

	<p>Delirium</p> <p>Assessment and Management</p>

	<p>Goals and Objectives</p>
	<p>Participants will:</p> <ol style="list-style-type: none"> 1. be able to recognize and diagnose the syndrome of delirium. 2. understand the causes of delirium. 3. become knowledgeable about the treatment of delirium.

	<p>Questions</p>
	<ol style="list-style-type: none"> 1. In the palliative care setting, delirium is most commonly manifested by severe agitation. (T/F) 2. When treating delirium, PRN dosing for agitation is ideal. (T/F) 3. Delirium is a harbinger of impending death and is almost universally irreversible. (T/F)

	<p>Delirium</p>
	<p>Diagnostic criteria:</p> <ul style="list-style-type: none"> ■ disturbances in consciousness and attention (i.e. arousal) ■ cognitive change or perceptual disturbance ■ abrupt onset and fluctuating course ■ related to a medical cause

	<p>Clinical Importance</p>
	<p>Delirium is often unrecognized or misdiagnosed as another psychiatric condition and therefore undertreated.</p>

	<p>Prevalance</p>
	<p>Delirium is the most common neuropsychiatric disturbance in the terminally ill occurring in up to 85% of patients in the last weeks of life.</p> <p><i>Breitbart & Alici JAMA 2008; 300(24):2898-2910</i></p>

Clinical Features of Delirium

- Disturbance of consciousness, arousal and awareness
- Attention disturbances
- Disorientation
- Cognitive disturbances
- Perceptual disturbances (hallucinations, illusions)
- Disorganized thinking

Clinical Features of Delirium (continued)

- Delusions
- Psychomotor disturbances
- Sleep-wakefulness disturbances
- Acute onset; fluctuating course
- Neurologic signs like asterixis, myoclonus, frontal lobe releasing signs

Subtypes of Delirium

- Hypoactive
- Hyperactive
- Mixed

Hypoactive Delirium

Characterized by:

- psychomotor retardation
- lethargy
- sedation
- decreased awareness of surroundings.

Etiologies include hypoxia, metabolic disturbances and use of anticholinergic medications.

This is the most common form of delirium in the terminally ill.

Hyperactive Delirium

Characterized by:

- Restlessness
- Agitation
- Hypervigilance
- Hallucinations and confusion.

Common etiologies include alcohol and drug withdrawal, drug intoxication and medication adverse effects.

Causes of Delirium - Drugs

- Anticholinergics, Tricyclic antidepressants
- Steroids
- Benzodiazepines or alcohol (acute toxicity or withdrawal)
- Opioid analgesics
- NSAIDs
- Cardiovascular (eg digoxin)
- Diuretics
- GI (cimetidine, ranitidine)
- Lithium

Clinical Importance

A study of patients with advanced cancer found that delirium was reversible in 49% of cases.

Psychoactive medications, particularly opioids and dehydration were associated with reversibility.

Lawlor et al; Arch Intern Med 2000;160:786-794

Causes of Delirium - Metabolic Disorders

- Acute blood loss
- Dehydration
- Electrolyte imbalance
- End-organ failure
- Hyperglycemia or hypoglycemia
- Hypoxia

Causes of Delirium - Cardiovascular

- Arrhythmia
- CHF
- MI
- Shock

Causes of Delirium - Neurologic

- CNS infections
- Head trauma
- Seizures
- Stroke
- Subdural hematoma
- TIA's
- Tumors

Causes of Delirium - Infections

- Respiratory
- Skin
- Urinary tract

Agitation vs. Delirium

Patients may become agitated without delirium (i.e. without disturbances of consciousness or cognition)

- Pain
- Fecal impaction
- Urinary retention
- Medication induced akathisia
- Panic attacks
- Mania

Clinical Pearl	
	<p>Uncontrolled pain can cause delirium.</p> <p><i>On the other hand</i>, agitation in the face of delirium can be misinterpreted as uncontrolled pain leading to an unnecessary escalation in the administration of opioids and potential exacerbation of symptoms.</p>

Clinical Pearl	
	<p>Delirium can be misdiagnosed as a psychiatric condition.</p> <ul style="list-style-type: none"> ■ hypoactive delirium-depression ■ hyperactive delirium-panic attack or schizophrenia. <p><i>Acute onset, fluctuating course, disturbances of cognition or consciousness in the presence of one or more etiologies of delirium are important in the diagnosis of delirium in the terminally ill.</i></p>

Assessment Tools	
	<p>Memorial Delirium Assessment Scale (MDAS): sensitivity 97% specificity 95%</p> <p>Confusion Assessment Method (CAM): sensitivity 94-100% specificity 90-95%</p> <p>Bedside Confusion Scale (BCS): Using CAM as the reference standard, sensitivity was 100%.</p>

Confusion Assessment Method (short version)	
	<ol style="list-style-type: none"> 1. Was there an acute sudden change in mental status and/or does this change fluctuate during the day? 2. Difficulty focusing attention? 3. Thinking disorganized or incoherent? 4. Is the patient's level of consciousness ANYTHING but alert? <p>A positive answer to questions 1&2 and <i>either</i> 3 or 4 is considered a positive screen.</p>

Bedside Confusion Scale	
	<p>This tool, using inattention as its anchor for making the diagnosis, is a simple, sensitive and valid test for confusion in the adult palliative care population.</p> <p><i>Stillman and Rybicki. J Palliat Med; Vol 3, no 4: 449-456</i></p>

Bedside Confusion Scale																			
	<table style="width: 100%; border: none;"> <thead> <tr> <th style="text-align: left; border: none;">Parameter</th> <th style="text-align: left; border: none;">Scoring</th> </tr> </thead> <tbody> <tr> <td style="border: none;">■ Assess level of alertness</td> <td style="border: none;">■ Normal = 0</td> </tr> <tr> <td style="border: none;"></td> <td style="border: none;">■ Hypoactive = 1</td> </tr> <tr> <td style="border: none;">■ Test of Attention-months of the year backwards</td> <td style="border: none;">■ Hyperactive = 1</td> </tr> <tr> <td style="border: none;"></td> <td style="border: none;">■ Delay > 30 sec = 1</td> </tr> <tr> <td style="border: none;"></td> <td style="border: none;">1 omission = 1</td> </tr> <tr> <td style="border: none;"></td> <td style="border: none;">2 omissions = 1</td> </tr> <tr> <td style="border: none;"></td> <td style="border: none;">>= 3 omissions, reversal, or termination of task = 3</td> </tr> <tr> <td style="border: none;"></td> <td style="border: none;">■ Inability to perform = 4</td> </tr> </tbody> </table> <p><i>Total score of 0 is normal; 1 is borderline and 2-5 is considered diagnostic of confusion.</i></p>	Parameter	Scoring	■ Assess level of alertness	■ Normal = 0		■ Hypoactive = 1	■ Test of Attention-months of the year backwards	■ Hyperactive = 1		■ Delay > 30 sec = 1		1 omission = 1		2 omissions = 1		>= 3 omissions, reversal, or termination of task = 3		■ Inability to perform = 4
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Limitations of the BCS

BCS is a simple test that can be administered by lay persons, but has a limited capacity to assess the multiple cognitive domains influenced by delirium.

Advantages of the Clock Drawing Test

The CDT is able to test more domains than the BCS.

These include:

- comprehension
- visuo-spatial abilities,
- reconstruction skills
- concentration
- numerical knowledge
- visual memory
- executive function

Clock Drawing Test

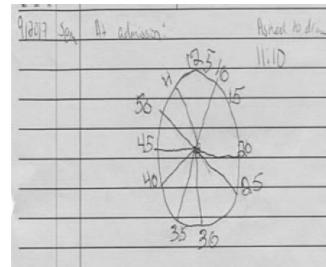
62 year old man with prostate ca on:

Morphine, amitriptyline and citalopram admitted with hallucinations, mild paranoia and myoclonus.

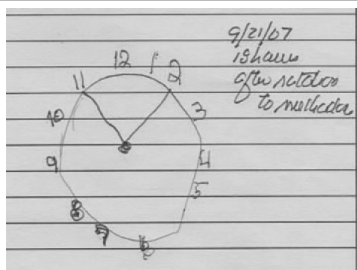
After opioid rotation to methadone, discontinuation of amitriptyline and decrease in citalopram, pain and delirium improved as did performance on CDT.

Zama et al. Am J Hospice and Palliative Care Oct/Nov 2008; Vol 25 no. 5: 385-388

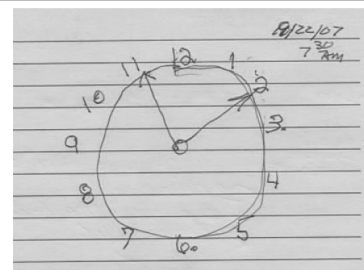
Clock Drawing: On Admission



After 18 Hours



After 36 Hours



	Importance of Regular Screening
	<ul style="list-style-type: none"> ■ Improves early detection. ■ Hastens the identification of reversible causes. ■ Facilitates early symptomatic management. ■ Identifies opportunity for family support.

	The Experience of Delirium
	<p>Delirium causes distress ... on a scale of 0-4 ...</p> <ul style="list-style-type: none"> ■ in patients (3.2) ■ in family members (3.75) ■ in clinicians and staff (3.1) <p><i>Breitbart et al. Psychosomatics 2002; 43(3):183-194</i></p>

	The Experience for Patients
	<p>101 terminally ill cancer patients</p> <ul style="list-style-type: none"> ■ 54% recalled the experience after recovery. ■ Presence of delusions and hallucinations made delirium more likely to be recalled. ■ Patients with hypoactive delirium were just as likely to be distressed. <p><i>Breitbart et al. Psychosomatics 2002; 43(3):183-194</i></p>

	The Experience for Families
	<p>Caregivers of delirious terminally ill patients have been shown in 1 study to be 12 times more likely to develop an anxiety disorder than caregivers of nondelirious patients.</p> <p><i>Buss et al. J Palliat Med 2007; 10(5):1083-1092</i></p>

	The Experience for Families
	<p>Family members describe a sense of "double bereavement".</p> <p>It is important for the clinician to explain the medical nature of the condition and to review treatment options.</p>

	Clinical Pearl
	<p>Delirium in the terminally ill is a harbinger of death within a matter of days to weeks.</p> <p>In hospital mortality rates in the elderly with delirium range from 22-76%.</p>

	<h2>Nonpharmacological Management</h2>
	<ul style="list-style-type: none"> ■ Quiet well lit room ■ Familiar persons; objects ■ Clock; calendar ■ One on one nursing ■ Avoidance of physical restraints

	<h2>Treatment of Delirium</h2>
	<p>Haloperidol is the most appropriate first line therapy in the treatment of delirium. In severe agitation, clinicians may add lorazepam or substitute chlorpromazine for its sedating effects.</p> <p><i>Lorazepam is ineffective alone and may worsen delirium.</i></p>

	<h2>Treatment of Delirium</h2>
	<p>In a double-blind randomized controlled trial of haloperidol, chlorpromazine and lorazepam involving 30 patients, Breitbart and colleagues demonstrated that lorazepam alone was ineffective in the treatment of delirium and in fact sometimes worsened it.</p> <p><i>Am J Psychiatry 1996; 153(2): 231-237</i></p>

	<h2>Haldol</h2>
	<p>Dose: 0.5-2.0 mg PO; peak effect 4-6 hour SQ or IM administration is twice as potent and peaks in 20-40 minutes.</p> <p><i>Note:</i> This drug is relatively contraindicated in patients with Parkinson's disease. Use Seroquel in those patients if necessary.</p> <p>Main side effects are extrapyramidal symptoms: tremor, slurred speech, akathisia, dystonia, bradykinesia. These symptoms are less likely to occur when dose of haldol is kept below 3.5 mg/day and the use is relatively short term.</p>

	<h2>Use of Atypical Antipsychotic Medications</h2>
	<p>Overall, when haldol doses are < 3.5 mg/day, rates of extrapyramidal side effects did not differ from those seen in patients receiving atypical antipsychotic medications (eg risperidone, olanzepine).</p>

	<h2>Use of Sedative Agents</h2>
	<p>Approximately 30% of dying patients with delirium will not have their symptoms adequately controlled by antipsychotic medications.</p> <p>In such cases, palliative sedation using benzodiazepines (lorazepam, midazolam) or propofol are reasonable choices.</p>

Questions

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Delirium

Assessment and Management