Protecting Geriatrics in the ICU: True Mastery of the ABCDEF Bundle

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

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Disclosures:

Dayton ICU Consulting
Vitalgo
Securisyn
Mediline
Earlymobility.com

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1970's

1990's

(Ely, 2017)

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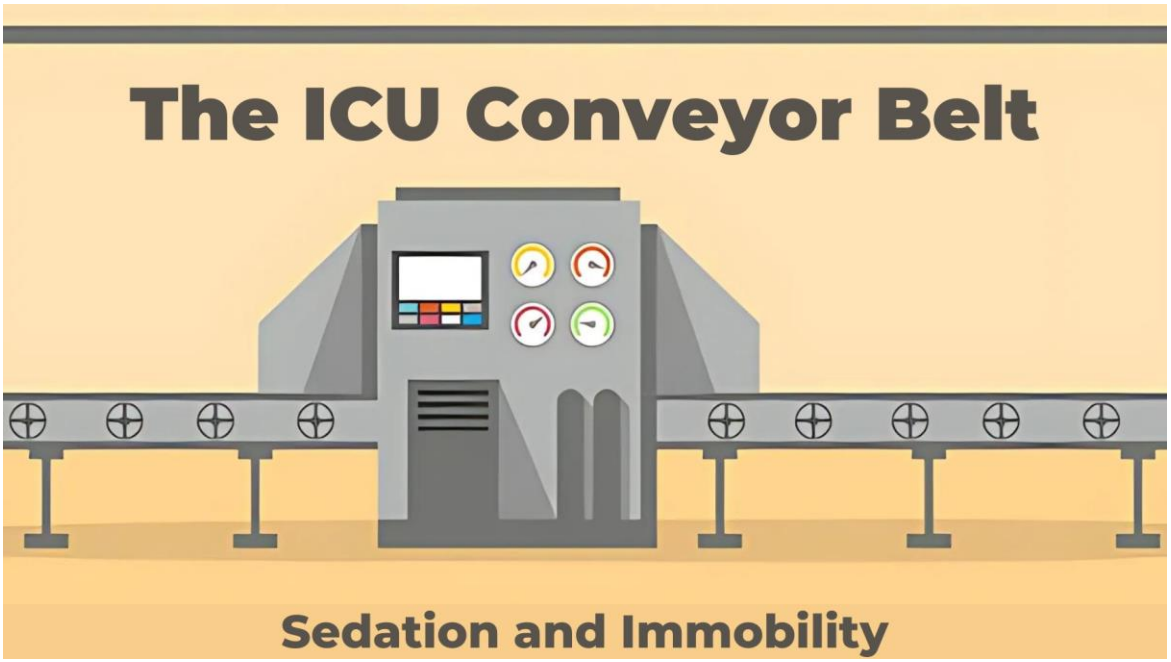

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"... But what I see these days are paralyzed, sedated patients, lying without motion, appearing to be dead, except for the monitors that tell me otherwise."

Thomas L. Petty, Chest, 1998

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POTENTIAL PROBLEMS ASSOCIATED WITH SEDATION

- **Post-ICU PTSD**
- **Long-lasting ICU acquired weakness (ICUAW)**
- **Post-ICU dementia**
- Prolonged time on the ventilator
- Increased mortality
- Increased length of stay
- Extensive rehabilitation
- Long-term disability
- Respiratory depression
- Inactivity-induced diaphragm dysfunction
- Myocardial depression & hemodynamic instability
- Microvascular alterations
- Altered gut function-ileus
- Airway (micro) aspiration
- Increased risk of pneumonia
- Increased risk of thrombophlebitis

(Nelson, 2000), (Jones, 2001), (Girard, 2007), (Vincent, 2016)

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Critical Illness

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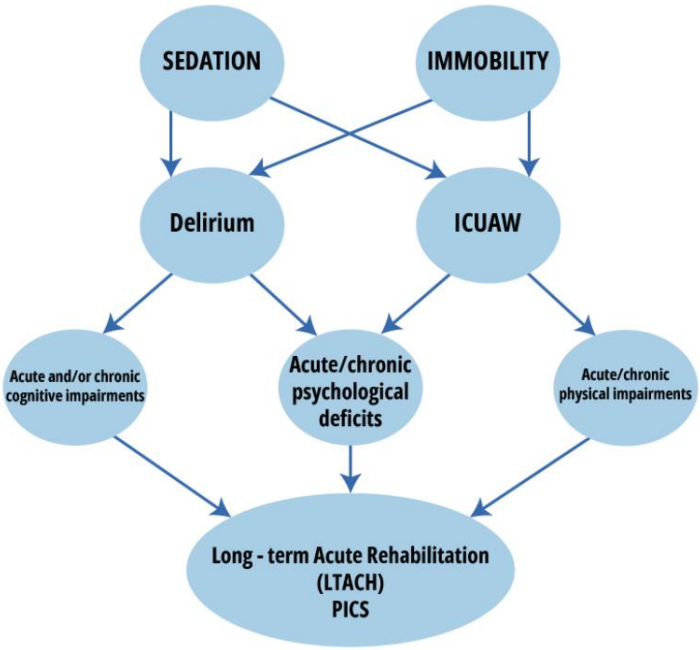
SEDATION
IMMOBILITY
Delirium
ICUAW
Acute and/or chronic cognitive impairments
Acute/chronic psychological deficits
Acute/chronic physical impairments
Long - term Acute Rehabilitation (LTACH) PICS

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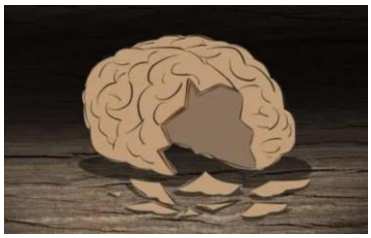
Delirium

Delirium **doubles** the risk of dying during admission

Patients with delirium have **120xs** greater risk of long-term cognitive impairments equal to **mild ASD** and **moderate TBI**

1/3 of delirium survivors have PTSD 2 weeks after discharge



(Salluh, 2015), (Girard, 2010), (Pandharipande, 2013), (Grover, 2019)

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Cannibalism

Loss of will to live

Kidnapping of self

Divorce

Panic

Monsters

Vulnerability

Buried alive

Terror

Worst fears

Demons

Sexual assault

War

Powerless

Betrayal

Relive past trauma

Isolation

Hopelessness

Kidnapping of their children

Listen to survivor of sedation and immobility

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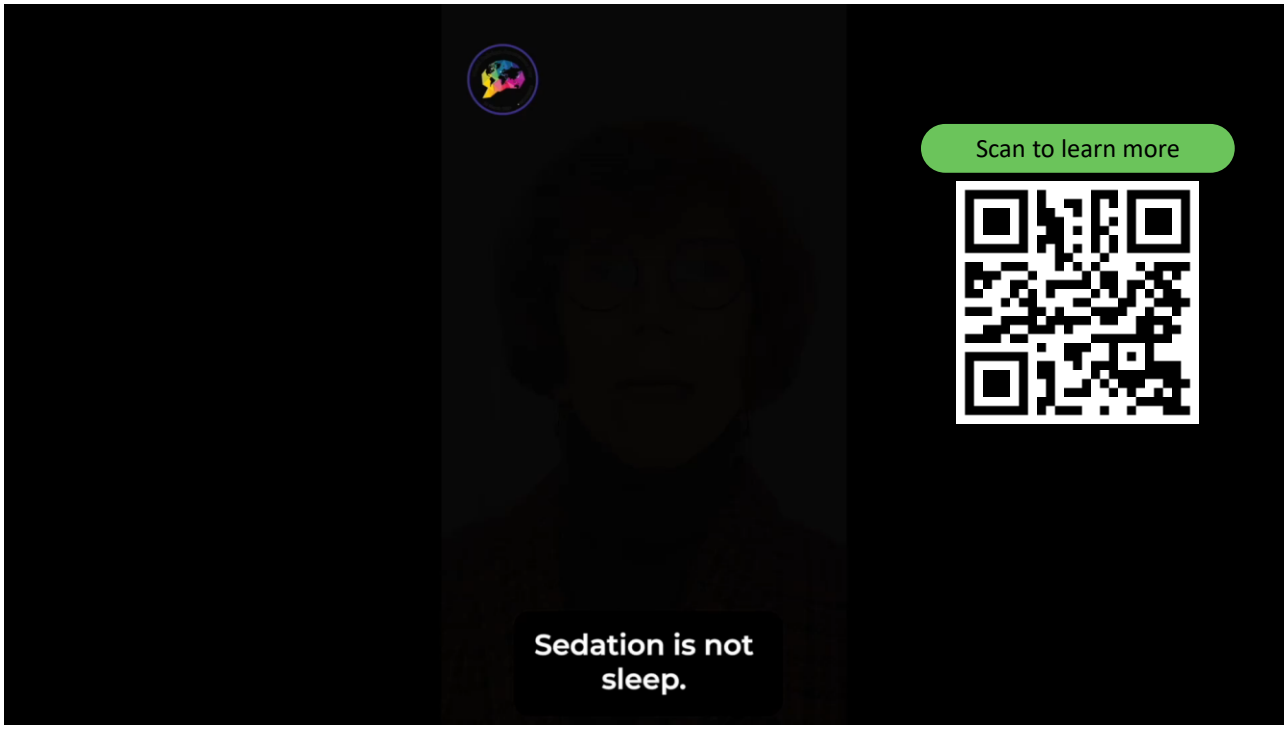

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RISK OF ICU DELIRIUM

Continuous sedation increases risk by 226.8%

ICU stay >7 days increases risk by 361.4%

Bedrest >7 days increases risk by 361.4%

Sedation + Immobility + >7 days = **3,095%** increased risk

Age above 65 has a **4-fold** risk of ICU delirium

(Pan, 2019), (Tilouche, 2018)

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ICU-Acquired Weakness

Weaning failure:

Septic patients

- ICUAW increased the risks of weaning failure by **15.4 times**
- ICUAW increased time on the ventilator by **20 days**

(Garnacho-Montero, 2005)

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ICU-Acquired Weakness

1 year post ICU discharge:

3.6 times increased post-ICU mortality

16.7 unit decrease in physical function domain score

(Weiske, 2015)

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ROLE OF SEDATION IN ICU ACQUIRED WEAKNESS

Propofol:

Disuse → Atrophy

- (and benzodiazepines) Inhibit GABA → Disruption of sodium-channels in skeletal muscle → Decreases muscle excitability
- Increases insulin resistance in skeletal and cardiac muscle
- Likely myotoxic effect
- With and without mechanical ventilation= diaphragm dysfunction

(Trapani, 2000), (Yasuda, 2012), (Lonngvist, 2020), (Bruells, 2014)

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ICU-Acquired Weakness

Factors	Categories	ICU-AW
Age[a]	40-50 years	8 (9.5%)
	51-60 years	13 (15.5%)
	More than 60 years	52 (61.9%)
Duration of ICU stay (days)[a]	Less than 7 days	33 (39.3%)

Geriatric ICU survivors experience 2.6 fold increase from baseline in geriatric syndrome symptoms

(Khalil, 2023),(Tang, 2017)

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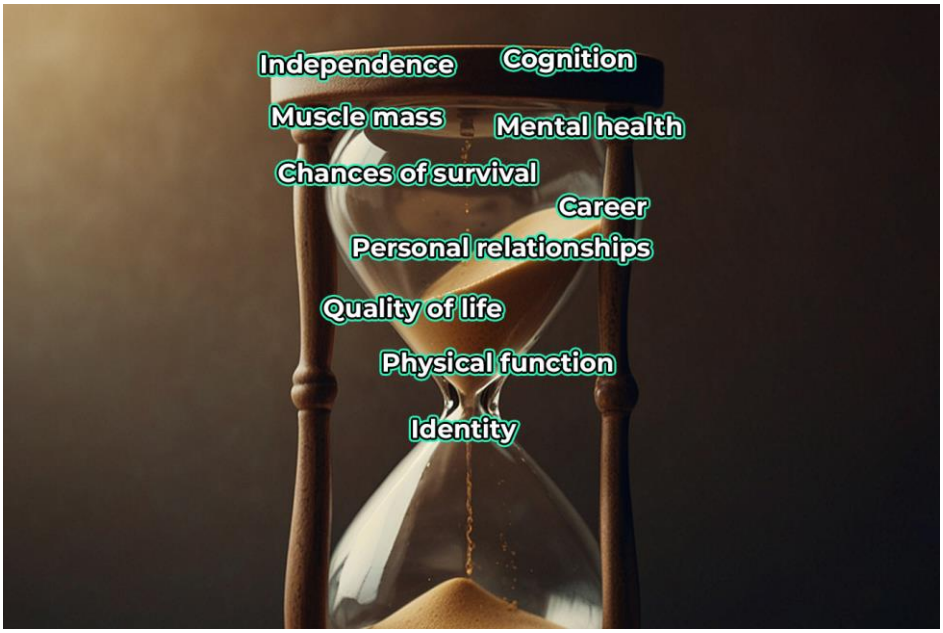
Independence
Cognition
Muscle mass
Mental health
Chances of survival
Career
Personal relationships
Quality of life
Physical function
Identity

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Critical Illness

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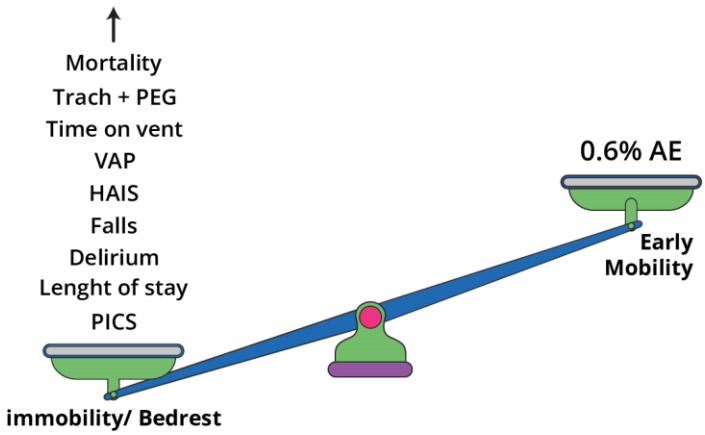

(Nydahl, 2017)

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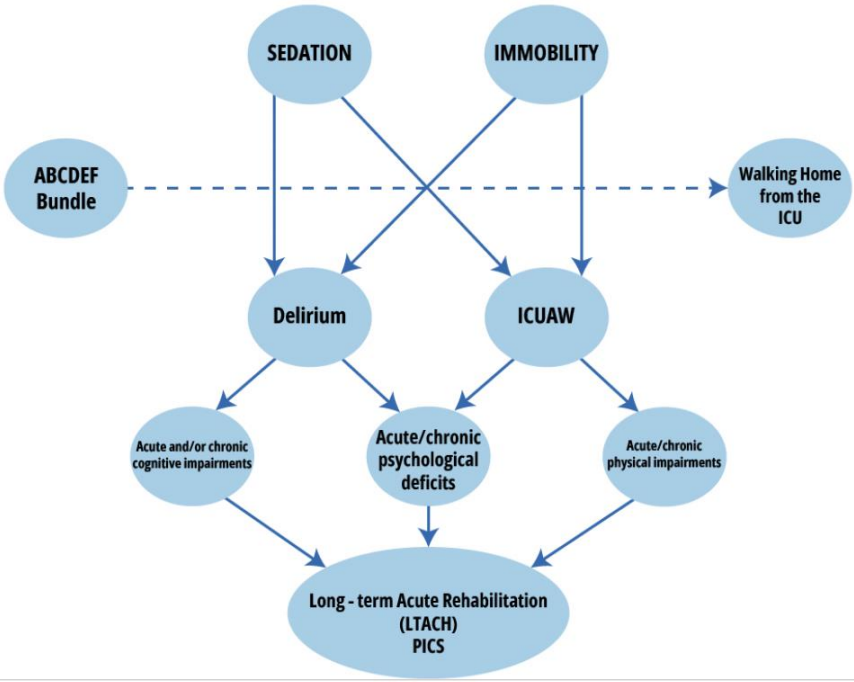

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ABCDEF Bundle

- **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

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A **Assess, prevent, and manage pain**

(Automatically start fentanyl upon intubation. Increase sedation for restlessness/agitation)

B **Both spontaneous awakening and breathing trials**

(Once ventilator settings are low, turn sedation down enough to see them thrash and then resume)

C **Choice of analgesia and sedation**

(Start sedation and opioids immediately on everyone but consider avoiding benzodiazepines)

D **Delirium assess and prevention**

(Require CAM and RASS charting in EMR)

E **Early mobility**

(Consider ordering physical or occupational therapy after extubation)

F **Family engagement**

(Allow for some visitation during the day)

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The goal is to produce patients who are more awake, cognitively engaged, and physically active..... facilitate patient autonomy and the ability to express unmet physical, emotional, and spiritual needs.

(Pun, 2019)

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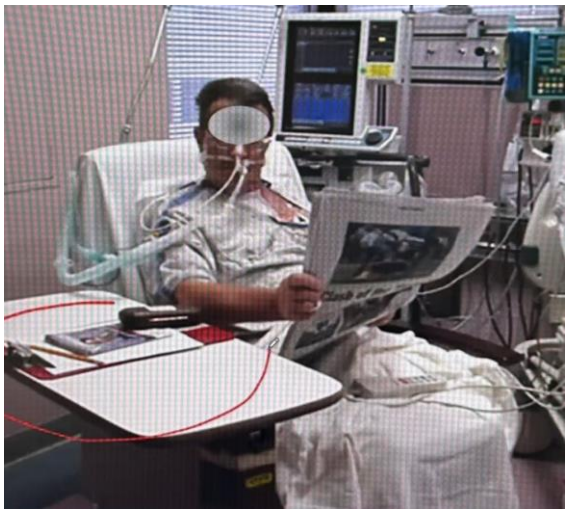

Awake

Communicative

Autonomous

Mobile

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F-A BUNDLE -HEIDI ENGEL, DPT

F- Family
- Engagement, communication, connection

E- Early active mobility
- Prompt baseline mobility unless contraindicated

D- Delirium prevention, assessment, and treatment

C- Choice of sedation and analgesia
- Are they needed?
- Safest choice, the lowest dose, the shortest duration

B- Both spontaneous breathing and awakening trials

A- Assess, prevent, and treat pain

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Awake and Walking ICU

Sedation is given only when there is an indication for sedation

The safest sedative is given at the lowest dose for the shortest duration possible

The highest level of mobility possible is performed unless there is a contraindication to mobility

OPEN family visitation

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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

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ICU Liberation Collaborative Study

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

+15,000 Patients
68 Facilities

100% Compliance: 8%
12% Bearing weight OOB

(Pun, 2019)

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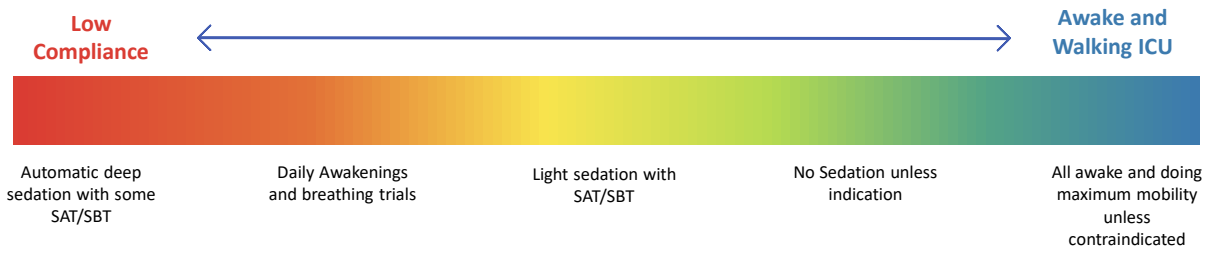

Increased likelihood of:

- ICU and hospital discharge

(Pun, 2019)

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"**

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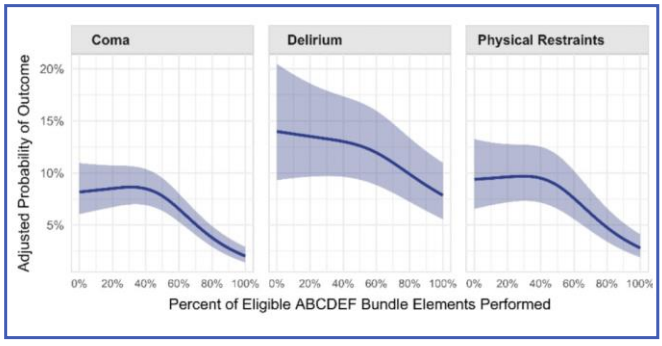
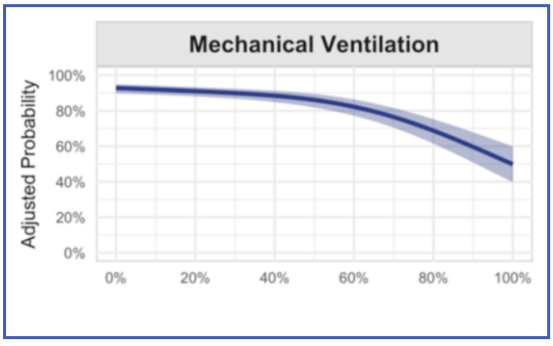
ABCDEF BUNDLE

Outcomes are "dose-dependent"





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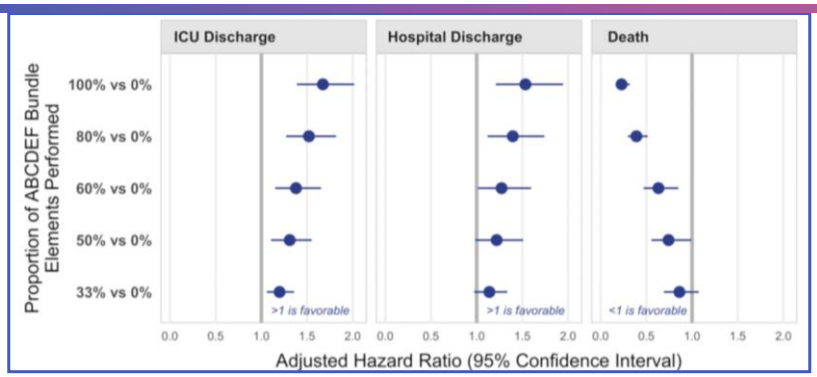

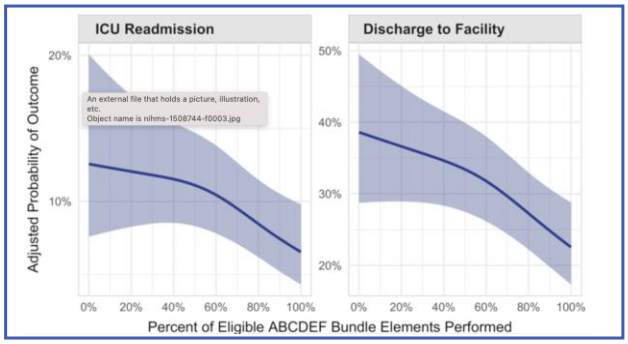

(Pun, 2019)

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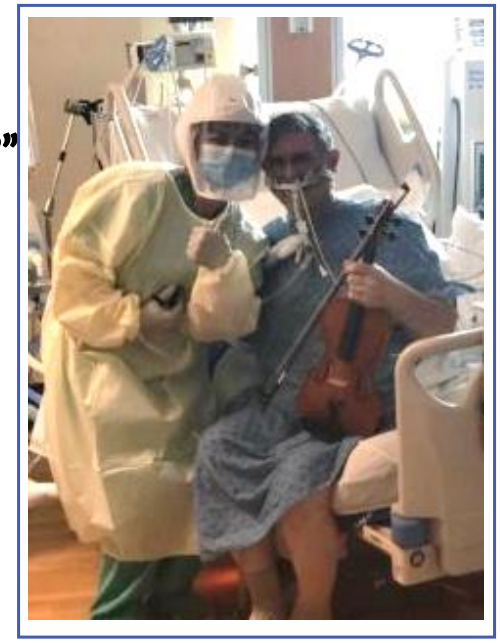
"What about geriatric patients?"



(Gostanian, 2020)

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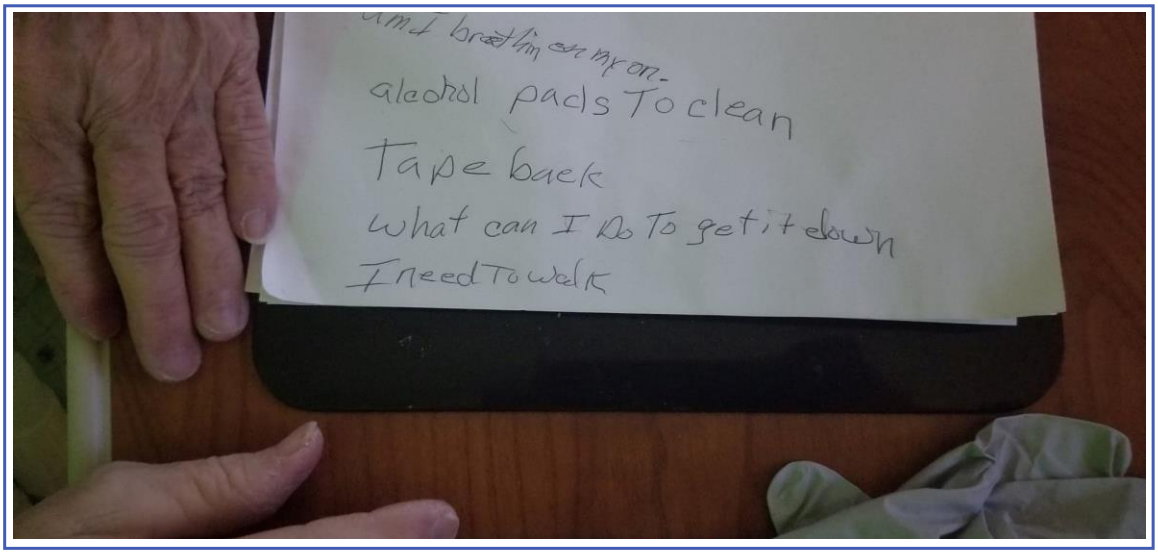
alcohol pads To clean
Tape back
what can I Do To get it down
I need To walk

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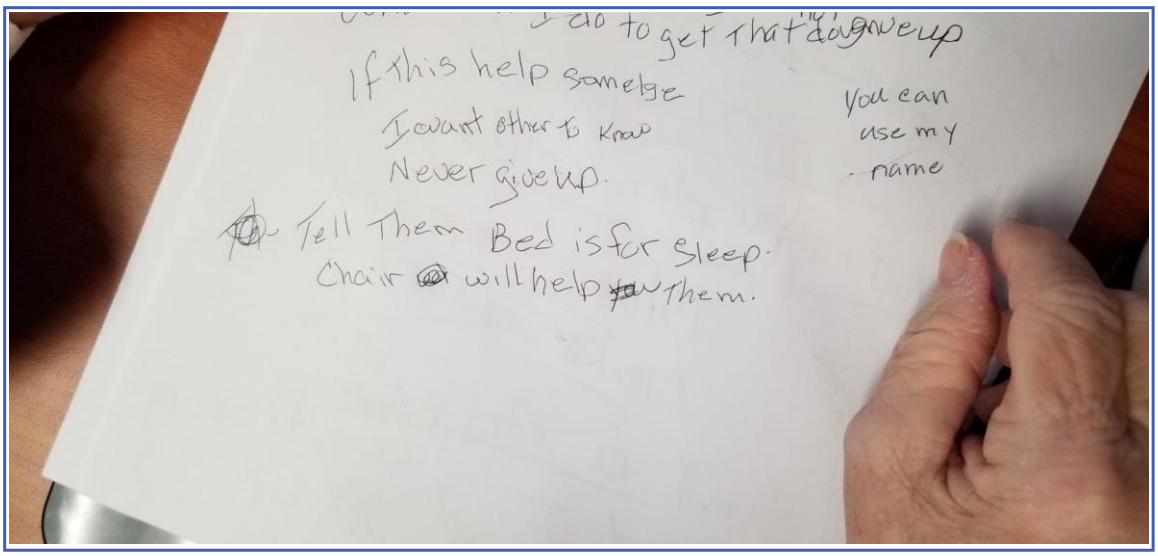
If this help somelge
I want other to know
Never give up.
You can use my name
Tell Them Bed is for sleep.
Chair will help them.

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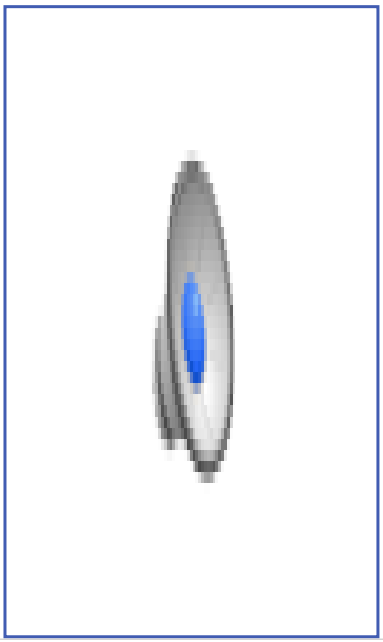

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78 years old!!!

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99 years old!!

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CHRIS DE BURGH
THE LADY IN RED

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PERU
BRAZIL
BOLIVIA
PACIFIC OCEAN
PARAGUAY
CHILE
ARGENTINA
SANTIAGO
URUGUAY
ATLANTIC OCEAN
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Scan now to listen to his story

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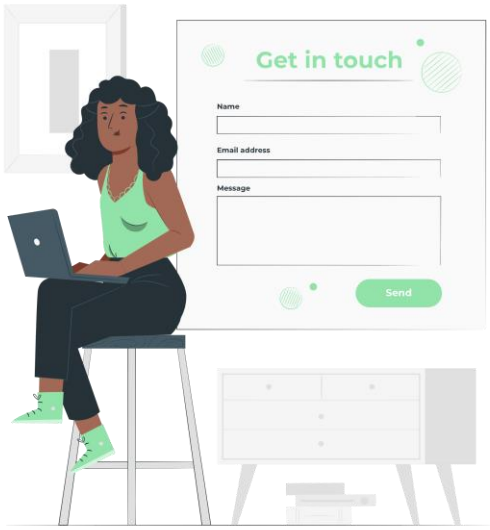

Visit

https://daytonicuconsulting.com/

Or Scan

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