

Perioperative Nursing Care

Perianesthesia and Perioperative Nursing

Is the field of nursing that addresses the nursing roles associated with the three phases of surgical experiences:
pre operative postoperative and intraoperative

1. Preoperative Nursing Care

Begins when the decision to proceed with surgical intervention is made and end with the transfer of patient to the operation table

Pre admission testing

Examples of nursing activities in the preoperative phase include :

1. Initial preoperative assessment
2. Initiate teaching appropriate to patients needs
3. Involve family in interview
4. Verify completion of preoperative testing

Admission to surgical unit or center

1. Complete the preoperative assessment
2. Assess for risk of complications
3. Report abnormal findings
4. Verify that informed consent obtained
5. Answers family questions
6. Develop a plan of care

Others also in the holding area prior to the surgery

1. Review patient chart
2. Identify patient
3. Verify surgical site
4. Establish intravenous line eg canula
5. Administer prescribed medications
6. Provide support

2. Intraoperative Nursing Care

Begins when patient is transferred to onto the operation table and ends with admission to the post anesthesia care unite

Main nursing activities include

A) Maintain safety

1. Maintain aseptic environment
2. Transfer patient to operation room or table
3. Position the patient in correct alignment
4. Ensure that instruments count are correct
5. Complete documentation

B) Physiologic monitoring

Calculate fluid loss or gain

Distinguish normal and abnormal data

Report changes in vital sign

C) Physiologic support

Provide emotional support

3. Postoperative Nursing Care

Begins when patient is admitted to the post anesthesia care unite and end with follow up evaluation in home or clinical setting

Activities include

1. Maintain airway
2. Monitor vital sign
3. Assess the effect of anesthetic agents
4. Assess complications assess pain
5. Promote recovery and initiate teaching
6. Initiate discharge plan

Surgical classification (according to urgency)

1. Emergent : immediately with no delay eg sever bleeding
2. Urgent: patient needs prompt attention must be done within 24 hrs
eg gall bladder infection and kidney stone
3. Required: patient must have surgery within few weeks or months
eg cataract, Thyroid disorder
4. Elective: failure to have surgery has some impact on patient life
but not very dangerous eg repair of scare and simple hernia
5. Optional: personal preference eg cosmetics

Preparation for Surgery

Informed Consent

process for getting permission before conducting a healthcare intervention on a person. A health care provider may ask a patient

Which procedures need informed consent ?

Invasive procedure such as need anesthesia

Non surgical procedure that carry considerable risk such as arteriography

Procedures that involve radiation

Criteria for valid informed consent

1. Voluntary
2. Must be written
3. Patient must be competent and able to comprehend
4. In case of incompetent patient family member or law representatives may give consent
5. Should contain explanation of procedure
6. Instruction that patient can withdraw consent
7. Explanation that all patients questions would be answered and if there is any significant notes such as change in customary procedure

Assessment of health factor that affect patient preoperatively

1. Nutritional and fluid status
2. Drug and alcohol abuse
3. Respiratory status
4. Cardiovascular status
5. Hepatic and renal function
6. Endocrine function
7. Immune function
8. Previous medication use
9. Psychosocial factors
10. Spiritual and cultural beliefs

Identifying factors that affect the risk for the surgical procedure

- Assessing physical needs (hearing impaired, visually impaired, chronic illness, etc)
- Assessing psychosocial needs of patient and family
- Establishing a plan of care based on appropriate nursing diagnoses
 - Meet patient needs
 - Facilitate recovery

Health History

- The health history identifies risk factors and strengths in the client's physical and psychosocial status
- The health history helps the Nurse to **INDIVIDUALIZE** the preoperative assessment
- Helps to ensure interventions to maintain patient safety

Important Components of the Client's Health History

- Developmental Considerations:
 - Infants and Older adults are at greater risk from surgery than are children and young or middle adults
 - The infant has lower total blood volume which puts it at risk for dehydration and increased oxygen needs during surgery
 - The infant has difficulty maintaining body temperature, making hypothermia and hyperthermia more likely

- The infant has a lower GFR and creatinine clearance which leads to slower metabolism of drugs
- The infant also has an immature liver, which may cause the effects of muscle relaxants and narcotics to be longer
- The older adult also has a decrease in metabolism and renal functioning which puts them at risk for anesthesia complications
- The older adult may also have prolonged or altered wound healing
- Chronic illnesses are more common in older adults

Medical History

- Provides information about past and current illnesses
 - Pathologic changes increases surgical risk and post-op complications (i.e. diabetes, heart disease, respiratory, etc)
- Provides a data base for individualized assessments and interventions

Medications

- Certain medications may interfere with anesthesia or put client's at risk for bleeding; therefore, it is important to obtain information about:
 1. Prescribed medications
 2. Over-the-Counter medications
 3. Herbals or other dietary supplements

Previous Surgery

1. Physical implications

- Positioning changes
- Adaptations to anesthesia

2. Complications

- Malignant hyperthermia
- Latex allergy
- Pneumonia
- Thrombophlebitis
- Surgical site infection

3. Past experiences with surgery

- Pain management
- Negative feelings
- Perceptions and knowledge of surgical procedure
 - Aids with care planning for surgery
 - Patient and family teaching
 - Meeting patient and family psychosocial needs
 - Discharge preparation

4. Nutrition and Nutritional Status of Client

- Malnutrition:

- increased risk for poor wound healing
- Increased risk for wound infection

- Obesity:

- Increased risk for respiratory, cardiovascular, and gastrointestinal problems (GERD)
- Fatty tissue has a poor blood supply causing possible increased risk for infection and possible delayed wound healing
- Disruption in integrity of wound (evisceration/dehiscence)

5. Alcohol, Drug Use, or Nicotine Use

- These client's may require increased doses of anesthesia and post-op analgesics
- Illicit drugs may interfere with anesthetic agents
- Smokers are at increased risk for respiratory complications after surgery (difficulty in clearing respiratory passages due to mucous collection after anesthesia)
- Smoking compromises wound healing by constricting blood vessels, impairing blood flow to the tissues.

6. Occupation

- May be delay in return to work or work-related activities
- Financial Stressors

7. Activities of Daily Living

- Exercise (a patient with established exercise program has improved cardiovascular, respiratory, metabolic, and musculoskeletal functioning)
- Rest (Rest and sleep are essential to physical and emotional adaptation and recovery from the stress of surgery)
- Sleep habits

8. Coping Patterns

- Psychological
 - Dealing with stress and anxiety (fear about physical attractiveness, social relationships, lifestyle and sexuality)
 - Displays of stress: anger, hostility, withdrawal, apathy, confrontation and questioning
- Sociocultural (family cultural beliefs and backgrounds) c/o pain
- Spiritual (prayer, other rituals, faith in a higher power, visits from spiritual leaders)

9. Support Systems

- Family (the patient benefits from knowing when family and friends can visit after surgery)
- Friends

Physical Assessment

- Presurgical Screening Tests
 - CXR, EKG, CBC, electrolyte level, u/a
 - Nursing interventions to explain tests and prepare clients
 - **Significant abnormal findings:** elevated WBCs, hyperkalemia, hypokalemia, increased BUN or Creatinine levels, and abnormal urine constituents
 - Abnormal findings reported to physician and orders carried out to ensure patient safety
 - Provides data for additional nursing diagnoses and collaborative problems



● Factors to Assess

1. General Survey
2. Skin
3. Chest and Lungs
4. Cardiovascular System
5. Abdomen
6. Neurologic System
7. Musculoskeletal System

Pre-Operative Teaching

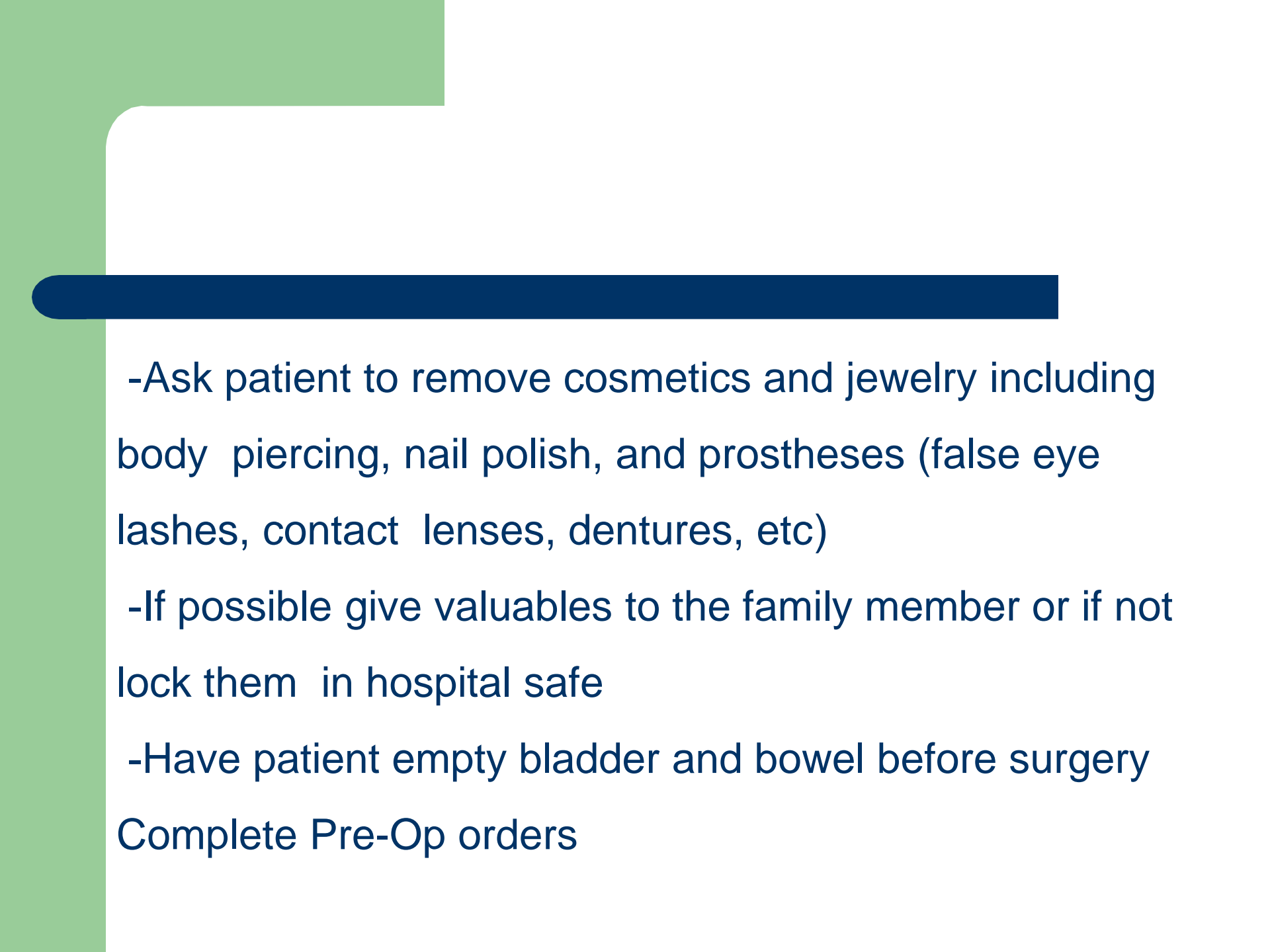
- Timing is a significant consideration: teaching too far in advance of surgery or when the patient is anxious is less effective
- Information to teach client in Preoperative Phase:
 - Exercises and physical activities (Cough, Turn, Deep Breath, incentive spirometry, and leg exercises) q 2 hours

Pre-Operative Teaching

- Unless contraindicated (head injuries and eye surgery – No coughing)
 - Pain management (PRN orders, timing to ask, incision splinting) Assess q 2 hours; relaxation and alternative methods
 - Visit by anesthesiologist
 - Physical Preparation (NPO, sleep meds, pre-op checklist)
 - Visitors and waiting room
 - Transported to OR by stretcher

Pre-Operative Checklist: Day of surgery

- Consent forms signed and witnessed
- Advance directives are in the medical record
- Perform Hand Hygiene
- Check Vital Signs (notify physician of any pertinent changes – rise or drop in bp, increased temp, cough, or symptoms of infection)
- Provide hygiene and oral care
- Remind client of NPO status
- Instruct patient to remove all clothing and underwear and don hospital gown

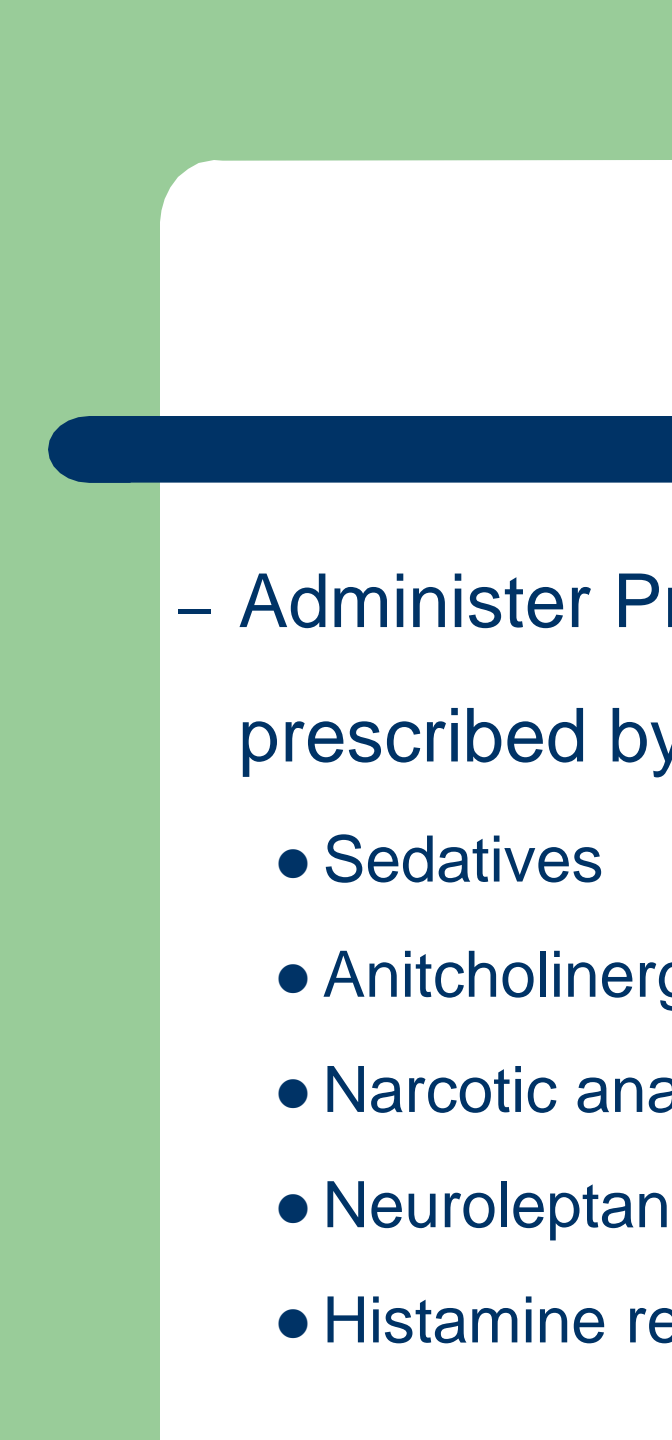


-Ask patient to remove cosmetics and jewelry including body piercing, nail polish, and prostheses (false eye lashes, contact lenses, dentures, etc)

-If possible give valuables to the family member or if not lock them in hospital safe

-Have patient empty bladder and bowel before surgery

Complete Pre-Op orders

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- Administer Preoperative medications as prescribed by anesthesiologist/physician
 - Sedatives
 - Aniticholinergics
 - Narcotic analgesics
 - Neuroleptanalgesic agents
 - Histamine receptor antihistaminics

- Raise side rails; place bed in low position
- Instruct patient to remain in bed or stretcher
- Help move pt from bed to stretcher
- Reconfirm patient Identification
- Ensure that all pre-op events and measures are documented
- Tell family where pt will be taken after surgery and location of waiting rooms
- After the pt leaves the room set up room for pt's return from OR
- Explain holding area (keep area as quiet as possible)



– Explain OR suite and what to expect:

- Positioning
- Draping
- Documentation (verify patient identification, surgical procedure and surgical site)
- PACU

Postoperative Nursing Care

- Immediate Care
 - PACU (ensures pt is stable before transfer to floor)
- Ongoing Post-operative care
 - Sent to Critical Care (unstable or special needs)
 - Return to medical floor

Ongoing Postoperative Care

- **Assessing** – post-op checklist or flow sheet, initial assessment, post- op physician orders
- **Diagnosing** – Actual problems or risk for
- **Outcome Identification and Planning** – continue plan of care identified in pre-operative phase; specific outcomes are *individualized* based on risk factors, the surgical procedure, and the patient's *unique needs*

Ongoing Postoperative Care

1. Carry out leg exercised q 2-4 hours
2. Have decreased pain levels
3. Regain bowel and bladder elimination
4. Have well-healed surgical incision
5. Remain free of infection
6. Verbalize concerns about appearance of wound
7. Verbalize and demonstrate wound self-care

Detailed Assessment

- Initial hours post-op
 - Ensure adequate ventilation
 - Ensure hemodynamic stability
 - Assess for incision pain
 - Assess surgical site integrity
 - Assess and tx N & V
 - Assess neurologic status
 - Assess cognitive status
 - %51 of older adults experience post-op confusion and delirium



- Vital Signs Post-Op

- P, bp, and RR are evaluated every 15 minutes X 1 hour, and if stable, then every 30 minutes for the next 2 hours.
- Temp is evaluated and recorded every 4 hours for the first 24 hours.

Implementation

nursing care to prevent post-op complications, promote a return to health, and facilitate coping with alterations, and further to keep family informed about need for frequent assessments and presence of necessary equipment to appropriately monitor patient.

- Preventing post-op **cardiovascular** complications
 - **Hemorrhage** (monitoring wound drainage, and output)
 - **Shock** (hypovolemic shock) (monitor output & vital signs) and replenish fluid loss (adequate intake)
 - **Thrombophlebitis** (venous stasis in legs/clot formation
–applying TED hose, CPMs, leg exercises, early ambulation, and anticoagulant medications as ordered, and prevent knee gatch (constriction of blood vessels which impede circulation))

Pulmonary embolism (dislodged blood clot or foreign substance that travels to the pulmonary vessels)

- **Hypertension**-- is common in the immediate postoperative period secondary to sympathetic nervous system stimulation from pain, hypoxia, or bladder distention
- **Dysrhythmias** are associated with electrolyte imbalance, altered respiratory function, pain, hypothermia, stress, and anesthetic agents
 - *Both are managed by treating the underlying causes*

● Preventing **Respiratory** Complications

- **Pneumonia** (aspiration, depressed cough reflex, increased secretions from anesthesia, dehydration and immobilization)
 - Increased temp, chills, a productive cough with rusty or purulent sputum, crackles, wheezes, dyspnea, and chest pain

● Preventing **Respiratory** Complications

- **Atelectasis** (incomplete expansion or collapse of alveoli with retained mucus, involving a portion of lung and resulting in poor gas exchange
 - Decreased lung sounds over affected area, dyspnea, cyanosis, crackles, restlessness, and apprehension

Ways to Prevent Respiratory Complications:

1. HOB in Semi-Fowler's position
2. Administering Oxygen Therapy as needed
3. Administering analgesics for pain
4. Use of incentive spirometry (deep breathing)
5. Coughing while splinting

Nursing Assessments and Interventions to meet Elimination needs

– Bowel elimination:

- Auscultate for peristalsis q 4 hours
- Assess abdominal distention, especially if bowel sounds are not audible or high-pitched– indicates possible paralytic ileus – which is absence of intestinal peristalsis
- Assist movement in bed and ambulation to relieve gas pain
- Maintain privacy while pt is on bedpan or bedside commode
- Administer suppositories, enemas, or medications such as stool softeners as prescribed

– Urinary Elimination

- Monitor I's and O's
- Assist in normal positioning of ct for voiding
- Assess for bladder distention if ct has not voided within 8 hours post-op or has been voiding less than 50 cc/hr

–Report results to physician

- Maintain IV infusion fluid infusion rates
- Encourage PO fluid intake when prescribed
- Provide ct privacy
- Initiate urinary catheterization if ordered
- Prevention of Urinary Tract Infections

Wound Care

- Monitor wound for dehiscence and evisceration
- Manage drains and document output
- Monitor wound and dressing for infectious drainage or excessive bleeding
- Usually, the first dressing change done postoperatively is done by the surgical team
 - Subsequent dressing changes are usually done by the nurse
 - The nurse will instruct and teach patient and family members how to perform dressing changes for post d/c.

Home Care and Discharge Needs

Discharge Planning Needs:

1. Prescriptions
2. Discharge summary with prescribed medications and time schedule Teaching self-care
3. Referrals Physical Therapy
4. Home Health Needs Wound Care
5. Follow-up appointments (i.e. to remove sutures or staples)
Occupational Therapy
6. Special home equipment needs (bed wheelchair, crutches, splints, etc.) Case Management