Perioperative Nursing

• Role
  – Teacher
  – Advocate

• Phases
  – Preoperative
  – Intraoperative
  – Postoperative

Purposes for Surgery

• Diagnostic
• Curative - excision, removal, repair
  - Ablative - removal of diseased part
  - Reconstructive - restoration of function or appearance
  - Constructive - restore or reduce congenital loss
  - Transplant - replacement
• Palliative

Preoperative Assessment

• Purpose
  – Obtain baseline
  – Identify risk factors
  – Identify discharge planning needs
  – Determine learning needs
### Preoperative Assessment
#### History & Interview
- Medical History
- Medications
- Allergies
- Smoking
- Alcohol/Drug use
- Dietary Habits
- Occupation
- Perception of Surgery
- Anxiety/Fear
- Support system
- Coping resources
- Body image

#### Physical Exam
- General
  - Appearance
  - LOC
- Vital Signs
- Systems review

### Preoperative Assessment
#### Diagnostic studies
- Lab values
  - CBC - Hgb. 14-18 Blood type
  - Electrolytes - Na 135-145, K 3.5-5 Cl, CO₂, creatinine 0.6-1.2
  - PTT 20-35
- Urinalysis
- CXR, EKG
- Pulmonary function tests - Sats, ABG's
Preoperative Assessment
Risk factors

- Age
  - older - CO, VC, GFR, reaction time, thermoregulation
    MS difficulties

- Weight
  - obesity - movement diaphragm expansion
    Malnourished - healing & strength

Preoperative Assessment
Risk factors

- Medications
  - Aspirin
  - Anticoagulants alters blood clotting times
  - Immunosuppressants
    delayed wound healing
    increased risk for infection
  - Cortisone
    decreases ability to withstand stress

Preoperative preparation

- Teaching - timing & evaluation
  - Cough, deep breathe-splinting
    - purpose
      - eliminate anesthetic gases
      - eliminate retained secretions
      - maintain alveolar expansion
    - Incentive spirometry
      - teach technique - return demo
Preop prep

- Mobilization
  - turning & ambulating
  - most important activity to prevent postoperative complications
- Leg exercises - prevent DVT
- Positioning
- Postop expectations
  - relieve anxiety RT fear of unknown
  - pain control measures

Physical Preop Prep

- NPO
  - prevent vomiting & aspiration
  - mouth care
- Skin prep
- Bowel prep
- Bladder prep - timing
- Special procedures
  - I.V., N.G., Foley

Physical Preop Prep

- Preop medications
  - narcotics - enhances anesthetic induction
  - skeletal muscle relaxants
  - anticholinergics
  - sedatives/antianxiety meds

- Removal of prosthesis/dentures
- Safety & environment after preop medication administration
  - Siderails - quiet time - bedrest
Legal-ethical Preparation

- Informed Consent
  - voluntary
  - mental competency to understand
- Physician responsibility to inform
- Nurse responsibility
  - witness to signature (X)
  - correctness of document
- Other
  - requirements for phone consent
  - implied consent

Types of anesthesia

- General
  - Loss of consciousness & sensation
  - Isoflurane - watch for sudden changes in position
- Local - sensation at specific site
- Regional - sensation in area of body
  - Nerve block
  - Spinal anesthesia
    - side effect - H.A.
    - Force fluids, HOB down
    - Epidural - can be left in place for pain management

Conscious sedation

- IV
- light sedation, pain control, & amnesia
- patient able to respond
- maintains own airway
- monitor
  - Pulse rate & rhythm with monitor
  - Respiratory rate - auscultation & observation
  - BP
  - LOC
• Environment
  – Surgical team
  – Holding area
  – Surgical asepsis
  – Cold - inhibits bacterial growth
• Routine
  – Transfer to OR
  – Chart check /document review
  – Monitoring devices

RN intraoperative responsibilities

• LOC
• Comfort
• Documentation
• Safety
  – positioning
  – security
  – sponge/instrument counts

Wound Closure

• Primary intention
  – approximation
• Third intention
  – delayed wound closure
• Drains
  – promotion of healing by removing excess fluid accumulation
Postoperative Phase - PAR

- PACU
  - Report
  - Assessment
  - Emergence from anesthesia
    - Respiratory status
    - LOC
    - VS
    - Anxiety, restlessness, hallucinations
    - Movement, sensation
  - Pain relief

Postoperative - PAR

- Prevent complications
  - Respiratory
    - Laryngospasm
    - Obstructed airway
      - Positioning - Lateral Sims, neck extension
    - Oralpharyngeal airway
    - Pulse oximetry
    - Jaw-thrust &/or chin lift maneuver

Postoperative - PAR

- Prevent complications
  - Cardiovascular: hemorrhage - hypotension
    - Signs & symptoms
      - Early
      - Late
    - Dressing & drains
    - Fluids & blood products
    - Distention
    - Body position changes
Post operative - first 48 hours

- Receive report
- Assess all body systems
- Check equipment function
- Check tubes, drains, I.V.s, dressings

Postoperative complications

- Hemorrhage - dressing
- Respiratory -
  - RT: diminished lung expansion, retained secretions, immobility, pain, analgesia, high abdominal incision, weakness
  - Atelectasis - collapse of alveoli
    - crackles or absent sounds
    - ▲ resp. rate, H.R., temp
  - Pneumonia

Postoperative complications (48 hrs)

- Ileus - paralysis of intestine
  - RT handling of bowel, anticholinergic drugs
  - effects
    - N&V
    - danger of aspiration
    - decreased diaphragmatic movement
    - pain
  - Treatment
    - NPO
    - NG
    - Mobility
    - GI stimulants
    - Reglan
**Postop Complications - GU**

- Urinary retention RT anesthesia
- epidural, spinal
- MB
  - frequency
  - bladder distention
    - palpate
    - percuss
  - pain
  - restlessness

**Treatment**
- Cath for residual
- Foley
- I&O
- Cholinergic meds
  - Urecholine
  - mobility
  - running water
  - warm water over perineum

**Fluid & Electrolyte Changes**

Adaptive response to stress - fluid shifts to increase fluid volume and prevent hypovolemia.

- Adrenals release ADH
- ECF
- se Na & Hct
- Kidneys retain Na & H2O
- urine output
- weight

**Nursing management**

- Emergence from anesthesia
  - know effects
    - Isoflurane
    - Succinycholine
  - LOC
  - Safety
    - siderails, call light, bed position
  - VS
Respiratory function

- T, C, D. B.
- auscultation
- mobility
- MSI devices
  - Incentive spirometry
  - return demo

Fluid & Lyte Balance

- I&O
  - all tube drainage
  - I.V.'s
- Electrolyte panel
- Weight
- Offer bedpan/urinal

Pain Control

- PRN
  - especially at regular intervals before pain increases
- PCA
  - provides a constant level of medication
- Epidural
  - observe for respiratory depression
Complications 3-7 days

• Infection
• Dehiscence
  – partial or total separation of wound layers
  – increase in serosanguinous drainage
  – separation of edges
  – Semi-Fowler’s position with knees gatched

Complications 3-7 days

✓ Evisceration
✓ total separation of wound layers
✓ protrusion of visceral organs
✓ cover with dressings soaked with sterile NS
✓ NPO
✓ Check VS & notify

Patients at Risk for Delayed Wound Healing and Infection

• Infection elsewhere
• Age extremes
• malnutrition
• obesity
• immunosuppresion
• poor blood supply
• devitalized tissue
• uncontrolled diabetes
Wound Care

• observe with dressing changes
• assess for healing
• check for exudate
• protect with sterile dressing
• if sticking - use normal saline to remove
• clean to dirty
  – prevent introduction of microorganisms

Medications

• Narcotics
  – enhance induction
  – relieve anxiety
  – promote sedation
• Antiemetics
  – prevent N&V
  – decrease gastric acid
• opioid antidotes & antagonists
  • antibiotics
  • cholinergics
    – decrease oral & resp. secretions
    – reverse neuromuscular blocking agents

Laser Surgery

• Coagulates, vaporizes, cuts
• Advantages
  – Precision & accuracy
  – Decreased bleeding, swelling, tissue damage
  – Decreased infection rate
• Caution
  – Intense heat, eye protection from beam
• Uses
  – Plastic surgery - lesions
  – Glaucoma
  – Small tumors
Laparoscopy

- Diagnostic & therapeutic
- Telescope with illuminated optical system
- Small incision

Same Day Care

- Ambulatory surgery
- No overnight stay
- 60% of surgeries
- Reduced cost
- Decreased risk of nosocomial infections
- Home care & increased mobility
- Insure that patient does not take self home
- Anesthesia
- Hypovolemia
- General weakness
- Pain

Promote Safe Home Care

- Dressings
- Wound care
- Rest vs. Activity
- Follow up visit
- Teach & explain meds
- Fluids & nutrition
- S&S to report
- Community resources
- Home care
- PT or OT
- Equipment
- Allow patient to verbalize concerns - never assume