Goal

To guide clinicians in the prevention and management of delirium in the intensive care unit

Key Points

- Delirium is a significant source of morbidity and mortality in hospitalized patients
- The primary treatment for delirium is prevention and treatment of the underlying conditions
- Care must be taken to avoid deliriogenic medications

Preventative Measures

Orientation

- Redirect/reorient the patient, ensuring white board is updated and easy to see
- Provide visual and hearing aids
- Have familiar objects from patient’s home in the room
- Attempt consistency in nursing staff
- Have staff introduce themselves and re-orient patient upon each entry into patient’s room
- Non-verbal music

Environment

- Ambulate or mobilize patient early and often
- Sleep hygiene: provide adequate daytime light; sunny side room is preferable if available; lights off at night
- Consider sleep aids (e.g. melatonin)
- Control excess noise (staff, equipment, visitors) at night
- Use familiar objects items from home, photographs of family, etc.
- Avoid restraints if possible. See Restraint and Seclusion Policy

Medication Therapy

- Avoid deliriogenic medications
- Restart home medications with potential withdrawal risk (i.e. benzodiazepines, SSRIs, pregabalin/gabapentin, baclofen, opioids, etc.)
- Use of either haloperidol or atypical antipsychotics is not suggested to prevent delirium in adult ICU patients

Alternative Reasons for Delirium

- Drug withdrawal (benzodiazepines, alcohol, SSRIs, gabapentin, baclofen, opioids, etc.)
- Uremia
- Hepatic encephalopathy
- Hypoxia
- Uncontrolled pain
- Baseline dementia
- Over-sedation
- Underlying psychiatric condition
- Constipation
- Urinary retention
- Neurologic injury (i.e. stroke, traumatic brain injury)
- Seizures
- Hypoglycemia
- Infection / Sepsis
- Electrolyte abnormalities (i.e. hyponatremia, hypernatremia)
- Acute intoxication

Potentially Deliriogenic Medications

- Benzodiazepines
- Opioids
- Metoclopramide
- Histamine-1 blockers (promethazine, diphenhydramine)
- Antinauseants (scopolamine, dimenhydrinate)
- Skeletal muscle relaxants
- Psychotropic medications (tricyclic antidepressants, lithium)
- Steroids
**Step 1:** Assess RASS q4 hours and titrate sedation to goal (e.g., 1 to +1)

**RASS ≥ -3**
- **CAM-ICU Positive**
  - Exclude alternative reasons for delirium, including neurologic injury, seizures, traumatic brain injury, stroke, infection, metabolic processes, etc. Refer to CAM-ICU
  - Consider non-pharmacologic measures first
  - Stop deliriogenic medications as able
  - Treatment Step One
    - Determine patient’s delirium type to assist with treatment selection
  - Treatment Step Two
    - Obtain baseline EKG if none in past 24 hours
  - Treatment Step Three
    - Consider pharmacologic treatment. See Appendix A
  - Treatment Step Four
    - Continue monitoring CAM-ICU status at least once each a.m. and p.m. and prn
    - Monitor for side effects / adverse reactions

**CAM-ICU Negative**
- Continue preventative measures
- If no other alternative etiology for delirium, can consider initiating pharmacologic therapy

**No (RASS -4 or -5)**
- CAM-ICU Unable to Assess
  - Goal RASS -4 to -5 (Seizures, traumatic brain injury, continuous neuromuscular blockade, etc.)
  - CAM-ICU will be unable to assess until patient no longer requires goal RASS -4 to -5
  - Titrate sedation per ICU-specific protocol to achieve goal RASS by next assessment

**KEY:** RASS = Richmond Agitation Sedation Scale; CAM = Confusion Assessment Method; QTc = corrected QT interval

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IHIS Documentation

CAM-ICU Assessment

- CAM (Confusion Assessment Method)  Refer to Confusion Assessment Method

References


Quality Measures

- Proportion of patients with ICU delirium.

Reviewed by: Critical Care Quality Committee

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Guideline Approved


Disclaimer: Clinical practice guidelines and algorithms at The Ohio State University Wexner Medical Center (OSUWMC) are standards that are intended to provide general guidance to clinicians. Patient choice and clinician judgment must remain central to the selection of diagnostic tests and therapy. OSUWMC’s guidelines and algorithms are reviewed periodically for consistency with new evidence; however, new developments may not be represented.
## Pharmacologic Treatment

<table>
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<th>Medication</th>
<th>Dosage Range</th>
<th>Sedation</th>
<th>EPS*</th>
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</table>
| Haloperidol (IV/IM/PO/NG) | *Initial Dose: 2.5-5 mg (lower doses in elderly or those with QTc prolongation risk) >20 mg/day increases risk for QTc prolongation* | +        | +++  | +++              | • No studies support the use of haloperidol for the prevention or treatment  
• PO haloperidol may have less QTc prolongation but more EPS compared to IV  
• Avoid IM use if on full anticoagulation |
| Risperidone (PO/NG/ODT) | *Initial Dose: 0.25-0.5 mg Q12h (lower doses in elderly or those with QTc prolongation risk)*  
*Max Dose: 2 mg q12h* | +        | ++   | +    | • No studies support the use of risperidone for prevention or treatment  
• Less sedating and less likely to cause hypotension due to no histamine receptor activity  
• ODT dissolves orally and absorbed in the gastrointestinal tract |
| Quetiapine (PO/NG) | *Initial Dose: 12.5-50 mg q12h (lower doses in elderly or those with QTc prolongation risk)*  
*Max Dose: 200 mg q12h* | ++       | +    | ++   | • No studies support the use of quetiapine for the prevention  
• A single small (n=36) study suggests quetiapine may shorten the duration of delirium |
| Olanzapine (PO/NG/ODT) | *Initial Dose: 2.5-5 mg at bedtime*  
*Max Dose: 20 mg/day* | ++       | ++   | ++   | • No studies support the use of olanzapine for prevention or treatment  
• Increased metabolic side effects & EPS compared to quetiapine  
• ODT dissolves orally and is absorbed in the gastrointestinal tract |
| Dexmedetomidine (Continuous IV) | *Initial Dose: 0.2-0.4 mcg/kg/hr titrated by 0.1-0.2 mcg/kg/hr no faster than every 30 minutes to goal RASS*  
*Max Dose: 1.4 mcg/kg/hr* | +        | -    | -    | • Consider over BZD infusions for sedation in order to reduce the duration of delirium  
• May reduce occurrence of delirium in elderly post non-cardiac surgery  
• May be effective in treating hyperactive delirium refractory to haloperidol |
| Asenapine (SL) | *Initial Dose: 5 mg q12h*  
*Max Dose: 10 mg q12h* | ++       | +    | +    | • No studies have been performed to assess the role of asenapine for ICU delirium  
• Absorbed sublingually and can therefore may be considered for patients without a functioning gastrointestinal tract |

*Extrapyramidal Symptoms*