in the chair for most of the day. She was a standby assist to sit, stand, and walk. She suctioned her own mouth, brushed her own teeth at the sink, walked to the toilet, and put her own socks on while sitting. Joan helped her daughter with her homework.

Sedation: Continuous includes midazolam **RASS:** -5 (target) **Mobility:** prone position none **Communication:** None	**Sedation:** Continuous with sedation vacation **RASS:** -3 **Mobility:** Active assisted range of motion x1 **Communication**: None	**Sedation:** No sedative Infusion **RASS:** 0 **Mobility:** Ambulated 200 ft x 3 **Communication:** Writing on a clipboard, interacting with her husband and children at the bedside, texting friends on her phone

Days 5-9- Ventilator Settings: PRVC: A/C / CPAP + PS 5, PEEP 5, Fi02 0.4

Actual Case: She remained sitting in the chair for most of the day. She was a standby assist to sit, stand, and walk. She suctioned her own mouth, brushed her own teeth at the sink, walked to the toilet, and put her own socks on while sitting. Joan texted her daughter before her daughter's prom date.

Sedation: Continuous **RASS:** -3 **Mobility:** Passive ROM **Communication:** None	**Sedation:** Continuous with interruption for mobility **RASS:** -1 **Mobility:** Sitting edge of bed x1 **Communication**: Head nods "yes" and "no".	**Sedation:** No sedation **RASS: 0** **Mobility:** Ambulated 200 ft x 2 and 1500 ft x 1 **Communication:** Writing on a clipboard, interacting with her husband and children at the bedside, texting friends on her phone

Sedation: Continuous **RASS:** -3 **Mobility:** bed level exercise and sitting EOB **Communication:** None	**Sedation:** Continuous with interruption for mobility **RASS:** 0 - (-1) **Mobility:** Stood at the bedside with assist device **Communication**: Mouthing words and head-nods (Unable to write due to ICUAW)	**Sedation:** No sedation **RASS: 0** **Mobility:** Ambulated 800 ft x 2 **Communication:** Writing on a clipboard, interacting with her husband and children at the bedside, texting friends on her phone
Sedation: Continuous with interruption for mobility **RASS:** -3 **Mobility:** bed exercise, sitting EOB **Communication:** None	**Vent mode:** Failed CPAP trial **Sedation:** Continuous with interruption for mobility **RASS:** 0- (-1) **Mobility:** Marching at the bedside x1 **Communication**: Mouthing words, head-nods, point to words on letterboard	**Sedation:** No sedation **RASS: 0** **Mobility:** Ambulated 800 ft x 2 **Communication:** Writing on a clipboard, interacting with her husband and children at the bedside, texting friends on her phone

Vent mode: Failed CPAP trial **Sedation:** Continuous with interruption for mobility **RASS:** -3 **Mobility:** bed exercise, sitting EOB **Communication:** None	**Vent mode:** Failed CPAP trial **Sedation:** Continuous with interruption for mobility **RASS:** 0 - (-1) **Mobility:** Marching at the bedside x1 **Communication**: Writing on clipboard with assistance	**Sedation:** No sedation **RASS: 0** **Mobility:** Ambulated 1,000 ft x 3 **Communication:** Writing on a clipboard, interacting with her husband and children at the bedside, texting friends on her phone
Vent mode: Failed CPAP trial **Sedation:** Continuous with interruption for mobility **RASS:** -3 **Mobility:** bed exercise, sitting EOB **Communication:** None	**Vent mode:** Failed CPAP trial ***Tracheostomy placed*** **Sedation:** Discontinued **RASS:** -1 **Mobility:** None post tracheostomy placement **Communication**: Mouthing words, head-nods, point to words	**Extubated** **Sedation:** No sedation **RASS:** 0 **Mobility:** 1,000 ft on NRB 15L **Communication:** Talking
Joan remained in the ICU for 3 more days as her oxygen needs weaned down from oxymizer to nasal cannula. She was discharged home with 2L nasal cannula and able to walk, eat, and independently care for herself. She returned back to running her own business 2 months after discharge. She denies cognitive, physical, and psychological impairments (Dayton_admin, 2020).		

Listen to Joan share her side of the story: