Perioperative Delirium Prevention and Treatment Pathway

DELIRIUM REDUCTION

General principles

1. Use non-pharmacologic prevention measures
2. Avoid polypharmacy to the extent possible
3. Communicate with preop/ PACU nurses and surgical team

Delirium risk stratification and prevention

If Preop AWOL score ≥ 2

- **Intraop** → Implement Intraop bundle *(see next page)*
- **PostOp** →
  - Complete Delirium Prevention PACU orderset
  - Sign out delirium risk to PACU nurse

Delirium treatment

1 Evaluate for underlying contributors to delirium

- Physical exam: check surgical wound; check tubes/ lines/drains;
- Brief neuro exam
- Vital signs, oxygen saturation, pain assessment
- Targeted Workup: Consider ABG, UA, CBC, BMP, TSH, LFTs, UTox, cultures, EKG, Chest X-ray

2 Evaluate for reversible precipitating or contributing factors

- **D**rugs/Medications /polypharmacy
- **E**lectrolytes (Na, Ca, acid-base disorders), **E**nvironment change
- **L**ack of drugs (withdrawal), Lack of sleep
- **I**nfection, **I**mmobility (catheters, feeding tubes), **I**atrogenic
- **R**estraints, **R**educed sensory input (vision, hearing), **R**espiratory (hypoxemia/hypercarbia)
- **I**ntracranial (stroke, bleed, seizure, meningitis)
- **U**rinary Retention, constipation, **U**ncontrolled pain
- **M**etabolic (hypoxia, hypercarbia, uremia, hepatic encephalopathy, thyroid)

3 Review medications

Discontinue contributing medications when possible

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All phases

General recommendations

- Enable the patient to wear glasses and hearing aids for as long as possible
- Provide frequent reorientation when awake
- Keep it simple: avoid polypharmacy to the extent possible

PONV management

Preferred order of anti-emetics	Avoid (when possible)
• Ondansetron (4 mg IV q6h) • Haloperidol (0.5 – 1 mg q6 hours) • Propofol infusion • Metoclopramide (5 mg IV once)	• Dexamethasone (especially doses >4 mg) • Diphenhydramine (Benadryl) • Hydroxyzine (Vistaril) • Lorazepam (Ativan) • Prochlorperazine (Phenergan) • Scopolamine

Medication management

Medication Class	Examples	Precautions	Rationale
NSAIDs	Ketorolac Diclofenac Ibuprofen	• Avoid when GFR < 30 (Stage IV – V CKD) or in AKI • Use caution with repeated doses	Increased risk of GI bleeding, increased risk of AKI (for ketorolac specifically)
Sedative Hypnotics	Benzodiazepines		Increased risk of delirium, cognitive impairment, falls, fractures
	Gabapentin	• Reduce dose or avoid when GFR < 60 • Avoid in patients with ESRD	Increased risk of over-sedation
	Meperidine	Avoid, especially in patients with CKD	Higher risk of neurotoxicity including delirium
Anticholinergics	Scopolamine Promethazine (*Compazine)* Prochlorperazine (*Phenergan)* Diphenhydramine (*Benadryl)* Hydroxyzine (*Vistaril)* Tricyclic Antidepressants	Avoid	Increased risk of over-sedation, central anti-cholinergic side effects (including delirium)
Other psychoactive medications	Steroids (*dexamethasone)* Antipsychotics	Avoid or use cautiously	Increased risk of delirium

Preop

- If AWOL ≥2: Implement Intraop bundle
- Administer PO acetaminophen
- Use caution with potentially deliriogenic medications (refer to table)
- Keep glasses, hearing aids, and dentures in separate bag within patient belongings for easy access

Intraop

Patient safety and risk mitigation

- Consider age-related alterations in physiology when choosing anesthetic technique
- Account for reduction in GFR in medication dosing
- Carefully position and generously pad high pressure areas to avoid skin breakdown or nerve injury
- Use goal-directed fluid management strategy targeting euvolemia
- Continue necessary cardiac medications pre- and intraoperatively
- Provide pre-warming and active warming to target normothermia

Pain management

- Use multimodal (opioid-sparing) analgesia
  - Consider non-opioid adjuncts when appropriate (ex: acetaminophen, lidocaine infusion, low-dose ketamine infusion, magnesium infusion)
- Use regional/neuraxial anesthesia when possible

Postop

- Use PACU Orderset for Adults at Risk of Delirium for all patients ≥ 65 or AWOL ≥2
- Sign out delirium risk to PACU nurse
- Monitor for signs of active delirium and treat accordingly

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