

 <p>CREDIT VALLEY THE CREDIT VALLEY HOSPITAL</p>	<p>CLINICAL PRACTICE GUIDELINE</p>	<p>PROFESSIONAL PRACTICE</p>
<p>TITLE: Delirium, Management of Patients at Risk or Suspected</p>		
<p>DATE OF ISSUE: 2006, 01</p>	<p>PAGE 1 OF 7</p>	<p>NUMBER: CPG 4-1</p>
<p>SUPERCEDES: 2004, 06</p>	<p>ISSUED BY: _____ TITLE: Chief of Medical Staff</p>	
	<p>ISSUED BY: _____ TITLE: President</p>	

Purpose:

To provide a guideline to assist physicians in the management of patients who are at risk or diagnosed with suspected delirium identified by DRAT (Delirium Risk Assessment Tool) (**Appendix A**).

Selection Criteria:

Inclusion

- All patients suspected to be at risk for delirium or diagnosed with suspected delirium as identified by DRAT.

Clinical considerations:

Delirium is a common but often missed medical emergency. Key features of delirium include acute onset, fluctuating course, altered level of consciousness and cognitive decline. Delirium should be distinguished from depression, psychotic illnesses and dementia. However when in doubt, it is best to assume it is delirium and do a full work-up. The Mini-Mental State Exam (MMSE) (**Appendix B**) and the Confusion Assessment Method (CAM) (**Appendix C**) are useful tools to help in the diagnosis.

Predominant risk factors for delirium are age greater than 75 years, dehydration, cognitive dysfunction, frailty, acute/multiple illnesses, vision/hearing impairment, problems with activities of daily living, history of falls and multiple drugs.

Almost any medical condition can precipitate delirium.

Common precipitating disorders include the following:

- fluid and electrolyte disturbances (dehydration, hypo/hyponatremia)
- infections
- drug toxicity - digoxin
- metabolic disorders - hyperglycemia
- low perfusion states - heart failure
- withdrawal of alcohol and sedatives
- change in medication

Medications that may precipitate delirium:

- anticholinergics - anticholinergic activity is present in many commonly used medications (eg. dimenhydrinate, diuretics, amitriptyline, benztropine, diphenhydramine, oxybutynin)
- psychoactive drugs eg. benzodiazepines
- cardiovascular agents - central-acting antihypertensives (eg. methyldopa)
- nonsteroidal anti-inflammatory drugs (NSAIDs)
- narcotics
- antibiotics
- antiparkinsonian agents
- and many more (refer to Abramowicz M (ed). Drugs that may cause psychiatric symptoms. The Medical Letter. Vol 44(Issue 1134) July 8, 2002.)

Key Considerations of History and Physical Examination

- any new symptoms indicating new systemic illnesses
- abnormality in vital signs and oxygenation
- dehydration
- new neurological signs
- abnormal pulmonary/cardiac/abdominal exam
- signs of underlying metabolic encephalopathy
- rule out fecal impaction or urinary obstruction
- look for painful musculoskeletal conditions
- review of medications, especially any change

Diagnostic tests**Routine**

- complete blood count
- electrolytes including blood sugar
- urinalysis
- creatinine and blood urea nitrogen
- calcium, albumin

Consider

- liver function tests
- blood gases
- chest x-ray
- blood and urine cultures
- ECG, cardiac enzymes
- appropriate serum drug levels
- TSH

Consider lumbar puncture if appropriate, CT scan of head (history of falls or head trauma, focal neurological changes, fever/acute mental status changes, no identifiable etiology of acute mental status change).

Treatment:**If at risk**

- avoid anticholinergic, narcotic and psychoactive drugs if possible
- provide proper hydration, prevent hypoxia
- prompt treatment of medical problems including treatment of pain
- orientation techniques
- correct sensory deficits
- keep rooms well-lighted and low noise levels
- avoid room changes
- encourage family involvement
- encourage sleep

If screened positive

Treat as if at risk. In addition, treat underlying etiology, provide supportive care and prevent patient from harming self and others.

Pharmacologic management

In some cases where the patient poses danger to himself or others such as in hyperactive delirium with agitation, aggression or psychotic symptoms use of medications to calm the patient may be warranted. All medications used to sedate patients can potentially exacerbate their symptoms so must be used with caution. Family members should be notified of potential side effects of these medications and every effort to monitor side effects must be made. Currently, there is little evidence for what is the best treatment. Except where delirium is caused by alcohol or sedative withdrawal, neuroleptics are used. At this time, low dose prn haloperidol is accepted as the drug of choice but there are case reports suggesting atypical antipsychotics may be useful.

Approval:

Steering Committees –

Departments – Family Medicine, General Medicine

CQCC: June 2004

PPC: In the PPAC Report to MAC

MAC: January 2006

References:

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Appendix A

**Credit Valley Hospital
DELIRIUM RISK ASSESSMENT TOOL (DRAT)**

Is the client >75 years of age with two of the following risk factors:

- History of cognitive impairment
- Acute / Multiple illnesses (including unrelieved pain)
- Dehydration
- Vision / Hearing Impairment
- History of falls
- Activity of daily living impairment
- Polypharmacy (taking more than 5 medications)

Are there 2 or more risk factors present?

- Yes No

If YES, then refer to QRP for further cognitive testing (MMSE & CAM)

- Referred to QRP Time ____:____

Date: _____
(mm / dd / yyyy)

Signature

DELIRIUM RISK ASSESSMENT TOOL (DRAT)
6022 D HR (Mar 30/2004)

Appendix B (9, 10)

Mini-Mental State Exam (MMSE)

Maximum Score	Score	
5	_____	What is the (year) (day) (month) (date)?
5	_____	Where are we (province) (country) (town) (hospital) (floor)?
		Name 3 objects Glass
		Blanket
3	_____	Pencil
		Serial 7's
5	_____	Alternately spell "world" backwards
3	_____	Ask for the 3 objects repeated above
2	_____	Name a pencil and watch
1	_____	Repeat the following – "no ifs, ands or buts"
		Follow a 3-stage command
3	_____	"take a paper in your right hand, fold it in half and give it to me"
		Read and obey the following
1	_____	CLOSE YOUR EYES
1	_____	Write a sentence
1	_____	Copy a design
30	_____	TOTAL SCORE

Assess level of consciousness along a continuum

Alert Drowsy Stupor Coma

Number of years of schooling? _____

Lower Quartiles	Age					
	< 39	40 - 49	50 - 59	60 - 69	70 - 79	≥ 80
Schooling						
0 – 4 years	20	20	20	19	18	16
5 – 8 years	24	24	25	24	23	22
9 – 12 years	28	28	27	27	26	23
College experience or higher degree	29	29	28	28	27	26

Date: _____

Evaluator: _____

If MMSE not done, check appropriate space:

- refused language barrier
- on pass other (explain in notes)

Appendix C (1)

Confusion Assessment Method (CAM)

Guidelines on Performing CAM:

The CAM is an observational tool; the information can be obtained by asking relatives to provide a more subjective assessment.

ACUTE ONSET

1. Is there Acute Onset (of confusion) with a fluctuating course?
 - Yes
 - No
 - Uncertain

INATTENTION

2. Did the patient have difficulty focusing attention, for example being easily distractible, or having difficulty keeping track of what was being said?
 - Yes
 - No
 - Uncertain

DISORGANISED THINKING

3. Was the patient's thinking disorganized or incoherent, such as rambling or irrelevant conversation, unclear or illogical flow of ideas, unpredictable switching from subject to subject?
 - Yes
 - No
 - Uncertain

ALTERED LEVEL OF CONSCIOUSNESS

4. Overall how would you rate this patient's level of consciousness?
 - Alert (Normal)
 - Hypervigilant (Hyperalert, overly sensitive to environment stimuli, easily startled)
 - Lethargic (Drowsy, easily aroused)
 - Stupor (difficult to arouse)
 - Coma (unrousable)
 - Uncertain

A DIAGNOSIS OF DELIRIUM IS SUGGESTED

IF QUESTIONS 1 AND 2 ARE YES WITH EITHER YES FROM 3 AND OR ANYTHING OTHER THAN ALERT IN QUESTION 4.

Refer to Clinical Practice Guideline; Delirium, Management of Patients at risk or Suspected 4-1 (available at www.cvh.on.ca under Professional Resources.

Signature _____

Date/Time: _____

Adapted from Inouye, SK., (1990) Clarifying confusion: The Confusion Assessment Method. A new method for detecting delirium. Annals of Internal Medicine; 113: 941 – 8. Reviewed 2003.