CARE OF THE SURGICAL PATIENT

Chapter 12

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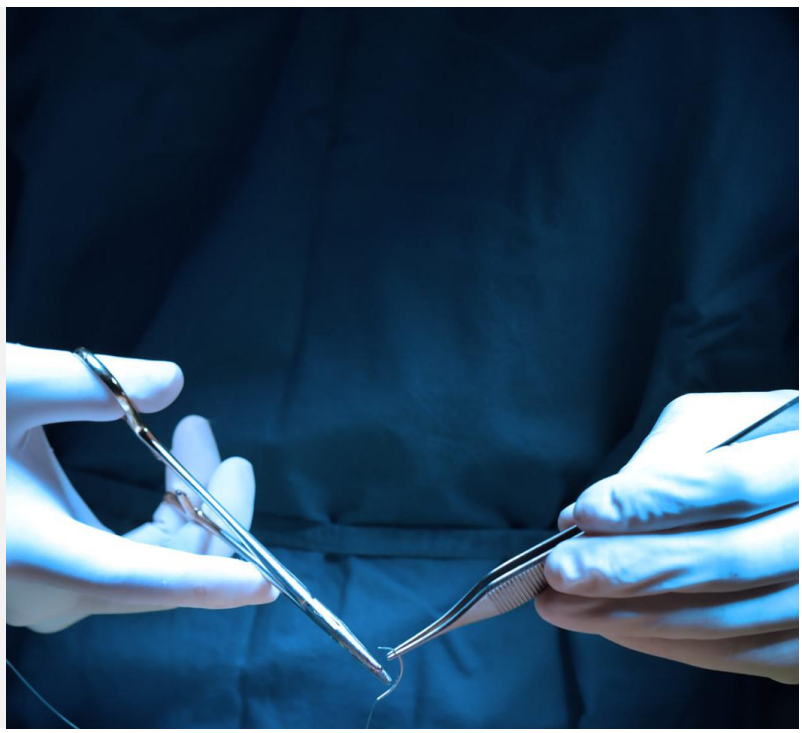
SURGICAL PROCEDURE SUFFIXES

- Ectomy: Removal by cutting
- Oscopy: Looking into
- Ostomy: Formation of a permanent artificial opening
- Otomy: Incision or cutting into
- Plasty: Formation or repair



SURGERY URGENCY LEVEL

Type	Definition	Example
Emergency	Immediate surgery needed to save life or limb w/o delay	Ruptured aortic aneurysm or appendix, traumatic limb amputation, loss of extremity pulse from emboli
Urgent	Surgery needed within 24-30 hours	Fracture repair, infected gallbladder
Elective	Planned/scheduled, with no time requirements	Joint replacement, hernia repair, skin lesion removal
Optional	Surgery requested by the client	Cosmetic surgery

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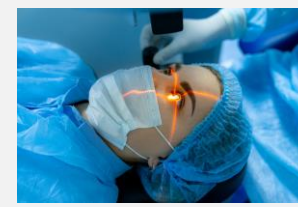
PURPOSE OF SURGERY

Purpose of Surgery	Definition
Aesthetic	Requested by client for improvement
Diagnostic	To obtain tissue sample, make an incision, or use a scope to make a diagnosis
Exploratory	Confirmation of measurement of extent of condition
Preventive	Removal of tissue before it causes a problem
Curative	Removal of diseased or abnormal tissue
Reconstructive	Correction of defect of body parts
Palliative	Alleviation of symptoms when disease cannot be cured

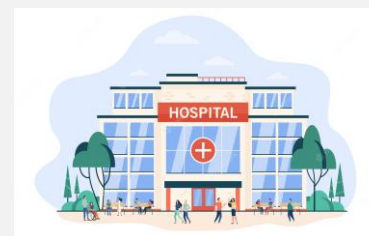
TYPES OF SURGERY

- Open incision
- Minimally invasive surgery
  - Endoscopic (Keyhole)
  - Scope (Laparoscopic and thoracoscopic)
  - Robotic
  - Laser



TYPES OF SETTINGS FOR SURGERY

- Outpatient
  - Stand-alone surgery center
  - Medical office
  - Hospital outpatient surgery department
- Inpatient
  - Hospital-based surgery



PERIOPERATIVE PHASES

- Preoperative
  - Decision for surgery until transfer to surgery
- Intraoperative
  - Transfer to surgery until transfer to perianesthesia care unit (P A C U)
- Postoperative
  - P A C U through recovery

PREOPERATIVE NURSING CARE

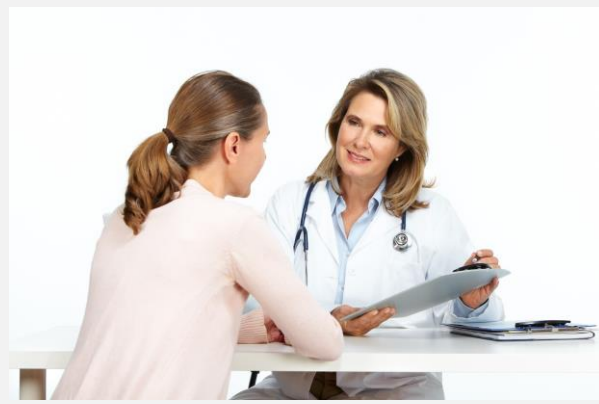
- L P N/L V N role
  - Assist in data collection.
  - Reinforce explanations/instructions.
  - Provide emotional/psychological support.
  - Provide family care: Comfort, answer questions.
- Goal: Identify and implement actions that reduce surgical risk factors

FACTORS INFLUENCING SURGICAL OUTCOMES

- Age
- Chronic Disease
- Emotional Response
- Nutrition
- Smoking and Alcohol and/or Drug abuse
  - Avoid smoking
    - 24 hours before surgery
    - 3 to 4 weeks with lung disorders

PREADMISSION SURGICAL PATIENT ASSESSMENT

- Nonemergent- Interview with anesthesiologist and/or RN
  - Health history
  - Risk factors
  - Teaching
  - Discharge planning
  - Referrals
- Diagnostic testing/Labs
- Advance directives



PREOPERATIVE TEACHING

Preoperative Routines

- Date and time of surgery
- Admission time
- Length of stay
- Items to bring and wear
- Recovery after surgery
- Family information
- Discharge criteria
  - Responsible adult for outpatient surgery discharge

PREOPERATIVE TEACHING

Preoperative Instructions and Preparation

- Preoperative procedures
- Medication intake/food/liquid: NPO after midnight
  - If not, notify the surgeon. Steroids should be given with a sip of water
- Postoperative Care
  - TCDB/Incentive spirometry
  - Pain medications
  - Exercise and ambulation/mobility

turn cough & deep breath →

INCENTIVE SPIROMETRY

- Sit upright – 45 degrees
- Take 2 normal breaths, place mouthpiece spirometer in mouth
- Inhale until target, rising ball is reached, hold 3-5 seconds
- Exhale completely
- Perform 10 sets breaths/hr
- Splint incision with pillow, ask patient to cough every 1-2 hours while awake

The IS will prevent respiratory complications

PREOPERATIVE PATIENT: ASSESSMENT

- Health history
- Medications, herbs, and supplements
- Physical assessment

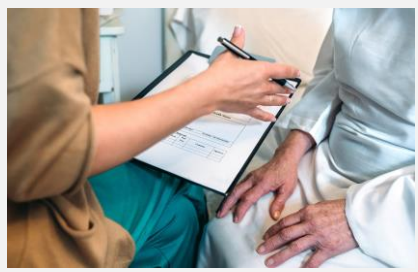
Stop herbal 1-2 weeks before surg

PREOPERATIVE NURSING DIAGNOSES

- *Anxiety*
- *Fear*
- *Deficient Knowledge*

What are some interventions we might do for each? Theurputic communication and provide education

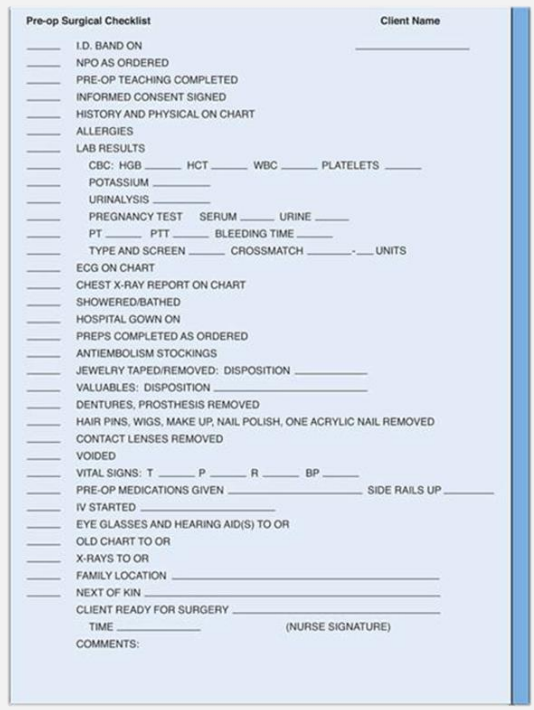
PREOPERATIVE CONSENT



- Patient gives legal permission for surgery
  - Informed consent surgeon's responsibility
  - No analgesia or sedation before signing
  - Voluntary
  - Can withdraw at any time
  - Valid for 30 days
- Nurses' role to **witness** the patient or authorized person signed the consent
  - Advocate patient's understanding and questions are answered before signing
  - If patient is unable to read, read it to the patient

PREOPERATIVE PREPARATION CHECKLIST

- ID band/Gown
- VS
- Remove make up, nail polish, wigs, and metal
- Remove dentures, contact lenses, prostheses, glasses, and hearing aids
- All orders, diagnostic test results, consents, and H&P are reviewed
- Valuables given to family and documented or locked up per institutional policy
- Antiembolism devices
- Void before sedating medications are given, unless urinary catheter is placed



Pre-op Surgical Checklist **Client Name** _____

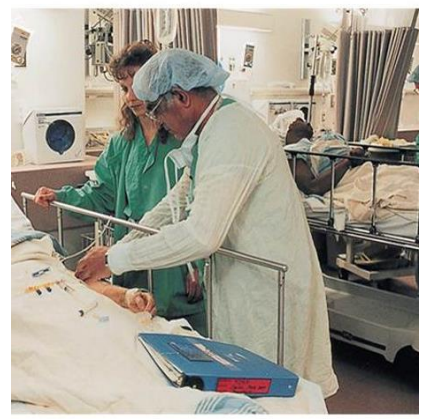
_____ I.D. BAND ON
_____ NPO AS ORDERED
_____ PRE-OP TEACHING COMPLETED
_____ INFORMED CONSENT SIGNED
_____ HISTORY AND PHYSICAL ON CHART
_____ ALLERGIES
_____ LAB RESULTS
_____ CBC: HGB _____ HCT _____ WBC _____ PLATELETS _____
_____ POTASSIUM _____
_____ URINALYSIS _____
_____ PREGNANCY TEST SERUM _____ URINE _____
_____ PT _____ PTT _____ BLEEDING TIME _____
_____ TYPE AND SCREEN _____ CROSSMATCH _____-___ UNITS
_____ ECG ON CHART
_____ CHEST X-RAY REPORT ON CHART
_____ SHOWERED/BATHED
_____ HOSPITAL GOWN ON
_____ PREPS COMPLETED AS ORDERED
_____ ANTIEMBOLISM STOCKINGS
_____ JEWELRY TAPED/REMOVED: DISPOSITION _____
_____ VALUABLES: DISPOSITION _____
_____ DENTURES, PROSTHESIS REMOVED
_____ HAIR PINS, WIGS, MAKE UP, NAIL POLISH, ONE ACRYLIC NAIL REMOVED
_____ CONTACT LENSES REMOVED
_____ VOIDED
_____ VITAL SIGNS: T _____ P _____ R _____ BP _____
_____ PRE-OP MEDICATIONS GIVEN _____ SIDE RAILS UP _____
_____ IV STARTED _____
_____ EYE GLASSES AND HEARING AID(S) TO OR
_____ OLD CHART TO OR
_____ X-RAYS TO OR
_____ FAMILY LOCATION _____
_____ NEXT OF KIN _____
CLIENT READY FOR SURGERY _____
TIME _____ (NURSE SIGNATURE)
COMMENTS:

Medication	Purpose ★
Analgesic/Antipyretic • Acetaminophen	Relieves mild to moderate pain/fever reducer
Antianxiety and Sedative • Diazepam (Valium) • Lorazepam (Ativan) • Midazolam (Versed)	Sedation, reduce anxiety
Antiemetics • Metoclopramide (Reglan) • Ondansetron (Zofran) • Prochlorperazine (Compazine) • Promethazine hydrochloride (Phenergan)	Control N/V
Antibiotics • Variety used	Prevention of postop infection
Opioids • Fentanyl (Sublimaze) • Hydromorphone hydrochloride (Dilaudid) • Meperidine (Demerol) • Morphine Sulfate	Analgesia, pain control
Histamine Antagonist • Tagamet • Zantac • Pepcid	Reduces stomach acid
Alkalinizing agent • Bicitra – Sodium citrate	Prevention of pneumonitis, PE, hypoxia

60 min before incision →

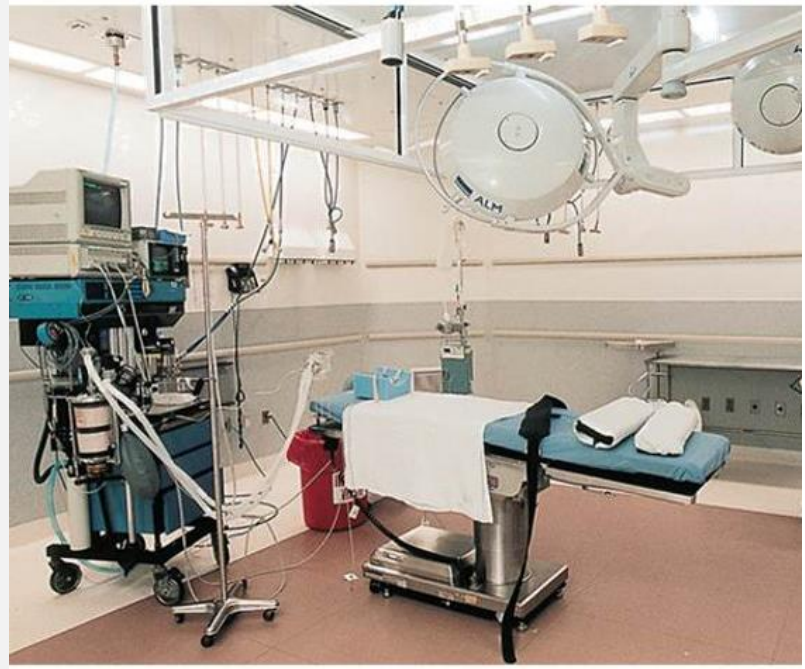
TRANSFER TO SURGERY

- Holding area
  - Verifications
    - Patient data
    - Surgical site
      - Patient initials/marks operative site
    - Time out
  - IV insertion
  - IV antibiotic
  - Prewarming



INTRAOPERATIVE PHASE

- Explain what to expect
  - Position
  - Safety
  - Tubes placed after anesthesia induction
  - Skin prep
- L P N/L V N role
  - Scrub nurse
  - Sterile instrument field
  - Assist surgeon



INTRAOPERATIVE CARE

- Surgical team
- Scrub person
  - Sets up surgical instruments and supplies
  - Participates in sponge, needle, surgical blade, and instrument count
  - Gowns and gloves operating team; hands instruments to operating team
  - Maintains sterile technique at all times

Pre, mid, and post →

INTRAOPERATIVE CARE (CONT'D)

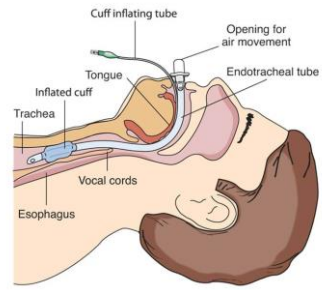
- Circulating nurse
  - Is responsible for the safety of the patient
  - Supervises scrub person, observes for breaks in technique, participates in sponge/instrument counts
  - Provides additional instruments or supplies as needed
  - Gowns and gloves members of the operating team
  - Checks function of equipment used during surgery
  - Takes charge of tissue specimens
  - Provides blood and IV solutions as needed

Including needles

Blood admin requires 2 nurses

ANESTHESIA

- General anesthesia
  - Loss of sensation, consciousness, reflexes
  - IV or inhalation route
  - Endotracheal intubation
  - Complication: Malignant hyperthermia



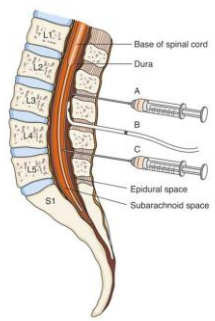
MALIGNANT HYPERTHERMIA

- Rare hereditary muscle disease
- Triggered by some general anesthesia agents/succinylcholine
- Potentially fatal
- Surgery stopped, anesthesia discontinued
- 100% oxygen given
- Cooled with ice, iced IV solutions
- Dantrolene sodium, IV muscle relaxer given

- Signs and Symptoms
  - High fever
  - Muscle rigidity
  - Tachycardia
  - Hypertension

ANESTHESIA

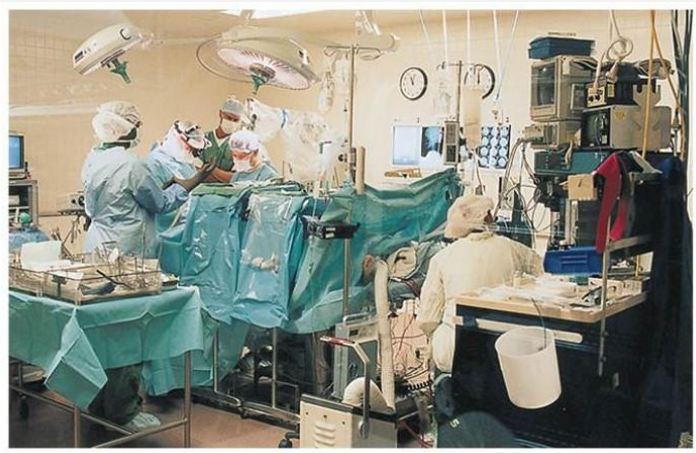
- Local (regional) anesthesia
  - Loss of sensation to body region
  - Injection of a local agent
- Complications
  - Leakage of cerebrospinal fluid
  - Hypotension
  - Severe headache
    - Worst standing
    - Position flat
    - Force fluids



IV CONSCIOUS SEDATION

- Sedatives, hypnotics, and opioids
  - Selected procedures: Endoscopy, dental, colonoscopy, cardiac cath
- Very close monitoring
- Emergency equipment available

SURGERY



POSTOPERATIVE PHASE (PACU)

- Provides care to patients who have had general anesthesia or spinal anesthesia and/or who require constant observation after a surgical/invasive procedure

Nursing Care

- Maintain patent airway
- Position on side or with head turned to side ★
- VS every 5-15 minutes including O2 saturation
- O2 administration/suction PRN
- I&O
- Monitor tubes/drains/dressing
- Pain control
- Arouse patient (LOC) / encourage deep breathing
- Temperature control

RESPIRATORY FUNCTION

Complications

- Hypoventilation
  - Obese clients are at increased risk
- Increased secretions Secretions in lungs
- Decreased swallowing/cough reflexes

Nursing Action

- Assess airway, respiration, lung sounds, and subjective signs; SOB, fatigue watch for tachpenea
- Position on side
- Suction PRN
- O2 administration
- Deep breathing and cough
- Pain control
- Maintain CPAP/BIPAP for sleep apnea
- Monitor O2 sats closely, Respiration

Prevention

- Encourage coughing and deep-breathing and use of incentive spirometer

CARDIOVASCULAR /CIRCULATORY FUNCTION

Complications

- Hypotension / Hypertension
- Dysrhythmias

Assessment

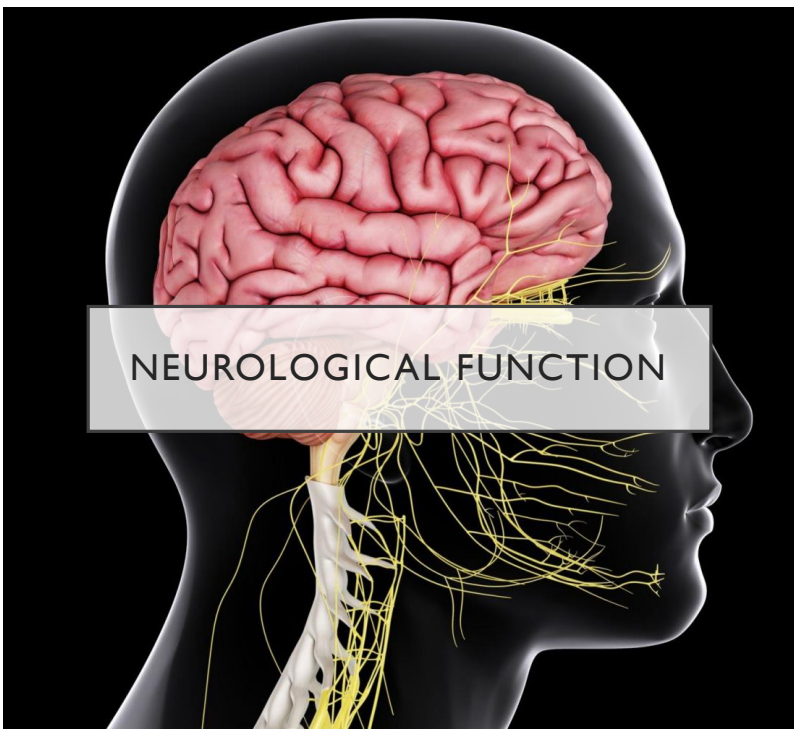
- HR, B/P, ECG, skin temp, color, and moistness

Nursing Actions

- Check dressing and incision for color and amount of drainage
- IV fluids, I&O
- Pain relief, monitor core body temp, warm patient, assess VS
- Report s/s of hypovolemic shock stat

Prevention

- Monitor blood pressure and skin temperature, encourage activity and leg exercises; antiembolus stockings (TED) and SCD's help to promote circulation, neurovascular checks
- See skill 37.1 on applying antiembolism stockings (Williams, Fundamentals)



NEUROLOGICAL FUNCTION

Effects of anestisia

- Agitation
- Amnesia
- Altered movements, sensation, perceptions

Assessment

- LOC, orientation
- Pupil reaction
- Motor and sensory function

Nursing Actions

- Side rails up, restraints
- Secure tubes, check dressings
- Provide reorientation
- Assess for signs of pain

PAIN

Pain Assessment

- Pain rating scale (0-10) Location/character of pain
- Nonverbal pain indicators
- VS
  - Assess respiratory status, if too low, may not be able to administer a narcotic.

Actions

- IV narcotic analgesics, PCA (if ordered)
- Reposition
- Empty bladder
- Give warm blanket, environmental control

Prevention

- Promote comfort: control or prevent pain and discomfort

OTHER PACU ISSUES

Hypothermia
- Provide blankets

Nausea/vomiting
- Antiemetics/place the client on their side to prevent aspiration

Oliguria
- Foley

Bleeding
- Check dressings

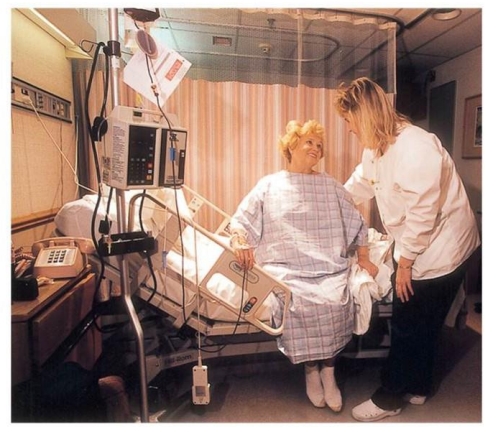
Call Dr and reinforce but do not change

DISCHARGE FROM PACU

- Stable vital signs
- Oxygen saturation greater than 90%
- Awake, baseline level of consciousness
- Respirations not depressed
- Bleeding controlled
- Box 12.5 Pg 180 box 12.4

SAFETY AFTER TRANSFER

- Nurse-to-nurse bedside report completed on transfer.
- Place bed in lowest position with side rails up.
- Place call button within patient's reach.
- Instruct to call for assistance with ambulation.
- Assist with ambulation.
- Have patient sit on side of bed before standing.



INITIAL POSTOPERATIVE ASSESSMENT

- Respiratory status – airway, respiration, lungs
- Circulatory status – pulses, skin, temp
- Neurological status – LOC, orient, gag
- Incision/dressing – location, drainage, tubes
- Comfort – pain, N/V, NG, bladder distended
- Postop VS – Q15 mins x 1 hr; Q 30 mins x 2 hr; Q1 hr x 4 hr
- Tubes/drains
- IV fluids
- Safety protocol
- Spinal anesthesia – safety issues, watch b/p closely, spinal HA

PROMOTING COMFORT POSTOP INTERVENTIONS

Pain Control

- Opioid Analgesics (PO, SC, IM, IV, epidural, PCA); SE; Depress respiratory function, N/V
- Non-narcotic analgesics (along with opioids)
- Giving pain meds on schedule for first 2 days
  - Postop; increases compliance with activity, lung exercises.
- Troubleshoot – dressing too tight, bladder distention, cold room, anxiety, N/V

PROMOTING COMFORT POSTOP INTERVENTIONS

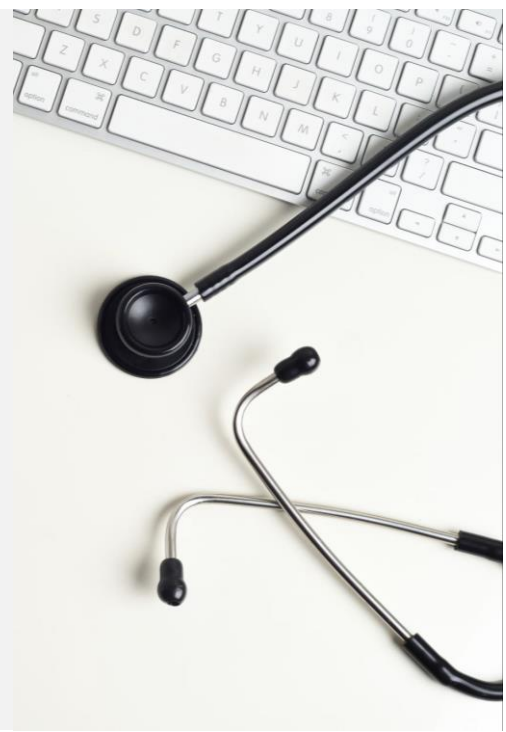
- Nausea/Vomiting – usually only 12-24 hrs postop; antiemetic; mouth care; NG
- Gas – antacids/anti-flatulents; no straw; walking; gentle massage
- Thirst – wet washcloth; ice chips
- Constipation – fluid intake; fiber; stool softener
- Promoting rest – grouping treatments/procedures; music/distraction; include family in plan of care

URINARY FUNCTION POSTOP INTERVENTIONS

Urinary retention

Most common problem:

- Clients need to void at least every 8 hours; more often for certain surgeries
- Urinary output should be at least 30mL/hr
- Non-invasive techniques to assist with voiding (run water, privacy, sit up)
- Last resort: contact MD to insert a foley catheter, if needed



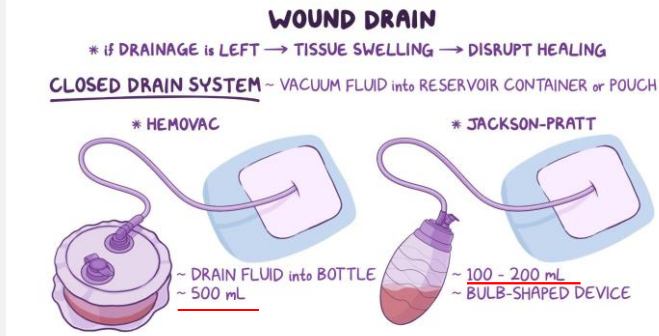
GI FUNCTION POSTOP INTERVENTIONS

Cause of problems: NPO, bowel prep, immobility, N/V, paralytic ileus

- Auscultate bowel sounds Q4 hrs
- Assess for distention
- NG care (if present)
- IV fluid/TPN
- Monitor electrolytes
- Document passing of flatus
- Oral intake: clear liquids/full liquids/soft/regular
- Encourage ambulation improves passing of flatus

MOBILITY POSTOP INTERVENTIONS

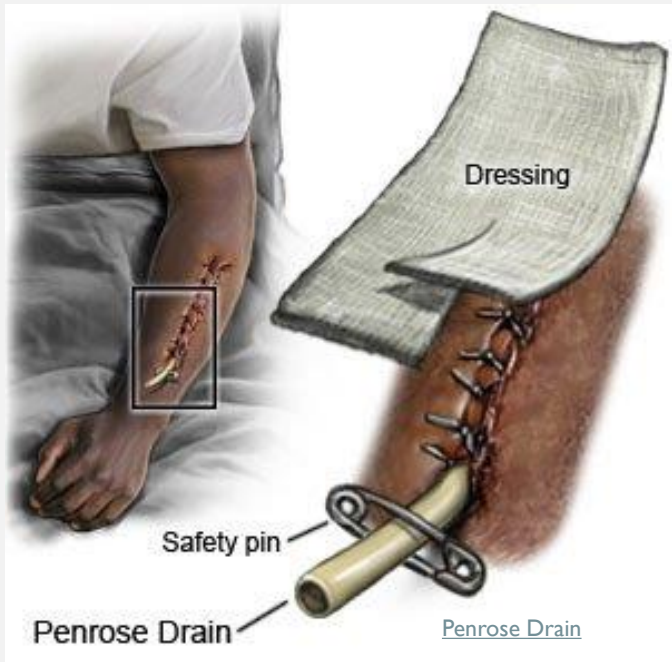
Leg	Leg exercises every 2 hours while awake
Dangle	Dangle – note dizziness
Ambulate	Ambulate within 12 hours of surgery - progress as tolerated
Turn	If bedridden, turn Q2 hrs PROM and AROM as tolerated



Hemovac JP Drain

TUBES/DRAINS

- Purpose
  - Drain fluid from op site
  - Protect suture lines
  - Drain and abcess
- Types
  - Hemovac
    - Placed in vascular cavity to prevent accumulation of fluid
    - Perforated tubing connected to a portable vacuum unit
    - As the drainage accumulates unit expands
      - Suction is lost, requiring recompression
    - Emptied every 4 to 8 hours and when it is half full of drainage or air



Penrose Drain

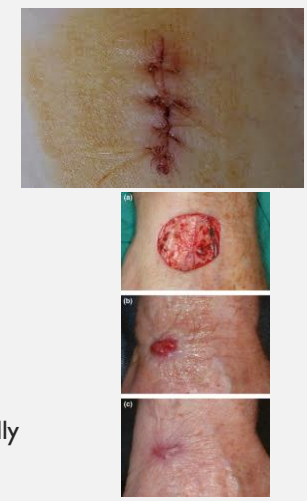
TUBES/DRAINS

Nursing Action

- Assess patency – open, draining, not kinked; re-collapse device as necessary
- Strict asepsis when emptying or changing dressings
- Change dressing every shift
- Assess skin around drain
- Record drainage Q shift (output)

WOUND HEALING

- First Intention
  - Wound edges are closed and a scab forms
  - Most surgical wounds heal by first intention
  - Minimal scarring
- Second Intention
  - Edges are far apart
  - Tissue loss/necrosis
  - Usually left open to heal by granulation tissue
  - Ex: pressure ulcer
- Third Intention
  - Infected wound left open until no sign of infection then surgically closed



POSTOP WOUND CARE

Assessment of surgical wound

- May be covered with surgical dressing for 24 hours
  - Do not remove
- Swelling
- Redness
- Approximation of edges
- Drainage
  - Sanguineous (Red)
  - Serosanguineous (Pink)
  - Serous (Yellow)

POSTOP WOUND CARE

- Dressings
  - Check when vitals are done for the first 24 hours
  - Reinforce as needed
  - Record amount and characteristics of drainage
- Suture/Staple (Removing)
  - Long incision, remove every other suture starting with second suture
  - Apply steri-strips

removing sutures

removing staples

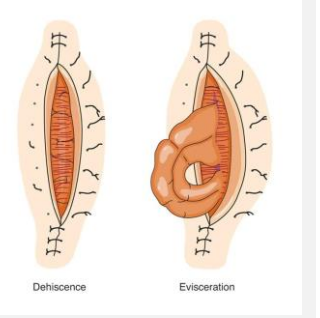
INTERFERENCES TO WOUND HEALING

- Smoking 24 hrs before surgery and 3-4 weeks if surgery is on lungs
- Injury to site
- Corticosteroids
- Wound infections
- Suppression of immune system (stress, emotional disturbances, meds)
- Vomiting, abdominal distention, deep cough
- Malnutrition

POSSIBLE COMPLICATIONS

- **Dehiscence**
  - Separation of some or all layers of the surgical wound
  - Usually occurs on 5th to 12th postop day
- **Evisceration**
  - Content of abdominal cavity protrude through incision
  - Position the client in low Fowler's position with knees flexed
  - Cover wound with sterile dressings or clean towels moistened with warm sterile normal saline.
  - Notify surgeon immediately.
  - Monitor vital signs for evidence of shock.
  - Infuse IV fluids as ordered.
  - Prepare for immediate surgery.

Highest risk pts: obese, malnourished, dehydrated, multiple trauma to abdomen, infected wound



AMBULATORY SURGERY

Monitor as in the PACU – airway, vitals, neuro status, I&O, wound, pain

- When gag reflex returns – give PO liquids
- Usual stay 1-3 hours
- Ambulate ASAP
- Before going home:
  - Ambulate
  - Empty bladder
  - Gag reflex
  - Tolerating liquids
  - Pain control
  - VSS
  - LOC

DISCHARGE TEACHING

- Teaching
  - Wound care, medications, complications
  - Rest 24 to 48 hours
  - No driving, operating machinery
  - Diet
  - Equipment
  - Complication and contact information for emergency
  - Follow-up surgeon's visit
- Written instructions signed by patient
- Prescriptions

REVIEW QUESTION

Which of these is a purpose of surgery?
Select all that apply.

1. Preventive
2. Diagnostic
3. Exploratory
4. Emergency
5. Curative
6. Palliative

REVIEW QUESTION

Which of these describes the postoperative phase of surgery?

1. Decision for surgery until transfer to surgery
2. Transfer to surgery until transfer to P A C U
3. P A C U through recovery
4. Provision of home health care

REVIEW QUESTION

Which of these activities can help prevent postoperative respiratory complications? *Select all that apply.*

1. Deep breathing and coughing
2. Incentive spirometry
3. Early ambulation
4. Leg exercises
5. Hand squeezes

REVIEW QUESTION

Which of these must be included in the discharge teaching process? *Select all that apply.*

1. Complications to report to health care provider
2. C P R training for family
3. Instructions provided in writing
4. Instructions signed by patient/family
5. Medications explained

QUESTION

Mimi's patient is going for surgery to remove part of a tumor that has metastasized and is causing pain. What type of surgery is Mimi's patient having?

1) Emergency
2) Diagnostic
3) Palliative
4) Curative

QUESTION

Who is responsible for obtaining an informed surgical consent?

1) Patient
2) Nurse
3) Surgeon
4) Supervisor