VANDERBILT UNIVERSITY MEDICAL CENTER

Guideline: Delirium Management Guidelines

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I. Monitoring and Treatment

The confusion assessment method for the ICU (CAM-ICU) should be monitored each shift and reported to the team during rounds.

a. CAM-ICU should NOT be reported as unable to assess unless RASS < -3
b. Consider RASS and CAM-ICU status when choosing treatment options
    i. Hypoactive delirium – CAM positive and RASS 0 to -3
        - Non-pharmacological management
        - Minimize sedating medications
    ii. Hyperactive or mixed hyper/hypoactive delirium – CAM positive and RASS -3 to +4
        - See algorithm
c. Goal RASS should be specified on **ALL** patients
d. If CAM positive, consider differential diagnosis (hypoxia, sepsis, CHF, over-sedation, deliriogenic medications)

II. Non-pharmacologic Management

- **Orient patient** (provide visual/hearing aids, re-orient, encourage communication, encourage proper sleep hygiene, provide cognitively stimulating activities during the day)
- **Environment** (Mobilize patients early and often, provide familiar objects in patient's room, minimize noise at night, and remove unnecessary lines/drains)
- **Adjunctive** (perform SATs daily, provide adequate pain management, correct dehydration, and electrolyte disturbances)

III. Deliriogenic Medications

- Benzodiazepines
- Anticholinergics (diphenhydramine, glycopyrrolate, metoclopramide, H2 blockers, TCAs, cyclobenzaprine)
- Steroids
- Pain medications (if pain is not cause of agitation/delirium)
    - Decrease opioid dose
    - Utilize multimodal pain regimen

IV. Special Considerations

- Traumatic Brain Injury
    - Avoid large doses of haloperidol in traumatic brain injury patients.
    - Consider early use of propranolol 10-20mg q8-6h (max 360 mg/day) for agitation related to neurologic storming.
    - Consider starting depakote/valproic acid 500 mg q8h (titrate up as needed) for agitation related to TBI
        - Obtain baseline LFTs (use with caution in patients with liver disease) and weekly LFTs while on therapy
        - Only obtain valproate level if concerned for toxicity
        - Max dose is 60 mg/kg/day
- Geriatric population
    - Reduced antipsychotic (50%) doses should be initially used in patients > 65 years old
    - Avoid haloperidol doses >5mg or quetiapine doses >100mg in patients > 65 years old

V. Appendix A

Hyperactive Delirium

(includes mixed delirium with hyperactive component, ex: attempting to wean sedation)

Delirious (CAM-ICU positive)

Consider Differential Diagnosis (Sepsis, alcohol withdrawal, etc)
Remove Deliriogenic Medications**
Non-pharmacologic Protocol**

CAM +, RASS +1 to +2

Always attempt non-pharmacologic measures initially

-Ensure adequate sleep and pain control
-Quetiapine 50mg q8-12hrs or olanzapine 5mg q 8-12hrs
-Haloperidol 1-10mg IV q4h prn breakthrough agitation

No response at 24hrs or multiple IV doses of haloperidol

-Reassess analgesia
-↑quetiapine dose to 100mg q8-12hrs or olanzapine to 10mg q8-12hrs***
-Continue haloperidol breakthrough

No response at 24hrs or multiple IV doses of haloperidol

-Reassess analgesia
↑quetiapine dose to 200mg q6-12hrs or olanzapine to 10mg q6-8hrs
-May add clonidine (max: 0.3mg TID) or guanfacine (max: 2mg BID)
-Continue haloperidol breakthrough

No response to maximal treatment over 48hrs

-Reassess analgesia
-Change atypical antipsychotic agents (DO NOT combine multiple daytime antipsychotics)

Move to **CAM +, RASS +3 to +4** algorithm at any point as needed

CAM +, RASS +3 to +4

Intubated/Trached?

- Ensure adequate pain control
- Haloperidol 5-20 mg IV/IM q15min prn extreme agitation
- Start sedation if none currently infusing
- Bolus (if receiving propofol) and/or increase rate of current sedative

RASS remains ≥ +3 with multiple doses of IV haloperidol

Consider switching to alternate sedative

Extubated

- Ensure adequate pain control
- Haloperidol 5-20 mg IV/IM q15min prn extreme agitation
- Consider dexmedetomidine

Move to **CAM +, RASS +1 to +2** algorithm at any point as needed

***Maximize** 1 agent **PRIOR** to altering delirium/agitation regimen.

***If **refractory** to all above measures, may trial Geodon (max: 40mg BID) (and/or depakote in patients with TBI).
If unsuccessful, consult psychiatry for additional recommendations.

***Consider QTc monitoring if receiving multiple QT-prolonging medications. Modify QT-prolonging medications if QTcF > 500.

VI. References

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4. Marra A, Wesley E, Pandharipande P, et al. The ABCDEF Bundle in Critical Care. *Crit Care Clin*. 2017; 33(2):225- 243.
5. Plantier D, Luauté J; SOFMER group. Drugs for behavior disorders after traumatic brain injury: Systematic review and expert consensus leading to French recommendations for good practice. *Ann Phys Rehabil Med*. 2016 Feb;59(1):42-57. doi: 10.1016/j.rehab.2015.10.003.

CAM ICU Assessment

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