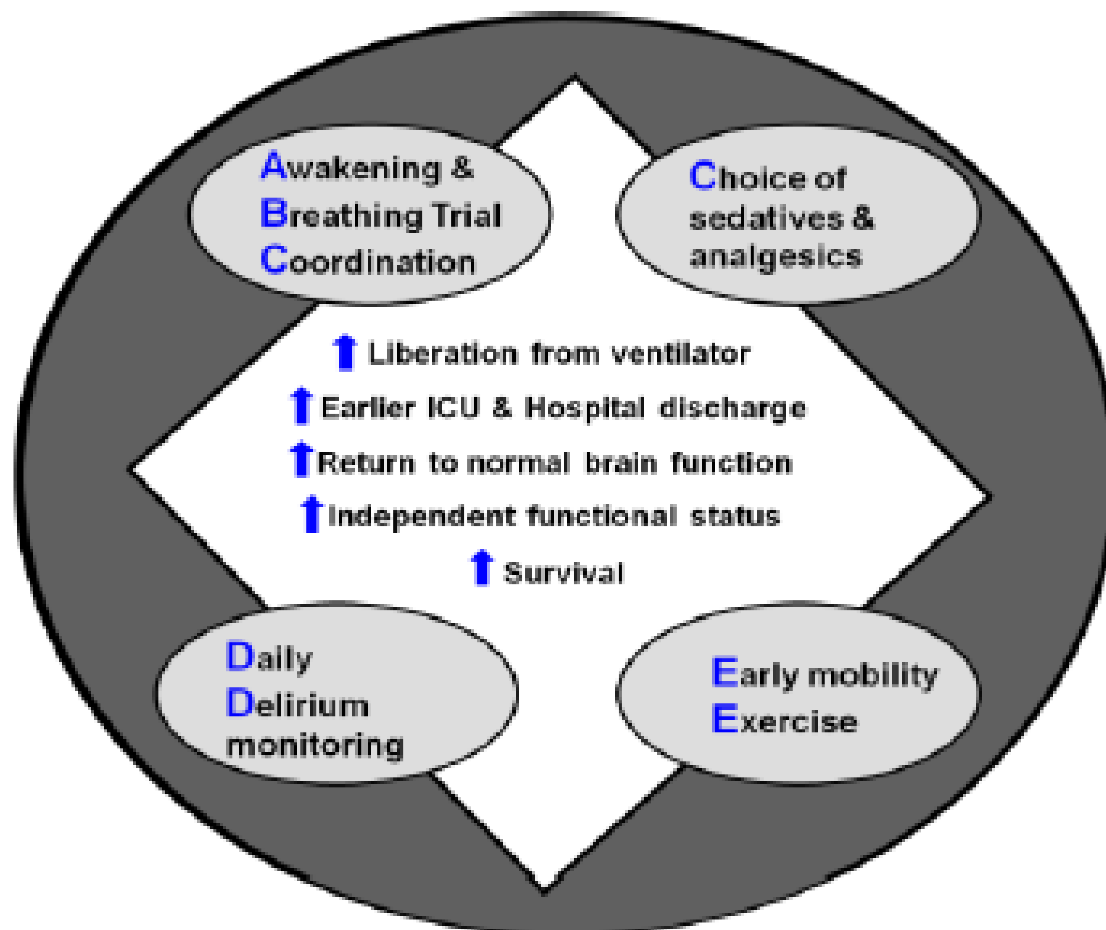
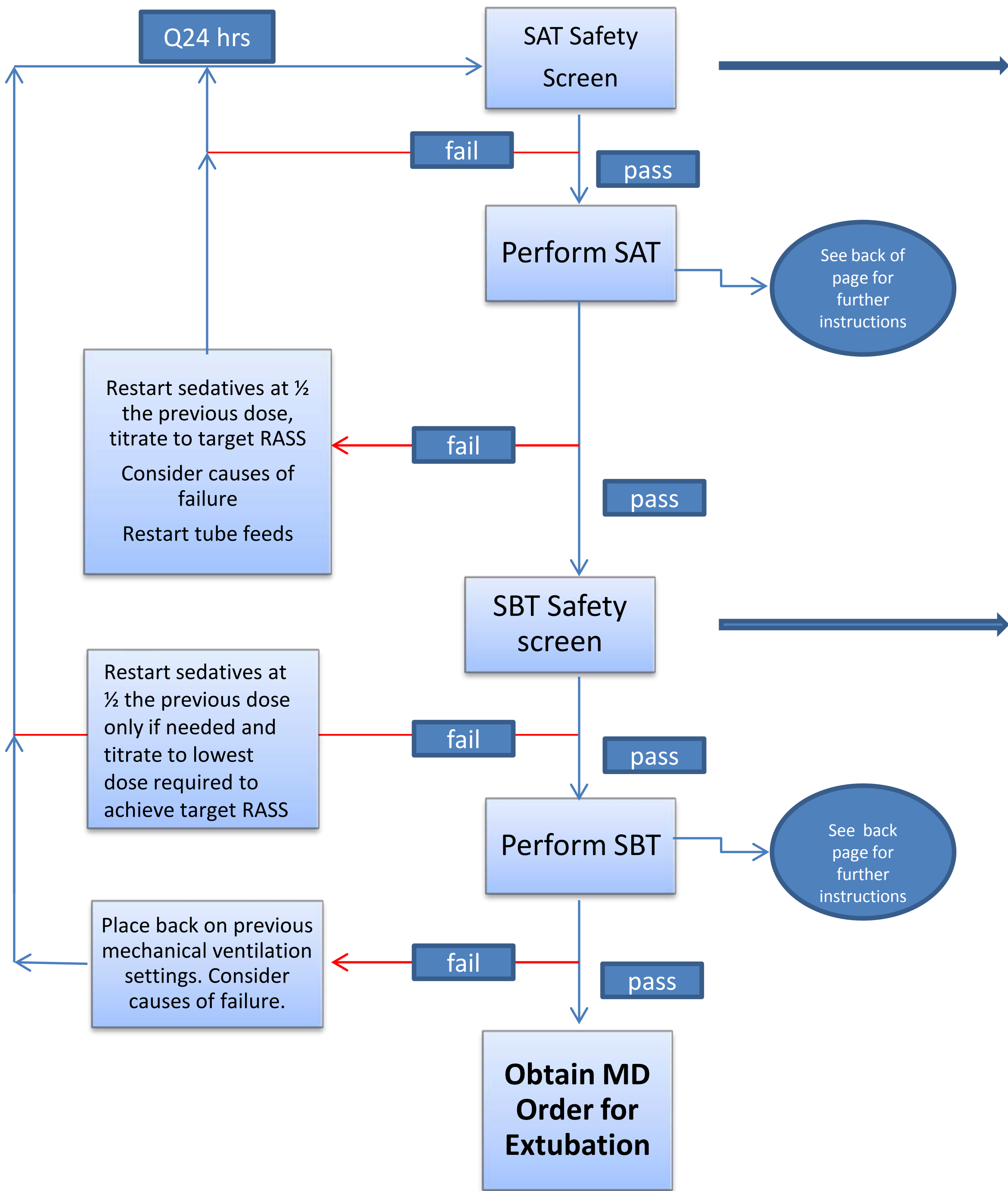
Awakening & Breathing Coordination, Daily Delirium Monitoring, and Early Mobility (ABCDE) Protocol

Responsible Position	**Approval Date**
Director, Critical Care Services	05/05/2014
Sponsoring Department or Committee	**Approval Date**
Clinical Operations Improvement Taskforce	05/05/2014
Critical Care Committee	05/21/2014
Other Approvals	**Approval Date**
Medical Executive Committee (MEC)	06/19/2014
Board of Trustees	07/10/2014
Past Approval Dates	

ABCDE's of critical care





SAT Safety Screen/Exclusion Criteria

Fresh (72 hours) open abdomen
Sedative infusion for active seizures
Escalating doses of sedation for ongoing agitation or RASS >2
Neuromuscular Blockade
Evidence of increased ICP
Acute cardiac ischemia in the prior 24 hrs
Post-op craniotomy not cleared by neurosurgery
Strict C-Spine precautions
Escalating doses of sedation for ETOH withdrawal

SAT Failure

Anxiety, agitation or pain (RASS ≥2 for 5 min or longer)
Respiratory rate >35 for 5 min
SPO2 < 90% for 2 min
Acute cardiac dysrhythmia
Any of the following:
Tachycardia (HR increase ≥ 20 bpm) bradycardia (HR < 55 bpm)
Accessory muscle use,
Abdominal paradox,
Diaphoresis

SBT Safety Screen

Sat > 90%
FIO2 ≤50%
PEEP ≤5 cm H2O (call MD to trial decrease if patient on PEEP of 8)
No agitation (RASS <2)
No ischemic events in 24 hrs
No increasing vasopressor support
No evidence of Increased ICP
No paralysis
Minimal Suctioning Required (cannot be <Q1 hour suctioning)

SBT Failure

RR >35 or <8 for 5 min
Sat ≤ 90% for > 2 min
Acute mental change
Acute cardiac dysrhythmia
Any of the following:
Respiratory distress, Tachycardia (HR increase ≥ 20 bpm)
Bradycardia <55, Accessory muscle use, Diaphoresis
SBP <90; >180

Eligible for SAT/SBT

Perform SAT (Spontaneous Awakening Trial)

- Decrease rate of sedatives by 50% for 5-10 min, then discontinue sedatives and assess patient need for soft wrist restraints to avoid self extubation. Note: If patient exhibits immediate agitation, administer PRN IVP sedative dose. (Propofol considerations – if patient on > 20mcg/kg/min, consider reducing rate to 20mcg/kg/min for 5-10 min, and then discontinue).
- For those on benzodiazepine drips > 7 days, develop titration plan with MD before any adjustments.
- Monitor for up to 4 hours **or** until the following **criteria for Passing the trial**:
  - Opens eyes to verbal stimuli
  - Follows simple commands
  - No evidence of agitation observed RASS < 2
  - If above met up to 4 hours, the patient is eligible for Spontaneous Breathing Trial (SBT), **follow instructions on front page**
- If patient passes SAT hold enteral feeding
  - If on insulin drip, follow protocol

Perform SBT (Spontaneous Breathing Trial)

- Pressure support trial 5-8 cm H2O, PEEP $\leq$ 5, for 30-120 minutes. Coordinate with RN and RT
- Obtain VS Q 10min during trial
- RN and RT to be available in unit 20 minutes pre and post extubation

- **Criteria for Passing the SBT**
  - RR <35 and >8
  - Sat >90%
  - Spontaneous TV >5mL/kg (IBW)
  - Hemodynamic stability
  - No signs of distress
- **Contact Intensivist/Pulmonologist MD to obtain a telephone or written order to extubate, and assure the following:**
  - Intubation tray at bedside prior to extubation
  - Physician skilled at intubation is immediately available or present during extubation
  - Tenuous airway:
    - Intensivist/Pulmonologist should be notified and present prior to extubation.

PAD:	PAIN	AGITATION	DELIRIUM
ASSESS	Assess pain ≥4x/shift & prn Pain assessment tools: ▪ Patient able to self report: Numeric scale 1-10 ▪ Patient unable to self report: APP score	Assess agitation, sedation≥4x/shift & prn Sedation assessment tools: ▪ RASS (-5 to +4) Depth of agitation, sedation defined as: RASS score ▪ Agitated = +1 to +4 ▪ Awake and calm= 0 ▪ Lightly sedated= -1 to -2 ▪ Deeply sedated= -3 to -5	Assess delirium Q shift & prn Delirium assessment tool: CAM-ICU (+ or-) Delirium present if CAM-ICU is positive
TREAT: Please refer to dosing guidelines for analgesia, sedation and delirium .	Treat pain within 30 min then reassess: ▪ Non-pharmacologic treatments a. Positioning, relaxation therapy, ice ▪ Pharmacologic treatment a. Non-neuropathic pain→ IV opioids +/- non-opioid analgesics b. Neuropathic pain→ gabapentin or carbamazepine, +/- IV opioids c. S/P AAA repair, rib fractures→ thoracic epidural	Targeted sedation goal: patient follows commands without agitation: RASS= -2 – 0 ▪ If **under** sedated: RASS>0 assess/treat pain then treat with sedatives prn (non-benzodiazepines preferred, unless ETOH or benzodiazepine withdrawal suspected) ▪ If **over** sedated RASS <-2 hold sedatives until at target then restart at 50% of previous dose	▪ Treat pain as needed ▪ Reorient patients; familiarize surroundings; use patients eyeglasses; hearing aides if needed ▪ Pharmacologic treatment of delirium: a. Avoid benzodiazepines unless ETOH or benzodiazepine withdrawal is suspected b. Avoid rivastigmine c. Avoid antipsychotics if ↑ risk of Torsades de pointes
PREVENT	▪ Administer pre-procedural analgesia and/or non-pharmacologic interventions ▪ Treat pain first then sedate	▪ Consider daily SBT, early mobility and exercise when patients are at goal sedation level, unless contraindicated ▪ EEG monitoring if : a. At risk for seizures b. Burst suppression therapy is indicated for ↑ ICP	▪ Identify delirium risk factors: dementia, ETOH abuse, high severity of illness, coma, benzodiazepine administration ▪ Avoid benzodiazepine use in those at ↑ risk for delirium ▪ Promote sleep (control light, noise, cluster patient care activities, decrease nocturnal stimuli) ▪ Restart baseline psychiatric meds, if indicated?

Delirium

1. Acute onset of mental status changes or a fluctuating course

&

2. Inattention

&

3. Disorganized Thinking

or

4. Altered level of consciousness

Resident ICU Course

Courtesy of W Ely, MD

Society of Critical Care Medicine
The Intensive Care Professionals

and THINK

Do any meds need to be **stopped** or lowered?

- Especially consider **sedatives**
- Is patient on minimal amount necessary?
  - Daily sedation cessation
  - Targeted sedation plan
  - Assess target daily
- Do sedatives need to be changed?
- Remember to assess for pain.

T oxic Situations
- CHF, shock, dehydration
- New organ failure (liver/kidney)

H ypoxemia

I nfection/sepsis (nosocomial),

I mmobilization

N onpharmacologic interventions
- Hearing aids, glasses, reorient, sleep protocols, music, noise control, ambulation

K + or electrolyte problems

Consider antipsychotics after evaluating etiology & risk factors

Confusion Assessment Method for the ICU (CAM-ICU) Flowsheet

1. Acute Change or Fluctuating Course of Mental Status:

- Is there an acute change from mental status baseline? OR
- Has the patient's mental status fluctuated during the past 24 hours?

NO → **CAM-ICU negative NO DELIRIUM**

YES ↓

2. Inattention:

- *"Squeeze my hand when I say the letter 'A'."*
  Read the following sequence of letters: S A V E A H A A R T
  ERRORS: No squeeze with 'A' & Squeeze on letter other than 'A'
- If unable to complete Letters → Pictures

0 - 2 Errors → **CAM-ICU negative NO DELIRIUM**

> 2 Errors ↓

3. Altered Level of Consciousness
Current RASS level

RASS other than zero → **CAM-ICU positive DELIRIUM Present**

RASS = zero ↓

4. Disorganized Thinking:

1. Will a stone float on water?
2. Are there fish in the sea?
3. Does one pound weigh more than two?
4. Can you use a hammer to pound a nail?

Command: "Hold up this many fingers" (Hold up 2 fingers)
"Now do the same thing with the other hand" (Do not demonstrate)
OR "Add one more finger" (If patient unable to move both arms)

> 1 Error → **CAM-ICU positive DELIRIUM Present**

0 - 1 Error → **CAM-ICU negative NO DELIRIUM**

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RASS

Eligibility (Exercise / Mobility) = RASS $\geq$ -3

Score	Term	Description
+4	COMBATIVE	Combative, violent, immediate danger to staff
+3	VERY AGITATED	Pulls to remove tubes or catheters; aggressive
+2	AGITATED	Frequent non-purposeful movement, fights ventilator
+1	RESTLESS	Anxious, apprehensive, movements not aggressive
0	ALERT & CALM	Spontaneously pays attention to caregiver
-1	DROWSY	Not fully alert, but has sustained awakening to voice (eye opening & contact >10 sec)
-2	LIGHT SEDATION	Briefly awakens to voice (eyes open & contact <10 sec)
-3	MODERATE SEDATION	Movement or eye opening to voice (no eye contact)
-4	DEEP SEDATION	No response to voice, but movement or eye opening to physical stimulation
-5	UNAROUSEABLE	No response to voice or physical stimulation

Does the patient pass or fail the Safety screen? They must meet all criteria

- If the patient fails they are too critically ill to tolerate exercise/mobility. Reassess after 24 hours.
- If the patient passes move onto exercise and mobility therapy

PASS

Does the patient open eyes to verbal or manual stimuli RASS > -2 ≤ +1

yes

Bed level assessment:

- orient patient/perform CAM-ICU if not already done
- assess baseline VS

Does patient respond appropriately?

no → *Limit to bed level 1 activity

yes

Sitting assessment:

- dangle patient at the edge of the bed

Does the patient meet all of the following?
Remains awake and oriented
Demonstrating trunk control
VS within acceptable parameters

no → *Limit to level 1 and 2 activity

Standing assessment:

- perform sit to stand and static standing at bedside

Does the patient meet all of the following?
Remains awake and oriented
Demonstrating trunk control
VS within acceptable parameters

no → *Limit to level 2 and 3 activity

yes

Proceed with standing activities, transferring to chair and gait training → *Patient has now attained level 4 activity

Exercise and Mobility Safety screen/Inclusion criteria:

- Patient responds to verbal stimulation: RASS > -3
- $FIO_2 \leq 60\%$
- PEEP ≤ 10 cmH_2O
- No acutely worsening respiratory failure
- No critical airway
- No ↑dose of any vasopressor infusion for at least 2 hrs or significant doses of vasoactive agents for hemodynamic stability
- No evidence of active myocardial ischemia for 24 hrs
- No arrhythmia requiring the administration of new antiarrhythmic agent for 24 hrs
- No injuries in which mobility is contraindicated (e.g. unstable fractures of spine or extremities)
- No therapies that restrict mobility (open abdomen, intracranial pressure monitoring/drainage, femoral artery catheter)
- No acute neurologic events
- No active bleeding process
- No order for bedrest
- No grave prognosis; Not transitioning to comfort care.

* see back page for activity level descriptions and instruction

Exercise/Mobility Activity Levels

- **Levels of progressive mobility:**

  Get Order for PT Eval and Treat

  Get Order for OT Eval and Treat
- **Level 1**
  - Active exercises in bed; this includes bed adjustment, passive transfer to chair, or with lift assistance. **Can patient move arm against gravity? If yes to level 2.**
  - Goal for exercises 20 minutes
  - OOB to chair 20 minutes to one hour with positioning after 30 minutes to reduce pressure
- **Level 2**
  - Dangling at edge of bed plus sitting position in chair TID (passive or active transfer to chair)
  - Goal 20 minutes to one hour in chair with positioning after 30 minutes to reduce pressure
- **Level 3**
  - Transfer to chair (active), includes standing without marching in place (static standing)
  - Goal 30 minutes to one hour
  - Can patient move leg against gravity with resistance? Can patient sit unsupported at the edge of the bed?

    If yes to both go to level 4
- **Level 4**
  - Ambulation (marching in place, walking in room/hall)
  - Goal 20 minutes
  - Active transfer to chair TID

Criteria for Terminating PT Mobilization Session

Heart Rate: • **> 20% decrease in resting HR** • **< 40 beats /min; > 130 beats/min** • **New onset dysrhythmia**	**Pulse Oximetry:** • **> 4% decrease** • **< 90%**
Blood Pressure: • SBP > 180 mmHg • > 20% decrease in SBP/DBP; orthostatic hypotension • MAP < 65 mmHg ; > 110 mmHg • Escalating doses of vasopressor during mobilization	Mechanical Ventilation: • FiO2 requirements increased to ≥ 60% • Patient-ventilator asynchrony lasting greater than 5 min
Respiratory Rate: • < 8 breaths/ min; > 40 breaths/ min	Alertness/Agitation: • Patient RASS decreases to ≤ -3 • Patient agitation requiring addition or escalation of sedation RASS ≥ 2 • Patient c/o intolerable dyspnea on exertion • Patient refusal