

Summary of Delirium Clinical Practice Guideline Recommendations	
<p style="text-align: center;"><u>Post-Operative</u></p> <p>Clinical Practice Guideline for Postoperative Delirium in Older Adults; Postoperative Delirium in Older Adults: Best Practice Statement from the American Geriatrics Society; ACS NSQIP/AGS Best Practice Guidelines: Optimal Preoperative Assessment of the Geriatric Surgical Patient</p> <p style="text-align: center;">American Geriatrics Society/ACS NSQIP</p>	<p style="text-align: center;"><u>Intensive Care Unit</u></p> <p>Clinical Practice Guidelines for the Management of Pain, Agitation, and Delirium in Adult Patients in the ICU</p> <p style="text-align: center;">American College of Critical Care Medicine</p>
<p>Patient Population:</p> <ul style="list-style-type: none"> ▪ Post-operative adults age 65 and older *at risk of post-operative delirium ▪ Delirium occurs after surgery in 5% (low-risk patients undergoing low-risk operations) to 50% (high risk patients undergoing high-risk operations) ▪ Preventable in up to 40% of cases <p>*At risk = moderate to high risk based on risk stratification model (e.g. NICE guidelines – at risk with one or more of the following: age 65 and older, any cognitive impairment and/or dementia, current hip fracture, or severe illness)</p>	<p>Patient Population:</p> <ul style="list-style-type: none"> ▪ Adult ICU patients ▪ Delirium affects up to 80% of mechanically ventilated ICU patients
<p>Aims of Guideline:</p> <ul style="list-style-type: none"> ▪ Non-pharmacologic and pharmacologic interventions pre-op for prevention ▪ Non-pharmacologic and pharmacologic interventions post-op for treatment <p>Scope/Recommendations for:</p> <ul style="list-style-type: none"> ▪ All patients with delirium ▪ Some statements don't apply to ICU, palliative care, and nursing home settings <p>Used studies on surgical and nonsurgical patients to create recommendations</p>	<p>Aims of Guideline:</p> <ul style="list-style-type: none"> ▪ Pharmacologic and non-pharmacologic approaches to manage delirium (also pain and agitation) ▪ Revision of “Clinical Practice Guidelines for the Sustained Use of Sedatives and Analgesics in the Critically Ill Adult” published in 2002 (Critical Care Magazine) <p>Scope/Recommendations for:</p> <ul style="list-style-type: none"> ▪ Adult ICU patients (short and long-term management; intubated and nonintubated; medical, surgical, and trauma ICU)
<p>Risk Factors:</p> <ul style="list-style-type: none"> ▪ Impaired cognition ▪ Advancing age (greater than 65) ▪ Functional impairment ▪ Sensory impairment (hearing or vision) 	<p>Risk Factors:</p> <ul style="list-style-type: none"> ▪ Pre-existing dementia (B) ▪ History of hypertension and/or alcoholism (B) ▪ High severity of illness at admission (B)

<ul style="list-style-type: none"> ▪ Higher illness severity ▪ Greater chronic disease burden ▪ Current hip fracture ▪ Presence of infection ▪ Inadequately controlled pain ▪ Depression ▪ Alcohol use ▪ Sleep deprivation or disturbance ▪ Renal insufficiency ▪ Anemia ▪ Hypoxia or hypercarbia ▪ Poor nutrition ▪ Dehydration ▪ Electrolyte abnormalities (hyper or hyponatremia) ▪ Immobilization or limited mobility ▪ Polypharmacy and use of psychotropic medications (benzos, anticholinergics, antihistamines, antipsychotics) ▪ Risk of urinary retention or constipation ▪ Presence of urinary catheter ▪ Aortic procedures 	<ul style="list-style-type: none"> ▪ Coma (B -independent risk factor) <p>Possible Risk factors:</p> <ul style="list-style-type: none"> ▪ Opioid use (B-conflicting data) ▪ Benzodiazepine use (B) ▪ Dexmedetomidine infusions administered for sedation may be associated with a lower prevalence of delirium compared to benzodiazepine infusions in mechanically ventilated pts at risk of developing delirium (B) <p>Insufficient Data:</p> <ul style="list-style-type: none"> ▪ To determine relationship between propofol use and development of delirium (C)
<p>Clinical Consequences/Outcomes:</p> <ul style="list-style-type: none"> ▪ Major post-operative complications ▪ Prolonged hospitalization ▪ Loss of functional independence ▪ Reduced cognitive function ▪ Incomplete recovery ▪ Delayed rehabilitation ▪ Death 	<p>Clinical Consequences/Outcomes:</p> <ul style="list-style-type: none"> ▪ Increased mortality (A) ▪ Prolonged ICU and hospital LOS (A) ▪ Development of post-ICU cognitive impairment (B)
<p>Diagnosis/Monitoring:</p> <ul style="list-style-type: none"> ▪ Health care professionals caring for postsurgical patients should be trained to recognize and document signs and symptoms associated with delirium, include hypoactive presentation. ▪ Health care professionals should assess and clearly document preoperative cognitive function in older adults at risk of postoperative delirium. ▪ Health care professionals competent in diagnosing delirium should perform a full clinical assessment in any patient suspected of having delirium, found positive on a delirium screening test, or having an acute cognitive change on repeated cognitive testing (use recognized criteria - DSM, ICD-10, CAM, or delirium 	<p>Diagnosis/Monitoring:</p> <ul style="list-style-type: none"> ▪ Routine monitoring of delirium (+1B) ▪ Confusion Assessment Method for the ICU (CAM-ICU) and Intensive Care Delirium Screening Checklist (ICDSC) are most valid and reliable delirium monitoring tools (A) ▪ Routine monitoring of delirium is feasible in clinical practice (B)

<p>diagnostic instrument).</p> <ul style="list-style-type: none"> ▪ Use validated screening instrument for optimal delirium detection. ▪ Consider daily postoperative screening for development of delirium in order to initiate treatment as early as possible. ▪ General screening instruments: <ul style="list-style-type: none"> ○ CAM ○ Delirium Symptom Interview (DSI) ○ Nursing Delirium Screening Scale (NuDESC) ▪ Intensive Care Unit screening instruments: <ul style="list-style-type: none"> ○ Confusion Assessment Method for the Intensive Care Unit (CAM-ICU) ○ Intensive Care Delirium Screening Checklist (ICDSC) 	
<p><u>Quality of Evidence:</u> High Moderate Low</p> <p><u>Strength of Recommendation:</u> Strong Weak Insufficient Not applicable</p>	<p><u>Quality of Evidence:</u> High = A Moderate = B Low/very low = C</p> <p><u>Strength of Recommendation:</u> Strong = 1 Weak = 2 In favor of = (+) Against = (-)</p>
<p><u>Recommendations:</u></p> <p><u>Strong:</u></p> <ul style="list-style-type: none"> ▪ Multicomponent non-pharmacologic interventions by interdisciplinary team to prevent delirium ▪ Ongoing educational programs regarding delirium for health care professions ▪ A medical evaluation should be performed to identify and manage underlying contributors to delirium ▪ Pain management (preferably with non-opioid medications) should be optimized to prevent post-op delirium ▪ Medications with high risk for precipitating delirium should be avoided (anticholinergic, sedative-hypnotics, meperidine, polypharmacy-5 or more) ▪ Cholinesterase inhibitors should not be newly prescribed to prevent or treat postop delirium ▪ Benzodiazepines should not be used as 	<p><u>Recommendations:</u></p> <p><u>Prevention:</u></p> <ul style="list-style-type: none"> ▪ Perform early mobilization whenever feasible to reduce incidence and duration of delirium (+1B) ▪ No recommendation for using a pharmacologic delirium prevention protocol (0, C) ▪ No recommendation for using a combined nonpharmacologic and pharmacologic delirium prevention protocol (0, C) ▪ Do not suggest that either haloperidol or atypical antipsychotics be administered to prevent delirium (-2C) ▪ No recommendation for use of dexmedetomidine to prevent delirium (0,C) <p><u>Treatment:</u></p> <ul style="list-style-type: none"> ▪ No evidence that treatment with haloperidol reduces the duration of

<p>first line treatment of agitation associated with delirium (can be used for treatment of alcohol or benzodiazepine withdrawal)</p> <ul style="list-style-type: none"> Antipsychotics and benzodiazepines should be avoided for treatment of hypoactive delirium <p><u>Weak Recommendations:</u></p> <ul style="list-style-type: none"> Multicomponent nonpharmacologic interventions by interdisciplinary team may be considered when postop delirium is diagnosed to improve clinical outcomes Injection of regional anesthetic at the time of surgery and postoperatively to improve pain control with goal of preventing delirium may be considered Use of antipsychotics at the lowest effective dose for shortest possible duration may be considered to treat delirious pts who are severely agitated or threatening harm to self/others <p><u>Insufficient Evidence:</u></p> <ul style="list-style-type: none"> Use of processed EEG monitors of anesthetic depth during IV sedation or general anesthesia may be used to prevent delirium <p><u>Insufficient Evidence for or Against:</u></p> <ul style="list-style-type: none"> Prophylactic use of antipsychotic medications to prevent delirium Specialized hospital units for the inpatient care of older adults with postop delirium <p><u>Behavioral & Nonpharmacologic Strategies for Prevention:</u></p> <ul style="list-style-type: none"> Sensory enhancement (ensuring glasses, hearing aids, or listening amplifiers) Mobility enhancement (ambulating at least twice per day if possible) Cognitive orientation and therapeutic activities (tailored to the individual) Pain control with scheduled acetaminophen if appropriate Cognitive stimulation (if possible, tailed to individual's interests and mental status) Simple communication standards and approaches to prevent the escalation of 	<p>delirium (no evidence)</p> <ul style="list-style-type: none"> Atypical antipsychotics may reduce the duration of delirium (C) Do not recommend administering rivastigmine to reduce duration of delirium (-1B) Do not suggest using antipsychotics in patients at significant risk for torsades de pointes (-2C) In patients with delirium unrelated to alcohol or benzodiazepine withdrawal, suggest continuous IV infusions of dexmedetomidine rather than benzodiazepine infusions for sedation to reduce duration of delirium (+2B) <p><u>Management for Improved Outcomes:</u></p> <ul style="list-style-type: none"> Daily sedation interruption or routine use of a light target level of sedation for mechanically ventilated patients (+1B) Analgesia-first sedation in mechanically ventilated patients (+2B) Promote sleep by optimizing environment using strategies to control light and noise, clustering patient care activities, and decreasing stimuli at night to protect sleep cycles (+1C) No recommendation for using specific modes of mechanical ventilation to promote sleep in mechanically ventilated patients (no evidence) Use interdisciplinary team approach that includes provider education, pre-printed and/or computerized protocols and order forms, and quality ICU rounds checklists to facilitate use of pain, agitation, and delirium management guidelines or protocols (+1B)
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<p>behaviors</p> <ul style="list-style-type: none"> ▪ Nutritional and fluid repletion enhancement ▪ Sleep enhancement (daytime sleep hygiene, relaxation, nonpharmacologic sleep protocol, and nighttime routine) ▪ Medication review and appropriate medication management ▪ Daily rounding by an interdisciplinary team to reinforce the interventions 	
Summary of Delirium Clinical Practice Guideline Recommendations	
<u>Geriatric Trauma</u>	
ACS TQIP Geriatric Trauma Management Guidelines	
<p>Patient Population:</p> <ul style="list-style-type: none"> ▪ Geriatric patients with traumatic injury 	
<p>Aims of Guideline:</p> <ul style="list-style-type: none"> ▪ Better risk assessment, adherence to key preventive strategies, active surveillance, and prompt recognition and treatment of complications to reduce mortality and morbidity <p>Scope/Recommendations for:</p> <ul style="list-style-type: none"> ▪ All geriatric trauma patients 	
<p>Risk Factors:</p> <ul style="list-style-type: none"> ▪ Cognitive impairment and dementia ▪ Depression ▪ Alcohol use ▪ Polypharmacy and psychotropic medications ▪ Poor nutrition ▪ Hearing and vision impairment <p>Reversible causes of delirium:</p>	
<p>Clinical Consequences/Outcomes:</p> <ul style="list-style-type: none"> ▪ Not specifically addressed for delirium 	
<p>Diagnosis/Monitoring:</p> <ul style="list-style-type: none"> ▪ A comprehensive geriatric assessment (CGA) followed by appropriate treatment and follow up 	

<ul style="list-style-type: none"> ▪ Concentrate care of geriatric patient with care pathways (e.g. G-60 geriatric trauma service) 	
<p><u>Quality of Evidence:</u></p> <ul style="list-style-type: none"> ▪ Not addressed <p><u>Strength of Recommendation:</u></p> <ul style="list-style-type: none"> ▪ Not addressed 	
<p><u>Recommendations:</u></p> <ul style="list-style-type: none"> ▪ Effective pain management to mitigate delirium <ul style="list-style-type: none"> ○ Use elderly-appropriate medications and dose ○ Avoid benzodiazepines ○ Monitor use of narcotics; consider early implementation of patient-controlled analgesia ○ Consider early use of nonnarcotics, including NSAIDs, adjuncts, and tramadol ○ Epidural analgesia may be preferable to other means for patients with multiple rib fractures to avoid respiratory failure ▪ Establish past history of elderly-specific comorbidities, including: <ul style="list-style-type: none"> ○ Pulmonary disease ○ Chronic renal failure ○ Chronic anemia ○ Depression ○ Baseline cognitive impairment ○ Baseline functional impairment ○ Baseline frailty scores ○ Baseline nutritional status ○ Alcohol, tobacco, drug abuse or dependence (benzodiazepines, oxycodone) ○ Thyroid dysfunction ○ Glucose intolerance ○ Decubitus ulcer ▪ Hold family meeting within 72 hours of admission to discuss goals of care <ul style="list-style-type: none"> ○ Delirium is common after injury and associated with increased morbidity and mortality 	

<ul style="list-style-type: none"> ○ Assess baseline cognitive function, risk factors for delirium, and monitor for signs/symptoms of delirium on a daily basis (Mini-Cog) ▪ Regularly evaluate and address delirium risk factors: <ul style="list-style-type: none"> ○ Cognitive impairment and dementia ○ Depression ○ Alcohol use ○ Polypharmacy and psychotropic medications ○ Poor nutrition ○ Hearing and vision impairment ▪ Regularly monitor for reversible causes of delirium: <ul style="list-style-type: none"> ○ Wake-sleep cycle disturbances and sleep deprivation ○ Immobilization ○ Hypoxia ○ Infection ○ Uncontrolled pain ○ Renal insufficiency, dehydration, and electrolyte abnormalities ○ Urinary retention or presence of urinary catheter ○ Fecal impaction or constipation ○ Use of restraints 	