Review of the Updated Clinical Practice Guidelines for the Management of Pain, Agitation, Delirium (PAD) in the Adult Patient in ICU

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Objectives - Pharmacists

- Review the updated Clinical Practice Guidelines
- Describe the approach taken by the task force to arrive at the current recommendations
- Examine the treatment options and monitoring for PAD
- Relate PAD treatment options to patient cases

Objectives - Technicians

- Explain what PAD stands for and how it applies to ICU patients
- Review the common medications used for the treatment of PAD
- Recognize the different tools for detecting and monitoring pain, agitation, and delirium
- Relate PAD treatment options to technician duties

Disclosures/Notes

- No conflict of interest
- Member of SCCM's Pain, Agitation, Delirium, and Immobility (PADI) Task Force to develop and implement a campaign to address pain, agitation, delirium and immobility in the ICU.
- Note: Discussion for the *adult* ICU patient only this evening.

History

- 2002 – Clinical Practice Guidelines for the Sustained Use of Sedatives and Analgesics in the Critically Ill Adult
- 2004 – American College of Critical Care Medicine assembled a task force to start the update process
- 2012 – Updated Clinical Practice Guidelines for the Management of PAD in the Adult Patient in ICU

Task Force Components

- 20 person multidisciplinary team
- Expertise
  - Guideline development - Pain
  - Agitation/sedation - Delirium
  - Associated outcomes in adult critically ill patients
- Divided into 4 subcommittees
  - Pain/analgesia - Agitation/sedation
  - Delirium - Related ICU outcomes
- Collaborated over 6 years in person, teleconferences, and electronic communications

Task Force Methods

- Utilized the Grading of Recommendations Assessment, Development, and Evaluation (GRADE) method
- Utilized a professional librarian and Refworks database resulting in 19,000 references to be reviewed
- Utilized psychometric analyses to evaluate and compare pain, agitation/sedation, and delirium tools

Task Force Methods continued…

- Members
  - Review the literature supporting each statement and recommendation
  - Group consensus was achieved for all statements and recommendations
  - Anonymous voting by all members
  - All voting on the elements was completed in December 2010

Relevant Studies

- 2002 guidelines included studies published as of December 1999
- Task force's studies
  - Published as of December 2010
  - Studies published after 2010 were not included in the voting process but could be incorporated into the guidelines
  - 2002 references were also included

Staging of Statements and Recommendations

- Quality of the evidence
  - High (A)
  - Moderate (B)
  - Low/very low (C)
- Strength of recommendation
  - Strong (1) "We recommend…"
  - Weak (2) "We suggest…"
  - In favor (+) or against (-)

Pharmacists and Technicians:

Is this patient having pain? True False

Pain

- Incidence:
  - All patients in medical, surgical, and trauma units routinely experience pain (B)
  - Pain in cardiac surgery patients is common and poorly treated; women experience more pain then men post-op (B)
  - Procedural pain is common especially with chest tube removal (B)

Pain Assessment

- We recommend that pain should be routinely monitored (1+B)
- Most valid and reliable (except for brain injury) in patients who cannot report and have intact motor function and behaviors are observational (B)
  - Behavorial Pain Scale (BPS)
  - Critical-Care Pain Observation Tool (CPOT)
- We do not suggest vital signs be use alone for pain assessment (-2C)
- We suggest that vital signs may be used as a cue for further assessment of pain (+2C)

Behavioral Pain Scale (BPS)

Item	Description	Score
Facial expression	Relaxed	1
	Partially tightened (e.g., brow lowering)	2
	Fully tightened (e.g., eyelid closing)	3
	Grimacing	4
Upper limb movements	No movement	1
	Partially bent	2
	Fully bent with finger flexion	3
	Permanently retracted	4
Compliance with mechanical ventilation	Tolerating movement	1
	Coughing but tolerating ventilation for the most of time	2
	Fighting ventilator	3
	Unable to control ventilation	4

BPS score ranges from 3 (no pain) to 12 (maximum pain).

CPOT

Indicator	Description	Score	
Facial expression	No muscular tension observed	Relaxed, neutral	0
	Presence of frowning, brow lowering, orbit tightening, and levator contraction	Tense	1
	All of the above facial movements plus eyelid tightly closed	Grimacing	2
Body movements	Does not move at all (does not necessarily mean absence of pain)	Absence of movements	0
	Slow, cautious movements, touching or rubbing the pain site, seeking attention through movements	Protection	1
	Pulling tube, attempting to sit up, moving limbs/ thrashing, not following commands, striking at staff, trying to climb out of bed	Restlessness	2
Muscle tension Evaluation by passive flexion and extension of upper extremities	No resistance to passive movements	Relaxed	0
	Resistance to passive movements	Tense, rigid	1
	Strong resistance to passive movements, inability to complete them	Very tense or rigid	2
Compliance with the ventilator (intubated patients)	Alarms not activated, easy ventilation	Tolerating ventilator or movement	0
	Alarms stop spontaneously	Coughing but tolerating	1
	Asynchrony: blocking ventilation, alarms frequently activated	Fighting ventilator	2
OR			
Vocalization (extubated patients)	Talking in normal tone or no sound	Talking in normal tone or no sound	0
	Sighing, moaning	Sighing, moaning	1
	Crying out, sobbing	Crying out, sobbing	2
Total, range			0-8

Treatment of Pain

- We recommend preemptive analgesia and/or nonpharmacologic interventions prior to chest tube removal (+1C)
- We suggest preemptive analgesia and/or non-pharmacologic interventions prior to invasive and potentially painful procedures (+2C)
- We recommend IV opioids be considered first line for non-neuropathic pain (+1C)

Technician Question: RN calls to ask for a stat order entry of morphine for her patient who is having his chest tube removed. What action do you take?

Opioids

Opiates	Onset IV	Half-life	Side Effects and Other Info
Fentanyl	1-2 min	2-4 hrs	Less hypotension than morphine; accumulates in hepatic impairment.
Hydromorphone	5-15 min	2-3 hrs	Option in pts tolerant to morphine or fentanyl; accumulates in hepatic and renal
Morphine	5-10 min	3-4 hrs	Accumulates in hepatic/renal; histamine release.
Methadone	1-3 days	15-60 hrs	May be used to slow the development of tolerance with escalation of opioids. Unpredictable kinetics and pharmacodynamics in opiate naïve patients. Monitor QTc
Remifentanil	1-3 min	3-10 min	No accumulation if hepatic/renal. Use IBW if body weight > 130% IBW

Pharmacist/Technician Case #1 Question

Pharmacist/Tech Case Information

- 40 yo with Hx of peptic ulcer dz who presented last evening to ER with abd pain.
- Workup in ER: CT scan + for free air in abd so pt taken to OR and found to have a large perforated gastric ulcer which was repaired.
- NKA; PMH of GERD and on Protonix at home; Smoker
- Remains intubated due to his condition.

  - Calculate his current BPS score: ___

Patient's Score?

Behavioral Pain Scale (BPS)

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Pharmacist Case Question

- Pt's post-op order currently is Morphine 2-4mg IV q2h prn all pain.
- Current treatment satifactory?

  True False
- Later that morning you notice that his Cr value is slowly increasing since admission and his nurse is reporting increasing hypotension too.

- Do you have any new recommendations?

Other Pain Options

- Local or regional anesthetics
- NSAIDs
- IV acetaminophen
- Anticonvulsants
  - Neuropathic pain treatments
  - Adjunctive pain medications to reduce opioid requirements
  - Safety and effectiveness as sole agents have not been adequately studied in ICU patients

Non-opiate Analgesia

Medication	Onset	Half-life	Side effects and Other Info
Ketamine (IV)	30-40 sec	2-3 hrs	Attenuates the development of acute tolerance to opioids. May cause hallucinations and other psychological disturb.
Acetaminophen PO/PR	30-60 min	2-4 hrs	May be contraindicated with significant hepatic dysfunction
Acetaminophen IV	5-10 min	2 hrs	
Ketorolac (IM/IV)	10 min	2.4-8.6 hrs	Avoid NSAIDs in renal dysfunction, GB bleeding, plt abnormality, concomitant …
Ibuprofen (IV)	N/A	2.2-2.4 hrs	ACEI, CHF, cirrhosis, asthma. Contra-indicated in perioperative pain in CABG
Ibuprofen (PO)	25 min	1.8-2.5 hrs	
Gabapentin (PO)	N/A	5-7 hrs	Sedation, confusion, dizziness. Renal adj
Carbamazepine (PO) – immed.	4-5 hrs	25-65 min initially then 12-17 hrs	Nystagmus, dizziness, diplopia; Steven-Johnson syndrome. Multiple drug interactions due to hepatic enzyme induction.

Treatment Methods

- Intermittent vs continuous infusion?
  - Pharmacokinetics
  - Frequency and severity of pain
  - Patient's mental status
- Enteral?
- Regional or neuraxial modalities
- Nonpharmacologic

Pharmacist Case #1 Question

Pharmacist Question

- Later that afternoon, MD is thinking of adding a non-opiate agent for a few supplemental doses as concerned about decreased peristalsis from narcotics.
- Which of the following options could you offer:
  - IV acetaminophen 1gm IV q8h x 3 doses
  - Ketoralac 15mg IV q8h x 3 doses
  - Gabapentin 300mg via NG q6h x 8 doses

Case #2 Patient

Agitation and Sedation

- Depth of sedation vs clinical outcomes
  - Maintaining light levels of sedation is associated with improved clinical outcomes (B)
  - Maintaining light levels increases the physiologic stress response but is not associated with increased incidence of MI (B)
  - Association between depth and psychological stress remains unclear (C)
  - Recommend sedative medications be titrated to maintain light rather than a deep level unless clinically contraindicated (+1B)

Monitoring Tools

- Most valid and reliable (B)
  - Richmond Agitation-Sedation Scale (RASS)
  - Sedation-Agitation Scale (SAS)
- Do not recommend objective measures of brain function in noncomatose, nonparalyzed patients(-1B)
  - Auditory evoked potentials (AEPs)
  - Bispectral Index (BIS)
  - Narcotrend Index (NI)
  - Patient State Index (PSI)
  - State Entropy (SE)

Monitoring Tools continued…

- Suggest that objective measures of brain function be used an adjunct to subjective sedation assessments in patients receiving neuromuscular blockers (+2B)
  - eg. AEPs, BIS, NI, PSI, or SE
- Recommend EEG monitoring to monitor nonconvulsive seizure activity or to titrate electrosuppressive medication with increased ICP (+1A)

Richmond Agitation-Sedation Scale (RASS)

+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

Sedation-Agitation Scale (SAS)

Score	Characteristic	Examples of patients' behavior
7	Dangerous agitation	Pulls at endotracheal tube, tries to remove catheters, climbs over bed rail, strikes at staff, thrashes side to side
6	Very agitated	Does not calm despite frequent verbal reminding of limits, requires physical restraints, bites endotracheal tube
5	Agitated	Is anxious or mildly agitated, attempts to sit up, calms down in response to verbal instructions
4	Calm and cooperative	Is calm, awakens easily, follows commands
3	Sedated	Is difficult to arouse, awakens to verbal stimuli or gentle shaking but drifts off again, follows simple commands
2	Very sedated	Arouses to physical stimuli but does not communicate or follow commands, may move spontaneously
1	Unarousable	Has minimal or no response to noxious stimuli, does not communicate or follow commands

Why assess?

- Treat underlying causes of agitation:
  - Pain
  - Hypoxemia
  - Hypotension
  - Delirium
  - Hypoglycemia
  - Withdrawal: drugs/alcohol
- Goals: reduce anxiety and agitation to maintain patient comfort
  - Analgesia
  - Reorientation
  - Normal sleep patterns

Pharmacists and Technicians Case #2 Question
What could be causing agitation in this patient?

"Light" Sedation

- "Light" = arousable and follows simple commands
- "Deep" = unresponsive to painful stimuli
- Why light?
  - Negative consequences for prolonged, deep sedation
  - Benefits for lighter levels:
    - Shorter duration on respirator,
    - Decreased ICU and and hospital LOS
    - Decreased incidence of delirium and long-term cognitive dysfunction

2002 Guidelines for Sedation

- Recommendations
  - Midazolam for short-term sedation
  - Lorazepam for long-term sedation
  - Propofol for patients requiring intermittent awakening
- Survey of practice since these guidelines
  - Midazolam and propofol remain common
  - Decreasing lorazepam
  - Rare use of barbiturates, diazepam, ketamine
  - Dexmedetomidine approved after the guidelines

Pharmacists Case #2 Question
How would you treat this patient if it was Dec 2012?

Sedative Options

Medication	Onset p/ IV LD	Half-life	Adverse Effects
Midazolam	2-5 min	3-11 hrs	Respiratory depression, hypotension
Lorazepam	15-20 min	8-15 hrs	Respiratory depression, hypotension, propylene glycol-related acidosis, nephrotoxicity
Diazepam	2-5 min	20-120 hrs	Respiratory depression, hypotension, phlebitis
Propofol	1-2 min	Short-term use = 3-12 hrs Long-term = 50 $\pm$ 18.6 hrs	Pain on injection, hypotension, respiratory depression, hypertriglyceridemia, PRIS; deep sedation is assocated with longer emergence
Dexmede-tomidine	5-10 min	1.8-3.1 hrs	Bradycardia, hypotension, hypertension with loading dose, lose of airway reflexes

"Benzos"

- What do we know
  - Activate GABA
  - Result in anxiolytic, amnestic, sedating, hypnotic and anticonvulsant effects
  - Amnestic effects extend beyond sedation
  - Midazolam/diazepam more lipid soluble than lorazepam = quicker onset of sedation and larger volume of distribution vs lorazepam
  - Elderly more sensitive to sedative effects

"Benzos" continued

- All are metabolized by the liver with Cl decreased in
  - Hepatic dysfunction
  - Elderly patients
  - Coadministered with other meds that inhibit CYP450 system and/or glucuronide conjungation
- Half-life increased with lorazepam in patients with renal failure
- Active metabolites of midazolam and diazepam may accumulate with prolonged administration especially with decreased renal function
- Clearance decreases with age

"Benzos"

- Delayed emergence from sedation with prolonged administration
  - Saturation of peripheral tissues
  - Advanced age
  - Hepatic or renal dysfunction
- Parenteral lorazepam with propylene glycol
  - Toxicity: metabolic acidosis and AKI
  - Monitor: Serum osmal gap as a reliable tool

Propofol

- Binds to multiple receptors to interrupt neural transmission
  - GABA - Glycine - Nicotinic - Muscarinic
- Pharmacologic effects:
  - Sedative- Hypnotic - Anxiolytic
  - Amnestic - Anticonvulsant
- But no analgesic effect

Propofol

- Highly lipid soluble
  - Quickly crosses blood-brain barrier for rapid onset
  - Rapidly redistributes into peripheral and along with high hepatic and extrahepatic clearance = rapid offset of effect with short-term use
  - Useful for patients who need frequent awakening for neuro checks or daily sedation interruption protocols
  - Long-term infusion can lead to saturation of peripheral tissues and prolonged awakening

Propofol Issues

- Dose-dependent respiratory depression and hypotension
- Cardiopulmonary instability
- Hypertriglyceridemia
- Acute pancreatitis
- Myoclonus
- Allergies: eggs or soy bean
- Infusions and hang times

Pharmacist Case #2

- 50 yo male was admitted after being a driver in MVA. He did have his seat belt on but hit the left side of his head on his driver's side window.
- Did not report any LOC and was alert at the scene but then started to have a decrease in mental status on transport.
- Condition continued to become more unstable and was intubated in ER.
- Head CT in ER was neg but a repeat is pending this AM.
- No other PMH is currently available.

Pharmacists Case #2 Question
Is this patient a good candidate for propofol?

Technician Case #2 Question

- It's 9am and you are doing your IV rounds and see that this patient is on a propofol drip.
- The patient's current infusion rate is 5ml/hour and this bottle of 100ml was hung an hour ago.

    - When will the next bottle be due?

PRIS

- Propofol related infusion syndrome
  - Rarely associated
  - Signs/symptoms:
    - Worsening metabolic acidosis
    - Hypertriglceridemia
    - Hypotension with increasing vasopressor needs
    - Arrhythmias
    - AKI, hyperkalemia, rhabdo, and liver dysfunction
  - Usually associated with prolonged administration of high-dose (> 70 mcg/kg/min)
  - Early recognition and discontinuation is key
  - Management is supportive

Pharmacists Case #2
More medical information now available.

Case #2 Medical Info

- Now 36 hrs later and this additional info obtained
  - Pt drinks approx 6 beers/day
  - Hx of elevated triglycerides and on Crestor 40mg HS
  - Hx HTN on Lisinopril 40mg and HCTZ 12.5mg daily
- Propofol drip rate has been steadily increasing and supplemented with midazolam and fentanyl
- Check of triglycerides = 399 and amylase = 98; LFTs are wnl. Repeat CT = stable bruising.

Treatment thoughts?

Dexmedetomidine

- Selective alpha-2 receptor antagonist with
  - Sedative
  - Analgesic/opioid sparing
  - Sympatholytic properties
- But sedation differs from other sedatives
  - More easily arousable and interactive
  - Minimal respiratory depression

"Dex" Notes

- Onset of sedation within 15 minutes and peak sedation in 1 hour
- Metabolized by liver which can effect half-life with hepatic dysfunction
- Only approved for short-term ICU sedation (<24 hours) and a max dose of 0.7 mcg/kg/hr
  - Studies with safety/efficacy documentation for greater than 24 hours and up to 1.5mcg/kg/hr

"Dex" Side Effects

- Most common: hypotension and bradycardia
- Does not significantly affect respiratory drive = only sedative approved for administration in nonintubated ICU patients
- But, can cause loss of oropharyngeal muscle tone which can lead to airway obstruction so continuous respiratory monitoring required
- Opioid sparing effect may reduce opioid dosing

Choice of Sedative?

- We suggest that sedation strategies using non-benzodiazepine sedatives (either propofol or dexmedetomidine) may be preferred over sedation with benzodiazepines (either midazolam or lorazepam) to improve clinical outcomes in mechanically ventilated ICU patients. (+2B)

Pharmacist Case #2

- Plan is to extubate pt in the AM, continue to tx alcohol withdrawal, monitor neuro status.
- Upon completion of the agitation/sedation options, what treatment option would you suggest for our patient now?
  - Stop propofol, cont midazolam/fentanyl, and start "dex" drip for 48 hrs
  - Stop propofol and treat with lorazepam/fentanyl only

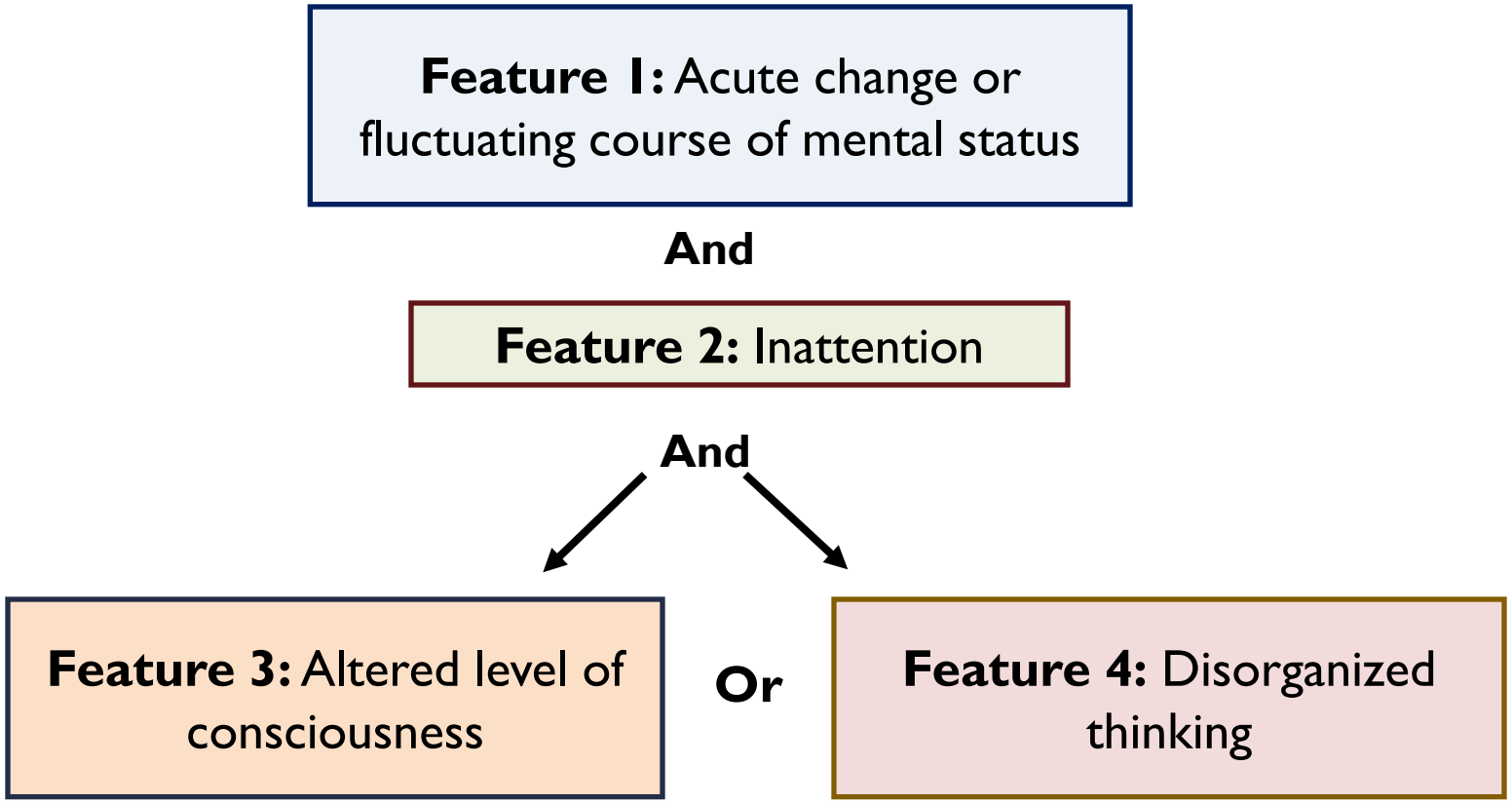
Delirium

- Outcomes associated with delirium
  - Delirium is associated with increased mortality in ICU patients. (A)
  - Delirium is associated with prolonged ICU and hospital LOS in ICU patients. (A)
  - Delirium is associated with the development of post-ICU cognitive impairment in ICU patients. (B)

Delirium

- Detecting and monitoring
  - We recommend routine monitoring of delirium. (+1B)
  - The Confusion Assessment Method for the ICU (CAM-ICU) and the Intensive Care Delirium Screening Checklist (ICDSC) are the most valid and reliable delirium monitoring tool. (A)
  - Routine monitoring of delirium in ICU patients is feasible in clinical practice. (B)

Confusion Assessment Method for the ICU (CAM-ICU)



Inouye, et. al. Ann Intern Med 1990; 113:941-948.1
Ely, et. al. CCM 2001; 29:1370-1379.4
Ely, et. al. JAMA 2001; 286:2703-2710.5

ICU Delirium Screening Checklist

SCORING SYSTEM: The scale is completed based on information collected from each shift, or since the last assessment. Obvious manifestations of an item = 1 point; no manifestations or no assessment possible = 0 point. The score is entered in the corresponding box.

Patient Evaluation	Date		Day 2		Day 3		Day 4		Day 5	
Altered Level of Consciousness (If VAMASS 0 or 1, do not complete evaluation until next scheduled time)	D	N	D	N	D	N	D	N	D	N
Inattention										
Disorientation										
Hallucination – delusion - psychosis										
Inappropriate speech or mood										
Sleep/wake cycle disturbance										
Psychomotor agitation/retardation										
Symptom fluctuation										
TOTAL SCORE										

DEFINITIONS

Altered LOC
- If the VAMASS is 0, or patient is comatose, stuporous, or has an altered LOC that precludes assessment, score with a dash (-).
- VAMASS 2 scores 1 point ; VAMASS 3 scores 0 point; and VAMASS 4 or greater scores 1 point

Inattention
- Difficulty in following a conversation or instructions. Easily distracted by external stimuli. Difficulty in shifting focuses. Scores 1 point.

Disorientation
- Any obvious mistake in person, place or time scores 1 point

Hallucination, delusion or psychosis
- Unequivocal clinical manifestation of hallucination or of behavior due to hallucination (e.g., catching a non-existent object)
- Gross impairment in reality. All score 1.

Psychomotor agitation or retardation
- Hyperactivity requiring the use of additional sedative drugs or restraints to control potential dangerous behavior. Hypoactivity or clinically noticeable psychomotor slowing scores 1 point.

Inappropriate speech or mood
- Inappropriate, disorganized or incoherent speech. Inappropriate display of emotion related to events or situation. Any or all, score maximum of 1 point.

Sleep/Wake cycle disturbance
- Sleeping < 4 hours or waking frequently at night (not initiated by ICU staff or environment). Sleeping most of day. Scores 1 point.

Symptom fluctuation
- Fluctuation of any symptom above since last assessment scores 1 point.

Skrobik & Bergeron (2001). ICM.

What is Delirium?

- Syndrome characterized by acute onset of cerebral dysfunction with a change or fluctuation in baseline mental status, inattention, and either disorganized thinking or an altered level of consciousness
- Common misconception: these patients are either hallucinating or delusional
- Types
  - Hyperactive: agitated, hallucinating
  - Hypoactive: calm or lethargic
  - Fluctuate between the two

Why be concerned?

- Now recognized as a major public health problem
  - Affecting up to 80% of intubated patients
  - Costing $4 to 16 billion annually
- Independent predictor of negative clinical outcomes
  - Increased mortality
  - Increased hospital LOS and cost
  - Increased long-term cognitive impairment
- Newer work underway to understand which aspects of delirium are predictable, preventable, detectable, and treatable.

Delirium Risk Factors

- Four baseline risk factors are positively and significantly associated with development of
  - Preexisting dementia
  - History of hypertension and/or alcoholism
  - High severity illness at admission (B)
- Coma is an independent risk factor. (B)
- Conflicting data between opioid use and the development of delirium. (B)

Delirium Risk Factors continued…

- "Benzo" use may be a risk factor for the development of delirium. (B)
- Insufficient data to determine the relationship between propofol use and development of delirium. (B)
- In mechanically ventilated at risk of developing delirium, "dex" infusions administered for sedation may be associated with a lower prevalence of delirium compared to "benzo" infusions.

Pharmacists and Technician Case #2 Question

Case #2 Question

- Which risk factors does this patient have for delirium?
  - "Benzo" use?
  - Preexisting dementia?
  - Alcoholism?
  - Propofol use?
  - Hypertension?

Delirium Prevention

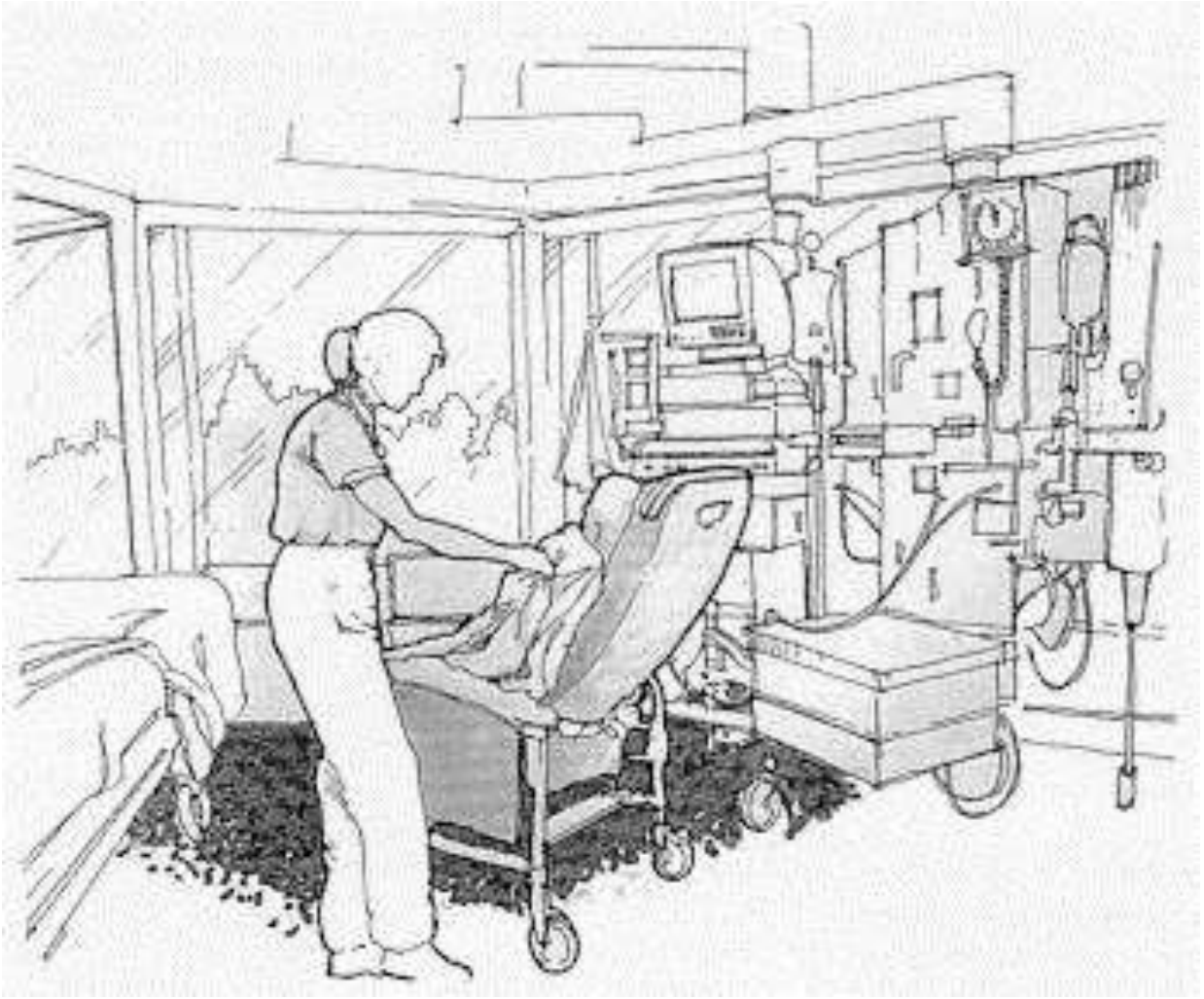
- We recommend early mobilization whenever feasible. (1+B)
- We provide no recommendation for using either pharmacologic or combined nonpharmacologic pharmacologic delirium prevention protocol. (0,C)
- We do not suggest that either haldoperidol or atypical antipsychotics be administered to prevent delirium. (-2C)
- We provide no recommendation for the use of "dex" to prevent delirium as there is no compelling evidence regarding its effectiveness in these patients. (0,C)

Delirium Treatment

- No published evidence that treatment with haldoperidol reduces the duration of delirium.
- Atypical antipsychotics may reduce the duration of delirium. (C)
- We do not recommend administering rivastigmine to reduce the duration of delirium. (-1B)
- We do not suggest using antipsychotics in patients with risk of torsades de pointes. (-2C)

Delirium Treatment continued

- We suggest that in patients with delirium unrelated to alcohol or "benzo" withdrawal, continuous IV infusions of "dex" rather than "benzos" be administered for sedation to reduce the duration of delirium. (+2B)
- Pursue early mobilization to reduce the incidence and duration of delirium. (1B)
- Promote sleep by optimizing patients' enviroment, using strategies to control light and noise, to cluster patient care activities, and to decrease stimuli at night in order to protect sleep cycles. (1C)



Patient Case #2 Discussion

- Do you want to monitor him for delirium?
  - True - False
- Treatment options:
  - CIAWA protocol with lorazepam and haldoperidol
  - "Dex" infusion
  - Mobilization

Summary

Pain

- Routine assessment
- Treat appropriately and proactively

Agitation

- Routine assessment
- Target the lightest possible level

Delirium

- Routine assessment
- Mobilize, sleep cycle, careful treatment

Summary continued…

- Facilitating the application to bedside care
  - Multifaceted, interdisciplinary approach
    - Clinical practice guidelines
    - Institution-specific protocols and order sets
  - Education
- SCCM Task Force will be creating resources
  - Web site
  - Sample order sets
  - Educational items

Questions???