



Terminal Delirium Quality Improvement Project

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Comfort, Care, and Dignity

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Terminal Delirium

We are working with MassPro, our QIO, on the development and implementation of plans for improvement on this identified measure. Currently, 72% of our patients who exhibit signs and symptoms that may indicate terminal delirium are treated with a neuroleptic. The assessment of terminal delirium must now be done if you suspect that is what the patient is exhibiting. Please provide answers for all the questions in the Profile, if known.

The answers to the delirium assessment and chart audits will determine if we are improving in the diagnosis and treatment of terminal delirium. Our agency goal is to reach 90% being treated effectively for symptoms of terminal delirium.

Objective:

Define terminal delirium

Identify risk factors that might predispose or contribute to terminal delirium

Recognize signs and symptoms

Understand pharmacological and non-pharmacological interventions

Document assessments, intervention and patient response appropriately

Define best practices of re-assessing every 24 hours and that symptoms will be relieved prior to death.

Definition of terminal delirium: a change in mental status that has an acute or sub acute onset with a fluctuation of symptoms in both severity and over time. There is also a waxing and waning of attention. Additional features may include increased or decreased psychomotor activity, a disorganized sleep-wake cycle, difficulty in coherent thinking (confusion), anxiety, restlessness, disturbing dreams, and fleeting hallucinations.

The appropriate treatment is the use of a neuroleptic as benzodiazepams may make the problem worse.

Delirium occurs in between 20-88% of all patients approaching the end of life. Often occurring within the final days or hours of life. Delirium is the most common and serious neuropsychiatric complication in cancer patients with advanced illness.

Risk factors that might predispose or contribute to terminal delirium

There are many factors that cause symptoms. In about 50% of the cases, symptoms are reversible, but often they are not.

Between 20-40% of cases of delirium are due to medications.

Individual Risk factors:

Age, gender, existing dementia, severe illness

Remember that cultural, religious factors have an impact on how dementia is viewed. Veterans may have posttraumatic stress disorder as a risk or contributing factor. Involve the Chaplain and Social Worker early on, in high-risk cases.

Use your Hospice Pharmacia MUG (Medication Use Guidelines) book for further assessment and intervention information

Consider all other reasons for delirium:

Pain

Urinary retention

Fecal impaction

Pre-or active phase of dying

Excessive secretions

Unfinished business

Spiritual distress

Withdrawal from opioid, nicotine or alcohol

Reversible Medical Risk Factors:

Accumulation of opioid metabolites (morphine, dilaudid)

Drug withdrawal (alcohol, benzodiazepines)

Renal impairment

Alcohol abuse

Insomnia

Metabolic causes

Dehydration

Treatment with many concomitant medications

Depression

Infection

Environmental & Psychological Risk Factors:

Hypothermia

Social isolation

Visual/hearing impairment

New environment

Stress

Cultural beliefs

Common causes of delirium in patients with cancer or advanced disease:

Constipation
Dehydration/volume depletion
Hematological abnormalities
Hypoxemia
Malnutrition
Pain
Primary tumors or mets to central nervous system
Electrolyte disturbances
Hypo/hyperglycemia
Infection
Metabolic encephalopathy due to organ failure
Seizures
Vasculitic processes

Side effects from these medications: can cause delirium

Anticholinergics
Antiemetics
Antihistamines
Benzodiazepines
Chemotherapeutic agents (methotrexate, fluorouracil, vincristine, vinblastine, Bleomycin, cisplatin)
Corticosteroids
Non-steroidal anti-inflammatory drugs
Opioids (especially morphine and meperidine)
Radiation
Sedative hypnotics

Consider stopping, rotating, or weaning these medications. Be aware if the patient is under the influence of alcohol.

Signs and Symptoms of terminal delirium

Agitation, attention deficits, distractability, fleeting illusions, hallucination and delusions, insomnia and daytime somnolence, memory disturbances, restlessness, anxiety, difficulty in formulating thoughts, emotional lability, hypersensitivity to light and sound, irritability, nightmares

Interventions

Non-pharmacological

Discontinue offending medications, if possible. Avoid polypharmacy. Use the minimum number of medications necessary to manage the patient's symptoms
Achieve multiple benefits from one medication (nortriptyline for neuropathy and depression)

Adjust dosages based on age, renal function, and hepatic function

Use the lowest effective dose of medication for the shortest duration possible.

Correct physical causes, if identified

Maintain fluid and electrolyte balance, if possible.

Provide nutrition, if feasible.

Reduce anxiety and disorientation

Provide structure, routing and familiarity

Provide adequate lighting, familiar objects, clock and calendar

Encourage comforting and reassuring interactions with loved ones and caregivers

Massage, guided imagery, music may be beneficial

Pharmacologic Therapy

Neuroleptics- Haloperidol is the first (1st) line drug of choice for the management of hallucinations and agitation in the delirious patient

Parental doses are generally twice as potent as oral doses. Administer slowly to minimize hypotension.

May repeat parentally administered doses every 20-30 minutes if needed to control acute symptoms, with appropriate monitoring

If the patient is unable to tolerate Haloperidol, Risperidone can be used.

First-line therapy:

Haloperidol for mild to severe delirium 0.5mg-2.0 mg IV, sc, IM, pr or po

Every 1-2 hours until agitation resolves or maximum of 20mg/24hours.

Risperidone can be considered a first line therapy option if the patient is in a LTC setting

0.25-1mg po daily BID

Thorazine (Chlorpromazine) is an equally effective neuroleptic as risperidone for the management of delirium; however, it is generally reserved for those patients who might also benefit from its sedating properties. 12.5-50 mg po,iv,im q 4 -12hrs.

Zyprexa (Olanzapine) 2.5-5 mg po BID with every 4-6 hours prn

Benzodiazepines

Lorazepam (Ativan) 0.5-2mg po, sl, im, iv

Oxazepam 10-30 mg po tid-qid

The addition of a benzodiazepine may be beneficial in those patients whose symptoms are not adequately controlled using Haloperidol alone. Although it is usually better to go to Thorazine. It is important to seek medical consultation from Dr. Nowak in these difficult symptom control situations.

The Confusion Assessment Method (CAM) Diagnostic Algorithm

Screens for clinical feature of delirium. Four features that are found to have greatest ability to distinguish delirium from other types of cognitive impairment.

The diagnosis of delirium by CAM requires the presence of features 1 and 2 and either 3 or 4.

Documentation of Interventions/Outcomes

Appropriate documentation of family teaching done using teaching tools. An offer of spiritual and Social worker support. Were symptoms relieved prior to death? Were symptoms re-evaluated every 24 hours? Was there support for the caregiver? Is this a time that Continuous Care could be offered or a General Inpatient admission until symptoms are under control and caregiver can sleep?

Plans of care should be re-evaluated and updated as needed. Interdisciplinary team conference and Medical Director consultation may be required.

PATIENT/FAMILY TEACHING SHEET

MANAGING DELIRIUM

What is delirium?

- **A sudden change in a person's mental status over a period of hours to days**
- **Mental clouding with less awareness of one's environment**
- **Confusion about time, place and person**

What are the Signs and Symptoms of Delirium?

- **Reversal of sleep and awake cycles**
- **"Sundowning" or confusion that is worse at night**
- **Mood swings that may change over the course of the day**
- **Difficulty focusing attention or shifting attention**
- **Hallucinations or seeing, hearing or feeling things that are not there**
- **Agitation and irritability**
- **Drowsiness and sluggishness**

What to report to the Hospice/Palliative Care Team?

- **Any of the signs of behaviors listed above**
- **Changes in food or fluid intake**
- **Decrease in urine output**
- **Change in frequency or type of bowel Movements**
- **Depression**
- **Wandering**
- **Withdrawal from people or activities**
- **Any change in medications the team is unaware of**

What can be done for delirium?

Delirium is common at the end of life. It has many causes. The team will try to find out what is causing the delirium. The team will discuss treatment option with you. As a caregiver you may

- **Keep the patient safe**
- **Remind the patient who you are when you assist with caregiving. Tell them what you are going to do. For example, “I am going to help you get out of bed now.”**
- **Offer support such as “I am right here with you.”**
- **Try to maintain a routine and structure**
- **Avoid asking a lot of questions**
- **Provide a quiet, peaceful setting, without TV and loud noises**
- **Play the patient’s favorite music**
- **Keep a nightlight on at night**
- **If starting a new medication, watch for improvement, worsening or side effects and report to healthcare provider**

Guidelines for Assessing and Managing Delirium

Definition

Change in mental status that has an acute or sub acute onset with a fluctuation of symptoms in both severity and over time. There is also a waxing and waning of attention. Additional features may include increased or decreased psychomotor activity, a disorganized sleep-wake cycle, difficulty in coherent thinking, (confusion) anxiety, disturbing dreams, and fleeting hallucination. May be reversible in approximately 50% of patients.

Risk Factors

Medications: anticholinergics (tricyclic antidepressants, scopolamine, anti-diarrheals, benzodiazepines (lorazepam, diazepam, temazepam, opioids, corticosteroids, anticonvulsants,
Drug/alcohol withdrawal

Metabolic changes: infections, electrolyte imbalances, hypoxia, liver or renal dysfunction, dehydration

Age

CNS pathology

Sleep deprivation

Prior history of dementia

Change in environment

Visual or hearing impairment

Depression

Stress

Hypothermia

Social Isolation

Cultural/Religious Beliefs

Assessment

All patients will be screened for terminal delirium using the profile in Roadnotes/Homeworks and using the definition and CAM Diagnostic Tool

If only CAM elements 1 and/or 2 present, continue routine screening and consider other reasons for changes in behavior and thinking

If CAM elements 1 and 2 plus 3 or 4 are also present, consider diagnosis of delirium:

Differential Diagnosis

Pain
 Neurotoxicity from opioids
 Substance withdrawal
 Depression
 Dementia
 Akathisia – involuntary movement, tremors, constant movement

Further Assessment

Fluctuation level of consciousness
 Disorientation Cognitive deficits
 Inattention
 Altered sleep wake cycle (nighttime arousal, Daytime sleepiness)
 Memory impairment
 Perceptual changes (hallucinations, delusions)
 Behavioral changes

- Hyperactive: with agitation, non purposeful movements
- Hypoactive: withdrawn, non-responsive

Managing Delirium

Non Pharmacological

- Presence (especially familiar people)
- Reassurance-verbal and tactile
- Massage
- Quiet environment
- Redirection
- Reorientation (calendar, clock)
- Assist accurate sensory input with eyeglasses, hearing aids
- Calm, accepting attitude
- Sitters to avoid bed alarms and restraint

Pharmacological

1. Haldol 0.5-2 mg po,sl,IV every 1-2 hours. May double the dose every 2 hours until agitation resolves or maximum of 20mg/24hours. IV dosing is twice as potent as po
2. Olanzapine (Zyprexa) 2.5-5mg po BID with 2.5 mg every 4-6 hours PRN agitation/delirium (Max dose 20 mg/day)
3. Risperidone-0.25-1mg po daily-BID
4. Chlorpromazine (Thorazine) 25-50 mg po,pr, IM,IV every 6 hours PRN. Use only when high level of sedation is desired (severe agitation or violence) and patient can be placed in bed

Treatment of Reversible Causes (appropriate to goals of care)

1. Check vital signs and oxygen saturation. Temp indicative of infection and hypoxia
2. Treat metabolic derangements
3. Discontinue any unnecessary medications that may be contributing to delirium. Use of benzodiazepines is common contributor, stop ABHR gel which may be contributing to delirium.
4. If opioids are in use, consider opioid rotation
5. Consider CNS imaging to rule out new pathologies.

Terminal Delirium Chart Audit Tool

Patient Name: _____

ID No. _____

Primary Dx: _____

Date of Admission: _____ Date of Death: _____

Criteria	Y	N	Not Documented/Comments
1. Was there a diagnosis of terminal delirium/agitation? If yes, date of diagnosis _____			
2. Documentation of signs/symptoms of terminal delirium: Check all that apply: <input type="checkbox"/> hallucinations <input type="checkbox"/> nightmares <input type="checkbox"/> paranoid ideation <input type="checkbox"/> Other _____ Documented by: <input type="checkbox"/> nurse <input type="checkbox"/> social worker <input type="checkbox"/> chaplain <input type="checkbox"/> HHA <input type="checkbox"/> physican <input type="checkbox"/> volunteer			
3. Documentation of signs/symptoms of terminal agitation Check all that apply: <input type="checkbox"/> Frequent, non-purposeful motor activity <input type="checkbox"/> Inability to concentrate or relax <input type="checkbox"/> Disturbances in sleep/rest patterns <input type="checkbox"/> Fluctuating levels of consciousness, cognitive failure and/or anxiety <input type="checkbox"/> Other _____ Documented by: <input type="checkbox"/> nurse <input type="checkbox"/> social worker <input type="checkbox"/> chaplain <input type="checkbox"/> HHA <input type="checkbox"/> physican <input type="checkbox"/> volunteer			
4. Did caregivers express distress regarding the symptoms?			
5. Were other causes for the symptoms, e.g., over-medication, infection, considered?			

Criteria	Y	N	Not Documented/Comments
6. What was the first-line intervention for symptom management: <ul style="list-style-type: none"> a. Pharmacological <ul style="list-style-type: none"> i. Neuroleptic (list drug/dose/route/frequency ii. Benzodiazepine list drug/dose/route/frequency b. Non-pharmacological intervention: <ul style="list-style-type: none"> i. Massage/touch ii. Spiritual support/prayer iii. Aromatherapy iv. Reassurance/verbal support v. Quiet, calm environment 			
7. Were there telephone calls to on-call or after-hours service regarding the onset/management of the symptoms:			
8.If yes to # 5, what was the response to the call" <ul style="list-style-type: none"> a. Home visit b. Medication adjustment c. ER/hospital 			
9. Were symptoms re-assessed at least every 24 hours?			
10 Was there documentation of caregiver teaching regarding the diagnosis of terminal delirium/agitation?			
11. Were symptoms relieved prior to death?			

Confusion Assessment Method (CAM) Diagnostic Algorithm	Y	N
Feature 1: Acute Onset and Fluctuating Course This feature is usually obtained from a family member or nurse and is shown by positive responses to the following questions: Is there evidence of an acute change in mental status from the patient's baseline? Did the (abnormal) behavior fluctuate during the day, that is, tend to come and go, or increase and decrease in severity?		
Feature 2: Inattention This feature is shown by a positive response to the following question: Did the patient have difficulty focusing attention, for example, being easily distractible, or having difficulty keeping track of what was being said?		
Feature 3: Disorganized thinking This feature is shown by a positive response to the following question: Was the patient's thinking disorganized or incoherent, such as rambling or irrelevant conversation, unclear or illogical flow of ideas, or unpredictable switching from subject to subject?		
Feature 4: Altered Level of consciousness This feature is shown by any answer other than "alert" to the following question: Overall, how would you rate this patient's level of consciousness? (alert [normal], vigilant [hyperalert], lethargic [drowsy, easily aroused], stupor [difficult to arouse], or coma [unarousable])		

The diagnosis of delirium by CAM requires the presence of features 1 and 2 and either 3 or 4.

CAM Instrument and Algorithm adapted from Inouye, S., van Dyck, C., Alessi, C., Balkin, S., Siegel, A. & Horwitz, R. (1990). Clarifying confusion: the confusion assessment method. *Annals of Internal Medicine*, 113(12), 941-948.