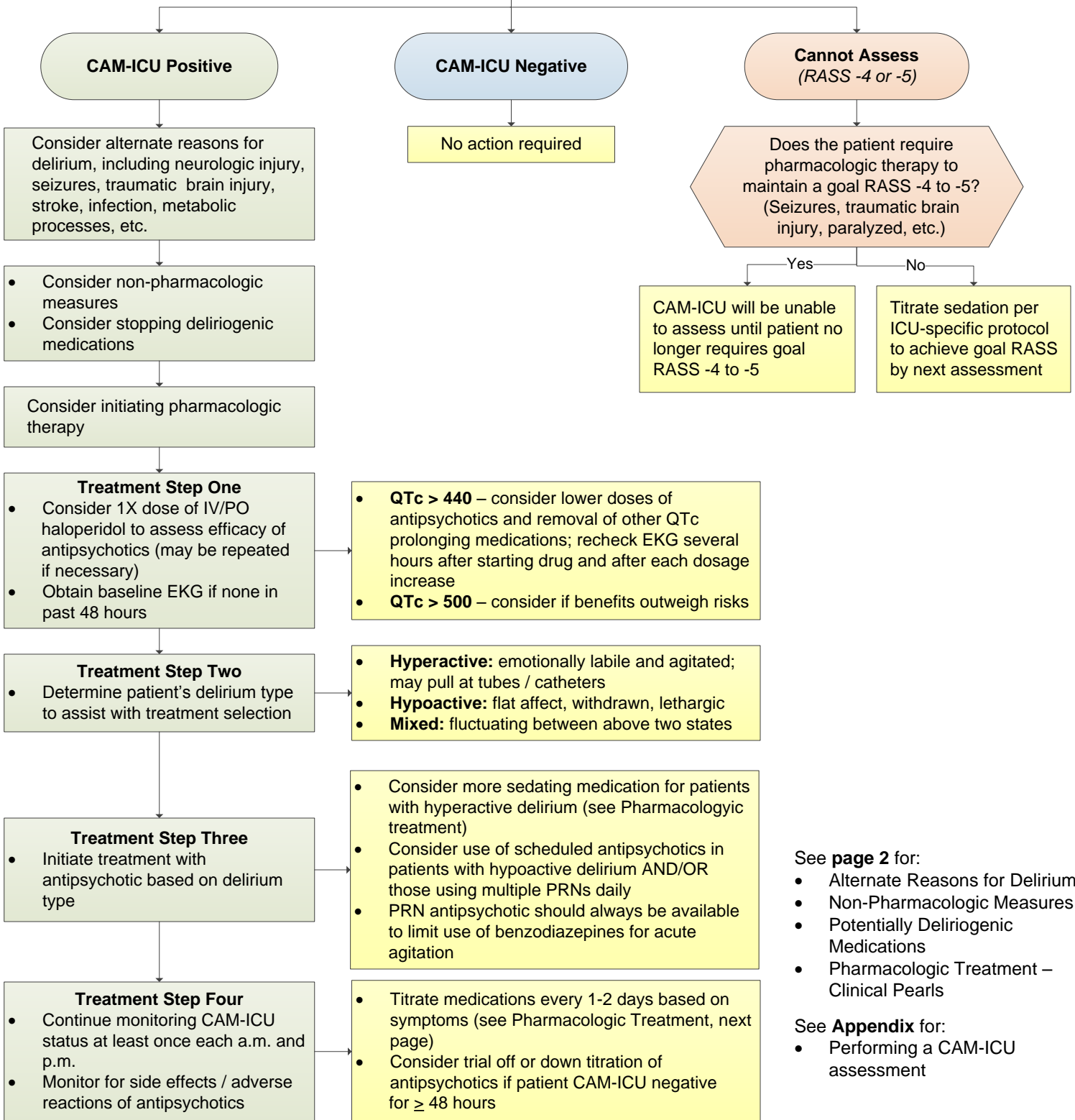




Note: Delirium prevention begins with **non-pharmacologic** measures

- Assess RASS q4 hours and titrate sedation to goal (e.g., 1 to +1)
- Perform CAM-ICU at least once every a.m. and p.m. (and when patient exhibiting altered mental status)



Alternate Reasons for Delirium / Agitation

- 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

Potentially Deliriogenic Medications

- Benzodiazepines
- Metoclopramide
- Histamine-1 blockers (promethazine, diphenhydramine)
- Steroids

Non-Pharmacologic Measures

Orientation

- 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

- Sleep hygiene: lights off at night, on during day
- Sleep aids (trazodone, mirtazapine, melatonin)
- Control excess noise (staff, equipment, visitors) at night
- Ambulate or mobilize patient early and often
- Avoid restraints if possible. See [Restraint and Seclusion Policy](#)

Clinical Parameters

- Optimize hemodynamic parameters (BP, oxygen saturation)

Pharmacologic Treatment – Clinical Pearls

Medication	Dosage Range	Sedation	EPS	QTc Prolongation	Comments
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	+	+++	+++	<ul style="list-style-type: none"> • PO haloperidol may have less QTc prolongation but more EPS • May be scheduled or PRN for breakthrough agitation • 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	+	++	+	<ul style="list-style-type: none"> • Consider for hypoactive delirium • Less sedating and less likely to cause hypotension due to no histamine receptor activity
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	++	+	++	<ul style="list-style-type: none"> • Consider for hyperactive delirium or agitated mixed delirium • Larger PM vs. AM doses may be beneficial for healthy sleep cycle
Olanzapine PO/NG/ODT	Initial Dose: 2.5-5 mg at bedtime Max Dose: 20 mg/day	++	++	++	<ul style="list-style-type: none"> • Increased metabolic side effects & EPS compared to quetiapine • Consider in patients with hyperactive delirium and no enteral access

- EKG should be obtained at baseline and at least once weekly – more frequent monitoring may be necessary initially or when patient is on additional QTc prolonging medications or has an underlying arrhythmia.
- Atypical antipsychotics may be up-titrated daily based on patient response.
- Consider use of both scheduled and PRN antipsychotics to guide dose increases and limit use of benzodiazepines.
- See [Composite List of All QT Drugs and List of Drugs to Avoid for Patients with Congenital LQTS](#)

References

- Barr J, et al. (2013). Clinical Practice Guidelines for the Management of Pain, Agitation, and Delirium in Adult Patients in the Intensive Care Unit. *Critical Care Medicine*, 41(1): 263-306.
- Ely EW, et al. (2001). Delirium in mechanically ventilated patients: Validity and reliability of the confusion assessment method for the intensive care unit (CAM-ICU). *JAMA*, 286(21):2703-2710.
- Ely EW, et al. (2004). Delirium as a predictor of mortality in mechanically ventilated patients in the intensive care unit. *JAMA*, 291(14):1753-1762.
- Sessler CN, et al. (2002). The Richmond Agitation-Sedation Scale: Validity and reliability in adult intensive care unit patients. *Am J Respiratory and Critical Care Med*, 166 (10):1338-44.

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.*

Copyright © 2016. The Ohio State University Wexner Medical Center. All rights reserved. No part of this document may be reproduced, displayed, modified, or distributed in any form without the express written permission of The Ohio State University Wexner Medical Center.

Quality Measures

- Proportion of patients with ICU delirium.
- Percent of patients with at least one documented pain score each shift.
- Percent of patients with documented coma.
- Percent of patients with documented delirium screening.
- Percent of patients with documented RASS scores every 4 hours.
- Total number of patients with CAM-ICU score:
 - Total number of patients deemed "unable to assess".
 - Total number of patients who had a RASS score of -3 or above documented at the same time as the CAM-ICU.

Guideline Authors

- Daniel Eiferman, MD
- Claire Murphy, PharmD, BCPS
- Bruce Doepker, PharmD, BCPS
- Jennifer MacDermott, CNS
- Ellin Gafford, MD

Guideline Approved

May 31, 2016. Second Edition.

Appendix

Confusion Assessment Method (CAM-ICU) Assessment

STEP **1** Sedation Assessment

Richmond Agitation-Sedation Scale (RASS)

Scale	Label	Description
+4	Combative	Combative, violent, immediate danger to staff
+3	Very Agitated	Pulls to remove tubes or catheters; aggressive
+2	Agitated	Frequent non-purposeful movement, fights ventilator
+1	Restless	Anxious, apprehensive, movements not aggressive
0	Alert and Calm	Spontaneously pays attention to caregiver
-1	Drowsy	Not fully alert, but has sustained awakening to voice (eye opening & contact >10 sec)
-2	Light Sedation	Briefly awakens to voice (eyes open & contact <10 sec)
-3	Moderate Sedation	Movement or eye opening to voice (no eye contact)



If RASS is ≥ -3 , proceed to Step 2 CAM-ICU

-4	Deep Sedation	No response to voice, but movement or eye opening to physical stimulation
-5	Unarouseable	No response to voice or physical stimulation



If RASS is -4 or -5, STOP (patient unconscious), RECHECK later

Confusion Assessment Method for the ICU (CAM-ICU)

STEP 2 Delirium Assessment

