

Mental Status Change: Common Complications and Conditions

CCC: CCC-025 (ISC)

[Link to Codes](#)

MCG Health
Inpatient & Surgical Care
30th Edition

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Prevention

- Prevention issues and possible preventive measures include(1)(2)(3)(4)(5)(6)(7)(8)(9)(10)(11)(12)(13):

- ☐ Maintain awareness of patient characteristics that pose high risk for delirium[A]; examples include:
 - Age older than 70 years or younger than 2 years(15)(16)
 - Child with developmental delay(15)
 - Functional impairment or impaired mobility
 - Sensory impairment (eg, visual, hearing)
 - Baseline cognitive impairment or dementia(16)(17)(18)(19)
 - Stroke(20)
 - History of depressive disorder, bipolar disorder, or psychotic disorder
 - History of prior delirium
 - History of seizure disorder
 - Emergence from heavy sedation or coma
 - Sleep deprivation
 - Acidosis or alkalosis
 - Moderate to severe electrolyte abnormalities (eg, hyponatremia, hypernatremia)
 - Abnormal glycemic control (eg, significantly high or low glucose)
 - Nutritional deficiencies (eg, malnutrition, low albumin, malabsorption, vitamin B deficiencies)(21)
 - History of or current alcohol misuse
 - Benzodiazepine and other psychoactive medication, toxic levels of therapeutic agents (eg, lithium, valproic acid), or substance use (eg, intoxication or withdrawal)(22)(23)(24)(25)(26)

- Postoperative state[B](3)(32)(33)(34)
- Renal or hepatic insufficiency
- Hypoxia
- Malignancy (eg, brain metastases, paraneoplastic syndromes, chemotherapy, brain radiation)(35)
- Infection (eg, sepsis, pneumonia, urinary infection, CNS infection)(36)
- Hypothyroidism (eg, untreated, undertreated)
- Screen for delirium in high-risk situations.[C]
- Reduce medication load when possible.(39)(40)
- ☐ Promote normal sleep-wake cycles; examples include(41):
 - Schedule medication rounds around sleep schedule.
 - Avoid procedures during sleeping hours.
 - Reduce noise and ambient lighting during sleeping hours.
 - Use nonpharmacologic sleep aids preferentially.
 - Use melatonin 1 hour before desired sleep time if pharmacologic sleep aid is necessary.
- Mobilize patient early and minimize immobilizing equipment and restraints.(42)
- Orientating communication (eg, daily nursing reorientation regarding context-appropriate time, place, and person-related information)(42)
- ☐ Provide adequate nutrition and hydration(5):
 - Feeding assistance and oral care as needed(42)
 - Recognize and treat dehydration promptly.
- Treat infection and fever promptly.
- Avoid or correct metabolic abnormalities.
- Avoid hypoxia.
- Address sensory impairments (eg, use eyeglasses, hearing aids).
- Remove indwelling urinary catheters promptly when no longer indicated.
- In mechanically ventilated patients, use daily spontaneous awakening trials and minimal-sedation protocols.

Clinical Indications for Ongoing Inpatient Care

- Ongoing inpatient care is indicated for **1 or more** of the following(1)(2)(3)(4):
 - Danger to self or others not manageable/treatable at lower level of care
 - Grave disability (eg, inability to perform self-management necessary at lower level of care)
 - Suspected serious etiology (eg, medical disorder, CNS event) of Altered mental status
 - Agitation or inappropriate behavior interfering with care for primary condition (eg, attempting to discontinue lines or drains prematurely, unable to cooperate with respiratory care)
 - Delirium,[A][D][E][F] as indicated by **1 or more** of the following:
 - Delirium due to alcohol or sedative (eg, benzodiazepine, barbiturate)[G] withdrawal
 - Delirium of uncertain etiology that has not responded to appropriate empiric treatment
 - Delirium that prevents performance of life-sustaining function (eg, feeding or hydrating oneself)

Alternatives to Inpatient Care

- Alternatives to inpatient stay extension include(2)(3)(4)(50):
 - Recovery facility care(1)

- Treat underlying medical causes of delirium.[E]
- Address behavioral issues with environmental support.
- Use pharmacologic treatment as needed.(51)
- Home care
 - As hospitalization itself may precipitate delirium, care in familiar environment is preferred.
- Hospice care(50)(52)(53)
 - Delirium is common at the end of life.(54)
 - Assess and treat delirium in accordance with palliative care principles.
 - Assess and treat associated psychological distress symptoms in accordance with palliative care principles.

Discharge

- Extended stay beyond goal length of stay for primary condition may be needed until **ALL** of the following are present(1)(3)(4)(53):
 - Underlying medical etiology of mental status change is absent or has been established and adequately treated.
 - Danger to self or others is absent or manageable/treatable at available lower level of care.
 - Behavioral crisis management, including physical restraint or emergent pharmacologic treatment of agitation, is not required or is available at lower level of care.
 - Substance or alcohol withdrawal is absent or manageable/treatable at available lower level of care.
 - Behavioral symptoms (eg, agitation, somnolence, inappropriate behavior) are absent or manageable/treatable at available lower level of care.
 - Functional status is acceptable to participate at available lower level of care.

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Footnotes

[A] Delirium is a syndrome characterized by disturbance of consciousness of acute onset with reduced ability to sustain or shift attention, accompanied by cognitive impairment or perceptual disturbance.(14) [A in Context Link 1, 2]

[B] Risk factors for delirium after noncardiac surgery include, among other factors, being underweight, longer duration of surgery/anesthesia, advanced age, preoperative cognitive impairment, and multiple comorbidities.(3)(27) Risk factors after cardiac surgery in adults include impaired preoperative renal or cognitive function, prolonged operative time, prolonged extracorporeal circulation time, high opioid dosages, depression, prior or perioperative stroke, and history of, or new onset of, atrial fibrillation.(3)(28)(29)(30) Risk factors after cardiac surgery in children include age younger than 2 years, developmental delay, cyanotic disease, albumin less than 3 g/dL (30 g/L), prolonged bypass time, and higher preoperative surgical mortality risk score.(31) [B in Context Link 1]

[C] Assessment tools for adults include the Mini-Mental State Examination (MMSE), the Confusion Assessment Method (CAM), and, for rapid evaluation in ICU or similar acute care settings, the CAM-ICU or Intensive Care Delirium Screening Checklist (ICDSC).(1)(6)(37)(38) For critically ill children, assessment tools include the Pediatric Confusion Assessment Method for ICU (pCAM-ICU), the Preschool Confusion Assessment Method for ICU (psCAM-ICU), and the Cornell Assessment of Pediatric Delirium (CAPD).(15) [C in Context Link 1]

[D] The known or suspected cause of the delirium (eg, alcohol withdrawal, general medical condition) should be the focus of treatment.(1)(2)(4)(6)(43)(44) [D in Context Link 1]

[E] The presentation of delirium may mimic psychiatric disorders, and acute medical illness may precipitate or exacerbate psychiatric symptoms; while it is not uncommon for patients with a history of mental illness who present with signs and symptoms of delirium to be admitted to a psychiatric unit, evaluation and management on a medical unit may be more appropriate.(43) [E in Context Link 1, 2]

[F] Delirium is characterized by an acute onset (over hours or days) and a fluctuating course of disturbed consciousness and reduced ability to sustain or shift attention, with accompanying cognitive impairment or perceptual disturbance.(1)(4)(14)(44)(45) When due to alcohol withdrawal, delirium typically begins 2 to 3 days after termination of a prolonged period of heavy alcohol use. Alcohol withdrawal delirium is a diagnosis of exclusion that can be assigned properly only after alternative causes of delirium have been ruled out, including traumatic brain injury, cerebrovascular disease, and hepatic failure.(24)(46) [F in Context Link 1]

[G] The term "sedative" is used in this guideline to refer collectively to sedatives, hypnotics, and anxiolytics, and it includes drugs such as benzodiazepines, barbiturates, and "Z-drugs" (eg, eszopiclone, zolpidem, zaleplon).(47)(48)(49) [G in Context Link 1]

Definitions

Altered mental status

- Altered mental status (ie, different from baseline), as indicated by **1 or more** of the following(1)(2)(3)(4):
 - Confusional state (eg, disorientation, difficulty following commands, deficit in attention)
 - Lethargy (eg, awake or arousable, but with drowsiness; reduced awareness of self and environment)
 - Obtundation (ie, arousable only with strong stimuli, lessened interest in environment, slowed responses to stimulation)
 - Stupor (ie, may be arousable but patient does not return to normal baseline level of awareness)
 - Coma (ie, not arousable)

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Codes

ICD-10 Diagnosis: F05, F10.121, F10.221, F10.231, F10.921, F11.121, F11.221, F11.921, F12.121, F12.221, F12.921, F13.121, F13.221, F13.231, F13.921, F13.931, F14.121, F14.221, F14.921, F15.121, F15.221, F15.921, F16.121, F16.221, F16.921, F18.121, F18.221, F18.921, F19.121, F19.221, F19.231, F19.921, F19.931 [Hide]

DSM-5: F05, F10.121, F10.221, F10.231, F10.921, F11.121, F11.221, F11.921, F12.121, F12.221, F12.921, F13.121, F13.221, F13.231, F13.921, F13.931, F14.121, F14.221, F14.921, F15.121, F15.221, F15.921, F16.121, F16.221, F16.921, F18.121, F18.221, F18.921, F19.121, F19.221, F19.231, F19.921 [Hide]

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