ABCDEF Bundle

What's it all about?

Jessica Faainuinu, RN, BS, CCRN

SMV Conference 2025

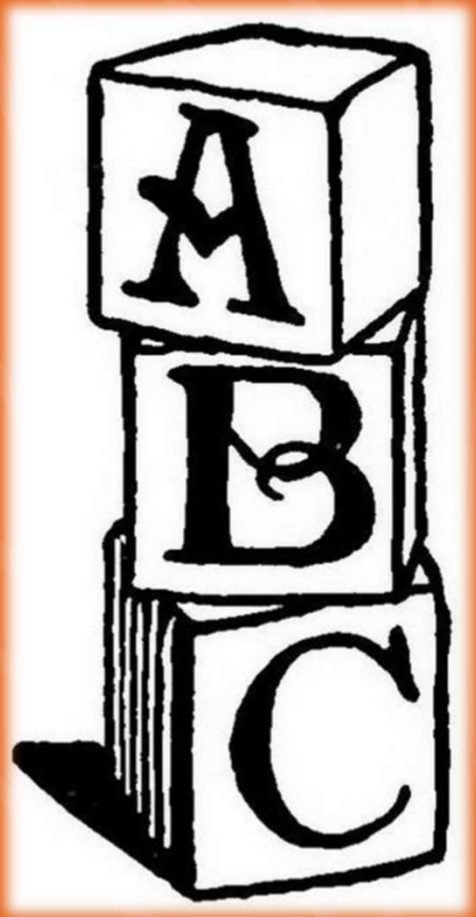
Introduction

Quick Bio

- RN Experience
- Castle ICU

Why ABCDEF Bundle?

- Quality Improvement Process since 2013
- Updated guidelines in 2018

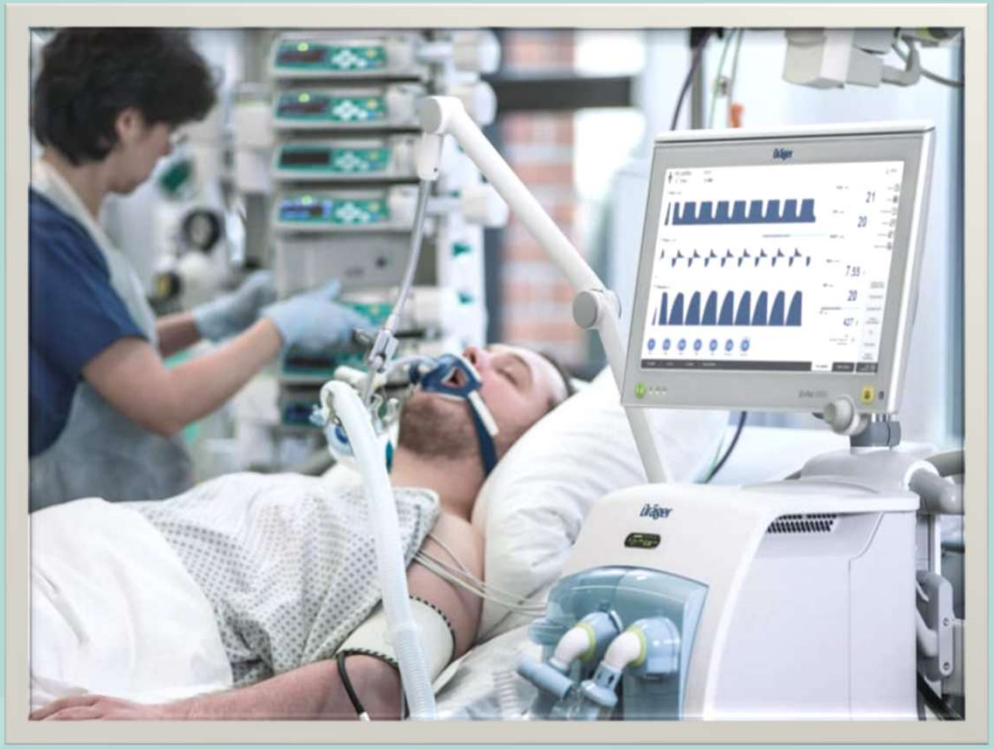


Objectives

- Define each component of the bundle
- Define the disciplines involved in the process
- Barriers to bundle implementation
- Positive outcomes from process implementation

A - Assess

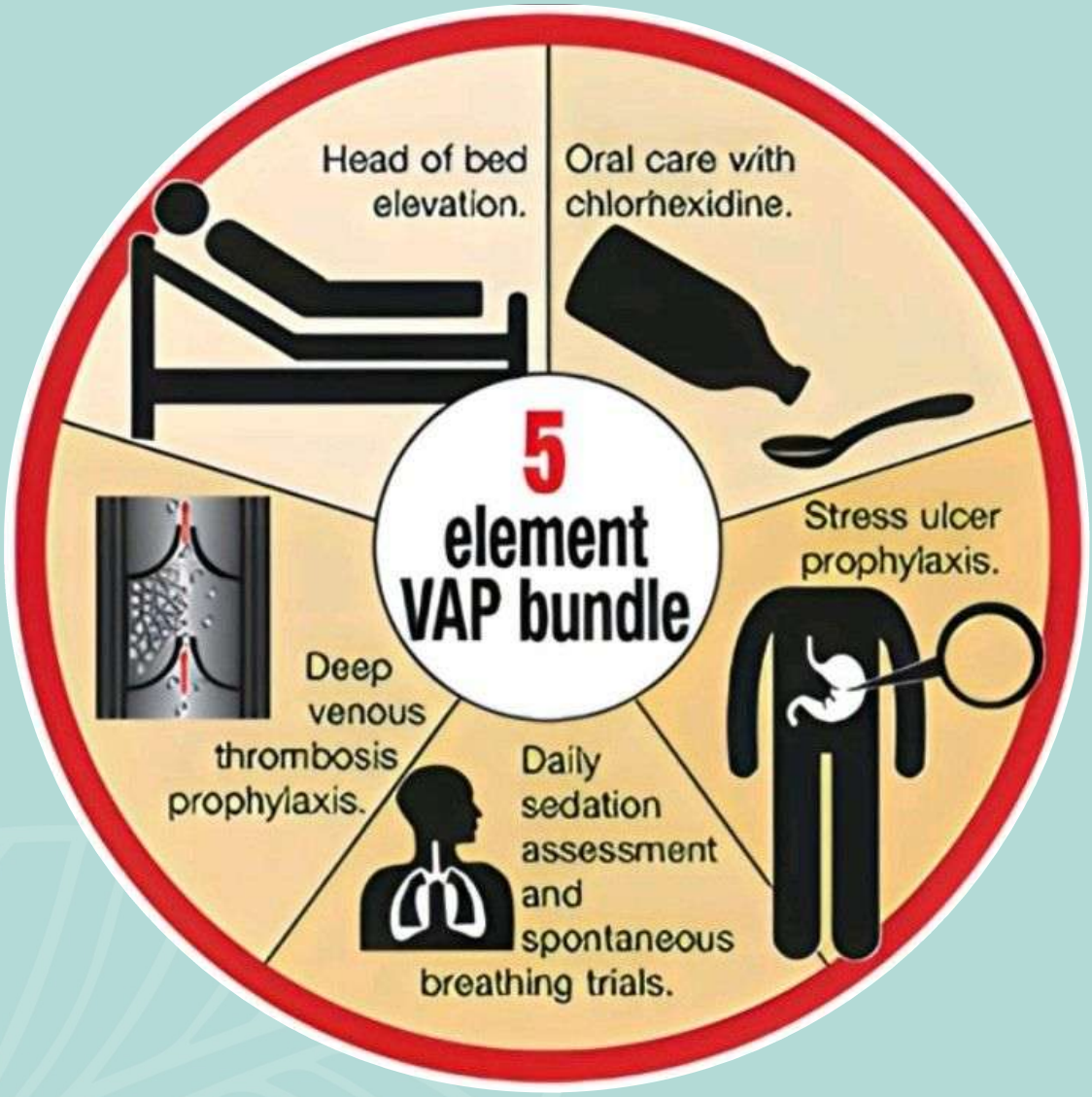
- Assess the patient
  - Why is the patient ventilated?
  - What are the goals of therapy?
  - What is the response to therapy?
- Assess, prevent & manage pain
  - CPOT – Critical Care Observation Tool
  - Pharmacologic
  - Non-pharmacologic
- Assess & prevent infection
  - VAP Bundle
  - Prophylactic antibiotics
  - Equipment
  - Proper nutrition



CPOT

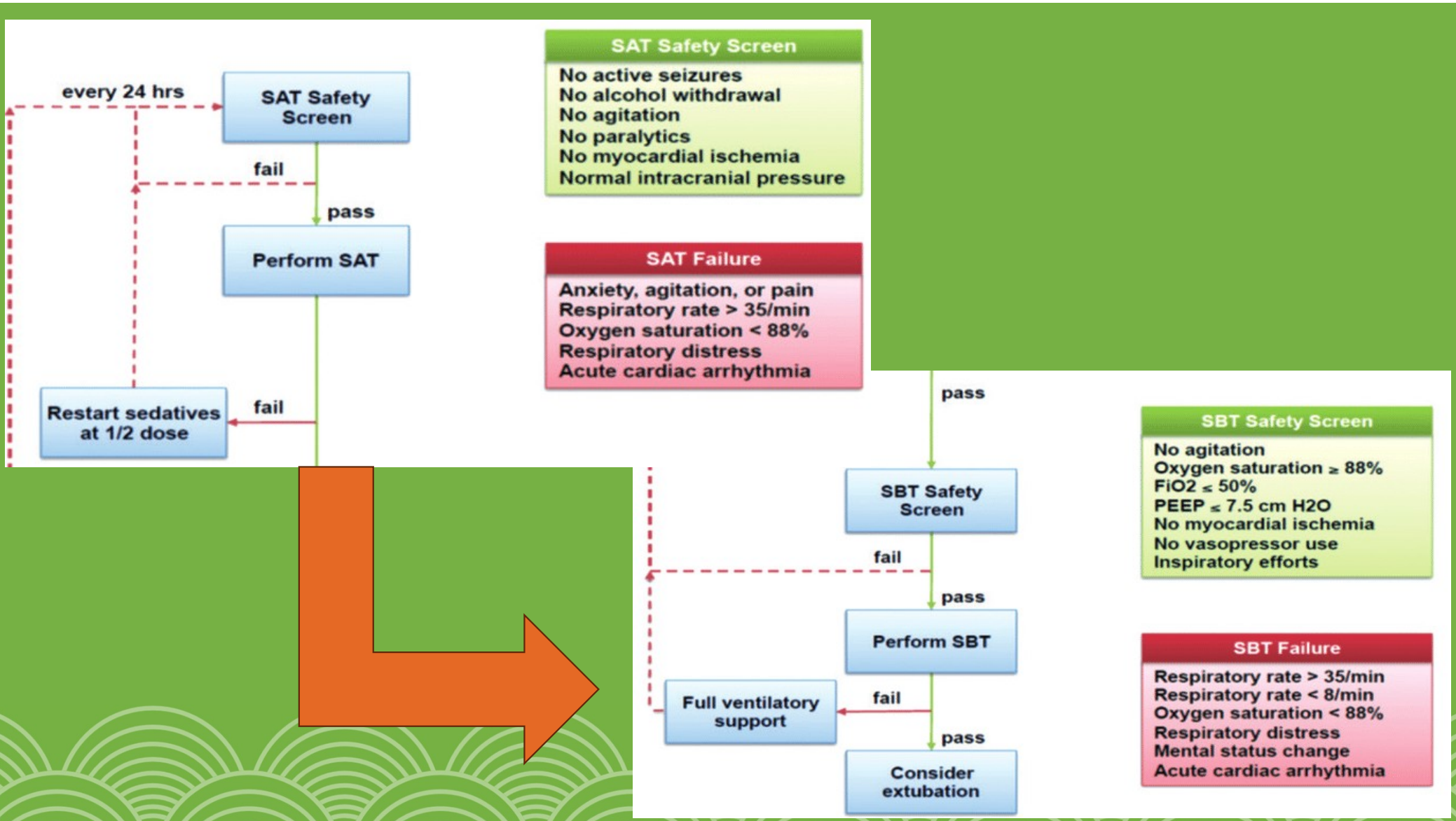
Critical care Pain Observation Tool [Goal < 3]

Facial Expressions	Relaxed	0
	Tense	1
	Grimacing	2
Body Movements	None	0
	Protection	1
	Restless	2
Muscle Tension	Relaxed	0
	Tense	1
	Rigid	2
Vent Compliance	Tolerating	0
	Coughing	1
	Fighting	2
Vocalization	Normal	0
	Moaning	1
	Crying out loud	2


5
element
VAP bundle
Head of bed elevation.
Oral care with chlorhexidine.
Stress ulcer prophylaxis.
Daily sedation assessment and spontaneous breathing trials.
Deep venous thrombosis prophylaxis.

B – Breathing Trials

- SAT – Spontaneous Awakening Trial
  - Inclusion/Exclusion criteria
  - Pass/Fail criteria
  - Perform daily & reassess every 24hrs
- SBT – Spontaneous Breathing Trial
  - Criteria prior to SBT
  - Pass/Fail criteria
  - Weaning trial >> extubation?
  - Assess daily
- Follow facility policy & procedure
- Unable to wean?


every 24 hrs
SAT Safety Screen
fail
pass
Perform SAT
Restart sedatives at 1/2 dose
fail
SAT Safety Screen
No active seizures
No alcohol withdrawal
No agitation
No paralytics
No myocardial ischemia
Normal intracranial pressure
SAT Failure
Anxiety, agitation, or pain
Respiratory rate > 35/min
Oxygen saturation < 88%
Respiratory distress
Acute cardiac arrhythmia
pass
SBT Safety Screen
fail
pass
Perform SBT
Full ventilatory support
fail
pass
Consider extubation
SBT Safety Screen
No agitation
Oxygen saturation ≥ 88%
FiO2 ≤ 50%
PEEP ≤ 7.5 cm H2O
No myocardial ischemia
No vasopressor use
Inspiratory efforts
SBT Failure
Respiratory rate > 35/min
Respiratory rate < 8/min
Oxygen saturation < 88%
Respiratory distress
Mental status change
Acute cardiac arrhythmia

C – Choice of Sedation and/or Analgesia

- **Assess patient & dx**
  - Contraindications
  - Hemodynamics
  - Tolerance
- **Assess for pain & anxiety**
  - Risk of self-extubation
  - Ventilator asynchrony
- **RASS Goals**
  - Off breathing trial = (-2)
  - On breathing trial = (0)

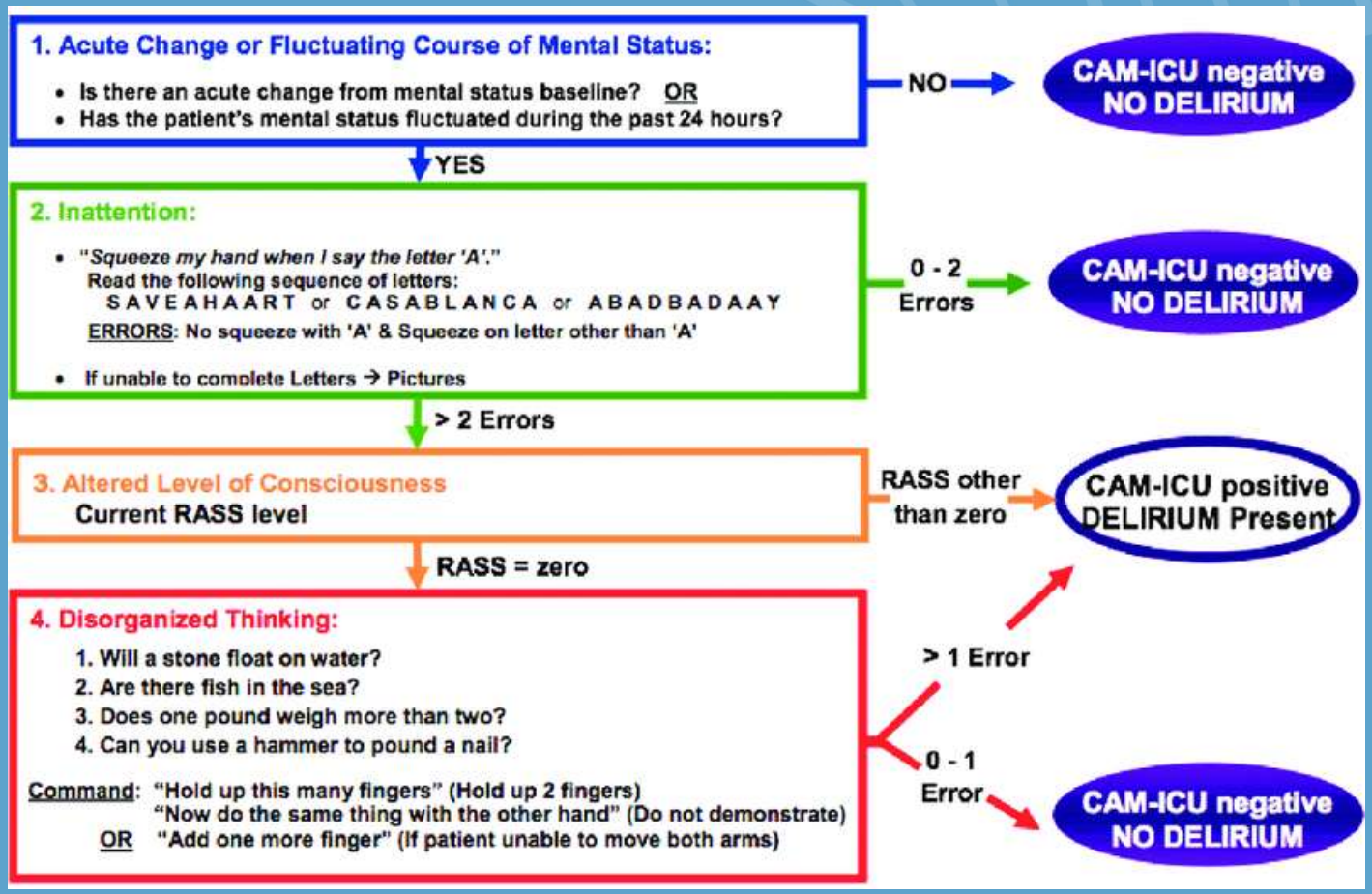
- **Medications**
  - Anesthetics
  - Analgesics
  - Anxiolytics
  - Paralytics

RASS:	Richmond Agitation Sedation Scale [Goal 0 to -2]
+4	♥ Combative, violent
+3	♥ Very agitated, pulls on lines, aggressive
+2	♥ Agitated, non-purposeful movements, fights vent
+1	♥ Restless, anxious but not aggressive
0	♥ Alert & calm
-1	♥ Drowsy, makes eye contact
-2	♥ LIGHT – brief awakening
-3	♥ MODERATE – moves eyes to voice, no eye contact
-4	♥ DEEP – no response to voice but moves to painful stimuli
-5	♥ UNAROUSABLE – No response to voice or painful stimuli

D - Delirium

- Assess CAM-ICU
  - Stop
  - THINK: identify cause
- Prevent
  - Daily SAT
  - Orientation/Re-orientation
  - Promote quality sleep
  - Family collaboration
- Manage
  - Sleep aids
  - Medication management
  - Nonpharmacological

CAM-ICU Flowsheet



E – Early Mobility & Exercise

- **Assess**
  - MOVEN: screen for safety
  - Absolute contraindications
- **Multi-Disciplinary Approach**
  - Progressive mobility continuum
  - Levels A - E
- **Benefits to therapy**
  - ↑Gas exchange
  - Mobilize secretions
  - ↑ROM
  - ↓ DVTs
  - ↓pressure injuries

Progressive Mobility Continuum

START HERE

Perform Initial mobility screen w/in 8 hours of ICU admission
Daily goal of 3 mobility events

Any of the following criteria present?

- oO2 Sat < 88% refractory to increasing FIO2
- oNew onset cardiac arrythmias or ischemia
- o HR <60 or >120 ≥ 5 min
- o MAP <55 or >140 ≥ 5 min
- o SBP <90 or >180 ≥ 5 min
- o New or increasing vasopressor infusion
- oFemoral sheaths
- oNeuro/Ortho instability
- oOpen abd. or chest wound
- oParalytic use
- o RASS -4 to -5

Yes → Start at level A*

No → Start at level B and progress as ordered*

Includes complex, intubated, hemodynamically unstable and stable intubated patients; may include non-intubated

Includes intubated, non intubated hemodynamically stable/stabilizing, no contraindications

LEVEL A	LEVEL B	LEVEL C	LEVEL D	LEVEL E
RASS -5 to - 4	RASS -3 & up	RASS -1 & up	RASS 0 & up	RASS 0 & up
Goal: clinical stability; passive ROM	**Goal**: upright sitting; increased strength and moves arm and legs against gravity	**Goal**: Increased trunk strength, active resistance and readiness to weight bear & ability to perform some ADLs	**Goal:** weight bear and transfer to chair, stands at edge of bed for >1 min., able to march in place	**Goal:** Ambulation & ability to perform ADLs at sink
	If appropriate PT &/or OTconsultation* **(*Assure order obtained)**	If appropriate PT &/or OTconsultation* **(*Assure order obtained)**	If appropriate PT &/or OTconsultation* **(*Assure order obtained)**	If appropriate PT &/or OTconsultation* **(*Assure order obtained)**
ACTIVITY: HOB ≥ 30º *Passive ROM 2X/d performed by RN or by UAP as directed by RN Q 2 hr turning (CLRT/Pronation initiated if patient meets criteria based on institutional practice)	**ACTIVITY:** Q 2 hr turning *Passive /Active ROM 3x/d 1. Gradually increase HOB to achieve full sitting position 2. Progressive bed sitting position X20 min. 3X/d OR Full assist into cardiac chair 2X/day	**ACTIVITY:** Self or assisted Q 2 hr turning 1.Sitting on edge of bed w/RN, PT, OT or RT. Increase time as tolerated 2. Progressive bed sitting position Min.30 min. 3X/d OR Pivot to chair 3X/d	**ACTIVITY:** Self or assisted Q 2 hr turning 1. Progressive bed sitting position min. 30 min. 3X/d; 2.Active Transfer to Chair/BSC w/RN, PT, OT or RT as needed & min. 3X/d 3. Begin in room ambulation	**ACTIVITY:** Self or assisted Q 2 hr turning 1.Chair (OOB) w/ RN/PT/RT assist min. 3X/day 2.Meals consumed in chair 3. Ambulate progressively longer distances with less assistance (based on PT eval goal or prior level of function) x2 or x3/day with RN/PT/RT/UAP
Tolerates Level A Activities	Tolerates Level B Activities	Tolerates Level C Activities	Tolerates Level D Activities	

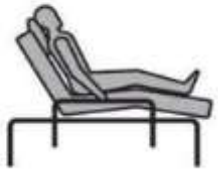
For each position/activity change allow 5-10 minutes for equilibration before determining the patient is intolerant

*****If the patient is intolerant of current mobility level activities, reassess and place in appropriate mobility level*****

***Mobility is the responsibility of the RN, with the assistance from the RT's, Unlicensed Assistive Personnel, and PT/ OT. PT and OT may assist the team with placement to the appropriate mobility level of activity, *always prioritizing patient and provider safety*. Placement is based on clinical judgment.**

Progressive Mobility Protocol

1 Level Bed



- Passive/Active ROM TID
- Turn Q2 hours
- Active-resistance exercises
- Sitting position 20 min TID.
- Consult PT/OT if can't progress to Level 2

Goal: Clinical stability and able to move arm against gravity

2 Level Dangle

- Level 1 Interventions
- Dangle edge of bed w/feet on floor
- Mechanical lift to chair
- Consult PT/OT if can't progress to Level 3

Goal: Sitting upright and able to move leg against gravity

3 Level Chair

- Level 2 Interventions
- Active transfer to chair ≥20 min 2 x/day
- Consult PT/OT if require assistive device to get to chair

Level 2 & 3:
Use cushion for pressure relief in chair

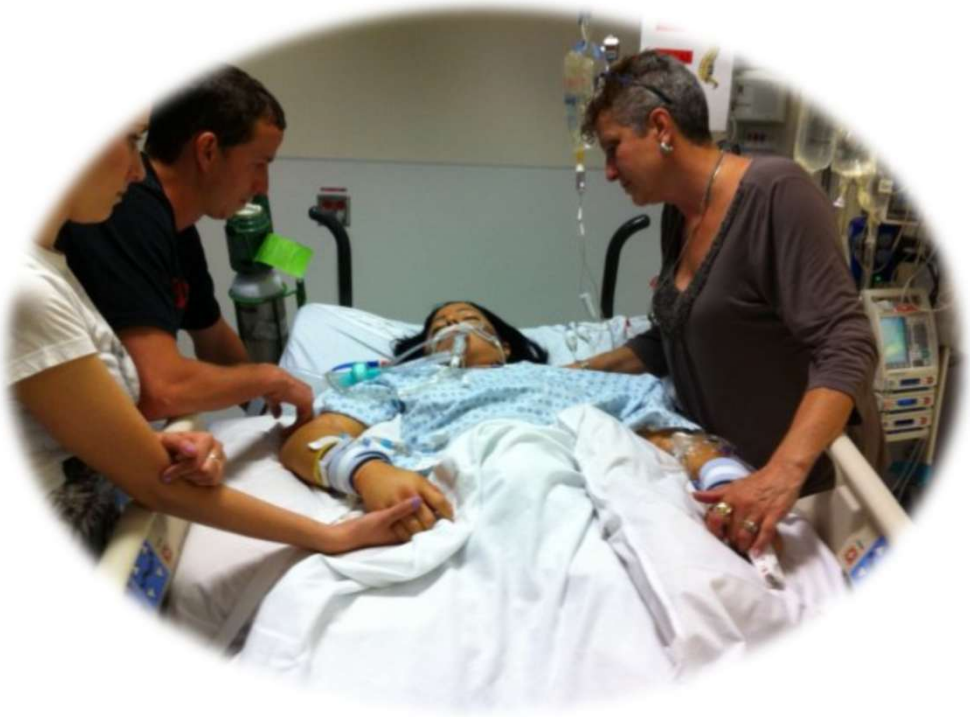
Goal: Increased strength, stands w/min to mod assist

4 Level Ambulation

- Level 3 Interventions
- Active transfer to chair ≥20 min 3 x/day]
- Ambulation (marching in place, walking in halls)
- Consult PT/OT for first time walking in the room on ventilator

Goal: Strength and distance walk

F- Family Engagement & Empowerment



- **Communication**
  - Patient-centered care
  - Keep patient & family informed
- **Education**
  - Medical terms/procedures/devices
- **Collaboration**
  - Goals of care discussions
  - Participation in care
  - Physical & emotional support

Multi-Disciplinary Approach

- Physicians
- Nursing
- Respiratory Therapists
- Pharmacists
- Rehabilitation
- Dietician
- Case Management
- Social Workers
- Chaplain

Barriers to Bundle Implementation

- Knowledge Deficit
- Communication & Care Coordination
- Inadequate Resources
- Documentation Burden
- Patient Factors
- Family Discomfort

Positive Outcomes

- Reduced days on ventilator
  - Prevent Ventilator Associated Events (VAE)
- Decrease ICU delirium
  - Reduced restraint use
- Decreased ICU/Hospital length of stay
  - Reduced healthcare costs
- Improve patient outcomes & satisfaction
  - Improved survival

Thank you!

Questions ???

References

- Balas, M. C., Burke, W. J., Gannon, D., Cohen, M. Z., Colburn, L., Bevil, C., … & Vasilevskis, E. E. (2013). Implementing the ABCDE Bundle into Everyday Care: Opportunities, Challenges & Lessons Learned from Implementing the ICU Pain, Agitation & Delirium Guidelines. Journal of Critical Care Medicine, 41(90), 1-22.
- Bassett, R. D., Vollman, K. M., Brandwene, L., & Murray, T. (2012). Integrating a Multidisciplinary Mobility Program into Intensive Care Practice. Intensive Critical Care Nurse Journal, 28(2), 88-97.
- Brown, C., Marotta, P.J., Riker, R.R., Eldridge, A.D., Fraser, G.L., May, T.L. (2022). Prospective Validation of Sedation Scale Scores That Identify Light Sedation: A Pilot Study. American Journal of Critical Care, 31(3), 202-208.
- Cooper, A.S. (2023) Topical Antibiotic Prophylaxis to Reduce Respiratory Tract Infections and Mortality in Adult Receiving Mechanical Ventilation. Critical Care Nurse, 43(4), 77-79.
- Coyer, F.M., Wheeler, M.K., Wetzig, S.M., Couchman, B.A. (2007). Nursing Care of the Mechanically Ventilated Patient: What Does the Evidence Say? Part Two. Elsevier Review. Intensive and Critical Care Nursing, 23, 71-80.
- Folino, T., Muco, E., Safadi, A., Parks, L. (2023) Propofol: StatPearls. National Library of Medicine. https://www.ncbi.nlm.nih.gov/books/NBK430884/#article-27816.s6
- Gelinas, C., Fillion, L., Puntillo, K.A., Viens, C., & Fortier, M. (2006). Validation of the Critical-Care Pain Observation Tool in Adult Patients. American Journal of Critical Care Nurse, 15(4),420-427.
- Golino, A.J., Leone, R., Gollenberg, A., Gillam, A., Toone, K., Samahon, Y., Davis, T.M., Stanger, D., Friesen, M.A., Meadows, A. (2023). Receptive Music Therapy for Patients Receiving Mechanical Ventilation in the Intensive Care Unit. American Journal of Critical Care, 32(2), 109-115.

References

- King et al. (2023). Measuring Performance on the ABCDEF Bundle During Interprofessional Rounds via a Nurse-Based Assessment Tool. American Journal of Critical Care, 32(2), 92-99.
- Krupp, A.E., Tan, A., Vasilevskis, E.E., Mion, L.C., Pun, B.T., Brockman, A., Hetland, B., Ely, W., Balas, M.C. (2024) Patient, Practice, and Organizational Factors Associated with Early Mobility Performance in Critically Ill Adults. American Journal of Critical Care, 33(5), 324-340.
- Mart, M.F., Roberson, S.W., Eng, M., Salas, B., Pandharipande, P.P., Ely, E.W. (2021). Prevention & Management of Delirium in the Intensive Care Unit. Semin Respir Crit Care Med, 42(1), 112-126.
- Nakanishi, N., Liu, K., Kawakami, D., Kawai, Y., Morisawa, T.…Nishida, O. (2021). Post-Intensive Care Syndrome & Its New Challenges in Coronavirus Disease 2019 (COVID-19) Pandemic: A Review of Recent Advances and Perspectives. Journal of Clinical Medicine, 10(17), 3870; https://doi.org/10.3390/jcm10173870
- Pun, B.T. (2016). Assessment & Management of Delirium Across the Life Span. Critical Care Nurse. AACN Practice Alert, 36(5), 14-19.
- Simmons, J.S., Bourgault, A.M., Sole, M.L., Peach, B.C. (2024) A Review of Chlorhexidine Oral Care in Patient Receiving Mechanical Ventilation. Critical Care Nurse, 44(3), 45-53.
- Society of Critical Care Medicine (SCCM). (2020). Family engagement and empowerment. Retrieved from https://www.sccm.org/ICULiberation/ABCDEF-Bundles/Family-Engagement
- Tirona, K. (2023). Just Keep MOVEN; An Evidence-Based Approach to Improving Outcomes in Patients Receiving Mechanical Ventilation. Critical Care Nurse, 43(1), 75-79.