Perioperative Delirium Prevention and Treatment Pathway

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 patient is ≥ 65 years or has an AWOL-S predicted risk of delirium ≥ 5%

Intraop + PostOp

- Implement Intraop bundle (see next page)
- Order “Delirium Prevention Interventions” and antiemetics for patients with high delirium risk in 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
   - Drugs/Medications/polypharmacy
   - Electrolytes (Na, Ca, acid-base disorders), Environment change
   - Lack of drugs (withdrawal), Lack of sleep
   - Infection, Immobility (catheters, feeding tubes), Iatrogenic
   - Restraints, Reduced sensory input (vision, hearing), Respiratory (hypoxemia/hypercarbia)
   - Intracranial (stroke, bleed, seizure, meningitis)
   - Urinary Retention, constipation, Uncontrolled pain
   - Metabolic (hypoxia, hypercarbia, uremia, hepatic encephalopathy, thyroid)

3. Review medications
   - Discontinue contributing medications when possible
**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.

**All phases**

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### PONV management

<table>
<thead>
<tr>
<th>Preferred order of anti-emetics</th>
<th>Avoid (when possible)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ondansetron (4 mg IV q6h)</td>
<td>Dexamethasone (especially doses &gt;4 mg)</td>
</tr>
<tr>
<td>Haloperidol (0.5 – 1 mg q6 hours)</td>
<td>Diphenhydramine (Benadryl)</td>
</tr>
<tr>
<td>Propofol infusion</td>
<td>Hydroxyzine (Vistaril)</td>
</tr>
<tr>
<td>Metoclopramide (5 mg IV once)</td>
<td>Lorazepam (Ativan)</td>
</tr>
<tr>
<td></td>
<td>Prochlorperazine (Compazine)</td>
</tr>
<tr>
<td></td>
<td>Scopolamine</td>
</tr>
</tbody>
</table>

### Medication management

<table>
<thead>
<tr>
<th>Medication Class</th>
<th>Examples</th>
<th>Precautions</th>
<th>Rationale</th>
</tr>
</thead>
<tbody>
<tr>
<td>NSAIDs</td>
<td>Ketorolac</td>
<td>Diclofenac</td>
<td>Ibuprofen</td>
</tr>
<tr>
<td></td>
<td>Benzodiazepines</td>
<td></td>
<td>Increased risk of delirium, cognitive impairment, falls, fractures</td>
</tr>
<tr>
<td></td>
<td>Gabapentin</td>
<td></td>
<td>Avoid when GFR &lt; 60 Avoid in patients with ESRD</td>
</tr>
<tr>
<td></td>
<td>Meperidine</td>
<td>Avoid, especially in patients with CKD</td>
<td></td>
</tr>
<tr>
<td>Anticholinergics</td>
<td>Scopolamine</td>
<td>Promethazine</td>
<td>Phenergan</td>
</tr>
<tr>
<td>Other psychoactive medications</td>
<td>Steroids</td>
<td>dexamethasone</td>
<td>Antipsychotics</td>
</tr>
</tbody>
</table>

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**Preop**

- If patient is ≥ 65 years or has an AWOL-S predicted risk of delirium ≥ 5%
- 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

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**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
- Consider depth of anesthesia monitoring when available

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**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

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**Postop**

- Order delirium prevention interventions and antiemetics for patients with high delirium risk in PACU orderset
- Sign out delirium risk to PACU nurse
- Monitor for signs of active delirium and treat accordingly