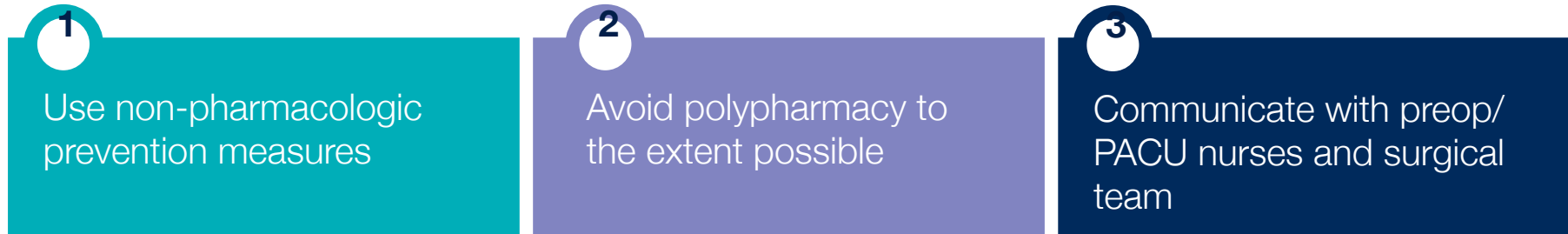


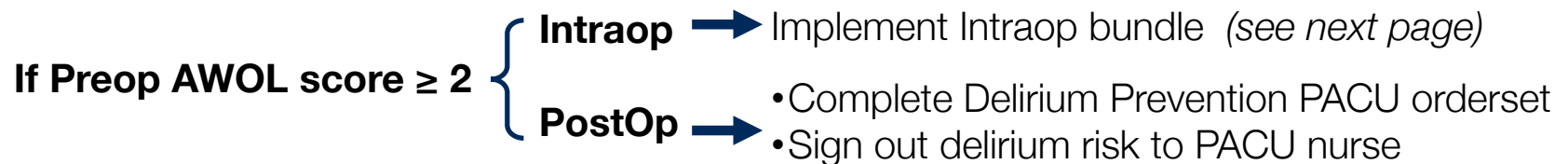
# Perioperative Delirium Prevention and Treatment Pathway



## General principles



## Delirium risk stratification and prevention



## 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), **L**ack 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

## 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)
<ul style="list-style-type: none"> <li>• Ondansetron (4 mg IV q6h)</li> <li>• Haloperidol (0.5 – 1 mg q6 hours)</li> <li>• Propofol infusion</li> <li>• Metoclopramide (5 mg IV once)</li> </ul>	<ul style="list-style-type: none"> <li>• Dexamethasone (especially doses &gt;4 mg)</li> <li>• Diphenhydramine (Benadryl)</li> <li>• Hydroxyzine (Vistaril)</li> <li>• Lorazepam (Ativan)</li> <li>• Prochlorperazine (Phenergan)</li> <li>• Scopolamine</li> </ul>

### Medication management

Medication Class	Examples	Precautions	Rationale
NSAIDs	Ketorolac Diclofenac Ibuprofen	<ul style="list-style-type: none"> <li>• Avoid when GFR &lt; 30 (Stage IV – V CKD) or in AKI</li> <li>• Use caution with repeated doses</li> </ul>	Increased risk of GI bleeding, increased risk of AKI (for ketorolac specifically)
Sedative Hypnotics	Benzodiazepines		Increased risk of delirium, cognitive impairment, falls, fractures
	Gabapentin	<ul style="list-style-type: none"> <li>• Reduce dose or avoid when GFR &lt; 60</li> <li>• Avoid in patients with ESRD</li> </ul>	Increased risk of over-sedation
	Meperidine	Avoid, especially in patients with CKD	Higher risk of neurotoxicity including delirium
Anticholinergics	Scopolamine Promethazine ( <i>Compazine</i> ) Prochlorperazine ( <i>Phenergan</i> ) Diphenhydramine ( <i>Benadryl</i> ) Hydroxyzine ( <i>Vistaril</i> ) Tricyclic Antidepressants	Avoid	Increased risk of over-sedation, central anti-cholinergic side effects (including delirium)
Other psychoactive medications	Steroids ( <i>dexamethasone</i> ) Antipsychotics	Avoid or use cautiously	Increased risk of delirium

## Preop

- If AWOL  $\geq 2$ : 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  $\geq 65$  or AWOL  $\geq 2$
- Sign out delirium risk to PACU nurse
- Monitor for signs of active delirium and treat accordingly