Care of the Post-Operative Patient – 2021

How We Count Post-Operative Days

- Day of Surgery – when surgery takes place
- Post-operative Day #1 – POD#1
  - First full day after surgery
- Each subsequent day counted
  - POD#2, POD#3, POD#4 etc. until discharge
- Orders written on pathways for specific POD (important to know which day it is!)
  - Ex. Change dressing POD #2

Receiving patient from PACU

- Once patient stable, transferred to inpatient unit
- PACU nurse gives verbal report to receiving RN (SBAR)
  - General condition, type of surgery, level of consciousness, equipment, any problems
- First priority when arrive on unit **take vital signs immediately.**
- Check healthcare provider orders
- Good assessment skills and awareness of potential complications important to prevent problems!
  - Respiratory
  - Circulatory
  - Neurological
  - Dressings
  - Pain
  - Safety
  - Equipment

- Goal of post-operative care
  - Support healing and recovery
  - Prevent complications!
    - Post-op complications prolong recovery, cause unusual discomfort, and present hazard to well-being
    - Post-op complications related to:
      - Pain
      - Reaction to medications
      - Immobility

Potential Alteration in *Respiratory* Functions

- Assessment
  - Evaluate airway and breathing
    - Position patient in **Recovery position** or Supine with HOB elevated to 30 degrees
- Evaluate chest symmetry
- Evaluate depth, rate, & character of respirations
- Restlessness often first sign of respiratory problem.

Respiratory Complications

1. Atelectasis: alveolar collapse causes airless condition of lung
   - Mucus blocks bronchioles → air beyond blocked → gradually absorbed → alveolus collapses
   - Causes of Atelectasis : hypoventilation, ineffective cough, prolonged bedrest, intubation/anesthesia

- Signs and symptoms: pain, tachypnea, tachycardia, dyspnea, tracheal deviation, diminished breath sounds, low O2 sats

2. Pneumonia: Inflammation or infection of lungs. Infection in stagnant mucus in lungs. Progresses from atelectasis.
   - Most common respiratory complications in the elderly, obese, malnourished, chronic respiratory disease
   - Signs and symptoms: fever, dyspnea, pain, cough, crackles
3. Aspiration pneumonia: inhalation of gastric contents

Nursing Management of Respiratory Complications

- Deep breathing & coughing
  - *Begin as soon as patient is responsive*
  - Turn, cough, and deep breathe
    - "Turn" = Change position q 1-2 hours to promote lung expansion & prevent secretion pooling
    - "Cough" – after a few deep breaths (splint!)
    - "Deep breathe" and Incentive spirometer – Maximize lung expansion.
      - I/S 10 times every hour
- **EARLY AMBULATION.
  - **Most important intervention to prevent post-op complications**
  - Increases vital capacity of lungs
- Analgesics
- Reassurance

Potential Alterations in *Cardiovascular* Function

Assessment - Frequent vital sign monitoring, skin color, temperature, capillary refill, peripheral pulses, heart rate/rhythm

Cardiovascular Complications

Deep Vein Thrombosis – DVT

- Signs & Symptoms
  - Unilateral edema
  - Redness
  - Warmth
  - Pain
- Risk due to:
  - Inactivity
  - Dehydration
  - Trauma
- Embolus – clot dislodges and travels

Nursing Interventions for Prevention

- **Early ambulation**
- SCDs and/or TEDs
- Leg Exercises

If Thrombus Occurs…

- Venous duplex scan in vascular lab to confirm clot
- Bed rest (initially) to prevent dislodgment
- Do **NOT** check Homans sign
- Anti-coagulant therapy

Pulmonary Embolus

- Clot lodged in pulmonary circulation
  - Blocks blood supply to lower lobe
- Signs and Symptoms
  - Dyspnea
  - Tachypnea
  - Tachycardia
  - Restlessness/agitation ("Impending doom")
  - Sudden sharp chest pain
  - Hemoptysis
- Size of emboli correlates with outcome – Can be fatal
- Report any signs or symptoms to primary healthcare provider immediately

Syncope (Fainting)

- Causes
  - Postural hypotension
  - Vascular pooling
  - Sudden change in position
- Nursing Interventions
  - Change positions slowly.
  - Raise HOB, progress to sitting, dangle, stand
  - Safety for fall prevention
    - If patient faints, assist to floor to prevent injury

Fluid and Electrolyte Imbalances

Fluid retention

- 1-3 days post-op
- Stress response from surgery
- Body retains fluid as protective measure
- Compensates to maintain BP & blood volume

Fluid Overload

- Particularly with
  - Elderly
  - Underlying cardiac or renal disease

Fluid Deficit

- Untreated pre-op dehydration
- Intra-op blood loss
- Slow/inadequate fluid replacement
- Vomiting/bleeding/wound drainage

Hypokalemia

- Results from urinary & GI losses (Vomiting and diarrhea)
- Low K+ levels affect contractility of heart

Nursing Interventions for Fluid and Electrolyte Imbalances

- Accurate Intake & Output, VS, and head-to-toe assessments
- Monitor lab values closely
  - Especially Potassium
  - IV fluids based on patient needs (i.e. hydration, electrolytes)

Urinary Complications

- Assessment - Color, amount, consistency, odor of urine; indwelling catheters – patency

Low Urine Output (oliguria)

- Expected for 1st 24 hours post-op
- Possible causes:
  - Fluid retention
  - Fluid loss (bleeding, drains, etc.)
  - Renal failure (less common)

Urinary Retention

- Possible causes:
  - Anesthesia
  - Pain
  - Immobility/Bedrest

- Nursing management
  - Assess for bladder distention
  - Normal position to void, if possible
  - Provide privacy
  - Fluids (IV or PO)
  - If have a catheter, **make sure not kinked!**
- If no void in 6-8 hrs. post-op or after Foley d/c, Notify MD!

Gastrointestinal Complications

- Expect decreased *peristalsis* for 24 hours after abdominal surgery, 3-4 days after GI surgery
- Assessment
  - Auscultate for bowel sounds
    - May be diminished or absent immediate post-op
  - Inspect for abdominal distention
  - Gently palpate for firmness
  - Passing gas may be first sign of bowel function

Nausea and Vomiting

- Results from anesthesia and narcotics
- Decreased peristalsis
- Treatment = antiemetics
- Must wait for bowel sounds to return before oral fluids.

Postoperative Ileus (Paralytic Ileus)

- Temporary paralysis of the bowel
- Caused by manipulation during surgery
- Motility of large bowel may be decreased for 3-5 days, but small bowel usually resumes in 24 hours
- Immobility & use of opioids post-op prolongs duration

- Signs and Symptoms
  - **Abdominal distention**
  - Pain
  - Nausea/vomiting
  - Bowel sounds: high pitched sounds above & absent below area of obstruction

Nursing Management
- Early Ambulation!!!!!
- NPO until bowel sounds auscultated
  - Chewing gum?
  - Encourage to report when passing gas
- May need NG tube to empty stomach/bowel contents

Integumentary Complications
- Skin = largest organ of the body - 1st line of defense against bacterial invasion
- Incision: wound in which each tissue layer is cut & separated smoothly by sharp-bladed instruments.
  - Margins of wound are regular and even
  - Nearby tissues are undamaged

Wound Healing
- Occurs by primary, secondary, or tertiary intention
  - **Primary intention**: when wound edges are well-approximated
  - **Secondary Intention**: Edges NOT neatly approximated
    - Healing & granulation take place from edges inward and bottom upwards
    - Wound may have to be debrided for healing
  - **Tertiary Intention**
    - Delayed suturing of wound
    - Wound left open for infection to clear
    - Primary wound that needed to be re-opened
    - Results in delayed healing, larger/deeper scar

Factors Influencing Wound Healing (See separate handout on Edvance360)
- Nutrition, Age, Obesity, Size of Wound, Meds, Oxygenation, Smoking, Diabetes, Stress to Incision

Assessment of a Post-operative Incision
- Drainage (exudate)
- **Sanguineous:** bloody drainage
- **Serosanguineous**: combination of plasma & blood. Pinkish to light red.
- **Serous:** clear, watery plasma
- **Purulent:** thick, infected. Type of organisms influences color (yellow, green, brown)
- Presence of odor
- Amount of drainage
- Proximity of edges
- Cleanliness of wound
- Measurements of wound
- Erythema or edema
- Nature of surrounding tissue
- Presence of drains

Complications of Wound Healing

Hemorrhage

- Most common 1st 48 hours after surgery
- **Circle, date and time any drainage on dressing**
- External – obvious
  - Always check under patient
  - Monitor dressings
- Internal – not visible unless have drain
  - Signs and symptoms
    - **Restlessness**, decrease in blood pressure, increase in pulse, pain, distention, edema in area
- Can lead to hypovolemic shock and death

Infection

- In surgical wounds, infection apparent in **3-5 days**
- In traumatic wounds, apparent in **2-3 days**
- Signs and symptoms
  - Fever
  - Pain or tenderness at site
  - Erythema of wound edges
  - WBC's elevated
  - Drainage (green, yellow, brownish)
- Nursing interventions
  - Good hand hygiene
  - Sterile technique, sterile equipment with cleaning & dressing changes
  - Antibiotics prn
  - High protein, good nutrition

Dehiscence

- Partial or total separation of wound edges
- Usually occurs 3 – 11 days post-op
  - Risk factors:
    - Obesity
    - Coughing or moving w/out splinting
    - Poor nutrition
    - Diabetes
    - Infection
  - Signs or symptoms
    - Sudden increase in brown, pink or clear drainage
    - Feels "something popped or gave way"
  - Requires surgical intervention

Evisceration

- Wound edges separate and abdominal contents protrude to outside
- Notify surgeon

- Stay with patient; call for help
- Position in low Fowler's with knees flexed
- Put on sterile gloves
- Place sterile towels soaked in sterile normal saline over protruding tissue to prevent drying
- Monitor vital signs closely
- Emotional support

Discharge planning and follow-up care

- Begins on admission and is ongoing process
- Gives patient awareness of events before occur
- Facilitates self-care responsibilities
- Educate caregiver/family as well
- Instructions in written format
- Case managers to handle insurance end & any extra equipment/at home services

Discharge planning includes:

- Care of wound site and dressings
- Medications
- Activities
- Dietary
- Symptoms to be reported / Follow-up Care
- Address individual questions/concerns

Potential Post-op Nursing Diagnoses

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