



How to Make Your Patient Comfortable and Awake in the ICU

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*The critically ill patient should be awake and alert, without pain, anxiety, or delirium. Ultimately, this allows the patient to **actively participate** in their treatment and recovery.*

~ German Society of Internal Medicine Intensive Care, 2015 ~

Outline

- ICU liberation collaborative
- PADIS guideline
- ICU liberation bundles: ABCDEF bundles
- Future directive

ICU Liberation Collaborative



The philosophy of ICU Liberation for us as clinicians is that it shifts our focus from the monitors, beeps and buzzers to a human connection

~ E. Wesley Ely

Science and Philosophy of How ICU Liberation Serves Patients and Families

- A real-world patient- and family-centered quality improvement (QI) initiative
- Evidence-based path for ICU clinicians to liberate patients efficiently and reliably from iatrogenic harm
- An extensive program designed to facilitate implementation of the Pain, Agitation, and Delirium (PAD) guidelines, using the evidence-based ABCDEF Bundle.

Liberate Patients from What?

- The ventilator
- Deep sedation
- The bed/immobility
- Delirium
- PTSD
- Death

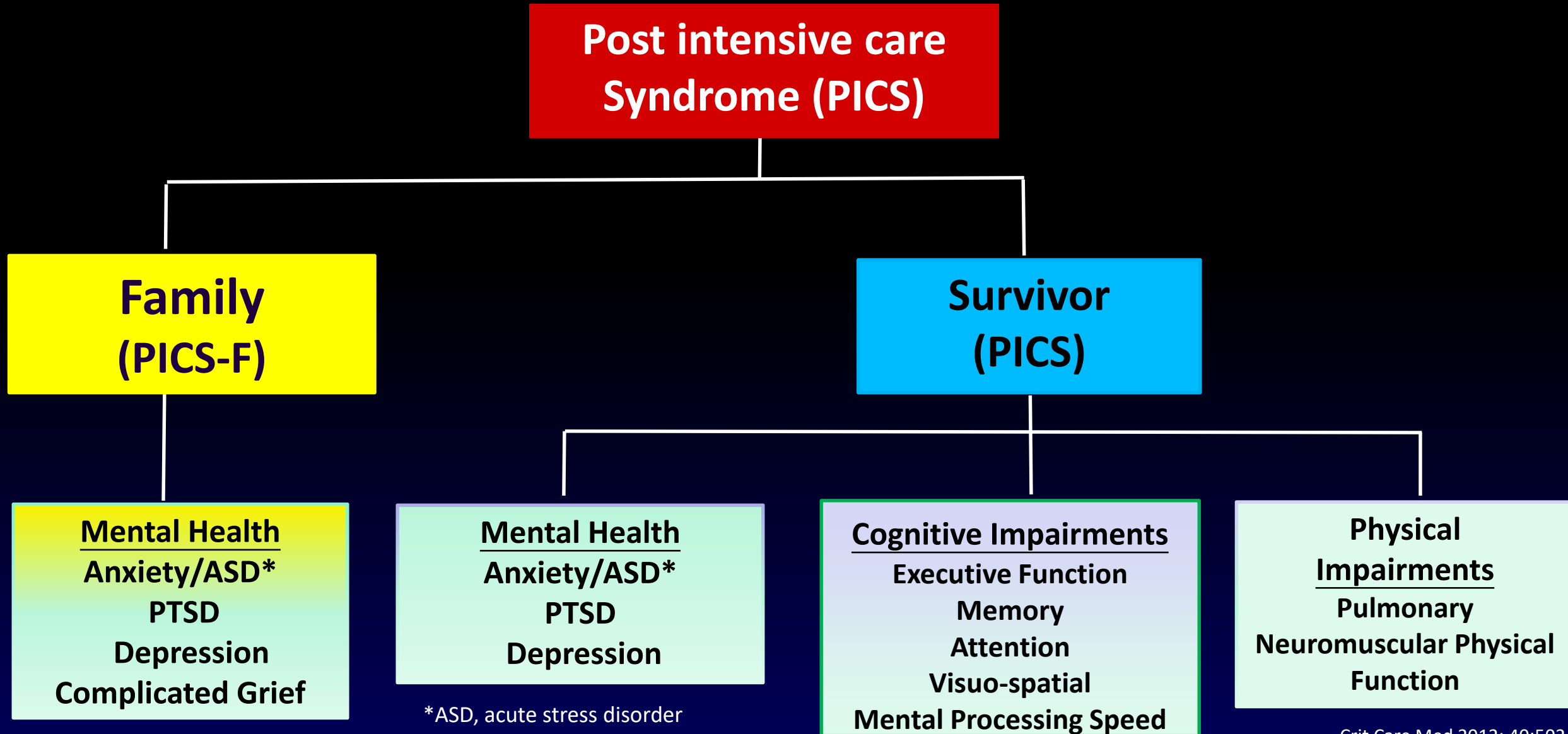


Post-ICU syndrome

- Definition: new or worsening problems in physical, cognitive, or mental health status arising after a critical illness and persisting beyond acute care hospitalization
- It could be applied to either a survivor or family member



Post-intensive care syndrome (PICS) conceptual diagram



PADIS guideline

Evolution of PADIS guideline

- **2002 CCM (SA)** Clinical practice guidelines for the sustained use of sedatives and analgesics in the critically ill adults
Crit Care Med. 2002;30(1):119-41
- **2013 CCM (PAD)** Clinical practice guidelines for the management of pain, agitation and delirium in adult in the ICU
Crit Care Med 2013; 41:263–306
- **2018 CCM (PADIS)** Clinical practice guidelines for the prevention and management of pain, agitation/sedation, delirium immobility, and sleep disruption in adult patients in the ICU
Crit Care Med 2018; 46:e825–e873

Neurologic diagnosis (e.g., head injury)

Observable and occult metabolic abnormalities

Preexisting mental impairment

Medical comorbidity

Severity of illness

Advanced age

Delirium

Withdrawal from chronic psychoactive medications (e.g., benzodiazepines, opioids)

Sleep deprivation

Substance abuse or withdrawal

Noise

Sedatives

Elements of routine ICU care (e.g., turning, physical therapy)

Endotracheal tube

Pain

Tissue injury (e.g., surgery, trauma, pressure areas)

Vascular access

Affective component (e.g., "this pain means I'm more likely to die")

Agitation; unpleasant awareness

Anxiety (appropriate or pathologic)

Frustration

Lack of homeostasis (e.g., thirst, hunger, dyspnea)

Physical restraint

Inability to communicate

Ventilator dyssynchrony

Complexity

13; 41:263

ICU liberation

Sleep disruption

Sleep-promoting,
multicomponent protocol

Pain

Routinely assess
Protocol-based, multimodal

Agitation/Sedation

Routinely assess
Light sedation

Delirium

Multicomponent therapy
Dexmedetomidine treat

Immobility

Rehabilitation/mobilization

2018 PADIS

“Wheel of Pain Misfortune”

**Critical Illness/
Surgery**

**Inadequate Pain
Assessment and
Treatment**

**Compromised ICU
recovery and
rehabilitation**

**Increased sedative use
Increased coma/delirium
Impaired rehabilitation/
mobilization**

Payen JF et al. *Anesth* 2009;111:1308-1316
Schelling G, et al. *Crit Care Med*. 1998 Apr;26(4):651-9.
Puntillo KA, et al. *Am J Crit Care*. 2001 Jul;10(4):238-51.
Choi J, et al. *J Pain Symptom Manage*. 2014 Feb;47(2):257-70.

Barr J, et. Al. *Crit Care Med*. 2013 Jan;41(1):263-306.
Macrae WA. *Br J Anaesth*. 2008 Jul;101(1):77-86.
Sinatra R. *Pain Med*. 2010 Dec;11(12):1859-71.
Chanques G, et al. *Anesthesiology*. 2007;107:858-60

Potential Benefits with Protocolized ICU Pain Mx

- ↓ Improved pain scores
- ↓ Length of ventilation and ICU stay
- ↓ Mortality
- ↓ Consumption of sedatives
- ↓ Need for opioids in non-communicative pts
- ↑ Use of non-opioid analgesics
- ↓ Opioid related adverse drug events (ORADE)

Analgo-Sedation Strategies

- Addressing pain and discomfort **first** before administering sedatives
- Utilization of one drug for two purposes
 - Pain relief and sedation
- Usually accomplished with an opioid

Analgo-Sedation

Limitations

- May interfere with respiratory drive, gastric motility, nutrition
- Potential for opioid withdrawal
- ICU LOS, ventilator time, delirium, VAP, mortality, and cost of care are **not** consistently reduced

Benefits

- Reduces pain and discomfort, which are common causes of agitation
- Avoids potential sedative-related adverse events:
 - Delirium
 - Hemodynamic instability
 - Metabolic acidosis (lorazepam)
 - Immunomodulation

Pharmacology of Opiate Analgesics

Opiates	Equi-Analgesic Dose (mg)		Onset (IV)	Elimination Half-Life	Context-Sensitive Half-Life	Metabolic Pathway
	IV	PO				
Fentanyl	0.1	N/A	1–2 min	2–4 hr	200 min (6 hr infusion); 300 min (12 hr infusion) ^a	N-dealkylation CYP3A4/5 substrate
Hydromorphone	1.5	7.5	5–15 min	2–3 hr	N/A	Glucuronidation
Morphine	10	30	5–10 min	3–4 hr	N/A	Glucuronidation
Methadone	N/A ^c	N/A ^c	1–3 d	15–60 hr	N/A	N-demethylation CYP3A4/5, 2D6, 2B6, 1A2 substrate
Remifentanyl	N/A	N/A	1–3 min	3–10 min	3–4 min	Hydrolysis by plasma esterases

Richmond Agitation-Sedation Scale (RASS)

鎮靜程度評估表

+4	有攻擊性	有暴力行為
+3	非常躁動	試著拔除呼吸管、鼻胃管或靜脈點滴
+2	躁動焦慮	身體激烈移動,無法配合呼吸器
+1	不安焦慮	躁動焦慮 身體激烈移動
0	清醒平靜	清醒,自然狀態
-1	昏昏欲睡	沒有完全清醒,但可維持清醒超過十秒
-2	輕度鎮靜	無法維持清醒超過十秒
-3	中度鎮靜	對聲音有反應
-4	重度鎮靜	對身體刺激有反應
-5	昏迷	對聲音及身體刺激都沒有反應

叫喚

碰觸

Clinical Pharmacology of Sedative Medications

Agent	Onset After IV Loading Dose	Elimination Half-Life	Active Metabolites	Loading Dose (IV)	Maintenance Dosing (IV)	Adverse Effects
Midazolam	2–5 min	3–11 hr	Yes ^a	0.01–0.05 mg/kg over several minutes	0.02–0.1 mg/kg/hr	Respiratory depression, hypotension
Lorazepam	15–20 min	8–15 hr	None	0.02–0.04 mg/kg (≤ 2 mg)	0.02–0.06 mg/kg q2–6 hr prn or 0.01–0.1 mg/kg/hr (≤ 10 mg/hr)	Respiratory depression, hypotension; propylene glycol-related acidosis, nephrotoxicity
Diazepam	2–5 min	20–120 hr	Yes ^a	5–10 mg	0.03–0.1 mg/kg q0.5–6 hr prn	Respiratory depression, hypotension, phlebitis ^e
Propofol	1–2 min	Short-term use = 3–12 hr Long-term use = 50 ± 18.6 hr	None	5 μ g/kg/min over 5 min ^b	5–50 μ g/kg/min	Pain on injection ^f , hypotension, respiratory depression, hypertriglyceridemia,
Dexmedetomidine	5–10 min	1.8–3.1 hr	None	1 μ g/kg over 10 min ^c	0.2–0.7 μ g/kg/hr ^d	Bradycardia, hypotension; hypertension with loading dose; loss of airway reflexes

Choice of Sedative

Cardiac surgery

Propofol

> benzodiazepine

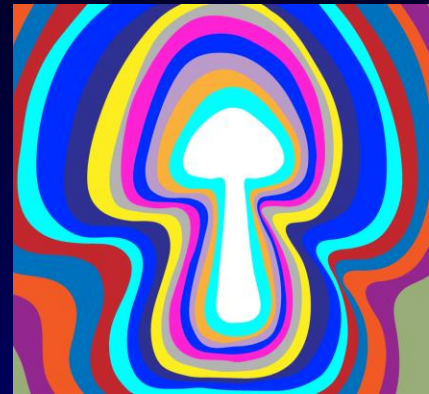
Other surgery
Medical patients

Propofol
Dexmedetomidine

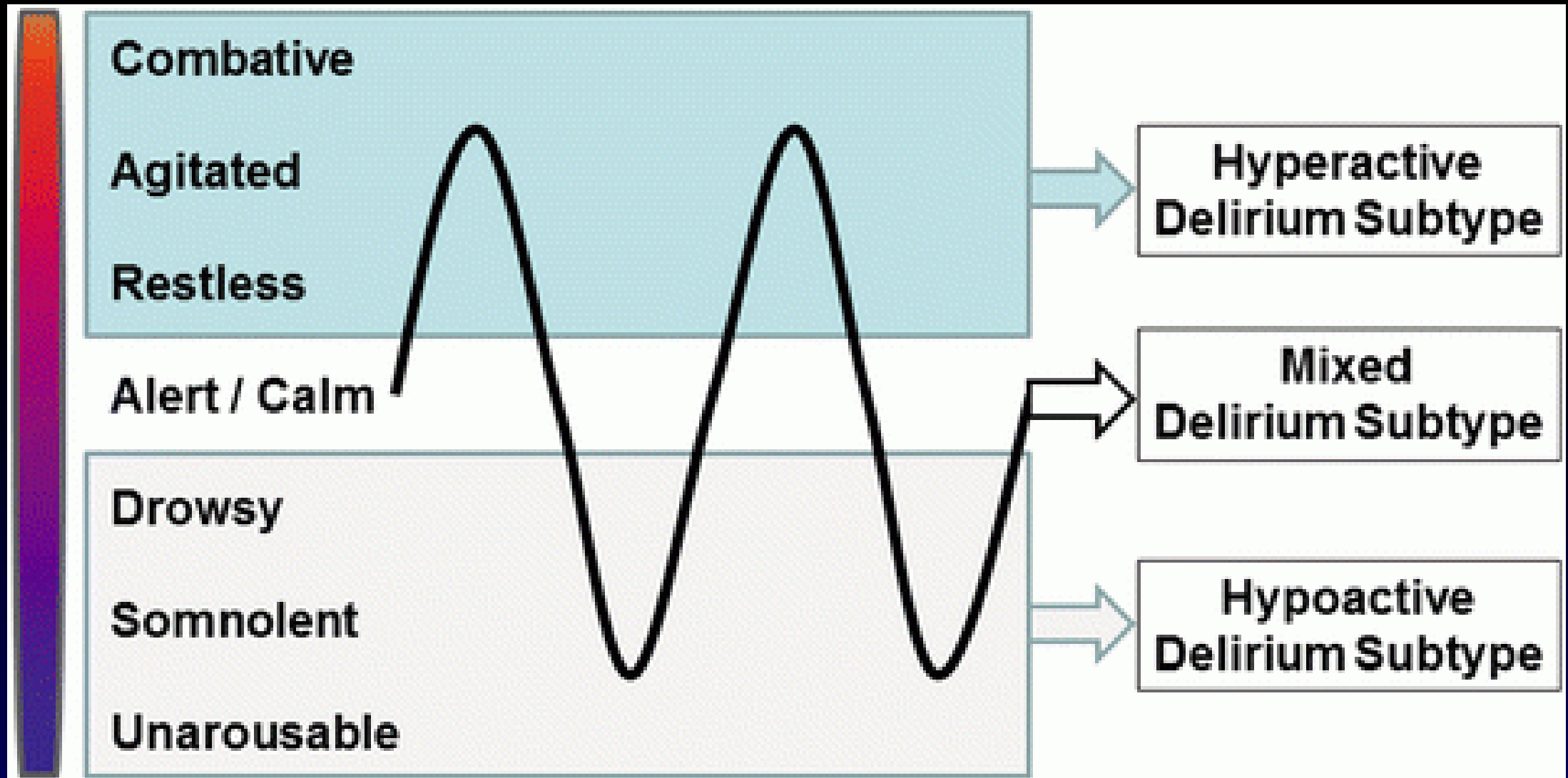
> benzodiazepine

Delirium

- Approximately 50% frequency in ICU patients
- Associated with:
 - Threefold increase in 6-month mortality
 - An extra 5 days on mechanical ventilation
 - An extra 8-10 days of hospitalization costing on average \$15,000 per patient
 - 50% have cognitive impairment at hospital discharge
 - Long-term cognitive impairment in 1 in 3 patient



Spectrum of Delirium



Systemic insults

- hypotension
- hypoxemia
- fever
- dysglycaemia
- dysnatremia
- pain [11, 12]

CRITICAL ILLNESS

- severity of illness
- sepsis
- respiratory failure

Risk Factors

- age
- arterial hypertension
- cognitive impairment
- psychopathology [5]



ICU environment

- noise
- day/night cycle
- sleep deprivation
- restraints [15]
- isolation [14]
- immobilization [13]



Medications

- benzodiazepines [9]
- anticholinergics
- opioids

BBB dysfunction

Microglial activation

Inflammation

Substrate delivery

Drugs

Autoregulation disruption

Acute brain dysfunction

- delirium
- consciousness ↓
- coma
- seizures
- cerebral edema

Neurotransmitter imbalance

Critical-illness-acquired brain dysfunction

Long-term sequelae

- neurocognitive impairment [3]
- depression [4]
- social/professional functioning
- ? neurodegeneration
- mortality [2]

Confusion Assessment Method for ICU (CAM-ICU)

特徵 1：精神狀態急性發作或改變		沒有 (0)	有 (1)	
A. 和病人平常的狀況相較，有證據顯示精神狀態的急性改變嗎？ B. (不正常的)行為在過去24小時有變動嗎？嚴重度增加或減少？ 可以以鎮靜評估表(例：Richmond Anxiety Sedation Scale)、Glasgow Coma Scale，或先前的譫妄來評估(資料來源可由床旁重症護士或家屬獲得)。				
特徵 2：不注意		正確≥8 (0)	4-7 (1)	0-3 (2)
「視覺圖片辨認」或「聽覺隨機數字”1”測試」：低於8個正確答案，則此特徵存在。 指引：告訴病人：「我會唸給您聽 10 個數字，當您聽到數字”1”時，就握住我的手。」以正常的音量(足以蓋過加護病房的噪音)和速度，每秒一個字母，唸下面列出的 10 個字母。 8 1 7 5 1 4 1 1 3 6 記分：當唸到「1」時病人沒有握住我們的手或唸到其他字母時病人握住我們的手，則記分為錯誤。需要時可以調一下 1 的位置，避免病患記住答案。				
			答錯題數	
「視覺圖片辨認」				
「聽覺隨機數字”1”測試」				
特徵 3：意識層次的改變		RASS=0 (0)	1, -1 (1)	>1, <-1 (2)

Intensive Care Delirium Screening Checklist (ICDSC)

意識狀態改變	<ol style="list-style-type: none"> 1. 你好 2. 我是今天照顧你的護理師，我是：○○○ 3. 請問，你姓○嗎?(隨便一個錯誤的姓) 4. 請問，你姓○嗎?(正確的姓)
注意力不集中	<ol style="list-style-type: none"> 1. 今天是○月○日，你現在是在台大醫院加護病房 2. 我今天是照顧你的護理師，我姓○
定向感障礙	<ol style="list-style-type: none"> 1. 今天是○月○日(隨便一個錯誤的日期) 2. 你現在在家裡嗎? 3. 你現在在台大醫院嗎? 4. 我今天是照顧你的護理師嗎?
幻覺	<ol style="list-style-type: none"> 1. 不主動詢問病人有看到什麼其他的東西嗎? 2. 以觀察為主 3. 病人主動說有看到即得分
精神運動性興奮或遲鈍	護理師未給予約束或鎮靜劑；表情情緒正常
不恰當的言語或情緒	護理師觀察病人表情平靜；表情情緒正常
睡眠/清醒週期紊亂	<ol style="list-style-type: none"> 1. 請問，晚上睡得好嗎? 2. 請問，有吃安眠藥嗎?
症狀波動	上述1~7項出現症狀變差

病患回報影響加護病房睡眠品質的因子

環境因子

• 噪音	• 床鋪舒適度	• 訪客 (醫護人員或家人)
• 光線	• 病房通風系統	• 手部清潔 (醫護人員清潔)
• 異味	• 隔壁病床活動	

心理因子

• 恐懼	• 感到焦慮	• 不了解醫學術語
• 孤單	• 感到擔心	• 不知道護士名字
• 缺乏隱私	• 感到有壓力	• 失去時間定向感
• 病人服裝	• 不熟悉的環境	• 缺少規律的就寢時間

生理學及病理生理學因子

• 疼痛	• 呼吸困難	• 感到口乾及飢餓
• 不適	• 感到噁心	• 需要便盆或尿壺
• 咳嗽	• 感到過熱過冷	

照護相關因子

• 插管	• 藥物管理	• 生命徵象的測量
• 導尿管	• 監控設備	• 移動受管線所限制
• 護理照護	• 氧氣面罩	
• 診斷測試	• 患者接受術式	

Evidence: Sleep Promoting Protocol

Study	Design	Population	Components	Patient-reported Sleep Quality
Hu RF 2010	RCT	Cardiac Surgery	Earplugs, eye shades, music	Better with protocol
Kamdar B 2013	Before-after	Medical	Ear plugs/eye shades/music Clustering of care, mobilization, Zolpidem (no delirium); Antipsychotic (delirium)	No difference with protocol
Li SJ 2014	Before - after	Medical	Earplugs, eye shades, music	No difference with protocol
Patel J 2014	Before-after	Mixed	Ear plugs/eye shades Removal of meds known to worsen sleep	Better with protocol

ICU Liberation Bundles

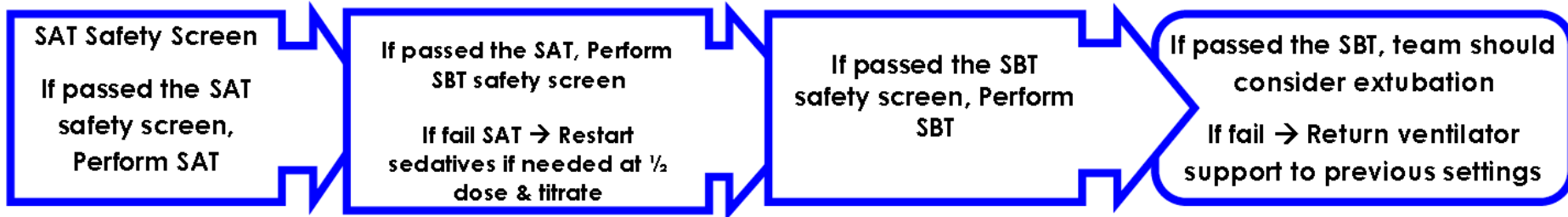
- *ABCDEF bundles*



Bedside Treatments for ABCDE Protocol

ABC

Awakening & Breathing Coordination



D

Delirium Nonpharm Interventions

Pain: Monitor and/or manage pain using an objective scale

Orientation: Talk about day, date, place; discuss current events; provide caregiver names; use clock and calendar in room

Sensory: Determine need for hearing aids and/or eye glasses

Sleep: noise reduction, day-night variation, "time-out" to minimize interruptions of sleep, promoting comfort & relaxation (e.g., massage, daytime bath, back care, wash face/hands, oral care)

E

Early Exercise & Mobility

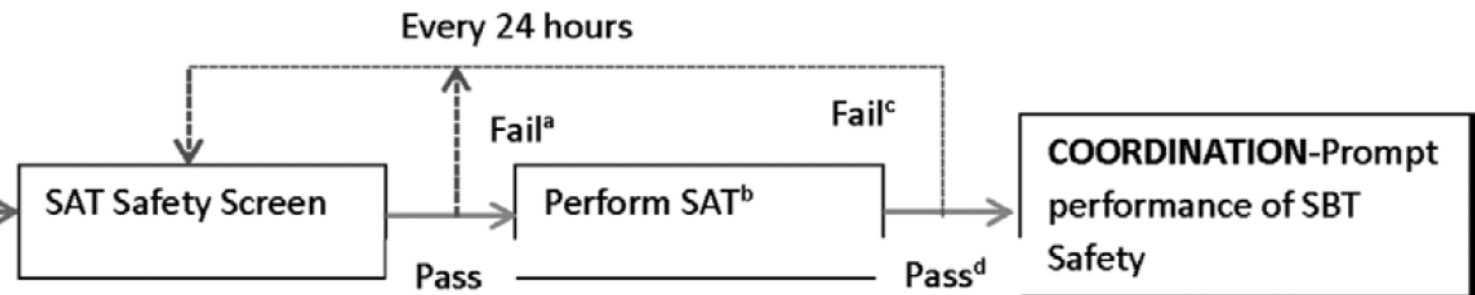
Perform Exercise Safety Screen. If passed, perform therapy at patient's highest level of ability.

1. Active range of motion exercises in bed and sitting position in bed
2. Dangling

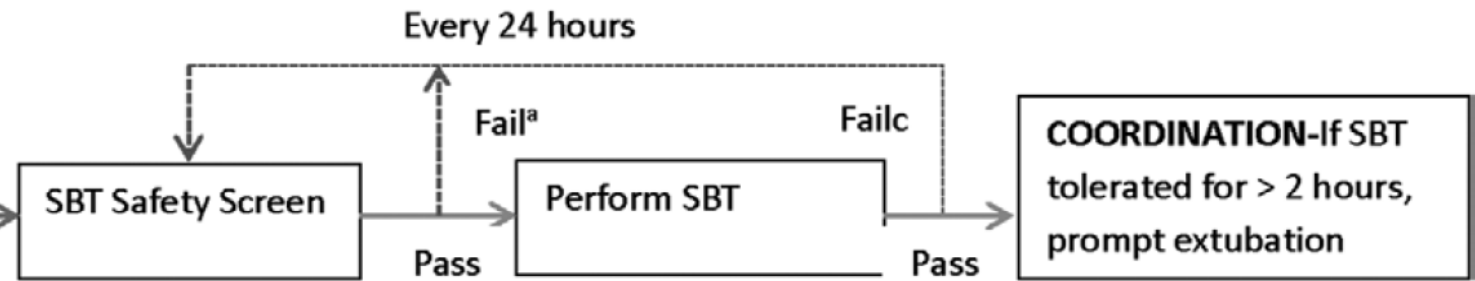
Effectiveness and Safety of the Awakening and Breathing Coordination, Delirium Monitoring/Management, and Early Exercise/Mobility Bundle*

- Eighteen-month, prospective, cohort, before-after study conducted between November 2010 and May 2012
- \uparrow *ventilator free days by 3 days* ($P = 0.04$)
- Odds of developing *delirium* \downarrow *by = 45%* ($P = 0.03$)
- Odds of patients getting *out of bed* \uparrow *x2.11* ($P = 0.003$)

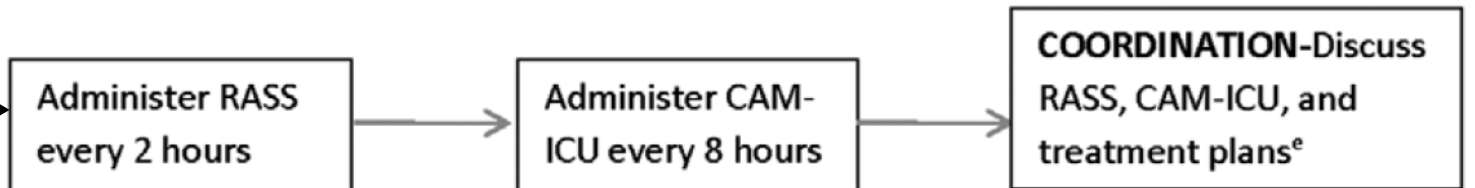
AWAKENING- Applied daily to patients receiving continuous sedative medications and mechanical ventilation-**RN driven**



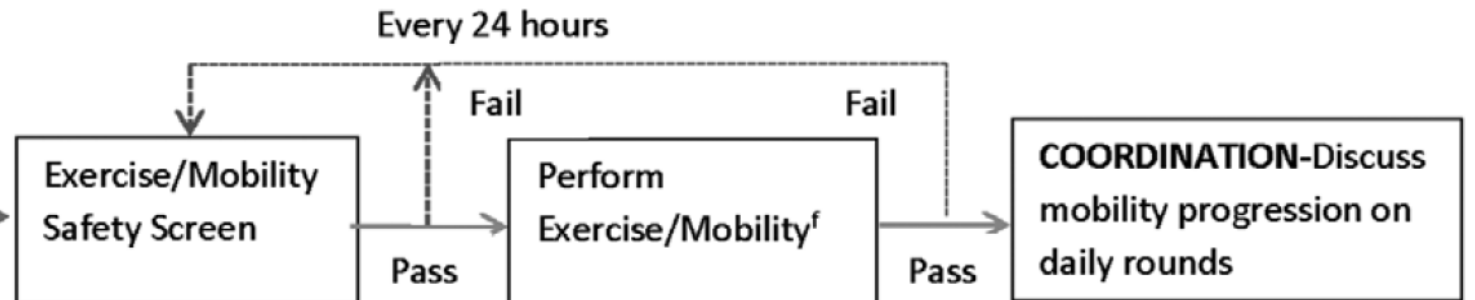
BREATHING- Applied daily to patients receiving mechanical ventilation-**RT driven**



DELIRIUM MONITORING/MANAGEMENT-Applied daily to all patients-**RN driven**



EARLY EXERCISE/MOBILITY-Applied daily to all patients-**RN/PT driven**



ABCDEF Bundle Care

- **A** – Assess, Prevent and Manage Pain
- **B** – Both SATs and SBTs
- **C** – Choice of Sedation
- **D** – Delirium: Assess, Prevent and Manage
- **E** – Early Mobility and Exercise
- **F** – Family Engagement and Empowerment

ABCDEF Bundle Objectives

- Optimize pain management.
- Break the cycle of deep sedation and prolonged mechanical ventilation.
- Reduce the incidence, duration of ICU delirium.
- Improve short, long-term ICU patient outcomes.
- Reduce health care costs

Improve Patient Comfort, Safety, and Outcomes



PAD SYMPTOMS	ASSESSMENT & MONITORING TOOLS	CARE IMPROVEMENT ABCDEF BUNDLE
P AIN	NRS: Numeric Rating Scale BPS: Behavioral Pain Scale CPOT: Critical Care Pain Observation Tool	<u>A</u> ssess, Prevent, and Manage Pain <u>B</u> oth Spontaneous Awakening Trials and Spontaneous Breathing Trials
A GITATION	RASS: Richmond Agitation Sedation Scale SAS: Sedation Agitation Scale	<u>C</u> hoice of Sedation <u>D</u> elirium: Assess, Prevent and Manage
D ELIRIUM	CAM-ICU: Confusion Assessment Method for ICU ICDSC: Intensive Care Delirium Screening Checklist	<u>E</u> arly Mobility and <u>E</u> xercise <u>F</u> amily Engagement and Empowerment

Study Characteristics of Randomized Controlled Trial used for “Standardized and/or Protocol-Based (Analgesia/Analgo-sedation) Pain Assessment and Management Program”

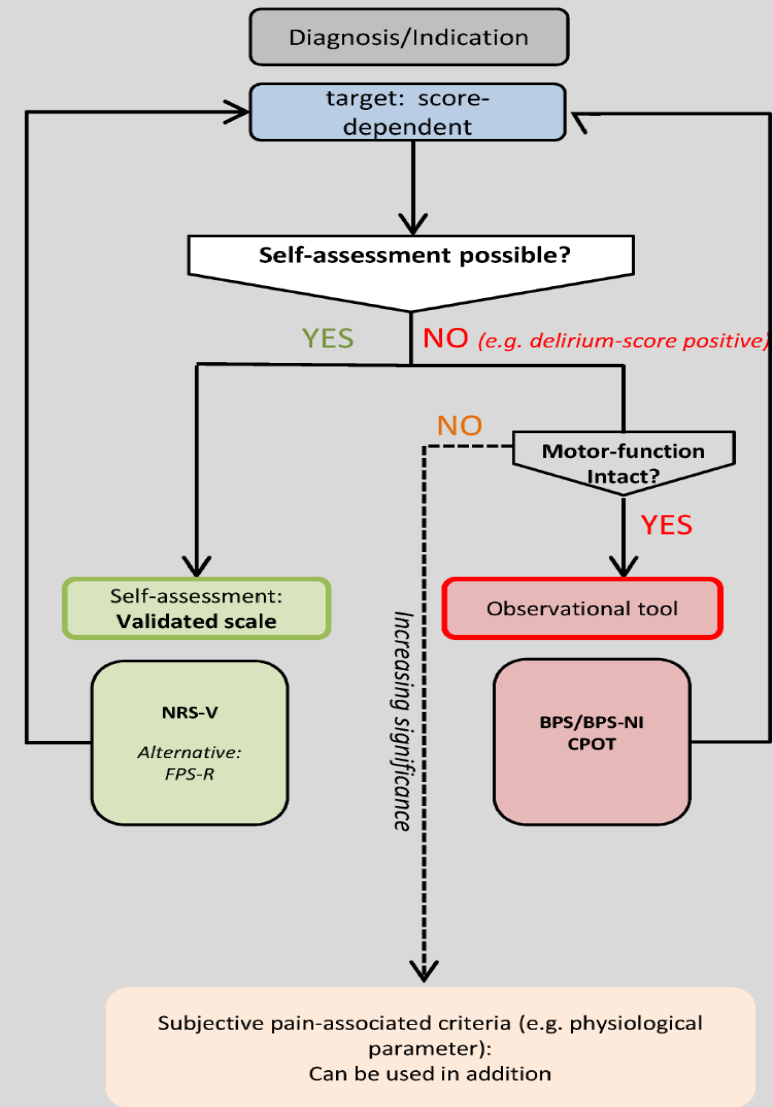
Trial	Outcomes assessed	Study Population	Intervention	Control
Breen D, Karabinis A, Malbrain M, et al. Crit Care 2005;9:R200-10	MV duration; ICU LOS; Dose of sedatives; dose of opioids	Medical/surgical ICU	Remifentanil-based sedation (57 patients)	Midazolam-based sedation (48 patients)
Brook AD, Ahrens TS, Schaiff R, et al. Crit Care Med 1999;27:2609-2615	MV duration, ICU LOS	Medical ICU	Protocolized pain and sedation assessment and treatment (162 patients)	Tradition practice (159 patients)
Karabinis A, Mandragos K, Stergiopoulos S, et al: Crit Care 2004;8:R268-80	MV duration, PIS, opioid exposure, sedative exposure, CV ADR	Neurointensive care unit with brain injury	Analgesia-based sedation with remifentanil (84 patients)	Standard hypnotic-based regimen (77 patients)
Rozendaal FW, Spronk PE, Snellen FF, et al: Intensive Care Med 2009;35:291-298	Pain intensity scores, ICU LOS, MV duration, sedative exposure, opioid exposure, CV ADR	Medical/surgical ICU	Remifentanil-propofol-based (96 patients)	Conventional practice (109 patients)
Strom T, Martinussen T, Toft P: Lancet 2010;375:475-480	ICU LOS, sedative exposure, opioid exposure, nosocomial infection, MV duration	Medical/surgical ICU	Analgesia-first, no sedation (55 patients)	Conventional sedation with daily sedation interruption (58 patients)

Daily Sedation Interruption (DSI) vs. Nurse-Protocolized Sedation

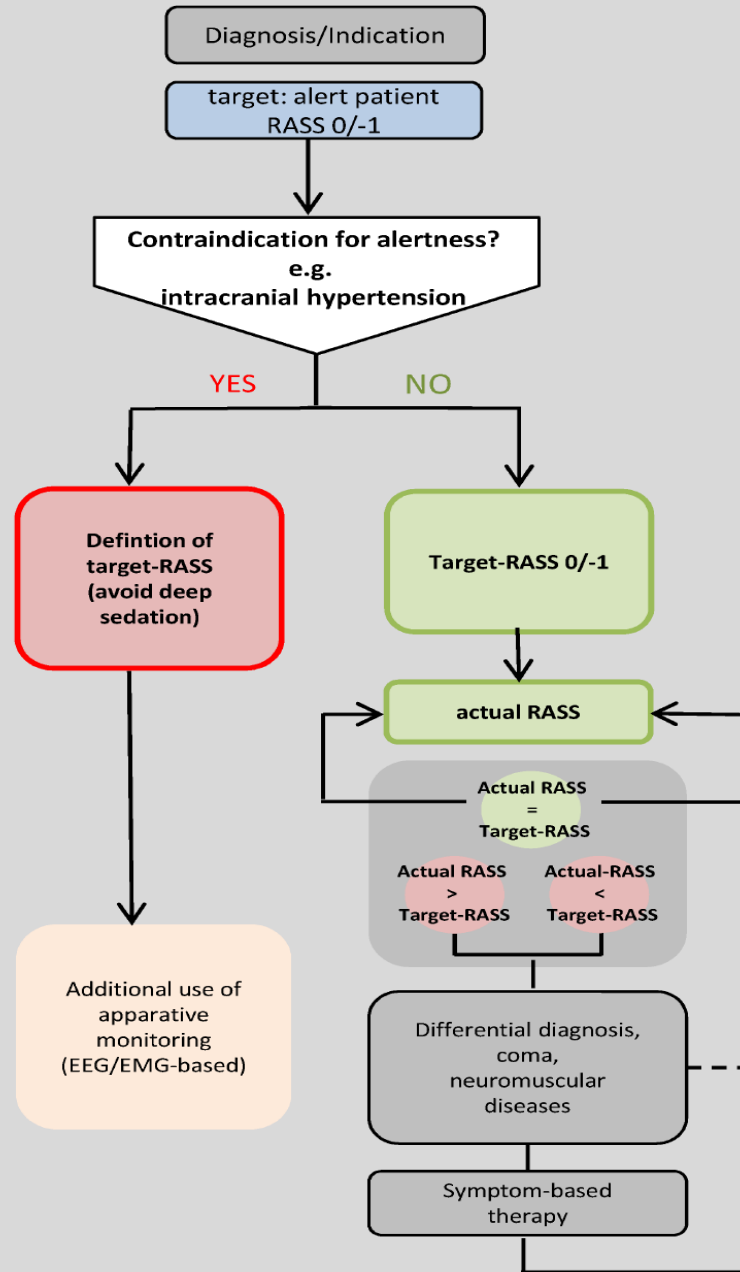
- A DSI or spontaneous awakening trial (SAT) :
 - Sedative medication is discontinued so the patient can wake up and achieve arousal and/or alertness defined by RASS score of -1 to +1.
- Nurse-protocolized targeted sedation:
 - An established protocol used by a bedside nurse to titrate sedatives to an established sedation goal.

*Note that the frequency of assessment and sedative titration often vary considerably

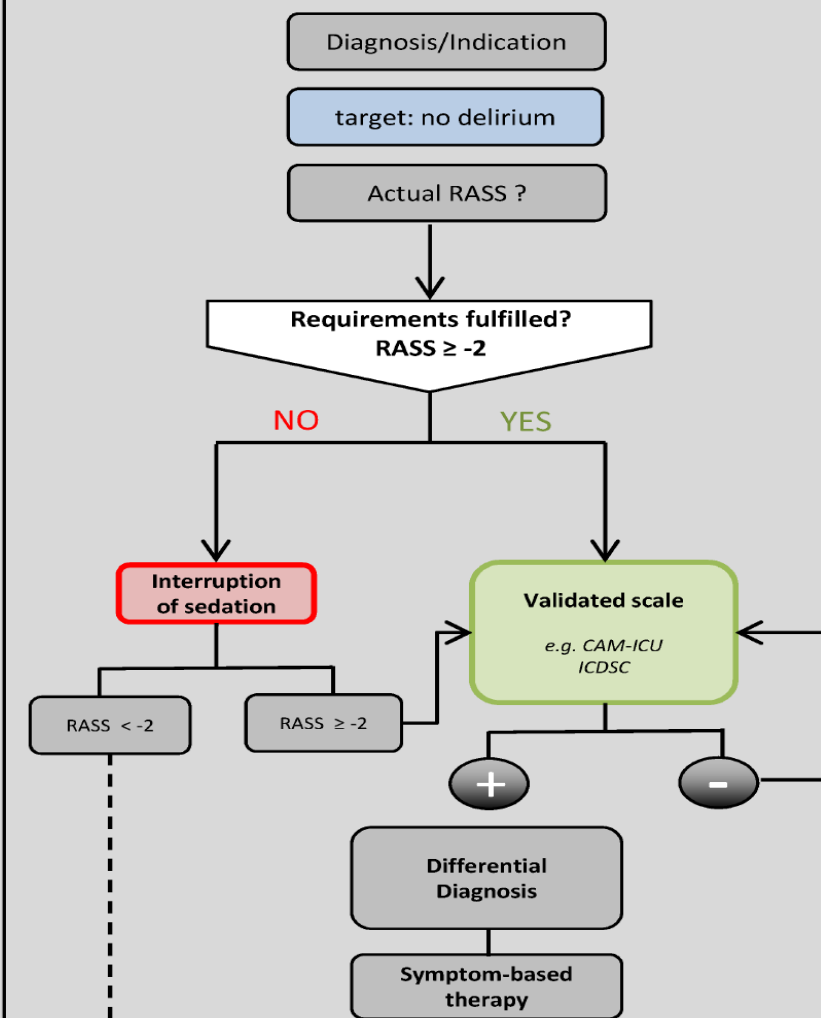
Pain



Sedation



Delirium



Non-pharmacologic Treatment for Delirium

Multi-component

- ABCDE bundle multi-intervention approach (1 before-after study), 296 patients
 - Significantly associated with: Less delirium (49% vs. 62%, OR = 0.55)
- ABCDEF bundle approach (1 cohort study), 6,064 patients
 - Included a focus on component F (family engagement)
 - Improvement in bundle compliance significantly associated with: reduced mortality and more coma- and delirium-free ICU days

Implement Delirium Assessment Tool in the MICU at NTUH

- 第一階段: 選定量表期
- 第二階段: 總教官、種子教官認證期
- 第三階段: 全面臨床執行Delirium評估
- 瞻妄評估紀錄: ICDSC → ICCA



Clinical Practice – Measurement of Physical Functioning

Pre-ICU

- Proxy / patient report of ADL function (e.g. Katz, Lawton IADL, baseline evaluation of FSS-ICU)
- Premorbid mobility, comorbidities, frailty (Clinical Frailty scale)
- Employment, education, living circumstances

ICU admission

- Screening to determine mental capacity for functional assessment:
- **Pain:** BPS or CPOT, if patient able to communicate use NRS
- **Sedation level:** RASS or SAS
- **Delirium:** CAM-ICU or ICDSC
- **Muscle Strength:** Medical Research Council sum-score
- If awake can use measurement instruments below

During ICU

- Physical function measured using one of the following: CPAx, FSS-ICU, PFIT-s or IMS – choice of instrument may depend on purpose of assessment e.g.
- Mobility only: IMS
- Strength + Mobility: PFIT-s, CPAx
- Respiratory + Mobility: CPAx
- Detailed physical functioning evaluation: FSS-ICU, PFIT-s
- Repeat evaluation at least weekly and/or ICU discharge







Safety Criteria for Start/Stop Rehab/Mobilization (in Bed or out of Bed)

Safety Criteria	Starting a Rehab/Mobilization Session	Stopping a Rehab/Mobilization Session
System	<u>Start</u> when all of the following are present:	<u>Stop</u> when any of the following are present:
Cardiovascular	<ul style="list-style-type: none"> Heart rate 60-130 beats/min, Systolic BP 90-180 mm Hg, or MAP 60-100 mm Hg 	<ul style="list-style-type: none"> Heart rate decreases < 60 or increases > 130 beats/min Systolic BP decreases < 90 or increases > 180 mm Hg MAP decreases < 60 or increases > 100 mm Hg
Respiratory	<ul style="list-style-type: none"> Respiratory rate 5-40 breaths/min SpO₂ ≥ 88% FIO₂ < 0.6 and PEEP < 10 cm H₂O Airway (ETT or tracheostomy tube) adequately secured 	<ul style="list-style-type: none"> Respiratory rate decreases < 5 or increases > 40 breaths/min SpO₂ decreases < 88% Concerns about securing ETT or tracheostomy tube
Neurologic	<ul style="list-style-type: none"> Able to open eyes to voice 	<ul style="list-style-type: none"> Change in level of consciousness
Other	<p>The following should be absent:</p> <ul style="list-style-type: none"> New or symptomatic arrhythmia Chest pain with concern for ischemia Unstable spinal injury or lesion Unstable fracture Active or uncontrolled GI bleeding <p>Mobility may be performed with</p> <ul style="list-style-type: none"> Continuous renal replacement therapy 	<p>If following develop and are clinically relevant:</p> <ul style="list-style-type: none"> New or symptomatic arrhythmia Chest pain with concern for ischemia Ventilator asynchrony Bleeding Medical device removal or malfunction Distress reported by patient or clinician

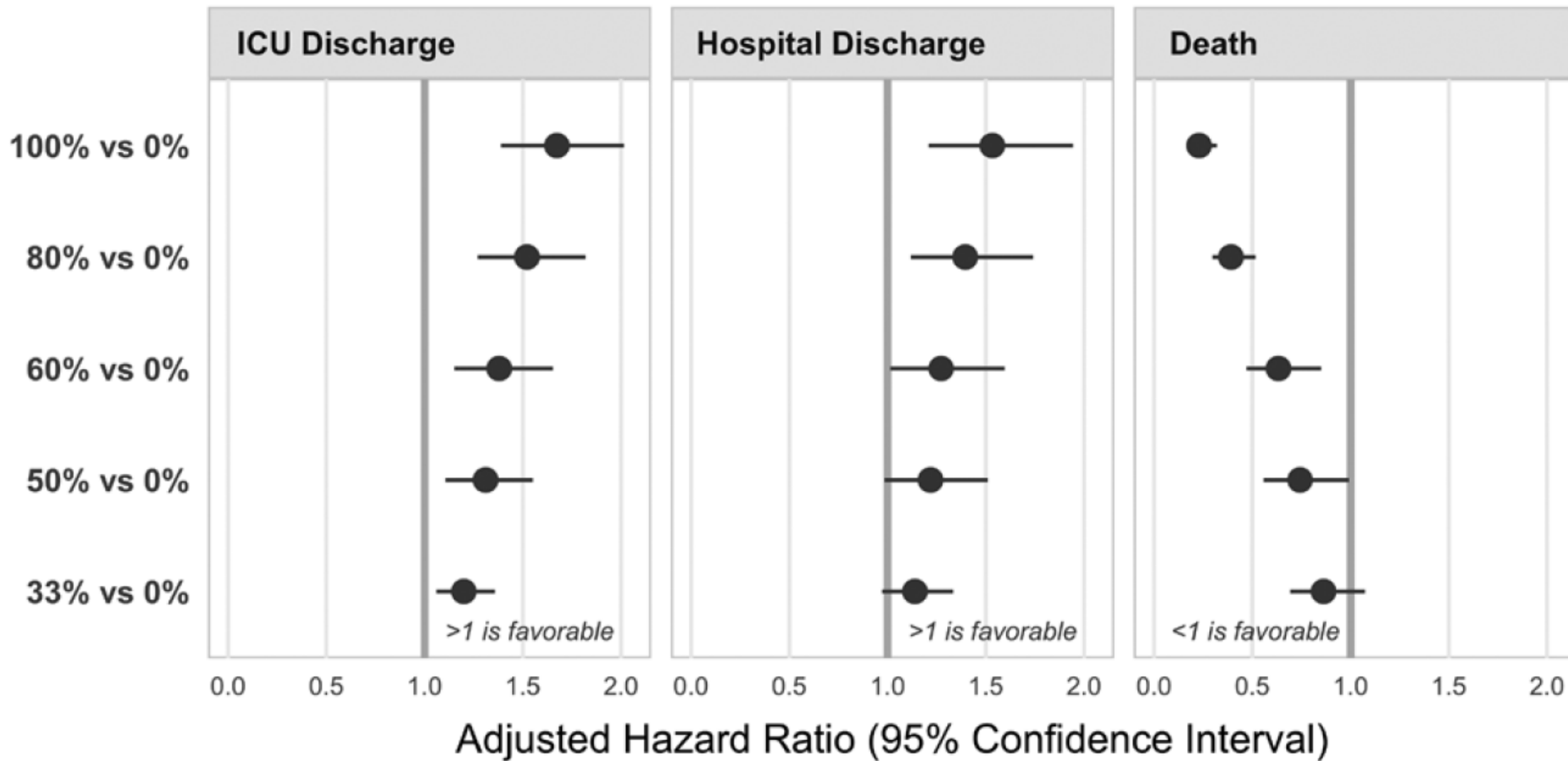
Table 2 Patient and family support guideline recommendations for adult ICUs⁸⁶

Objectives	Recommendations
↑ Family presence in the ICU	24-hour ICU visitation policy Family participation in ICU rounds Family presence during patient resuscitations
↑ Family support in the ICU	Family education, information about the ICU, how to assist in patient care, etc Use of ICU diaries by families and staff
↑ Communication with ICU family members	Routinely scheduled interdisciplinary ICU family conferences ICU clinicians receive family-centered communication training Provider use of VALUE communication tool for patients with poor prognosis
↑ Use of consult and support services	Routine palliative care and/or ethics consults for selected ICU patients with poor prognoses ^a Social worker participation in ICU family conferences Use of ICU family navigators and spiritual support
↑ Create patient- and family-centered ICU policies	Standardized use of sedatives and analgesics during withdrawal of life support Nurse training, involvement in ICU patient/family goals of care discussions Develop hospital-wide family-centered care policies Implement ICU sleep hygiene, noise reduction strategies Provide private patient rooms, sleeping options for family members

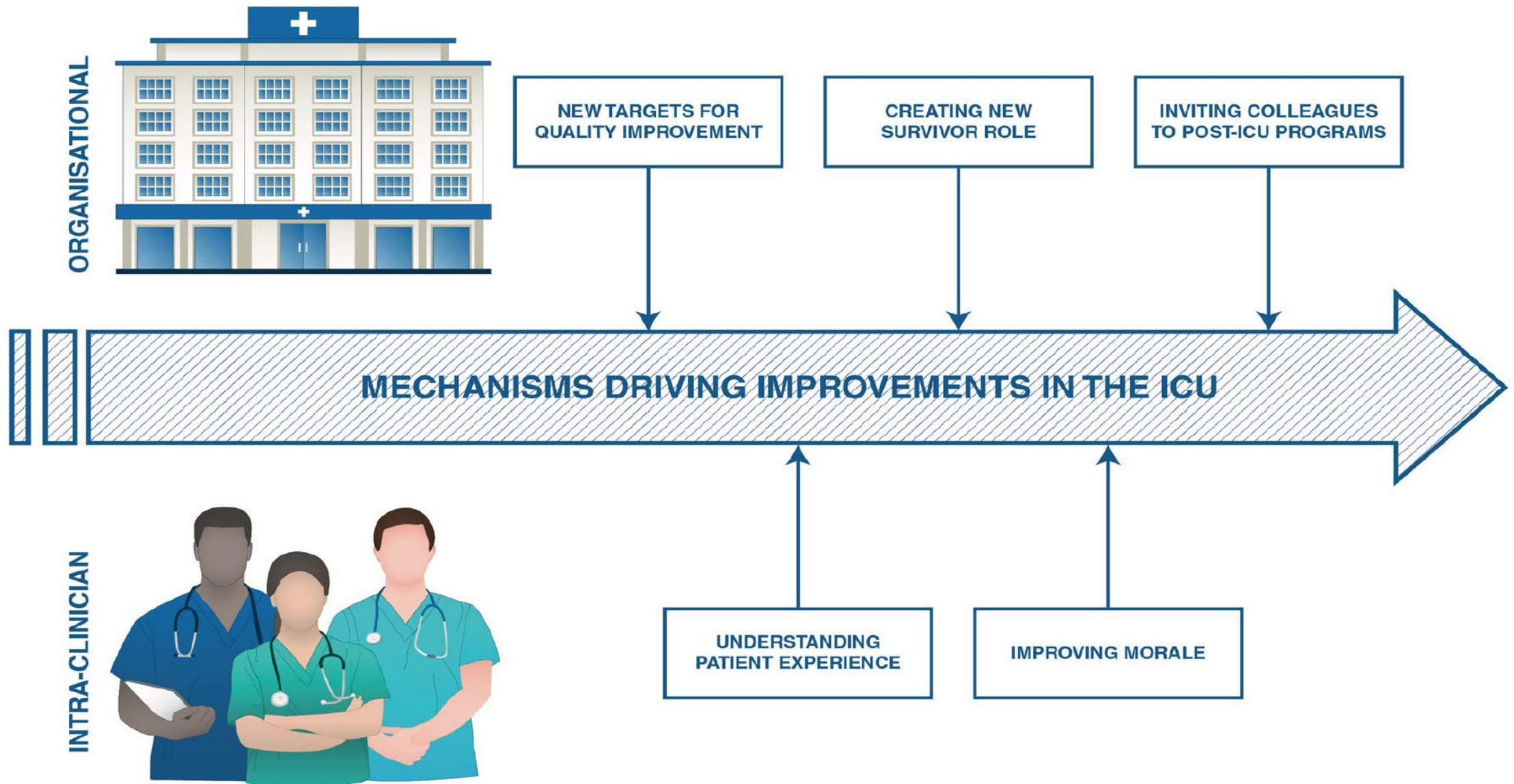
Caring for Critically Ill Patients with the ABCDEF Bundle: Results of the ICU Liberation Collaborative in Over 15,000 Adults

- Prospective, multicenter, cohort study from a national QI collaborative: 68 academic, community, and federal ICUs in USA
-  hospital death within 7 days (aHR, 0.32; CI, 0.17-0.62),
-  next-day mechanical ventilation (aOR, 0.28; CI, 0.22-0.36),
-  coma (aOR, 0.35; CI, 0.22-0.56),
-  delirium (aOR, 0.60; CI, 0.49-0.72),
-  physical restraint use (aOR, 0.37; CI, 0.30-0.46),
-  ICU readmission (aOR, 0.54; CI, 0.37-0.79)

Proportion of ABCDEF Bundle Elements Performed



Implement post-ICU Follow-up Program



Future directive

- Transforming ICU organization occurring only with strong support and ongoing engagement by hospital leadership and stakeholder
- Building inter-professional care in modern critical care medicine
- Engaging patients and families as partners in their healthcare
- Providing high quality of ABCDEF bundle care to patients of increasing complexity and with increasingly diverse needs

A high-angle, slightly blurred photograph of a group of people, likely a sports team, standing in a circle with their hands stacked on top of each other in the center. The image is used as a background for the text.

**Thanks for Your
Attentions!**



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