B.E.A.T. Delirium

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“The very first requirement in a hospital is that it should do the sick no harm!”

Florence Nightingale: Notes on Nursing
Delirium was first described more than 2500 years ago...

*It remains poorly understood and is frequently unrecognized!*
Nurses...

• Are key to detecting and reporting delirium symptoms since they spend time with patients...yet many times the condition goes unrecognized and therefore is poorly managed!

Baker et al., 2015
Storytime...Have you experienced?
“Why does this happen to patients that come in with a UTI?”

York Hospital Tower 3 RN

BACKGROUND
Delirium: Background

• Diagnosis of delirium is highly clinical and dependent upon clinician's level of expertise, systematic screening & careful clinical observations
• Progression to stupor and/or coma, seizures, and death is possible.
• Delirium is a cardinal sign of a geropsychiatric emergency and must be promptly identified and addressed with biopsychosocial and environmental interventions.
• Early recognition of delirium followed by rapid management of underlying medical and environmental factors decreases the severity and can lead to improved outcomes.
Delirium...

- Is an acute decline of cognitive functioning
  Inouye et al, 2014

- It is common, serious, costly, under-recognized and often fatal
  Inouye et al, 2014

- It affects as many as 50% of hospitalized adults 65 years and older
  Leslie et al., 2014
Delirium Outcomes...

• One of the most preventable adverse events for older patients

  Inouye, 2006

• Longer hospital stays

• More hospital acquired complications--falls

• More likely to be admitted to long term care

• Increased incidence of dementia

• Increased mortality

National Institute for Health and Care Excellence (NICE), 2010
Delirium Costs...

- Estimated to delirium range from $16,303 to $64,421 per patient with the national burden on health care ranging from $38 to $152 billion yearly
  
  Leslie et al., 2008

- More than $182 billion per year in 18 European countries combined
  
  OECD, 2014; WHO, 2012

The cost to patients…immeasurable…
Delirium: Definition

A transient and nonspecific organic mental syndrome characterized by:

- **Acute onset** (hours to days), tending to fluctuate over the 24 hour period
- **Reduced ability to focus, sustain or shift attention**
- **Disturbed level of consciousness**, such as reduced clarity of awareness
- **Change in cognition** such as memory loss, disorientation and/or language disturbance
- **Perceptual disturbance** not accounted for by pre-existing, established or evolving dementia
Delirium…

• Prevalence of delirium (on admission) in general medical and “old age” medical units is 18-35%

• Add this to the incidence yields an overall occurrence of 29-64% in these types of units

  Inouye, et al., 2014

• Siddiqi et al. (2006) reported occurrence rate per admission of 11-42%
Delirium Causes...

• Usually multifactorial; this model has been well validated and widely accepted Inouye et al., 2015

• Depend on complexities of relationships with *predisposing* factors in vulnerable patients with *precipitating* factors Inouye et al., 2015
# Delirium Risk Factors

## Predisposing
- Baseline cognitive impairment; dementia
- Underlying illness or co-morbidity
- Functional impairment
- Advanced age
- Chronic renal insufficiency
- Dehydration
- Malnutrition
- Sensory impairment—vision or hearing
- Male sex

## Precipitating
- Medication
- Immobilization
- Indwelling catheters
- Restraints
- Dehydration
- Malnutrition
- Illnesses—infection, electrolyte imbalances
- Hospitalization—environmental
- Psychosocial factors
- Alcohol
Predictive Model

Inouye et al, 2014
Delirium: Medication-Related Precipitating Factors

- Anticholinergics
- Opiates
- Benzodiazepines
- Corticosteroids
- Alcohol withdrawal
- Sedative-hypnotic drug withdrawal
- Any newly prescribed medication
- Over the counter (OTC) “home remedies,” especially those with anticholinergic effects (NSAIDS, nasal sprays, cold and flu meds)
- Addition of 3 newly prescribed medications
Unrecognized by Nurses

• Continues to be attributed to normal ageing process—lack of understanding differences between delirium, dementia, and delirium superimposed on dementia (DSD)

• Fluctuating nature of delirium

• Impact of delirium education on recognition

• Communication barriers

• Inadequate use of delirium assessment tools

Hussein et al., 2014
ASSESSMENT
Delirium Signs

What are the signs??
Delirium: Clinical Presentation

Clinical subtype

- Hyperactive
  - Increased psychomotor activity, such as rapid speech, irritability, and restlessness

- Hypoactive
  - Lethargy
  - Slowed speech
  - Decreased alertness
  - Apathy

- Mixed
  - Shift between hyperactive and hypoactive states
RECOMMENDATIONS
Here is where the B.E.A.T. Comes into Play…

• B=Establish the Patient’s Baseline
• E=Evaluate current cognition and screen
• A=Assess for delirium risk factors
• T=Treat the risk!!
Prevention of Delirium in Older Adults

- Early identification & modification of predisposing factors
- Early recognition & treatment of cognitive impairment
- Rapid identification & treatment of acute illness
- Assessment & appropriate management of pain
- Maintenance of normal sleep-wake cycle
- Avoidance of deliriogenic medications & polypharmacy
- Assurance of adequate hydration & nutrition
Prevention of Delirium in Older Adults

- Enhancement of sensory status by use of sensory aids & appropriate levels of light & sound
- Enhancement of cognitive reserve
- Provision for family presence
- Avoidance of urinary catheterization
- Avoidance of physical restraint use
- Assessment & management of drug and alcohol withdrawal
Delirium: History

- When did the change in mental status begin?
- Does the condition change over a 24-hour period?
- Is there a change in the person’s sleep patterns?
- What specific thought problems have been noticed?
- Is there a history of mental illness or similar thought disturbance?
- Has there been a sudden decline in physical function or a new onset of falls?
- Query family or collateral source from prior setting as to ‘what is normal’ for this patient.
Delirium: Change in Mental Status

- An abnormal mental status exam that is a change from baseline for the person is the hallmark of delirium.
- Abnormalities may include inattention, fluctuations in level of consciousness, new short term memory impairment, altered speech patterns, disorganized speech and (possibly) delusions or hallucinations.
- Mental status screening tests are helpful in identifying cognitive deficits and should be performed routinely in older patients: on admission and at least daily during stay.
Delirium Assessment: Direct Observation

- Routine and periodic observation of the older adult’s level of:
  - Alertness (alert, hyper-alert or hypo-alert)
  - General behavior
  - Mood & affect
  - Speech disturbance/verbalizations
  - Motor behavior
Delirium: Physical Exam

Examine for signs of:
- Hypoxia
- Volume depletion/overload
- Cardiovascular injury
- Metabolic encephalopathy
- Alcohol withdrawal
- Hypo- or hyperthermia
- New onset incontinence
- Urinary retention or fecal impaction
Delirium: Diagnostic Tests

Choice based on history and physical findings

Baseline laboratory studies:
- Urinalysis
- Basic or Comprehensive Metabolic Panel
- Blood work: CBC, Thyroid function test

Further diagnostic testing (based on exam):
- Head CT
- EKG
- Chest X-Ray
• When difficult to differentiate delirium from acute psychotic state

The electroencephalogram reveals:

- Diffuse slowing in most cases of delirium
- Fast activity in cases of delirium related to drug withdrawal
- Normal patterns in patients with acute functional psychosis
Delirium: Environmental Predisposing Factors

- Transfers within the hospital or unit
- Absence of a clock or watch
- Absence of reading glasses, hearing aid
- Absence of family members
- Use of physical restraints
Differentiating Delirium from Dementia & Depression

- Chronic cognitive impairment seen in dementia typically:
  - Occurs gradually over time
  - Persists greater than one month
  - Is irreversible

- Most older adults with dementia are alert and able to maintain attention in the early stages of dementia

- Depression may also present acutely with deficits in ability to sustain attention.

- Depression may present similar to hypo- or hyper-active delirium; therefore, it is important to screen for depression in older adults who present with a mixed picture.
Delirium: Differential Diagnosis

• With recent change in cognition, an older person should be presumed delirious until proven otherwise
• Sudden cognitive and/or functional deterioration in a patient with dementia suggests delirium superimposed on dementia
• Apathy, slowed speech and mood disturbance may be indicative of hypoactive delirium rather than depression
Delirium: Differential Diagnosis

- **Functional psychosis**
  - Acute functional psychosis can resemble delirium
  - Onset at an earlier age
  - Most older patients with functional psychosis have a history of psychiatric illness
  - Hallucinations tend to be auditory
  - Delusions are more elaborate than those associated with delirium
- Dementia with Lewy Bodies includes fluctuating cognition and visual hallucinations
- Consultation with a psychiatrist or a neurologist may be necessary in difficult cases
Delirium: General Management

- Multi-component interventions are most effective
- Prompt recognition & treatment of underlying cause
- Creation of a maximum supportive environment
- Immediate medical treatment as necessary
- Discontinuation or reduced doses of medications thought to be deliriogenic
- Use of environmental interventions such as a delirium room
Delirium: General Management - Nutrition & Hydration

- Accurate 24 hour I & O
- Avoidance of depletion-dehydration syndrome
  - Enteral tube feeding or hyperalimentation as necessary
  - Address any excess output issues such as polyuria or diarrhea
- Toilet patient on a schedule
Delirium: General Management

• Pulmonary care to ensure adequate oxygenation, avoid atelectasis and pneumonia
• Bowel and bladder protocols to prevent or treat constipation, diarrhea, and urinary incontinence
• Vigilence for fall risk and patient safety
• Use cognitive stimulation
• Avoid complications of immobility—mobilize, mobilize, mobilize!!
• Minimize skin breakdown

AACN Hartford-sponsored Faculty Development
Delirium: Managing the Environment

- Presence of family members
- Inclusion of familiar items from home
- Use of glasses & hearing aids
- Avoidance of physical restraints
- Delirium room for high risk patients
- Night-light and minimization of noise
  - Interrupt sleep only when absolutely necessary

AACN Hartford-sponsored Faculty Development
Delirium: Maximizing Cognition

• Re-orientating strategies
  – Inclusion of orienting facts in normal conversation
  – Discussion of current events
  – Discussion of specific interests
  – Structured reminiscence
  – Word games
  – Cognitive stimulation

• Find out what the person likes to do to occupy time!
Delirium: Medication Management

Use medications when:

- behaviors associated with psychotic thinking and perceptual disturbances (e.g., hallucinations) pose a safety risk or are distressing to the individual.
- delirium interferes with needed medical therapies and behavioral interventions fail

_Do Not_ use medications as a substitute for detection, correction, or elimination of underlying causes of delirium

Use low doses of medications over the shortest possible time period
Delirium: Medication Management

- **First line therapy**: Low doses high-potency neuroleptics (e.g., haloperidol)
  - Associated with extrapyramidal symptoms (EPS)
    - Newer antipsychotics (e.g., olanzapine and risperidone) have a lower incidence of EPS and may be better tolerated in older patients
  - Neuroleptic Malignant Syndrome, a more serious side effect of antipsychotic therapy, can occur with high-potency as well as with novel anti-psychotics
  - Benzodiazepines (e.g., lorazepam) are recommended with alcohol withdrawal or withdrawal from benzodiazepines.
    - In non-alcohol withdrawal, benzodiazepines potentially worsen delirium and should be used with caution
Delirium Management: Aftercare

- Help the patient and family understand the bizarre and bewildering experience
- Psychiatric care to facilitate resolution through:
  - Sensitive retrospective exploration of the experience
  - Increasing patient’s understanding and acceptance
  - Encouraging patients to report risk of delirium for subsequent hospitalizations
- Comprehensive discharge planning
  - Home care referral
  - Physical and occupational therapy
  - Psychiatric nursing home care services
Delirium: Conclusion

- **Historically seen as:** A benign and expected condition related to hospitalization
- **Currently seen as:** A serious health problem with significant negative consequences
- Nurses and NAs are **frontline** in early identification of patients most at risk for delirium and early detection of symptoms
- Routine and systematic assessment for confusion is key
Resources

• Activity boxes...

• Portal...

• When would you like to have volunteer services lead activities??
B=Baseline 
E=Evaluate Current Cognition and Screen 
A=Assess for Delirium Risk 
T=Treat the Risk using Nonpharmacological Interventions