Confused ? Improving Outcomes in Patients with Altered Mental Status and Delirium

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Gina Dubuisson PT, CSRS

Allison Lieberman PT, MSPT, GCS

Hackensack Meridian Health- JFK Johnson Rehabilitation Institute

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1

Objectives

- Identify the implications that altered mental status has on patient outcomes in the Acute Care Setting.
- Differentiate between acute and chronic causes of altered mental status in the hospital setting and identify common pharmacological and metabolic causes.
- Describe the Acute Care Physical Therapist's Role in improving outcomes in this patient population through evidence based assessment and treatment approaches.
- Describe the Acute Care Physical Therapist's Role in discharge planning for this patient population and role in improving patient and caregiver education.

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2

2

Disclosure

The speakers do not present with any conflict of interest and have no financial relationships to disclose, in regards to the content of this presentation.

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3

3

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- HMH-JFK Medical Center, Edison NJ
- 498 bed community hospital
- ED serviced approximately 75,000 persons in 2017



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4

Case Highlight

87 year old female brought into ED by granddaughter who reports 2-3 days of altered mental status, poor PO intake, increased sleepiness and unsteady gait. PT ordered day 3 of admission to general medical floor.

- PMHx: COPD, HTN, CVA 10 years ago, emphysema, breast CA with right mastectomy 35 years ago.
- PLOF: Ambulating (I) without device, assist with stairs, (I) with ADLs and light meal prep. Granddaughter does all cooking, shopping and is primary caregiver and reports patient is active and usually A & O x 4.

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Altered Mental Status [1,2,3,4]

- Altered mental status (AMS), confusion and behavioral changes are common chief complaints in the ER and ICU
- Present in 4-10 % of ED admissions but higher in certain demographics
- Description is vague with lack of standardized terminology
  - Multiple synonyms:
    - lethargy, confusion, psychosis, disorientation, hallucinations, agitation, stupor

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Altered Mental Status[1,2,3,4]

- AMS is not a disease condition, but a symptom that can be due to multiple medical conditions
- AMS means, when compared to normal state of mentation:
  - There is disorientation
  - Abnormal though content
  - Perceptual abnormalities



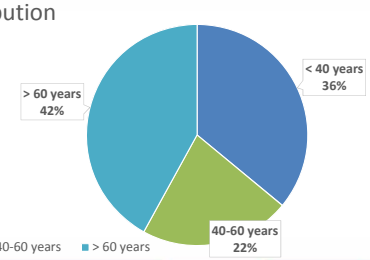
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Statistics[4]

Age Distribution



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9

What is Delirium? [1,2,3,5]

- A clinical manifestation of acute CNS dysfunction caused by underlying physiological condition:
  - Systemic disease, primary CNS disease, environment, drugs
- Hallmarked by **fluctuations** in level of:
  - **Attention**, consciousness and orientation
- It is **acute-** developing over hours or days
- It is **transient**- usually reversible, symptoms improve with improvement of acute illness
- Disorganized thinking
- Sleep/wake cycle disturbance with vivid nightmares and hallucinations

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10

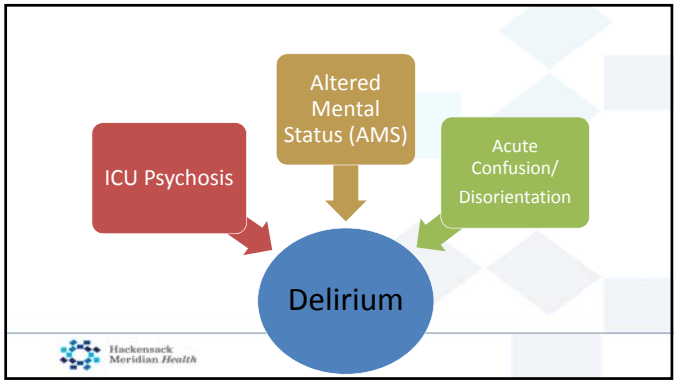
Physiology of Delirium [6]

- Impaired cerebral oxidative metabolism due to acute illness
- Abnormalities in neurotransmitters-particularly reduction in cholinergic transmission
- Inflammatory markers are generated
- Impacts arousal mechanism of thalamus and brain stem resulting in altered consciousness

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11



12

Incidence

- Most cases of acute mental status change and confusion can be attributed to delirium and not to chronic CNS dysfunction.[1,2]
- Risk factors for AMS and delirium vary across hospital settings [7]
- Present in 10%- 20% of older patients admitted to ED
- 30% of older patients will develop delirium during hospital stay [3,7,8]

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Incidence [3,7,8]

- Delirium develops in approximately 60- 80% of ICU patients
- Rates of up to 87 % in critically ill patients
- Estimated that 60-80% of cases of delirium go undiagnosed
- Cases missed in ED have higher 6 month mortality rates[2]

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14

Impact [1,2,3,5, 9,10]

- Annual impact of $4 to 16 Billion
- Associated with increase in length of stay (LOS) up to 14 days
- Increased morality rates of 19% in 6 months to 1 year post incident
- Misdiagnosis in ER may double mortality rates
- Increases rate of functional decline
- Doubles the risk of being institutionalized

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Impact on Care[4]

- Interferes with accurate history
- Prolongs examination, testing and number of tests
- Increases the probability of misdiagnosis
- Increases use of chemical or mechanical restraints
- Decreased mobility leading to increased fall risk
- Prolonged ventilation
- Associated with prolonged cognitive impairment

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16

Impact on Care [1,3,8]

- Caregiver burden:
  - Increased:
    - Anxiety
    - Time
    - Support staff and caregivers
    - Risk of readmission
    - Risk of falls
    - Likelihood of discharge to other care facility
  - Difficulty with communication
  - Unable to follow through with care instructions

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17

Delirium Subtypes [2,3,11]

- Hyperactive: more common in younger population
- Signs: Inattention, agitated, restless, combative
  - Associated with increased risk of self-extubation, falls and over sedation
  - Richmond Agitation-Sedation Score(RASS) of >0
  - More likely to be caused by alcohol or drug withdrawal



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18

Delirium Subtypes[2,3,11]

- Hypoactive- most common type and most commonly misdiagnosed
- Signs: Inattention, lethargy, decreased mental and physical activity
  - Associated with increased risk of aspiration, pulmonary embolism and decubitus ulcers
  - Usually RASS score of <o
  - More likely due to metabolic dysfunction



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19

Delirium Subtypes

- Mixed- involves fluctuation between hyperactive and hypoactive
- Delirium Tremens: very serious alcohol withdrawal syndrome
  - May occur with withdrawal after years of alcohol abuse
  - Can last for several months
  - May have long lasting effects

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20

20

Who's at Risk for Delirium and AMS? [1,3,7]

- Persons with underlying dementia are at highest risk
- History of: depression, HIV, CHF, alcohol abuse, stroke, epilepsy
- >70 years old
- Multiple comorbidities
- Patients in the ICU or CCU
- Visual or hearing impaired
- Malnutrition or tube feeding
- Narcotics, benzodiazepine or anticholinergic properties, antidepressants and muscle relaxants associated with a 3 to 11 time increased risk [12]
- BUN/creatinine ratio >18 or bilirubin >2.0

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21

Hospitalization Risk Factors[1,8]

- Lack of interaction
- Isolation
- PO intake restrictions
- Lack of daylight
- Chemical and physical restraints
- Sleep depravation
- Immobility
- Catheters

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22

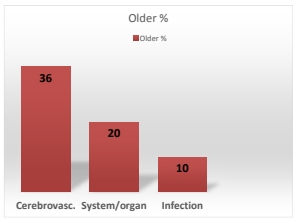
Common Causes of Delirium and AMS[1,8]

Systemic	Drugs/Environment	CNS
• Sepsis/ infection • Hypoxia • Hypo/hyperglycemia • Electrolyte imbalance • Acute MI • Hypo/hyperthermia • Hypercarbia • Malnutrition • Renal/Liver failure • Trauma	• Polypharmacy • Alcohol or drug withdrawal • Opioids • Sedative withdrawal • Psychotropic meds with anticholinergics • Sleep deprivation • Pain • Indwelling catheter • Toxic substance exposure	• Stroke • CNS hemorrhage • CNS infection • Tumor

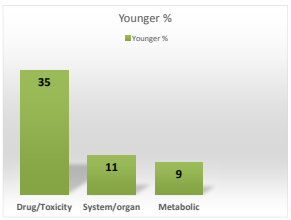
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Cause Comparison by Age[4]

Top 3 Causes in >60 years



Top 3 Causes in <60 years



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Case Study Analysis

- CT: Negative for acute disease and stroke, mild microvascular changes
- Chest X-ray: + for mild bibasilar infiltrates, but patient with no cough
- BUN was abnormal
- Pt's BP was frequently elevated during stay
- PT Evaluation:
  - CG for bed mobility and transfers
  - Ambulatory with RW with CG and mod vc for decreased safety.
  - Inattentive, decreased recall, decreased command following
  - BP was elevated with activity and pt reported fatigue
  - Nursing reported patient was somewhat agitated at times, but none noted by PT

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Case Study Question

- **Question**
- List the patient's risk factors for delirium ?

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Case Study Analysis

- Granddaughter reported it was taking 40 minutes to eat because she wouldn't pay attention to what she was doing
- Required frequent redirection by PT, very distracted by items in environment and desire to go home
- Pt reported she felt terrible and knew that she couldn't walk, but she needed to go home and clean up because she left a mess
- Pt was oriented to year and month but did not recall:
  - Falling at home before coming to ED
  - Being in the ED
  - Why she was in the hospital

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Differentiating the 3 D's: Delirium, Dementia and Depression[3]

- **Dementia-** A progressive disorder developing over months to years
- Characterized by cognitive and memory impairments that result in impaired **activities of daily living**
- Usually with the presence of any of the following: aphasia, apraxia, agnosia.
- Level of consciousness and reasoning are usually consistent

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What is Dementia ?



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Physiology of Dementia[13,14]

- Dementia is due to structural and chemical changes in the brain:
  - Shrinkage of brain tissue
  - Reduction of white matter
  - Deterioration of brain cells
  - Loss of synapses
- 4 main types:
  - Alzheimer's
  - Vascular
  - Lewy Body disease
  - Frontotemporal
- Dementia with Lewy bodies can mimic delirium



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30

Physiology of Dementia[13,14]

- Progressive changes in areas that control:
  - Memory
  - Motor and sensation
  - Executive control centers for emotions, behavior, judgment and reasoning
  - Formal speech and language
- Simple bed side differentiating test may be used:
  - Span tests, months of the year/days of week backwards, serial numbers

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31

Dementia Statistics[14]



- Affects about 5 million Americans
- 2/3 of people diagnosed are female
- 50% of people >85 years have some form of dementia
- Alzheimer's is the 6th leading cause of death in the US
- In 2018 Alzheimer's and other dementias will cost $277 Billion
- 16.1 Million Americans provide unpaid care to those living with dementia

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32

Clinical Changes with Dementia[13,15]

Memory	Language	Impulse control	Task performance
Difficulty learning new things	Miss 1every 4 words	Say whatever they are thinking	Think they can and will perform better than actuality
Immediate past memory loss	Word finding deficits even with cues	Swearing, racially and sexually inappropriate language	Performance very affected by stress level
Cannot ID self or others in pics	Vague and repeat often	Respond quickly and strongly to perceived threats (fight/flight)	Say 1 thing and do another
Absent minded but not jogged by cues	Increased automatic responses	Decreased insight	Lack of perception of danger
Confabulates (use old memories as new)	Covers up	Inappropriate gestures	Increased falls and injuries

33

Falls in Patients with Dementia[16]

- 8 times more likely to fall
- Aspects contributing to fall risk:
  - Orthostatic hypotension
  - Autonomic symptoms
  - Depression
  - Decreased insight, safety and problem solving
  - Decreased functional mobility
  - Caregiver training
  - Home safety and adaptation

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Differentiating the 3 D's: Delirium, Dementia, Depression[3]

- **Depression-** A mood disorder with pathologically depressed mood and low energy being predominant features
- Orientation and consciousness are intact

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35

Symptoms of Depression

- Loss of interest in things they once enjoyed
- Incomplete tasks
- Lack of focus and attention
- Excessive sleepiness or insomnia
- Angers easily
- Increased fatigue
- Expressing feelings of hopelessness
- No true cognitive impairments and symptoms don't fluctuate through-out the day

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36

Comparison of the Signs and Symptoms[3,13,15]

	ONSET	COURSE	PROGRESS	ATTENTION	MEMORY	REASONING
DEMENTIA	Slow, insidious	Slow, progressive 6-15 years average.	Slow, variable	Distractable	Decreased recent and immediate	Impaired-judgement, word-finding, decreased abstract thinking
DELIRIUM	Suddden, abrupt, hours to days	Short, fluctuating symptoms, worse at night	Not progressive	Impaired, fluctuates	Impaired recent and immediate	Disorganized, distorted, incoherent speech
DEPRESSION	Coincides with major life change	Situational fluctuations	Variable, coincides with incidents	Distractable, but minimal impairment	Patchy, selective	Intact, but overly hopeless, apathy

37

Delirium Superimposed on Dementia[3,14]

- Patients with dementia are very susceptible to delirium particularly the hyperactive type
- Special care should be taken with those who suffer from Lewy Body dementia whose symptoms of fluctuating cognition and arousal, hallucinations and delusions can mimic delirium
- Pain, boredom, loneliness, social stress, difficulty communicating can increase agitation in patients with dementia

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38

Impact of Delirium on Discharge[3,7]

- Increases likelihood of discharge to an institutional setting
- Increased 6 month mortality
- Estimated 13-19 % of older ED patients discharged home still had delirium
- Increased risk of readmission if delirium did not resolve upon discharge from ED
- High risk of failed discharge

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Case Study Follow-up

- Patient is discharged home with family day after PT Evaluation with recommendation for:
  - 24 hour supervision
  - Mobility with RW
  - Homecare
- Pt returns to ED 1 day later, s/p fall at night while trying to get out of bed
- Fall resulted in left hip fracture and received ORIF
- Pt discharged to Inpatient Rehabilitation Facility, 2 days post-op
- Granddaughter reports patient may not have been taking her medication as prescribed

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Impact of Pain on Mental Status and Delirium [5,8]

- Common chief complaint in ED admissions and of critically ill patients
- Pain is usually documented subjectively
- Modifiable risk factor for delirium and frequent cause of agitation
- Pain is commonly reported in cardiac, trauma, surgical and ICU patients both at rest and during daily procedures
- Many critically ill patient are unable to subjectively report pain due to AMS, sedation or ventilation
- Surveys of discharged ICU patients report:
  - Pain as a common reason for insufficient sleep
  - Pain as their most traumatic memory of ICU stay

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41

41

Clinical Practice Guidelines for Pain, Agitation and Delirium (PAD)[5,11]

- In 2002 the "Clinical Practice Guidelines for the Sustained Use of Sedative and Analgesics in the Critically Ill Adult" was published
- In 2013 guidelines were revised by a 20 person multi-disciplinary, multi-institutional taskforce from the American College of Critical Care Medicine
- The "Clinical Practice Guidelines for the Management of Pain, Agitation and Delirium in Adult Patients in the Intensive Care Unit" was completed after 6 years of collaboration
- Reportedly one of the most extensive set of critical care clinical guidelines ever published

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42

42

Clinical Practice Guidelines for Pain, Agitation and Delirium in the Critically Ill (PAD)[5, 11]

- Guidelines emphasize the importance of:
  - Recognizing and managing pain
  - Preventing, recognizing and managing delirium
  - Minimizing the use of sedation and improving agitation management
- Emphasizes an interdisciplinary and integrated approach to treatment
- Evidence-based and patient-centered
- Uses terms:
  - "recommend"- strong evidence
  - "suggest"- weak evidence
  - "do not recommend"

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43

PAD- Pain Guidelines [5,8,11]

- Strongly recommend assessing and treating pain prior to administering sedation
- If pain is well controlled in the critically ill, even those on mechanically ventilation, there is less need for sedation, less agitation and improved interaction with the environment
- Appropriate pain management results in decreased ICU LOS
- Recommend administration of light analgesics or relaxation techniques prior to painful daily procedures
  - Wound care, trach care, mobility (especially for trauma), chest tube

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44

44

PAD- Pain Management Guidelines[5,8,11]

- Recommends IV opioids as first–line drug class for non-neuropathic pain in the critically ill, patients with trauma and burns
  - Research finds it actually reduces risk of delirium
  - High dose IV opioids should not be used to the point that they have sedating effects
- Supplement with non-opioid analgesics to decrease opioid use such as: gabapentin, carbamazepine, NSAIDS
- Consider epidurals for rib fractures and other thoracic pain
- Do not recommend that vitals and observational pain scales be the only tools used to monitor pain

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45

PAD- Pain Assessment Guideline[5,8,11]

- Pain needs to be monitored in all critically ill patients every 2-3 hours
  - Treated within 30 mins of assessment and reassessed in 30 mins
  - Reduces use of analgesics, decreases LOS and time of ventilation
- Highly recommend use of the Behavioral Pain Scale (BPS) and the Critical Care Pain Observation Tool (CPOT)
  - Valid and reliable for patients who are mechanically ventilated
  - Most valid and reliable tools for patients who are critically ill
  - Reliable for those who cannot self report (except for brain injury)

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46

46

Behavioral Pain Scale (BPS) [7,18,19]

- Valid and reliable for critically ill and mechanically ventilated
- 3 subscales scored from 1-4
- Minimal score of 3, max score of 12 points
- Subscales:
  - Facial expression
  - Upper limb movement
  - Compliance with mechanical ventilation

Item	Decription	Score
Facial Expression	Relaxed	1
	Partially tightened	2
	Full tightened	3
	Grimacing	4
Upper Limbs	No Movement	1
	Partially bent	2
	Fully bent	3
	Permanently retracted	4
Compliance with ventilation	Tolerating movement	1
	Coughing but tolerating for most of time	2
	Fighting Ventilator	3
	Unable to control ventilation	4

47

Critical Care Pain Observation Tool(CPOT)[7,19]

Indicator	Description	Score
Facial Expression	No muscular Tension	0
	Tense- presence of frowning, brow lowering, orbit tightening, levator contraction	1
	Grimacing- all of the above plus eyelid tightly closed	2
Body movements	Absence of movement	0
	Protection- slow, cautious movement, rubbing pain site, seeking attention through movement	1
	Restlessness-pulling tube, attempting to sit up, moving limbs, thrashing, striking at staff, trying to climb out of bed	2

- For critically ill and those unable to self report
- 4 domains:
  - Facial expression
  - Body Movements
  - Muscle tension
  - Compliance with ventilation or verbalization
- Minimal score of 0, max score of 8 points

(Partial scale only)

48

PAD- Agitation Guidelines [5,11]

- Agitation is often associated with adverse clinical outcomes
- Common causes: pain, delirium, withdrawal, hypoglycemia, hypoxemia, hypotension
- Sedation is commonly used to address agitation, but this can also lead to adverse outcomes:
  - Increased mortality
  - Increased delirium
  - Long term cognitive deficits

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49

PAD- Agitation Guidelines[5,11]

- Use of non-pharmacological interventions as first–line intervention is highly recommended, including:
  - Pain management
  - Comfort- room temperature, positioning
  - Reorientation
  - Sleep promotion:
    - Reduce light and noise at night
    - Designated quiet time during day
    - Allow sun and daylight during day
    - Group care activities
    - Limit night-time care activities

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50

PAD- Agitation Guidelines[5,11]

- Sedation with non-benzodiazepines (propofol and dexmedetomidine) is preferred over benzodiazepines in mechanically ventilated patients
- Some sedatives are known to disrupt REM sleep[8]
- Titrated and light sedation in ICU is associated with:
  - Improved outcomes
  - Shorter LOS
  - Shorter periods of ventilator dependence

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Sedation Guidelines [5,11]

- Targeted sedations strategy (TSS)- Sedatives must be used with a specific sedation scale end-point in mind
- It is recommended that daily sedation interruptions or a light continuous level of sedation is used for patients on mechanically ventilation
- Light level of sedation is defined as a level of consciousness and responsiveness enabling following of 5 specific commands:
  - Open eyes, squeeze hand stick out tongue and wiggle toes

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52

Assessing Sedation [5,11]

- Most valid and reliable tools for measuring depth of sedation in the ICU are:
  - Richmond Agitation-Sedation Scale (RASS)
    - Has 10 levels ranging from combative to unarousable
  - Sedation-Agitation Scale (SAS)
    - Has 7 levels ranging from dangerous agitation to unarousable

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53

53

Richmond Agitation-Sedation Scale (RASS) [4,11,20]

RASS		
+4	Combative	Violent, immediate danger to staff
+3	Very Agitated	Pulls or removes tubes or catheter, aggressive
+2	Agitated	Frequent non-purposeful movement, fights ventilator
+1	Restless	Anxious, apprehensive but movements not aggressive or vigorous
0	Alert and calm	
-1	Drowsy	Not fully alert, but has sustained awakening to voice (eye opening & contact > 10 sec
-2	Light sedation	Briefly awakens to voice (eye contact < 10sec)
-3	Moderate sedation	Movement or eye-opening to voice (but no eye contact)
-4	Deep sedation	No response to voice, but movement or eye opening to physical stimulus
-5	Unarousable	Not response to voice or physical stimulation

1. Patient is observed
2. Name is called and response is noted
3. Name may be repeated and then asked to look at examiner

54

Sedation Agitation Scale (SAS)[11,21]

Score	State	Behaviors
7	Dangerous Agitation	Pulling at ET tube, climbing, striking thrashing
6	Very Agitated	Does not calm despite frequent verbal reminding, requires physical restraints
5	Agitated	Anxious or mildly agitated, attempting to sit up, calms with verbal instructions
4	Calm and Cooperative	Calm, awakens easily
3	Sedated	Difficult to arouse, awakens to verbal stimuli or gentle shaking but drifts off
2	Very Sedated	Arouses to physical stimuli but does not communicate or follow commands
1	Unarousable	Minimal or no response to noxious stimuli, does not communicate or follow commands

1. Observe response to name
2. If no response apply physical stimuli- shaking.
3. No response- observe response to noxious stimuli

55

PAD- Delirium Guidelines[5,11]

- Strategies aimed at prevention were more successful than treatments [8]
- Recommend interdisciplinary approach including
  - Standardized education
  - Printed protocols
  - Family intervention
- Routine monitoring of patients for delirium using valid reliable tools:
  - The Confusion Assessment Method (CAM)
  - Delirium Screening Checklist (DSC)
  - Both have an ICU specific version (CAM-ICU and ICDSC)

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Assessing for Delirium

- Confusion Assessment Method (CAM)[12]
- Assesses the patient on the presence of 4 features:
  1. Acute onset of mental status change or fluctuation
  2. Inattention
  3. Disorganized thinking
  4. Altered level of conscious
- Patient must positively possess the features in area 1 and 2 or either 3 or 4

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57

Intensive Care Delirium Screening Checklist (ICDSC) [12,14,15]

- Eight item checklist with 1 point for each item present
- Each section is based on DSM criteria for Delirium
  - Attention
  - Awareness
  - Timing/fluctuation
  - Memory deficit
  - Sleep disturbance
  - Psychomotor
  - Corroboration data- lab findings, diagnostic testing
  - Other cognitive disorders

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Guideline for Delirium [5,8,9]

- Benzodiazepine may be a risk factor for development of delirium and use of non-benzodiazepines for sedation reduces risk
- No evidence that any pharmacological intervention is effective in prevention
- Recommend use of non-pharmacological interventions as the first line of treatment for delirium
  - Early mobilization, sleep promotion, hydration, use of sensory aides
  - Reorientation

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59

59

What is the ABCDEF Bundle? [11]

- Care bundle developed by Vaskeleski provides a systematic approach to implementing guidelines
- Developed to decreased incidence of ICU acquired delirium and ICU acquired weakness
- To be performed daily on mechanically ventilated or sedated patients in the ICU to decrease LOS and improve outcomes
- Based on PAD guidelines- but without pain focus
- Includes daily spontaneous wakening trials (SAT)
- Includes daily spontaneous breathing trials (SBT)
- Patient and family-centered

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The ABCDEF Bundle[11]

A- daily spontaneous awakening trials

B- daily spontaneous breathing trials, combined with A

C- choice of analgesia and sedation-adjusted based on response in A & B

D- delirium assessment

E- early mobility and exercise

F- family engagement and empowerment

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Implementing PAD and ABCDEF Protocols [14]

- Study involving surveys of ICU intensivist in 47 countries looked at knowledge and use of the protocols found the following themes:
  - Most were not using the recommended assessments for pain, delirium or agitation
  - Only 1/3 assessed for ICU-Acquired Weakness (ICU-AW)
  - Early mobility was often prescribed but there was no dedicated mobility team
  - Family involvement was encouraged but there was a lack of standardized education tools

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62

62

Implementing PAD and ABCDEF Protocols [22]

- A pilot study to identify factors influencing implementation looked at data from 4 San Francisco hospitals:
  - There was a stringent implementation strategy and an implementation team
  - Training involved- webinars, in-person training, site visits, conference calls, written and online materials
  - Factors influencing implementation were:
    - Organization/structure of ICU
    - Patient safety and quality improvement structure
    - Prior experience with implementing protocols
    - Implementation planning
    - Leadership quality
    - Documentation prompts

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Implementing PAD and ABCDEF Protocols [2,5,11,14]

- Facilitators:
  - Multidisciplinary and cross-disciplinary team education
  - Computerized protocols and order-sets
  - Pre-printed protocols and checklists
  - Multidisciplinary rounds
  - Point of use electronic reminders
  - Discipline specific practice feedback
  - Implementing performance and gap analysis

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Implementing PAD and ABCDEF Protocols [2,5,11,14]

- Barriers:
  - Lack of standardized documentation
  - Lack of written protocols
  - Decreased understanding of team member roles
  - Non-specific and single faceted educational tools
  - Lack of family education
  - Lack of standardized assessments

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Barriers to Early Mobilization [23,24,25]

- Over sedation or poor timing of sedation
- Agitation
- Delirium
- Enforced bedrest
- Staff perception, comfort level and education
- Hemodynamic instability
- Lack of equipment and personnel
- Organizational culture
- Multidisciplinary education and coordinated care is important to improve all barriers

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Evidence for Early Mobilization [23,24,25,26,27]

- Multiple studies show benefits of early mobilization in:
  - Prevention and reduction of delirium
  - Reduction in:
    - ICU LOS
    - Overall hospital LOS of up to 3 days
  - Reduction in ICU acquired weakness (ICU-AW)
  - Decrease incidence of decubiti, DVT and pneumonia
- Multiple studies show the efficacy and safety of providing physical therapy in the ICU, critical care setting and even patients with mechanically ventilation
- However it is estimated that only 25% of ICU patients receive early rehabilitation

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67

67

Evidence for Early Mobilization

- Patients with dementia are at higher risk for developing delirium
- Aerobic exercise is associated with reduced risk of cognitive impairment and dementia [28]
- Regular exercise is important for patients with dementia:
  - May assist with behavior management
  - Reduces:
    - Fall and fracture risk
    - Mortality rates

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68

68

What Type of Early Mobility [24,25]

- Dependent on comorbidities and contraindications
- Programs which included:
  - PROM/ AROM/ AAROM
  - Sitting edge of bed activities
  - Standing
  - Out of bed to chair
  - Ambulation
  - All deemed feasible and effective in the critically ill and ventilated patient
- Programs involving NMES and Cycle Ergometer are being implemented but no specific protocol recommendations to date [29]

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69

69

Increasing Treatment Success

- Treating patients with delirium particularly the hyperactive type can be challenging and overwhelming
- These are the patients who are more at risk for over sedation and resulting sequelae are most in need of mobilization
- These are all strategies that we can share with caregivers and families to decrease burden of care upon discharge

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70

70

The C.A.L.M.E.R. Approach [30]

- Developed to teach Physicians how to handle encounters with difficult patients
- Research found that response to difficult patients might range from acquiescence and anger to scorn and disrespect
- Physician's inability to listen objectively and show empathy and lead to misunderstanding of patient concerns and history
- Approach helps to decrease feelings of distress and lack of control

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71

71

The C.A.L.M.E.R. Approach [30]

Catalyst for change (not responsible for it)

Alter you thoughts to change your feelings

Listen before reacting

Make an agreement with the patient

Educate

Reach out and debrief

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72

72

Gentle Persuasive Approach (GPA) [31,32]

- Evidence-based, person centered approach to caring for patients with dementia and delirium
- Focuses on extensive education of staff to:
  - Prevent responsive behavior
  - De-escalate behavior
  - Manage patient's fear and anxiety
- Study reported prior to training, staff:
  - Felt unable to cope with behavior related to delirium and dementia
  - Called "Violence Codes" more often
  - Used restraints more frequently.

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73

73

Gentle Persuasive Approach (GPA) [31,32]

- Principles:
  - Develop person centered care
  - Determine reason behind abnormal behavior
  - Educate on impact of dementia and delirium on brain
  - Use environmental, emotional and interpersonal communication strategies to diffuse behavior
  - Use suitable, respectful self-protective and physical interventions in response to physical behavior

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74

74

First Impressions are Important

- Form a connection with the patient during your initial interaction, it's all about how you communicate:
  - Visually
  - Verbally
  - Physically
  - Emotionally
  - Individually/Spiritually

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75

75

Visual



- Approach slowly and within visual range
- Use visual cues and ensure they can see you
- Pause at edge of public space- gently knock or pull door/curtain
- Make eye contact
- Stand to their dominate side to communicate

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76

Verbal



- **Listen**
- Talk to them like adults- yelling doesn't help
- Keep it short and simple- no medical terms
- Use positive 1 step directions
  - Ex. "Time for exercise" "This way." "Put this on."
  - Yes/No questions
- Use their name
- Give your name
- Give them time to response – deficits in attention, processing and initiation. Repeat with same words.
- Limit distractions

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77

77

Physical





- Approach slowly
- Respect intimate space
- Offer your hand and introduce yourself
- Use gestures, props and physical guidance
- Demonstrate
- Don't forget the power of touch- have them hold the item
- Sense of smell is one of the last ones to go- use it for cues, especially for ADLs. Scent of lotions, soaps, shampoo communicate time for ADL.

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78

78

Emotional and Individual

- Ask them about themselves, family, pets, vocation, vacation, hobbies
- Use the information to help:
  - Encourage and motivate them
  - Distract or redirect them





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79

79

PT and Restraint-Free Alternatives

- Make recommendations for safe mobility, keeping in mind that status may fluctuate
  - Be clear with recommendation based on patient status
- Include orientation and cognitive tasks in treatment to decrease confusion
- Encourage hydration, sleep promotion and toileting
- Encourage clustering care to decrease agitation, improve sleep
- Low beds and recliners
- PT's are integral in providing the E and F of the protocol

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80

80

Managing the Behavior in the Moment

The best ways to change behaviors are:

- **Distractions**- Turn their attention to something else in the moment
- **Substitutions**- Substitute the item, person or activity that may be a trigger. Ex. Camouflaging doorways, music, dolls, story time
- **Engagement**- Use active engagement in hobbies and favorite activities especially during sun-downing.
- Sometimes we have to live in their world !
- Omission is ok !

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81

81

Tips for Caregivers [34]

- Improving Nutrition:
  - Patients with dementia may lose the sense of taste very earlier- try more seasoning and aromatic spices
  - Check dentition and hygiene
  - Minimize distractions
  - Play soothing music
  - Red is one of the last detectable colors- use red plates or brightly colored dinnerware
  - Kids snacks, finger-foods, ready to eat, easy to dissolve, things drinkable through a straw
  - No one likes to eat alone- join them or just talk

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82

82

Tips for Caregivers [13,34]

- Keeping them in safely:
  - Hide keys
  - Place audible alarms on doors and windows
  - Place "STOP" sign on exit doors or camouflage with mural
  - Fence or close off dangerous areas- pools, hot-tubs, dead bolts on basement/cellar doors
  - Remove stove knobs on stove
  - Lower temperature on water heater
  - Lock up-medicines, alcohol, firearms, power tools, ladders

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83

83

Tips for Caregivers

- Improving the environment can decrease triggers and anxiety
- Cover or remove large mirrors– reflections can be confusing
- Close shades tightly at night- shadows and outside lights can increase confusion
- Keep the bathroom door open or label door

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84

84

Tips for Caregivers

- Remind them to perform hygiene:
  - Brush teeth and perineal care
  - Set-up and label items so they are easy to find
  - Leave notes and lists in bathroom
- Leave reminder notes in kitchen
- Pick out clothes or limit choices
- Pet therapy, reminiscing over old pictures and videos help reduce agitation [35,36]

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85

Sleep Disturbance [15,17,35]

- Sun-downing or Late day confusion can occur between 2pm and 7pm but can continue through-out night

Things to try:



- Stick to a nighttime routine
- Keep appointments and more strenuous activity in am, especially ADLs
- Avoid stimulants
- Keep evening meals light
- Keep lighting bright in afternoon to encourage wakefulness
- Close curtains, keep lights on in evenings
- Keep pm activities low stimulus- ex. reading, calming music
- No napping or strenuous exercise 4 hours before bed

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86

86

Caregiver Burden [15,17]

- Resistiveness to Care (RTC)- presence of resistive behavior during care/ADL related tasks
  - Had greatest correlation to increased reports of caregivers burden.
- Most common reasons for transfer from home to a nursing home are: illness, absence or death of caregiver
- Inability to meal prep was a frequent reason for transfer to a facility among other ADLs
- Difficulty dealing with behavioral problems increased risk of transfer to a facility- especially apathy, aggression, depression, restlessness
- Caregivers wanted to be more educated on dealing with communication deficits, confusion and combativeness

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87

87

Problem Solving for Safe Discharge Home

- Acute conditions: Delirium
  - Plan for 24 hour assistance until symptoms improve to baseline
  - Plan for now and improvement in long term
  - Caregiver education: written, easy to understand instructions in primary language
  - Consider more restrictive assistive device
  - Home safety checklists
  - HEP- including cognitive tasks
  - Temporary first floor set-up with close proximity to caregiver with lower sleeping surface
  - Encourage consistent sleep cycle

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88

88

Problem Solving for Safe Discharge Home

- Chronic conditions: Dementia
  - Short to long term planning-plan for worsening condition
  - Recommend 24 hour assistance as symptoms are progressive
  - Caregiver education- written, easy to understand, in primary language
  - Recommend permanent first floor set-up with close proximity to caregiver and lower sleeping surface
  - Home safety checklist with education on potential permanent modifications
  - Keep routines and sleep cycle consistent

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89

89

Technology in Home Setting [36]

- Video monitoring devices
- Home hub devices for:
  - Reminders for medicine and other tasks
  - Music
  - Picture slide shows
- Fall risk apps
- Simple audible alarms: sensor pads, door alarms/chimes, bells
- Cognitive engagement: puzzles, apps, video games

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90

90

Resources for Caregivers

- Training and education programs for caregivers
  - STAR-C
  - REACH II
- Family Caregiver Alliance- https://www.caregiver.org/
- Alzheimer's Association- https://alz.org/
- Merck Manual Consumer Version https://www.merckmanuals.com/home
- National Institute of Health. US National Library of Medicine. https://www.nlm.nih.gov/portals/public.html.

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91

91

Summary

- Delirium often goes unrecognized and misdiagnosed
- Delirium itself places people at high risk for further complications and death
- It is important for PT's to recognize the signs and symptoms of delirium and the difference in presentation compared to other conditions
- Physical Therapists are an important part of the Guidelines for management of patients with pain, agitation and delirium in the acute care setting in order to improve outcomes
- Physical Therapist can provide invaluable education to all caregivers to improve outcomes and safety of this population

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92

92

Less Confused ?



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93

93

THANK YOU!

Contact Information

Gina.Dubuisson@hackensackmeridian.org

Allison.Lieberman@hackensackmeridian.org

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94

94

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95

95

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96

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97

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99