Geriatric Bootcamp: Week 2

Postoperative Management of the Older Adult

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Disclosures

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Objectives

- Review why this topic is worth discussing
- Review the most common surgical procedures in the USA
- Review the most common postoperative complications in older patients
- Discuss strategies to prevent and/or treat complications

Reality Check!

- Adults aged 65 and older are the fastest growing segment of the United States population
- The number is expected to double to 89 million people between 2010 and 2050
- Older surgical patients are prone to developing postoperative complications, functional decline, loss of independence, and other untoward outcomes in comparison to younger patients
- Approximately 330,000 hip fractures each year in the US
- Expected to increase to 550,000 by the year 2040

Top 10 Most Common Surgeries in the US

1. Cataract Removal: 3 million
2. C-Section: 1.3 million
3. Joint Replacement: >1 Million
4. Circumcision: >1 Million
5. Broken Bone Repair: >670,000 (approximately 330,000 hip fractures)
6. Angioplasty and Atherectomy: ~ 500,000
7. Hysterectomy: ~ 500,000
8. Gall Bladder Removal: ~ 460,000
9. Stent Procedure: ~ 454,000
10. Heart Bypass Surgery: 395,000

10 Most Common Surgeries in the U.S. | Estimated Surgery Cost (healthgrades.com)

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Strategies for Postoperative
Management in Older Adults

Most Common Complications

- Acute kidney injury
- Acute blood loss anemia
- AFIB – Rapid
- Constipation
- Hypotension
- Malnutrition
- Post operative fever
- Pressure ulcers
- Tachycardia
- Urinary retention
- Wound infection/dehiscence

Basic Guidelines of Postoperative Care

- Pain control
- Hydration/nutrition
- Mobilization
- Sleep hygiene
- Delirium
- Medication management
- Care planning and advance directives

Anticipate Postoperative Hypotension

- Hypotension is common and most patients do not require ALL of the home BP meds until a few days (even one week) after surgery

Add holding parameters to all BP meds to avoid hypotension

Evaluate hydration status; check orthostatic vitals

Correct severe anemia

Encourage PO fluids

Consider percutaneous hydration (IVF, SC)

Anticipate Acute Kidney Injury (AKI)

- If patients have rising serum Cr.

  Review all medications and adjust for renal dosing (antibiotics)

  Stop all nephrotoxic meds like ACE-I/NSAIDS/diuretics

  Stop all oral hypoglycemic agents

  Reduce insulin doses to prevent hypoglycemia *

  Consider urinary retention as a cause and check bladder scan

  Consider hydration via IVF or SC (clysis) in poor PO intake

  Recheck labs

Pain Management

- Necessary to provide comfort and prevent delirium
- Ice, elevation, and position changes are important and often overlooked
- Schedule acetaminophen (1000 mgs PO 3 times daily) unless contraindicated
- Use opiates for breakthrough pain (oxycodone 2.5 – 5 mgs PO prn)
- Consider using opiates 30 minutes prior to PT to ↑ participation
- Consider scheduled low dose opiates in patients with severe dementia
- Avoid NSAIDs, combination narcotics (Percocet/hydrocodone)

Anticipate Delirium

- Every minute, five elderly hospitalized patients become delirious in U.S.
- 15-53% of postop patients develop delirium
- Post hospital course >$150 billion/year
- Hospital mortality 22-76%, one-year mortality 35-40%
- Increased morbidity, functional and cognitive decline, and rates of dementia
- 30-40% of delirium is preventable

Causes of Delirium

Non-Modifiable

- Underlying dementia
- Old age
- Fall
- Fracture
- Surgery
- Unfamiliar environment
- Sensory deficits (presbycusis, age related macular degeneration)

Modifiable

- Pain
- Medications
- Dehydration/malnutrition
- Sleep deprivation
- Constipation
- Ambulatory status
- Orientation status
- External tethers (Foley, nasal canula)

Anticipate Postoperative Delirium

- Orient often, family involvement at bedside or over the phone
- Treat reversible causes e.g.: fever, pain, urinary retention, constipation, sleep deprivation, malnutrition, agitation
- Get rid of the tethers (Foley catheters, nasal canula)
- Get rid of offending medications (example diphenhydramine)
- Continue chronic psych meds, continue chronic opiates
- Avoid restraints
- Be patient and re-evaluate often, treat pain

Tachycardia/Rapid AFIB

- Possible causes:
  - Postoperative pain
  - Acute blood loss anemia
  - Dehydration/low intravascular volume loss
  - Fevers
  - Medications (holding home beta blockers/calcium channel blockers)
  - Infection
- Evaluate and treat underlying causes

Other Common Complications: Evaluate and Treat

- **Atelectasis:** Frequent and regular incentive spirometry, OOB
- **Constipation:** Start ALL patients on bowel regimen on admission
- **Dysphagia:** Acute or chronic, dentures?, speech evaluation/therapy
- **Hyponatremia:** Chronic psych meds, chronic diuretics
- **Malnutrition:** Ensure sufficient calories, protein intake (1.2 to 1.5 g/per Kg per day)
- **Pneumonia, aspiration:** Precautions/family discussion
- **Pressure Ulcers:** Frequent repositioning, increase protein intake, wound care
- **Urinary retention:** Narcotic meds/constipation/BPH meds
- **UTI:** Increase hydration, send UA and Ur culture if symptomatic

Other Considerations

- **Anticoagulants:**
- Used for DVT prophylaxis, AFIB, CVA, valvular heart disease, acute DVT/P.E treatment, etc.
- Extremely important to review the risks/benefits associated with them as there is a bleeding risk, but they are important in the postoperative setting
- All members of the team (RNs, CNAs, PTs) should monitor for any complications like bleeding with or without a fall

- **Opiates:**
- Patients and families may be reluctant to use opiates in elderly patients, educate them
- Untreated pain might will lead to decrease participation in therapy, decreased appetite and malnourishment, decreased mood, and sleep deprivation
- Use the lowest possible dose for the shortest possible time to provide comfort, treat pain, and prevent delirium
- Avoid using opiates and benzodiazepines together
- Narcan should be ordered for all patients, regardless of whether or not they have opiates ordered

High-Risk Situations

- **Unexpected complications/decline:**
- Keep communications open with the patient/family and update on labs/imaging results and treatment plan
- Educate and answer questions, don’t give false hopes
- Discuss realistic plan of care; tests that can be done and time frame in a SNF setting vs what cannot be done (e.g., blood transfusion)
- Consult palliative care in patients for goals of care discussion and advance care planning
- All members of the team should be updated with any change in condition and be able to provide accurate information to patient/family, even after hours

Take Home Points

- Adults aged 65 and older are the fastest growing segment of the US population
- Older surgical patients are prone to developing postoperative complications, functional decline, loss of independence, and other untoward outcomes in comparison to younger patients
- Anticipating complications and being proactive will help prevent complications and improve outcomes (prevent hospitalizations etc.)
- Clear and open communication between patient/family and all members of the care team is crucial in developing trust and providing phenomenal care

References/Resources

10 Most Common Surgeries in the U.S. | Estimated Surgery Cost (healthgrades.com)

Postacute Management of Older Adults Suffering an Osteoporotic Hip Fracture: A Consensus Statement From the International Geriatric Fracture Society: Bernardo Reyes[1], Daniel A. Mendelson[2], Nadia Mujahid[3], Simon C. Mears[4], Lauren J. Gleason[5], Kathleen K Mangione[6], Arvind Nana[1], Maria C Mijares[1], Joseph G. Ouslander[1]
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https://www.aaos.org/quality/quality-programs/quality-toolkits/helping-patients-get-comfortable-after-injury-or-surgery/

Questions?