Primary Care

DELIRIUM in Older People

Regional Geriatric Program Central Hamilton

October 2008
DELIRIUM in Older People

Learning Objectives

- What is it? How is it recognized? What are the causes?
- How is it different from dementia and depression?
- Interprofessional team interventions
WHAT IS DELIRIUM?
(Acute Confusional State)

• A common condition affecting ill older people, especially those with some degree of dementia

• Most common complication of hospital admission for older people, prevalence –
  • Lowest rates in community > 1%
  • Hospitalized > 7–38% (emergency > 24%)
  • Long-term care > up to 64%

• A major cost to the health care system
  • Health care system unintentionally stimulate/aggravate the development of delirium in older people
  • Emergency departments, hospitals, surgery, ICUs, long-term care homes
WHAT IS DELIRIUM?
(Acute Confusional State)

Definition

- Delirium is a medical emergency which is characterized by an acute and fluctuating onset of confusion, disturbances in attention, disorganized thinking and/or decline in level of consciousness.

- Delirium cannot be accounted for by a preexisting dementia; however, can co-exist with dementia.

- **Serious complications:**
  - Prolonged hospital stays
  - Increased discharge mortality
  - Progressive physical and cognitive decline
  - Persistence of delirium symptoms
  - Admission to long-term care
  - Experience recollection of delirium experience
WHAT IS DELIRIUM?
(Acute Confusional State)

**ONSET**
- Acute
- Subacute
- Depends on cause
- Often at twilight

**DURATION**
- Hours to days to weeks and less than 1 month
- Seldom longer

**COURSE**
- Fluctuating
- Short, diurnal variations in symptoms, worse at night, in the dark and on awakening

**PROGRESSION**
- Abrupt
### WHAT IS DELIRIUM?

(acute Confusional State)

<table>
<thead>
<tr>
<th><strong>Consciousness/Awareness</strong></th>
<th><strong>Attention</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>- Impaired</td>
<td>- Inattentive</td>
</tr>
<tr>
<td>- Fluctuates</td>
<td>- Fluctuates</td>
</tr>
<tr>
<td>- Reduced</td>
<td>- Impaired</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Alertness</strong></th>
<th><strong>Memory</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>- Fluctuates</td>
<td>- Poor</td>
</tr>
<tr>
<td>- Lethargic or hypervigilant</td>
<td>- Recent and immediate impaired</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Stability</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>- Variable hour to hour</td>
</tr>
</tbody>
</table>
WHAT IS DELIRIUM?
(Acute Confusional State)

AFFECT / EMOTIONS
- Variable
- Irritable
- Aggressive
- Fearful

THINKING
- Disorganized
- Distorted
- Fragmented
- Slow or accelerated incoherent

PERCEPTION
- Distorted: illusions, delusions and/or hallucinations
- Difficulty distinguishing from reality; misperceptions

SLEEP – WAKE CYCLE
- Disturbed
- Nocturnal confusion
- Reversed: up at night, very sleepy or nonresponsive during day
## WHAT IS DELIRIUM?

*(Acute Confusional State)*

<table>
<thead>
<tr>
<th>MENTAL STATUS TESTING</th>
<th>PROGNOSIS</th>
</tr>
</thead>
<tbody>
<tr>
<td>- Testing is variable</td>
<td>- Treatable and reversible condition</td>
</tr>
<tr>
<td>- Dependent on cognition fluctuations</td>
<td>- Medical emergency</td>
</tr>
<tr>
<td>- Depends on cause</td>
<td>- Increased risk of relapse, morbidity and mortality</td>
</tr>
<tr>
<td>- Often at twilight</td>
<td></td>
</tr>
</tbody>
</table>

### OTHER FEATURES

- Other physical disease may not be evident

---

October 2008  Delirium in Older People
WHAT IS DELIRIUM?
(Acute Confusional State)

DSM IV Criteria for Delirium:

- Disturbance of consciousness with reduced ability to focus, sustain or shift attention
- Changed cognition or the development of a perceptual disturbance (core feature > impact on cognitive function)
- Disturbance develops in a short period of time and fluctuates over the course of the day
- History, physical examination, and laboratory findings show that delirium can be a physiological consequence of general condition: caused by intoxication; caused by medication; and caused by more than one etiology
RECOGNITION OF DELIRIUM

- The recognition of delirium rests solely on clinical skills
  - No diagnostic tests exist
- It is undiagnosed in over half of older people with the condition (i.e., 32–70%)
  - By Physicians, nurses ….. and interprofessional teams!
- Health care professionals often describe an older person with delirium as
  - “confused elderly patient” but fail to distinguish between delirium and dementia
RECOGNITION OF DELIRIUM

- Obtaining the history of the clinical course of any cognitive changes from a family member or caregiver is **KEY** to recognizing delirium.

- **SUSPECT** Delirium:
  - When older people have ACUTE changes in behaviour or cognition.
  - Safest approach – all older people presenting with confusion have delirium until proven otherwise.
  - REMEMBER: delirium is frightening for the person experiencing it.

- **MYTH:**
  - All delirious older people are hyperactive, hypervigilant, and hallucinating.
3 Subtypes of Delirium

- **Hyperactive:**
  - Displays major features of delirium, and +/−
  - Heightened arousal
  - Sensitive to immediate surroundings (environment)
  - Verbally and/or physically threatening and aggressive
  - Restless, wandering
  - Pulling repeatedly at clothing (carphologia)
  - Speech disturbance

- **Hypoactive (less obvious):**
  - Displays major features of delirium, and +/−
  - More common than Hyperactive subtype
  - Need good observational skills to detect
  - Often described as “confused”
  - Somnolent, lethargy, staring into space, excessive sleep
  - Usually cooperative

- **Mixed:**
RECOGNITION OF DELIRIUM

Confusion Assessment Method (CAM)

- Developed to provide a quick, accurate method for detection of delirium
- For non-psychiatrically trained clinicians
- Both clinical and research settings

- CAM assesses 4 criteria for delirium:
  (1) acute onset and fluctuating course
  (2) inattention
  (3) disorganized thinking
  (4) altered level of consciousness

The diagnosis of delirium requires the presence of criteria:
(1), (2) and (3) or (4)
The diagnosis of delirium requires a present or abnormal rating for Criteria 1 and 2 plus either 3 or 4

Criteria:

1. Acute onset and fluctuating course
   - Is there evidence of an acute change in mental status from the patient’s baseline? Did this behaviour fluctuate during the past day – that is, tend to come and go or increase and decrease in severity (Usually requires information from a family member or carers)

2. Inattention
   - Does this patient have difficulty focusing attention – for example, are they easily distracted or do they have difficulty keeping track of what is being said? (Inattention can be detected by the digit span test or asking for the days of the week to be recited backwards)

RECOGNITION OF DELIRIUM

Confusion Assessment Method (CAM)

The diagnosis of delirium requires a present or abnormal rating for criteria 1 and 2 plus either 3 or 4

3. Disorganized thinking
   ◦ Is the patient’s speech disorganized or incoherent, such as rambling or irrelevant conversation, unclear or illogical flow of ideas, or unpredictable switching between subjects? (Disorganized thinking and sleepiness can also be detected during conversation with the patient)

4. Altered level of consciousness
   ◦ Overall, would you rate this patient’s level of consciousness as alert (normal), vigilant (hyperalert), lethargic (drowsy, easily aroused), stupor (difficult to arouse), or coma (cannot be aroused)? All ratings except alert are scored as abnormal.

Brief formal cognitive testing such as mini-mental state examination is recommended for formal scoring.

# RECOGNITION OF DELIRIUM

**Confusion Assessment Method (CAM)**

The diagnosis of delirium by **CAM** requires the presence of both features A and B:

<table>
<thead>
<tr>
<th>Feature A</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acute Onset and Fluctuating Course</td>
<td>Is there evidence of an acute change in mental status from patient baseline? Does the abnormal behavior:</td>
</tr>
</tbody>
</table>
  - Come and go?  
  - Fluctuate during the day?  
  - Increase/decrease in severity? |

<table>
<thead>
<tr>
<th>Feature B</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Inattention</td>
<td>Does the patient:</td>
</tr>
</tbody>
</table>
  - Have difficulty focusing attention?  
  - Become easily distracted?  
  - Have difficulty keeping track of what is said? |

And the presence of **either** feature C or D:

<table>
<thead>
<tr>
<th>Feature C</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Disorganized Thinking</td>
<td>Is the patient’s thinking:</td>
</tr>
</tbody>
</table>
  - Disorganized  
  - Incoherent  
  For example does the patient have:  
  - Rambling speech/irrelevant conversation?  
  - Unpredictable switching of subjects?  
  - Unclear or illogical flow of ideas |

<table>
<thead>
<tr>
<th>Feature D</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Altered Level of Consciousness</td>
<td>Overall, what is the patient’s level of consciousness:</td>
</tr>
</tbody>
</table>
  - Alert (Normal)  
  - Vigilant (Hyper-alert)  
  - Lethargic (Drowsy but easily roused)  
  - Stuporous (Difficult to rouse)  
  - Comatose (Unrousable) |

What are the Causes of Delirium?

- Delirium can be caused by a multitude of factors or more typically – in combination
  - Pathophysiology not fully understood
  - Viewed as a “clinical syndrome” of interconnected triggers and risk factors

- The most common causes (triggers) in older people:
  - Drug toxicity (30%)
  - Infections (urinary, pneumonia, catheters, fever)
  - Metabolic or endocrine disorders (dehydration, anemia, hyper/hypoglycemia)
  - Neurologic and vascular disorders (stroke, heart failure)
  - Constipation
  - Pain
  - Surgery and trauma (especially hip fractures)
  - Sleep deprivation
  - Environmental (new admissions to LTC homes, hospitals)
  - Drug or alcohol withdrawal
What are the Causes of Delirium?

- The most common risk factors in older people:
  - Dementia:
    - There is a strong inter-relationship between delirium and dementia
    - Dementia is associated with an increased risk to develop delirium and vice versa
  - Over age of 65 years
  - Physical frailty
  - Severe illness
  - Multiple diseases
  - Admission to hospital / LTC Home
  - Infection
  - Visual, auditory impairments
  - Polypharmacy
  - Alcohol excess
  - Renal impairment
  - Malnutrition, dehydration
  - Restraints
What are the Causes of Delirium?

Pocket Cards

<table>
<thead>
<tr>
<th>Delirium — Searching for the Cause</th>
<th>1</th>
</tr>
</thead>
<tbody>
<tr>
<td>Delirium Symptom List from CAM</td>
<td></td>
</tr>
<tr>
<td>- Sudden change in mental status</td>
<td></td>
</tr>
<tr>
<td>- Change in behavior/ fluctuations from normal to abnormal over hours to days to weeks (&lt;1 mo)</td>
<td></td>
</tr>
<tr>
<td>- Difficulty in focusing attention</td>
<td></td>
</tr>
<tr>
<td>- Disorganized thinking and/or altered level of consciousness</td>
<td></td>
</tr>
<tr>
<td>Begin your assessment with the highest probable risk for your patient’s situation.</td>
<td></td>
</tr>
</tbody>
</table>

Drug Toxicity?

a. On more than six medications, especially
   - anticonvulsants
   - histamine H2 antagonist
   - insulin/hyperglycemic agent
   - antipsychotics
   - benzodiazepines
   - narcotics
   Order drug chemistry and/or trial discontinuation of medicine.

b. Receiving a medication for more than 5 years

c. Age 75 or older

d. Running drug levels beyond or at the high end of therapeutic range

Sleep Disturbance?

a) Assess baseline normal sleep pattern
b) Identify causes of sleep disturbance (medications, pain and/or environment)

<table>
<thead>
<tr>
<th>Delirium — Searching for the Cause</th>
<th>2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Infection?</td>
<td></td>
</tr>
<tr>
<td>a. Elevation in baseline temperature, even less than 37.5°C rectally</td>
<td></td>
</tr>
<tr>
<td>b. History of lower respiratory infection or UTI more than twice per year</td>
<td></td>
</tr>
<tr>
<td>c. History of any chronic infection</td>
<td></td>
</tr>
<tr>
<td>d. Recent episode of falling</td>
<td></td>
</tr>
</tbody>
</table>

Request appropriate diagnostic tests. Most common: Urinalysis, chest X-ray, sputum cultures as indicated.

<table>
<thead>
<tr>
<th>Delirium — Searching for the Cause</th>
<th>3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Elimination Problems?</td>
<td></td>
</tr>
<tr>
<td>a. Urinary problems</td>
<td></td>
</tr>
<tr>
<td>1. History of incontinence, retention, or indwelling catheter</td>
<td></td>
</tr>
<tr>
<td>2. Signs or symptoms of dehydration, tending, increased BUN</td>
<td></td>
</tr>
<tr>
<td>3. Decreased urinary output</td>
<td></td>
</tr>
<tr>
<td>4. Taking anticholinergic medication</td>
<td></td>
</tr>
<tr>
<td>b. Gastrointestinal problems</td>
<td></td>
</tr>
<tr>
<td>1. Immobility for more than 1 day in persons previously mobile</td>
<td></td>
</tr>
<tr>
<td>2. Abdominal distention</td>
<td></td>
</tr>
<tr>
<td>3. Decreased number of bowel movements or constipated stool</td>
<td></td>
</tr>
<tr>
<td>4. Decreased fluid intake — dehydration</td>
<td></td>
</tr>
<tr>
<td>5. Decreased food intake, especially bulky</td>
<td></td>
</tr>
<tr>
<td>c. Immediate catheterization for peptic ulcer and/or incontinence assessment, or both.</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Delirium — Searching for the Cause</th>
<th>4</th>
</tr>
</thead>
<tbody>
<tr>
<td>Discharge Home?</td>
<td></td>
</tr>
<tr>
<td>a. Review post operative history while in hospital (reaction to anesthetic, analgesia, opioids/anticholinergics)</td>
<td></td>
</tr>
<tr>
<td>b. Coordinate home care services</td>
<td></td>
</tr>
<tr>
<td>c. Monitor post status at home/disease/medication management</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Delirium — Searching for the Cause</th>
<th>1</th>
</tr>
</thead>
<tbody>
<tr>
<td>Post Surgical?</td>
<td></td>
</tr>
<tr>
<td>a) Review pain management/Opioids</td>
<td></td>
</tr>
<tr>
<td>b) Review mobility, skin and wound assessment</td>
<td></td>
</tr>
<tr>
<td>Promote mobilization, activity, and, and manage pain</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Delirium — Searching for the Cause</th>
<th>2</th>
</tr>
</thead>
<tbody>
<tr>
<td>New Disease Process?</td>
<td></td>
</tr>
<tr>
<td>a. Cardio and cerebrovascular conditions</td>
<td></td>
</tr>
<tr>
<td>1. Silent MI</td>
<td></td>
</tr>
<tr>
<td>2. TIA/CVA</td>
<td></td>
</tr>
<tr>
<td>3. Cerebrovascular episode</td>
<td></td>
</tr>
<tr>
<td>b. GI conditions; GI bleed, if evidence of daily use of NSAIDS or steroids</td>
<td></td>
</tr>
<tr>
<td>c. Other medical conditions</td>
<td></td>
</tr>
<tr>
<td>1. Hypertension</td>
<td></td>
</tr>
<tr>
<td>2. Hypothyroidism</td>
<td></td>
</tr>
<tr>
<td>3. Electrolyte imbalance</td>
<td></td>
</tr>
<tr>
<td>d. Neurological conditions (e.g. normal pressure hydrocephalus)</td>
<td></td>
</tr>
<tr>
<td>1. Abnormal head size</td>
<td></td>
</tr>
<tr>
<td>2. Headache</td>
<td></td>
</tr>
<tr>
<td>3. Seizure</td>
<td></td>
</tr>
<tr>
<td>4. Epilepsy</td>
<td></td>
</tr>
</tbody>
</table>

- Request appropriate diagnostic tests
- E.g. PE, pulsus paradoxus, EEG, hemoglobin and hematocrit, chemistry screen, electrolytes, TSH, specific test for cancer detection, CAT or PET

<table>
<thead>
<tr>
<th>Delirium — Searching for the Cause</th>
<th>3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Psychosocial/Environmental?</td>
<td></td>
</tr>
<tr>
<td>a) Home assessment/safety</td>
<td></td>
</tr>
<tr>
<td>b) Supports: family involvement/friends/alone</td>
<td></td>
</tr>
<tr>
<td>c) ADLs and IADLs</td>
<td></td>
</tr>
</tbody>
</table>

October 2008 Delirium in Older People

19
What are the Causes of Delirium?

PRESCRIPTION MEDICATIONS

- Central acting agents
  - Sedative hypnotics (e.g., benzodiazepines)
  - Anticonvulsants (e.g., barbiturates)
  - Antiparkinsonian agents (e.g., Benztropine, Trihexyphenidyl)

- Analgesics
  - Narcotics (e.g., Meperidine*)
  - Non-steroidal anti-inflammatory drugs*

- Antibiotics
  - Fluoroquinolones*

- Antihistamines
  - First generation (e.g., Hydroxyzine, Diphenhydramine)

- Anticonvulsants
  - Phenytoin, Phenobarbitone, Mysoline

- Antiparkinsonians
  - Dopamine agonists
  - Levodopa-carbidopa
  - Anticholinergics
  - Benztropine

- Antinauseants
  - Scopolamine
  - Dimenhydrinate

- Psychotropic medications
  - Tricyclic antidepressants (e.g., Amitriptyline, Imipramine and Doxepin)
  - Lithium*
  - Neuroleptics (e.g. Chlorpromazine)

- Cardiac medications
  - Antiarrhythmics
  - Digitalis*
  - Antihypertensives (β-blockers, methyldopa)

- Bladder and Bowel/GI
  - Promotility agents
  - Antispasmodics (e.g., Tolteridine, Oxybutynin)
  - H2-blockers* (e.g., Cimetidine)

- Miscellaneous
  - Skeletal muscle relaxants
  - Steroids
  - Flu (e.g., Amantadine)

* Requires adjustment in renal impairment.
What are the Causes of Delirium?

Over the Counter Medications and Complementary/Alternative Medications

- Antihistamines
  - First generation such as diphenhydramine, chlorpheniramine
- Antinauseants
  - Dimenhydrinate, scopolamine
- Liquid medications containing alcohol
- Mandrake
- Henbane
- Jimson weed
- Atropa belladonna extract
# What is the Difference Between Delirium, Dementia and Depression?

<table>
<thead>
<tr>
<th></th>
<th>Delirium</th>
<th>Dementia</th>
<th>Depression</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Definition</strong></td>
<td>Delirium is a medical emergency which is characterized by an acute and fluctuating onset of confusion, disturbances in attention, disorganized thinking and/or decline in level of consciousness. Delirium cannot be accounted for by a preexisting dementia; however, can co-exist with dementia.</td>
<td>Dementia is a gradual and progressive decline in mental processing ability that affects short-term memory, communication, language, judgment, reasoning, and abstract thinking. Dementia eventually affects long-term memory and the ability to perform familiar tasks. Sometimes there are changes in mood and behaviour. Common types include: - Alzheimer disease (40–60%) - Vascular dementia (10–20%) - Lewy Body dementia (15–20%).</td>
<td>Depression is a term used when a cluster of depressive symptoms is present on most days, for most of the time, for at least 2 weeks and when the symptoms are of such intensity that they are out of the ordinary for that individual. Depression is a biologically based illness that affects a person’s thoughts, feelings, behaviour, and even physical health.</td>
</tr>
<tr>
<td><strong>Onset</strong></td>
<td>Acute - Subacute - Depends on cause - Often at twilight</td>
<td>Insidious - Chronic</td>
<td>Variable - Often abrupt - Coincides with life changes</td>
</tr>
<tr>
<td><strong>Duration</strong></td>
<td>Hours to days to weeks and less than 1 month - Seldom longer</td>
<td>Months to years</td>
<td>Variable - At least 2 weeks but can be months to years</td>
</tr>
</tbody>
</table>
## What is the Difference Between Delirium, Dementia and Depression?

<table>
<thead>
<tr>
<th></th>
<th>Delirium</th>
<th>Dementia</th>
<th>Depression</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Course</strong></td>
<td>Fluctuating</td>
<td>Slowly progressive</td>
<td>Diurnal variation</td>
</tr>
<tr>
<td></td>
<td>Short, diurnal variations in symptoms, worse at night, in the dark and on awakening</td>
<td>Relatively stable over time</td>
<td>Worse in morning, improves during day</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Situational fluctuations but less than acute confusion</td>
</tr>
<tr>
<td><strong>Progression</strong></td>
<td>Abrupt</td>
<td>Slow but even</td>
<td>Variable, rapid-slow but uneven</td>
</tr>
<tr>
<td><strong>Consciousness/Awareness</strong></td>
<td>Impaired</td>
<td>Clear</td>
<td>Clear</td>
</tr>
<tr>
<td></td>
<td>Fluctuates</td>
<td>until late in the course of the illness</td>
<td>Unimpaired</td>
</tr>
<tr>
<td></td>
<td>Reduced</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Stability</strong></td>
<td>Variable hour to hour</td>
<td>Fairly stable</td>
<td>Some variability</td>
</tr>
<tr>
<td><strong>Alertness</strong></td>
<td>Fluctuates</td>
<td>Generally normal</td>
<td>Normal</td>
</tr>
<tr>
<td></td>
<td>Lethargic or hypervigilant</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Attention</strong></td>
<td>Inattentive</td>
<td>Generally normal</td>
<td>Difficulty concentrating</td>
</tr>
<tr>
<td></td>
<td>Fluctuates</td>
<td></td>
<td>Minimal impairment</td>
</tr>
<tr>
<td></td>
<td>Impaired</td>
<td></td>
<td>Distractable</td>
</tr>
</tbody>
</table>

October 2008  Delirium in Older People
What is the Difference Between Delirium, Dementia and Depression?

<table>
<thead>
<tr>
<th></th>
<th>Delirium</th>
<th>Dementia</th>
<th>Depression</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Memory</strong></td>
<td>Poor memory</td>
<td>Poor memory</td>
<td>Intact</td>
</tr>
<tr>
<td></td>
<td>Recent and immediate impaired</td>
<td>Recent and remote impaired</td>
<td>Minimally impaired</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Selective or patchy</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>“Islands” of intact memory</td>
</tr>
<tr>
<td><strong>Affect /Emotions</strong></td>
<td>Variable</td>
<td>Variable</td>
<td>Depressed</td>
</tr>
<tr>
<td></td>
<td>Irritable</td>
<td>Apathetic</td>
<td>Loss of interest and</td>
</tr>
<tr>
<td></td>
<td>Aggressive</td>
<td>Labile</td>
<td>pleasure in usual activities</td>
</tr>
<tr>
<td></td>
<td>Fearful</td>
<td>Irritable</td>
<td>Flat, unresponsive, sad</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>May be irritable</td>
</tr>
<tr>
<td><strong>Thinking</strong></td>
<td>Disorganized</td>
<td>Difficulty with abstractions</td>
<td>Intact with themes of</td>
</tr>
<tr>
<td></td>
<td>Distorted</td>
<td>Thoughts impoverished</td>
<td>hopelessness, helplessness,</td>
</tr>
<tr>
<td></td>
<td>Fragmented</td>
<td>Make poor judgments</td>
<td>indecisiveness, or self-deprecation</td>
</tr>
<tr>
<td></td>
<td>Slow or accelerated</td>
<td>Words often difficult to find</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Incoherent</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Perception</strong></td>
<td>Distorted: illusions, delusions and/or</td>
<td>Misperceptions often absent</td>
<td>Intact</td>
</tr>
<tr>
<td></td>
<td>hallucinations</td>
<td>Lewy body dementia will have hallucinations</td>
<td>In severe cases may</td>
</tr>
<tr>
<td></td>
<td>Difficulty distinguishing between reality,</td>
<td></td>
<td>experience delusions and</td>
</tr>
<tr>
<td></td>
<td>misperceptions</td>
<td></td>
<td>hallucinations</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
# What is the Difference Between Delirium, Dementia and Depression?

<table>
<thead>
<tr>
<th></th>
<th>Delirium</th>
<th>Dementia</th>
<th>Depression</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Sleep-Wake Cycle</strong></td>
<td>Disturbed</td>
<td>Normal to fragmented</td>
<td>Disturbed</td>
</tr>
<tr>
<td></td>
<td>Nocturnal confusion</td>
<td>Nocturnal wandering and confusion</td>
<td>Usually early morning awakening</td>
</tr>
<tr>
<td></td>
<td>Reversed: up at night, very sleepy</td>
<td></td>
<td>Hypersomnia</td>
</tr>
<tr>
<td></td>
<td>or non-responsive during day</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Mental Status Testing</strong></td>
<td>Testing is variable</td>
<td>Attempts to answer and not aware of mistakes</td>
<td>Capable of giving correct answers</td>
</tr>
<tr>
<td></td>
<td>Dependent on cognition fluctuations</td>
<td></td>
<td>Often states “I don’t know”</td>
</tr>
<tr>
<td><strong>Standardized Tests</strong></td>
<td>CAM <em>(Confusion Assessment Method)</em></td>
<td>MMSE <em>(Folstein)</em> <em>(Mini- Mental Status Exam)</em></td>
<td>Geriatric Depression Scale <em>(without dementia)</em></td>
</tr>
<tr>
<td></td>
<td></td>
<td>MOCA <em>(Montreal Cognitive Assessment)</em></td>
<td>Cornell Depression Scale <em>(with dementia)</em></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Clock Drawing Test</td>
<td></td>
</tr>
<tr>
<td><strong>Prognosis</strong></td>
<td>Treatable and reversible condition</td>
<td>Treatments in early stages may slow progression</td>
<td>Treatable and reversible condition</td>
</tr>
<tr>
<td></td>
<td>Medical emergency</td>
<td>Non-reversible condition</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Increased risk of relapse, morbidity and mortality</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Other Features</strong></td>
<td>Other physical disease may not be obvious</td>
<td></td>
<td>Past history of mood disorder</td>
</tr>
</tbody>
</table>

*October 2008  Delirium in Older People*
## What is the Difference Between Delirium, Dementia and Depression?

<table>
<thead>
<tr>
<th>DSM-IV Diagnostic Criteria</th>
<th>Delirium</th>
<th>Dementia</th>
<th>Depression</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>A.</strong> Disturbance of consciousness (i.e., reduced clarity of awareness of the environment) with reduced ability to focus, sustain or shift attention.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>B.</strong> A change in cognition (such as memory deficit, disorientation, language disturbance) or the development of a perceptual disturbance that is not better accounted for by a preexisting, established or evolving dementia.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>C.</strong> The disturbance develops over a short period of time (usually hours to days) and tends to fluctuate during the course of the day.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>D.</strong> There is evidence from the history, physical examination or laboratory findings that the disturbance is caused by the direct physiological consequences of a general medical condition.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>A.</strong> The development of multiple cognitive deficits manifested by both</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1. memory impairment: impaired ability to learn new information or to recall previously learned information</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. one or more of the following cognitive disturbances:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>a) aphasia (language disturbance)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>b) apraxia (impaired ability to carry out motor activities despite intact motor function)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>c) agnosia (failure to recognize or identify objects despite intact sensory function)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>d) disturbance in executive functioning (e.g., organizing, planning, sequencing, abstracting)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>B.</strong> The cognitive deficits in the above criteria (Criteria A1 and A2) each cause significant impairment in social or occupational functioning and represent a significant decline from a previous level of functioning.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Five (or more) of the following symptoms have been present during the same two-week period and represent a change from previous functioning; at least one of the symptoms is either (1) depressed mood or (2) loss of interest or pleasure.</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1. depressed mood most of the day, nearly every day</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. marked diminished interest or pleasure in normal activities</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. significant weight loss or gain</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. insomnia or hypersomnia nearly every day</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5. psychomotor agitation or retardation nearly every day</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6. fatigue or loss of energy nearly every day</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7. feelings of worthlessness or excessive guilt</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>8. diminished ability to think or concentrate, or indecisiveness</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>9. recurrent thought of death or suicidal thoughts/actions</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

October 2008  Delirium in Older People
INTERPROFESSIONAL INTERVENTIONS FOR DELIRIUM
Working as a team with a combination of strategies is best:

MINIMIZE PSYCHOACTIVE MEDICATIONS
“Check those drugs”

1) Frequently access medication list
2) Minimize psychoactive medications
   • Avoid PRN’s
   • Use nonpharmacological approaches
   • Substitute less toxic alternatives
     (e.g. antacid or Carafate for H₂ blocker, vMetamucil/Kaopectate for Lomotil)
   • Reduce dosage
3) Re-evaluate chronic medication usage
   • Hospital or home visit ideal time to make changes
   • Substrate is not the same
INTERPROFESSIONAL INTERVENTIONS FOR DELIRIUM
Working as a team with a combination of strategies is best:

ORIENTATION

- Keep person in familiar surroundings
- Clock and calendar with correct date
- Verbal reminders of time, day & place
- Remove items that may be misinterpreted
- Glasses, hearing aides,
- Family
- Language interpreters
INTERPROFESSIONAL INTERVENTIONS FOR DELIRIUM
Working as a team with a combination of strategies is best:

ENVIRONMENT

- Family to assist to adapt/personalize environment, provide orienting items
  - e.g. family photos
- Encourage regular family/friends visits
- Ensure adequate light, decrease noise
- Avoid room changes if in hospital/LTC
- Use mattress alarm
- Avoid physical restraints
- Home care support
INTERPROFESSIONAL INTERVENTIONS FOR DELIRIUM
Working as a team with a combination of strategies is best:

**SLEEP**

- **Hospitals/LTC:**
  - Schedule medications, vital signs, procedures to allow uninterrupted sleep
  - Lights off and decreased noise-level at night

- **Home:**
  - Night light
  - No naps during the day
  - Promote normal bedtime routine
  - Promote normal daytime routine
INTERPROFESSIONAL INTERVENTIONS FOR DELIRIUM
Working as a team with a combination of strategies is best:

COMMUNICATION

- Acknowledge person’s emotions, provide reassurance
- Explain delirium to person & their family
- Slow pace, simple statements, use repetition
- Face the person when speaking, use the person’s name & identify yourself often
- Convey attitude of warmth & firmness
INTERPROFESSIONAL INTERVENTIONS FOR DELIRIUM

Working as a team with a combination of strategies is best:

PSYCHOLOGICAL SUPPORT

- Encourage participation in ADL’s
- Respond to the person’s feelings, do not confront re misperceptions, be reassuring
- Encourage family participation and interaction
- Provide stimulating activity as appropriate
- Maintain structure & daily routine
- Use orienting statements in conversation
INTERPROFESSIONAL INTERVENTIONS FOR DELIRIUM
Working as a team with a combination of strategies is best:

**PHYSICAL ACTIVITY**

- Encourage ambulation, PT/OT consult
- Allow free movement if safe
- Involve person in social activities
- Family and friends routinely visit, outings
- Give them something comforting to hold
- Play calming music
- Toilet/suggest using toilet – frequently
INTERPROFESSIONAL INTERVENTIONS FOR DELIRIUM
Working as a team with a combination of strategies is best:

SAFETY

- Remove unsafe items from environment
- Hospital/LTC:
  - Avoid physical restraint
  - If person gets out of bed on own, put side rails down, lower bed, or put mattress on floor
- Do not force care; if the person shows responsive behaviour, remain calm & reassuring
- Ensure adequate nutrition, rest & sleep
INTERPROFESSIONAL INTERVENTIONS FOR DELIRIUM
Working as a team with a combination of strategies is best:

HEALTH STATUS – STABILITY

Assess, monitor and manage potential/common causes:

- Exacerbation of chronic illnesses, diabetes mellitus, Hypo/hypertension, COPD, cerebrovascular insufficiency, cancer, pain, depression, hypoxia
- Dehydration & nutritional intake
- Medication toxicity/interactions: review/reduce meds
- Substance misuse (e.g. alcohol, drugs, tobacco)
- Review chart for abnormal electrolyte results
- Monitor bowel & bladder function
- Infection (bladder & lung)
- Mobility and function
- Post operative progress
INTERPROFESSIONAL INTERVENTIONS FOR DELIRIUM

Working as a team with a combination of strategies is best:

**PRIMARY CARE OLDER ADULT DELIRIUM DECISION TREE**

**Delirium**: Acute confusional state lasting from hours to a few weeks, characterized by changes in three domains: cognition, perception, thinking, memory and psychomotor behaviour.

**Risk Factors**
- Over 75 years old
- Acute/chronic diseases (low BP, CHF, CV disease, abnormal GL, stroke, seizures, meningitis)
- Trauma (surgery, falls, fractures)
- Diagnosis of dementia, cognitive impairment, depression
- Environmental change
- Medications: side effects, toxicity
- Nutritional deficiencies
- Abnormal body temperature
- Alcohol

**Delirium Symptoms**
- Sudden change in:
  - Sleep/wake cycle
  - Ability to do ADLs
- Communication (confusion, speech, rambling thoughts)
- Attention and concentration
- Perceptual changes (hallucinations, illusions)
- Thought processes (delusions)
- Memory
- Psychomotor activity (agitation)

**CAM (Confusion Assessment Method)**

**Delirium Symptom Screening Tool**

**ASSESS FOR CAUSE**

**Documentation**
- CAM
- MMSE/VOCA/SMM
- Clock drawing/ABCS
- Complain, behaviour, memory, client, sleep/wake, client, document interventions & outcomes

**Intervention Strategies**

**Treat Underlying Physiological Cause**
- Investigations with physician/lab work, electrolytes
- 3500 cc's of fluid daily (unless restricted)
- Review medication profile
- Antibiotics (if infection)
- Stabilization of disease
- Treat constipation, urinary retention
- Pain management
- Pharmacological interventions

**Environmental**
- Encourage wearing hearing aids, glasses, dentures
- Minimize/minimize distractions
- Provide structure during the day
- Maintain daily routines
- Ensure food & liquids are available
- Minimize sudden changes in environment & routines
- Care for orientation (objects, calendars, photos)

**Develop and Implement INDIVIDUALIZED CARE PLAN**

**Supportive**
- Interprofessional teams care delivery
- Consistent caregiving/home support staff
- Caregiver strategies:
  - Coord rate home visits
  - Speak in clear, short, simple phrases
  - Inform - this is a short-term condition
  - Validate fears and concerns
- Encourage regular visits from family, volunteers

**Sleep Hygiene**
- Promote regular bedtime, reduce napping
- Discourage evening caffeine
- Nighttime voiding assistance (continence, bed pad)
- Non-pharmacological sleep stimulants: Acetam, music
- Check home temperature/stability vs. keeping warmness

**Pharmacological Considerations**
- Minimize use of medications and consult physician and pharmacist
- Sleep aid medications
- Antipsychotic for delusions & agitation
- Antidepressant
- Analgesics

- Consider that any of the above can adversely affect delirium.
Materials Development

Mary-Lou van der Horst
Geriatric Nursing/Knowledge Translation Consultant (GIIC)
Regional Geriatric Program–Central, Hamilton
Regional Geriatric Program – Central
St. Peter’s Hospital–RGPe
88 Maplewood Ave, Hamilton, ON. L8M 1W9

Barb McCoy
Psychogeriatric Resource Consultant
Alzheimer’s Society of Hamilton and Halton, Hamilton

Vancouver Island Health Authority
Delirium in the Older Person Team
Best Practice/Clinical Guidelines


Other Resources


For more delirium resources GO TO: [www.rgpc.ca](http://www.rgpc.ca)