

Standardized Surgical Nursing care Guideline



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MINISTRY OF HEALTH - ETHIOPIA

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HEALTHIER CITIZENS FOR PROSPEROUS NATION!

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Table of contents

Table of contents	3
Introduction	5
Cesarean delivery.....	Error! Bookmark not defined.
Abdominal Hysterectomy	Error! Bookmark not defined.
Pelvic Organ Prolapse	Error! Bookmark not defined.
Obstetric Fistula repair	Error! Bookmark not defined.
Tubal ligation/Vasectomy	Error! Bookmark not defined.
VIA and Cryotherapy for precancerous cervical lesions	Error! Bookmark not defined.
Comprehensive Abortion Care.....	Error! Bookmark not defined.
Removal of Benign and malignant gynecologic Conditions.....	Error! Bookmark not defined.
Tracheostomy and crico-thyroideotomy	29
Burns resuscitation and wound management.....	31
Nursing care to thoracotomy surgery.....	34
Nursing Care a Patient with a Chest Drainage System	35
Wound care.....	37
Urinary Catheterization	41
Suprapubic (SP) Catheterization (cystostomy)	43
Trans-vesical Prostatectomy.....	50
Explorative laparotomy for acute abdomen.....	53
Cholecystectomy and cholecystostomy, Common Bile Duct exploration, biliary bypass procedures and T-tube insertion	54
Abdominal wall hernia repair	55
Colostomies.....	55
<i>Mastectomy</i>	58
Thyroidectomy	58
Trauma related amputation.....	60
Male circumcision and adult hydrocelectomy.....	62
Explorative laparotomy for Trauma.....	71
Complex orthopedic trauma.....	72
Administering blood and blood products	73

Introduction

This SOP on perioperative nursing care has been written for nurse professionals who work in a perioperative setting. It provides general guideline regarding the role of the surgical/general nurse practitioner working in perioperative environment to the delivery of effective patient care. Thus, this will serve key patient purposes: to provide a better understanding of the needs of surgical patient's preoperative, intraoperative, and postoperatively; and to provide insight into surgical interventions that can affect patient outcome directly.

The role of a perioperative nurse practitioner encompasses leadership, management and governance, infrastructure, supplies and logistics, human resources, advocacy and partnership, innovation, quality of surgical nursing care and service delivery, monitoring and evaluation. Maintaining a safe perioperative environment ensures that patients provided with competent and high-quality care.

Expected attribute of perioperative nurse

Being conscientious, efficient, sensitive, open minded, flexible/adaptable, supportive, communicative, listens/even tempered, versatile, analytic, creative, sense of humor, manual dexterity, stamina, hygienic, and ethical well disciplined.

Perioperative Nursing

Perioperative Nursing- connotes the delivery of patient care in the preoperative, intraoperative, and postoperative periods of the patient's surgical experience through the framework of the nursing process. The nurse assesses the patient- collecting, organizing, and prioritizing patient data; establishing nursing diagnosis; identifies desired patient outcomes; develop and implements a plan of care; and evaluates that care in terms of outcomes achieved by the patient.

Perioperative Nursing Phases

- **Preoperative phase** – Begins when the decision to have surgery is made and ends when the client is transferred to the OR table.
- **Intraoperative phase** – Begins when the client is transferred to the OR table and ends when the client is admitted to the post anesthesia care unit.
- **Postoperative phase** - Begins with the admission of the client to the post anesthesia care unit and ends when the healing is complete.

Purposes of pre-operative care

1. Assess and determine individualized nursing care in consideration with patients coexisting problems or determining assessment requiring the multidisciplinary approach.
2. Provide answers to the patients and family's questions concerning the impending surgery
3. Offer support and understanding of the patient's feelings
4. Eliminate all sources of infection
5. Build up the patient's body for surgery

6. Make the patient clean externally and internally
7. Provide safe environment in which the patient may rest before surgery.

Nursing interventions in preoperative period include

1. Ensure psychological preparation
2. Confirm Physical preparation
3. Ensure material preparation
4. Ensuring informed consent
5. Conduct patient teaching

Psychological assessment and preparation:-

Preparation for admission

- Explanation of procedure

Identify sources/causes of fears

- Fear of unknown
- Anesthesia
- Pain
- Death
- Disturbance of body image
- Loss of job, social and family role

Recognize the manifestations of fears

- Anxiousness
- Confusion
- Anger
- Exaggeration
- Sad, tearful
- Inability to concentrate
- Failure to carry out direction

Nursing intervention to minimize anxiety

- Assess patients fear/anxiety
- Assess support system
- Assess patients coping
- Establish trustful r/ships with client and significant others
- Encourage verbalization of fear
- Explain routine procedures
- Demonstrate confidence in staff

Preoperative teaching

- Deep breathing exercise
- Coughing
- Turning every 2 hrs postoperative
- Extremity exercise
- Ambulation

➤ Ensure availability of equipment and supplies required based on types of surgery and checklist

Physical preparation

- Skin preparation
- GIT preparation
 - NPO after midnight
 - Administration of enema
 - Insertion of gastric tube
- Promote rest and sleep

On the day of surgery

a. Early morning care

- V/S
- Gown
- Brand long hair and remove hair pin
- Remove all removable prostheses and jewellerys
- Remove nail polish
- Assist patient to void
- Make sure that patient is on NPO
- Bladder catheterization (may be performed in OR)
- Make certain that consent form is signed
 - a. Administer pre-operative medication
 - b. Document all final preparation and emotional response
 - c. Transport patients to OR with surgical work force

Intraoperative Nursing

- The surgical team/perioperative team
- Protect the patient from injury and maintain a therapeutic environment
- Position the patient for surgery with surgical team

Scrub nurse

- Selects and handles instruments and supplies used for surgery

- Works directly with sterile field team

Circulating nurse

- Manages the individual operating room and care of the patient in the OR
- Creates and maintains comfortable, safe environment
- Helps all team members work together
- Works in the OR in the area outside the sterile field

Postoperative Nursing

Immediate postoperative/postanesthesia recovery stage

- Transfer of patient from OR to RR/ICU by anaesthesiologist and circulating nurse

During transport

- ✓ Keep side rails up
- ✓ Secure safety belt
- ✓ Observe other safety precautions
- ✓ Avoid hurried movement
- ✓ Avoid rapid change of position from stretcher to bed
- ✓ Handle the person gently to prevent hypotension and incisional strain

Recovery room

- The patient remains in this unit until V/S are stable and consciousness is gained

The room is equipped with:

- ✓ Monitor
- ✓ Equipment
- ✓ Medications
- ✓ Supplies and
- ✓ Other peripheral apparatus needed for supportive and emergency care

Upon arrival in recovery room- do baseline assessment during handover a patient on

- Respiratory function assessment
 - Ensure patent airway
 - Prevent respiratory distress (Depth and rate of respiration)
 - Promote adequate oxygenation
- Circulation/cardiovascular function
 - Assess HR, BP, Skin colour, Tissue perfusion
 - Prevent hypotension
 - Prevent shock
 - Prevent cardiac arrest
 - Promote adequate cardiac function

- Neurologic and sensory function
 - Assess level of consciousness and presence of reflexes
 - Reorient as the Patient
- Fluid and Electrolyte balance
 - Note IV lines
 - Monitor intake and output
 - Restore fluid & electrolyte balance
- Dressing, drainage tubes, special equipment
 - Maintain proper functioning
 - Assess drainage
- Maintain safe, comfortable physical and psychological environment
 - Maintain body temperature
 - Relieve discomfort
 - Provide support
 - Provide reassurance
 - Also read the operative note/report

Post-operative care at ward

- ❖ Monitor vital signs
- ❖ Ensure team participation in patient care
- ❖ Assess and control post-operative pain
- ❖ Maintain intravenous fluid
- ❖ Monitor for urine and gastrointestinal fluid output
- ❖ Assess and initiate patient on feeding
- ❖ Assess and provide post-operative medications
- ❖ Ensure laboratory investigations(**refer to surgical investigation**)
- ❖ Maintain psychosocial support
- ❖ Encourage deep breathing and coughing
- ❖ Encourage early ambulation and active daily exercise (Make walking aids such as canes, crutches and walkers available and provide instructions for their use)
- ❖ Maintain adequate nutrition
- ❖ Assess and provide wound care, prevent skin breakdown and pressure sores.
- ❖ Turn the patient frequently and ensure patient comfortability.
- ❖ Teach and prepare patient for discharge.
- ❖ Maintain accurate and complete documentation.

Standard Operating Procedure for Obstetrics and Gynecology

Perioperative care for patients with cesarean delivery

Pre-Operative Client Preparation for cesarean section

- + Revise the clinical and drug history of the client/patient
- + Monitor mothers' vital signs and fetal condition (fetal heart beat)
- + **Check investigations:**
 - (CBC, Blood group and Rh factor, Urine analysis
 - Basic investigations done during pregnancy (e.g., VDRL, HIV, HBsAg) if they are not done previously
 - Specific clinical complications as required e.g., organ function tests
 - Prepare cross matched blood if indicated
- + Explain to the woman and/or relatives and ensure as written informed consent obtained
- + Administration of prophylactic antibiotic (15 to 60 minutes prior to skin incision give Ampicillin 2g IV or Ceftriaxone 1g IV stat)
- + Administration of anti-acids
 - Non-particulate antacid (0.3 molar sodium citrate, 30 mL) is given orally before transferring the patient to theater.
 - Ranitidine (H2 blocker) 150 mg is given orally night before (elective procedure) and it is repeated (50mg IM or IV) 1 hour before surgery to raise the gastric PH
- + Metoclopramide (10 mg IV) is given to increase the tone of the lower esophageal sphincter as well as to reduce the stomach contents.
- + **Feeding:**
 - Elective C/S: NPO after mid-night and start IV fluid in the morning
 - Limit feeding to fluid diet in laboring women with increased risk of emergency C/S (e.g., VBAC, induction in non-reassuring biophysical profile score).
- + Resuscitate the mother if necessary (IV fluid, Oxygen)
- + Open IV line with large bore IV cannula of 16 or 18 gauge
 - Intravenous Ringer lactate or Normal Saline 500 ml-1000ml
- + Urinary bladder catheterization
- + Prepare necessary supplies or consumables (Surgical glove, oxytocin, different types of stitches, IV fluids, surgical blade and others)
- + Provide other prescribed medications as necessary
- + Prepare neonatal resuscitation corner (Equipment's like ambubag, suction bulb, towels, heater, etc.)

- ✚ Document all cares provided and observation on the client's clinical record

Intra operative care

- ✚ Perform neonatal examination
- ✚ Provide essential newborn care (Provide immediate newborn care (Drying and stimulate, assesses for breathing, skin-to-skin contact of the newborn with the mother, cord care, initiation of breastfeeding with the first one hour, eye care, vitamin k, apply chlorohexidine gel, weight a new born)
- ✚ Put identification tag for the newborn
- ✚ Keep the newborn warm
- ✚ Take cord blood if indicated
- ✚ Document all observations and care provided of client's clinical record

Post-operative care at ward

- ✚ Check patients' level of consciousness on arrival to ward
- ✚ Monitor patient's vital sign:
 - Check and record vital signs on arrival to the ward then
 - Monitor every 15 minutes for the first hour, 30 minutes for the next two hours and 1 hourly for the next four hours
- ✚ Provide analgesics as required
- ✚ Monitor for urine output every one hourly
- ✚ Monitor fluids intake and outputs (Maintenance fluid)
- ✚ Check for vaginal bleeding and uterine consistency
- ✚ Ensure post op hematocrit done after 8 hours
- ✚ Remove catheter after 12 hours postoperatively or more if necessary
- ✚ Provide medications as ordered
- ✚ Support the patient to start sips of fluid after ascertaining that she is conscious and bowel sounds are active
- ✚ Discontinue IV fluids once started fluid diet unless there is other IV medication as ordered
- ✚ Encourage early ambulation: to minimize the risk of venous thrombosis and pulmonary embolism
- ✚ Look for evidences of PPH, pulmonary infection, UTI, and wound infection
- ✚ Initiate breast-feeding and skin-to skin contact with the baby as soon as the mother is awake
- ✚ Administer anti D Immunoglobulin 300µgm IM stat if Rh negative (within 72 hours)

- ✚ Removing wound dressing (after 24 hours of surgery), and the skin sutures can be removed on the sixth day after surgery if non-absorbable (can be done at the outpatient department if the woman is discharged earlier)
- ✚ Provide postpartum health education and counselling on family planning, immunization, nutrition, breast feeding & breast care, danger signs for mother & newborns, hygiene and etc.
- ✚ Prepare the patient for discharge

Perioperative care for patients who undergone abdominal Hysterectomy or repair of uterine rupture

Pre-operative care

- + Revise the clinical and drug history of the client/patient
- + Monitor patient's vital sign
- + **Check investigations:**
 - Hemoglobin/Hct, Blood group and Rh factor, urine analysis, and HIV testing & HBsAg if not done previously
 - Investigate specific clinical complications as required e.g., organ function tests
 - Ensure at least 2 units of cross matched blood prepared
- + Explain to the woman and/or relatives and confirm written informed consent obtained
- + Open IV line with large bore IV cannula of 16 or 18 gauge and resuscitate the mother with crystalloids
- + Administration of prophylactic antibiotics preoperatively (Ampicillin 2gm IV or Ceftriaxone 1gm IV Plus Metronidazole 500mg IV)
- + Urinary bladder catheterization
- + Decompression of the stomach (insert Nasogastric tube)
- + Prepare necessary supplies or consumables (Surgical glove, oxytocin, different types of stiches, IV fluids, surgical blade, and others as ordered)
- + Provide other ordered medications
- + Document all cares provided and observation on the client's clinical record

Post-operative care

- + Check patients' level of consciousness on arrival
- + Monitor patient's vital sign:
 - Check and record vital signs on arrival to the ward then
 - Monitor every 15 minutes for the first hour, 30 minutes for the next two hours and 1 hourly for the next four hours
- + Monitor for urine output, fluid intake and output (Maintenance fluid)
- + Provide analgesics as required
- + Provide other medications as ordered
- + Check for vaginal bleeding and uterine consistency (for repaired uterus)
- + Ensure post op or post transfusion hematocrit done after 8 hours
- + Remove catheter as per the surgeon's order

- ✚ Support the patient to start sips or fluid after ascertaining that she is conscious and bowel sounds are active
- ✚ Discontinue IV fluids once started fluid diet unless there is other IV medication
- ✚ Encourage early ambulation: to minimize the risk of venous thrombosis and pulmonary embolism
- ✚ Look for evidences of PPH, pulmonary infection, UTI, and wound infection
- ✚ Remove wound dressing and skin sutures as ordered by the surgeon
- ✚ Discuss with women about her future pregnancy based on the procedure done
- ✚ **Prepare the patient for discharge**

Cervical cerclage

Pre-Operative Client Preparation and post-operative care for cervical cerclage

- Ensure the client along with her clinical record (presence of viable pregnancy confirmed with ultrasound, necessary laboratory investigations...)
- Check for investigations: CBC, Blood group and Rh factor, urine analysis (culture and sensitivity if applicable), vaginal cultures, and others as necessary
- Ensure written informed consent obtained
- Ensure all necessary supplies and consumable were prepared as ordered
- Provide ordered medications as necessary
- Document all cares provided and observation on the client's clinical record

Post-operative care

- Follow clients' vital sign
- Observe for complications like vaginal bleeding, leakage of fluid per vagina, chorioamnionitis, and infection.
- Ensure the patient have been full recovered from the anesthesia and able to ambulate and void before discharge
- Ensure the patient had been given an appointment for return follow
- Tell the patient that cerclage is usually removed at 36-37 weeks of gestation or with the onset of premature labor to avoid cervical laceration or uterine rupture
- Document all cares provided and observation on the client's clinical record

Episiotomy, Perineal and cervical tears

Pre-operative care for episiotomy

- Review for indications in which episiotomy should be considered only in the case of:
 - Complicated vaginal delivery (breech, shoulder dystocia, forceps, vacuum), scarring from female genital cutting or poorly healed third or fourth-degree tears, fetal distress.
- Review general care principles and apply antiseptic solution to the perineal area.
- Provide emotional support and encouragement.
- Use local infiltration with lignocaine (make sure there are no known allergies to lignocaine or related drugs.)
- Infiltrate beneath the vaginal mucosa, beneath the skin of the perineum and deeply into the perineal muscle using about 10 mL 0.5% lidocaine solution
Note: Aspirate (pull back on the plunger) to be sure that no vessel has been penetrated. If blood is returned in the syringe with aspiration, remove the needle. Recheck the position carefully and try again. Never inject if blood is aspirated. The woman can suffer seizures and death if IV injection of lidocaine occurs.
- At the conclusion of the set of injections, wait 2 minutes and then pinch the incision site with forceps. If the woman feels the pinch, wait 2 more minutes and then retest.
- ***Anaesthetize early to provide sufficient time for effect.***

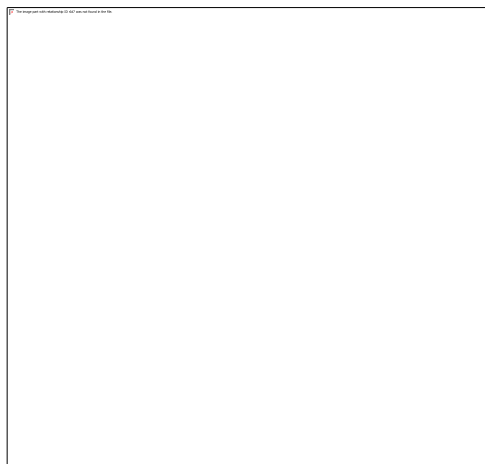


Figure: Infiltration of perineal tissue with local anesthetic

- Wait to perform episiotomy until: the perineum is thinned out; and the head crowns i.e., 3–4 cm of the fetus's head is visible during a contraction
- Performing an episiotomy will cause bleeding. It should not, therefore, be done too early.
- Wearing high-level disinfected gloves, place two fingers between the baby's head and the perineum

- Use scissors to cut the perineum about 3–4 cm in the medio-lateral direction.
- Use scissors to cut 2–3 cm up the middle of the posterior vagina
- Control the fetal head and shoulders as they deliver, ensuring that the shoulders have rotated to the midline to prevent an extension of the episiotomy.
- Carefully examine for extensions and other tears and repair

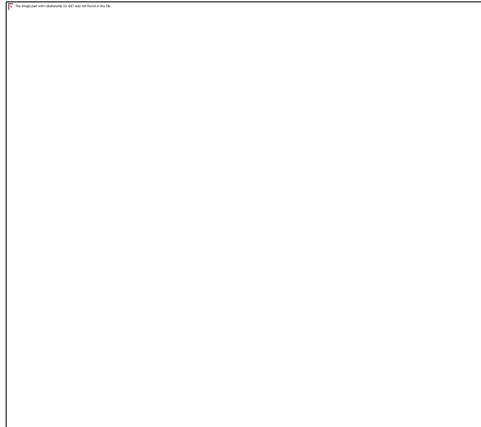


Figure: Making the incision while inserting two fingers to protect the fetal head

Repair of Episiotomy

- **Note:** *It is important that absorbable sutures be used for closure. Polyglycolic sutures are preferred over chromic catgut for their tensile strength, non-allergenic properties and lower probability of infectious complications and episiotomy breakdown. Chromic catgut is an acceptable alternative, but is not ideal.*
- Clean with gauze the area around the episiotomy.
- If the episiotomy is extended through the anal sphincter or rectal mucosa, manage as third- or fourth-degree tears, respectively (i.e., refer if consultation not possible)
- Close the vaginal mucosa using continuous 2-0 suture: (see Figure 5.26)
- Start the repair about 1 cm above the apex (top) of the episiotomy. Continue the suture to the level of the vaginal opening;
- At the opening of the vagina, bring together the cut edges of the vaginal opening;
- Bring the needle under the vaginal opening and out through the incision and tie.
- Close the perineal muscle using interrupted 2-0 sutures.
- Close the skin using interrupted (or subcuticular) 2-0 sutures.

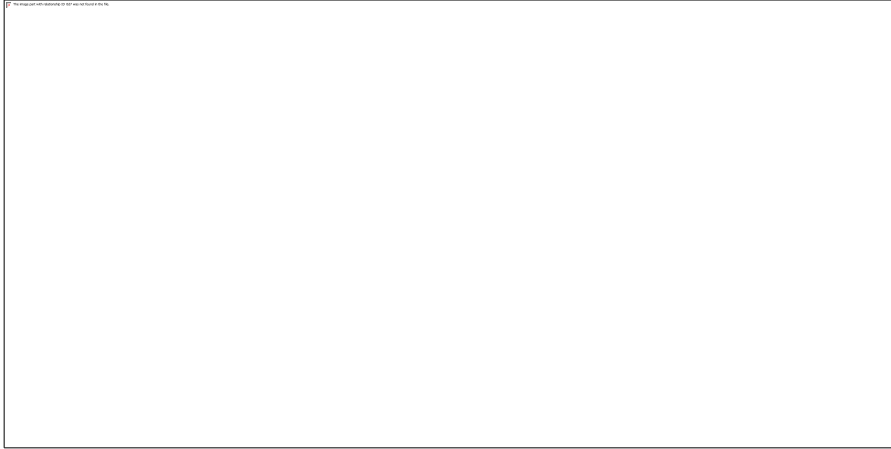


Figure: Repair of episiotomy

Repair of Vaginal and Perineal Tears

- Most first-degree tears close spontaneously without sutures.
- Review general care principles.
- Provide emotional support and encouragement. Use local infiltration with lignocaine.
- Ask an assistant to massage the uterus and provide fundal pressure.
- Carefully examine the vagina, perineum and cervix.
- If the tear is long and deep through the perineum, inspect to be sure there is no third- or fourth-degree tear:
 - Place a gloved finger in the anus;
 - Gently lift the finger and identify the sphincter;
 - Feel for the tone or tightness of the sphincter.
- Change to clean, high-level disinfected gloves.
- If the sphincter is not injured, proceed with repair.
- Clean the area around the tear.
- Make sure there are no known allergies to lignocaine or related drugs.
- Infiltrate beneath the vaginal mucosa, beneath the skin of the perineum and deeply into the perineal muscle using about 10 mL 0.5% lignocaine solution.
- Note: Aspirate (pull back on the plunger) to be sure that no vessel has been penetrated. If blood is returned in the syringe with aspiration, remove the needle. Recheck the position carefully and try again. Never inject if blood is aspirated.
- At the conclusion of the set of injections, wait 2 minutes and then pinch the area with forceps. If the woman feels the pinch, wait 2 more minutes and then retest.
- Anesthetize early to provide sufficient time for effect.

- Repair the vaginal mucosa using a continuous 2-0 suture:
- Start the repair about 1 cm above the apex (top) of the vaginal tear. Continue the suture to the level of the vaginal opening;
- At the opening of the vagina, bring together the cut edges of the vaginal opening;
- Bring the needle under the vaginal opening and out through the perineal tear and tie.
- Repair the perineal muscles using interrupted 2-0 suture. If the tear is deep, place a second layer of the same stitch to close the space.
- Repair the skin using interrupted (or subcuticular) 2-0 sutures starting at the vaginal opening.
- If the tear was deep, perform a rectal examination. Make sure no stitches are in the rectum

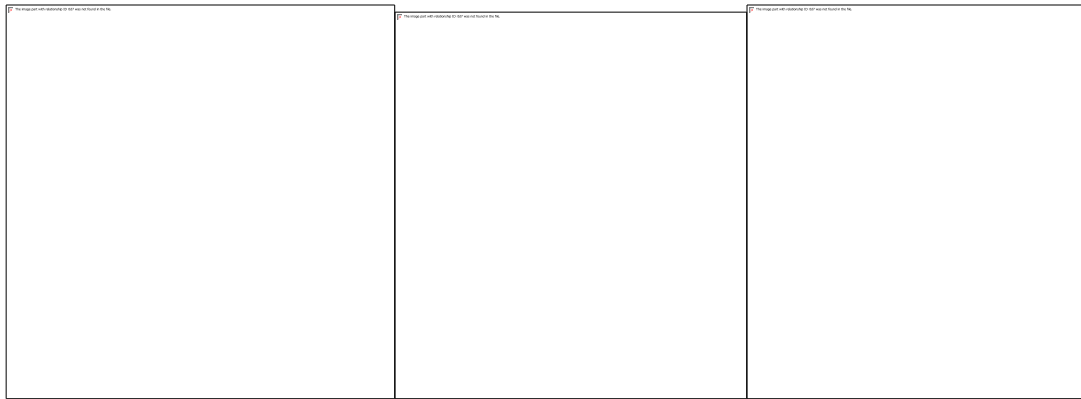


Figure: Repairing the vaginal mucosa(A), perineal muscles(B) and the skin(C)

Post Procedure counseling (both episiotomy and perineal tear repairs)

- Change pad/cloths frequently to keep wound dry
- Warm soapy baths 3–4 times per day
- Do not insert anything in the vagina
- Get rest and good nutrition
- Delay intercourse to avoid breaking sutures
- Do not return for suture removal as they are absorbable

Third and fourth degree Perineal Tears

- The woman may suffer loss of control over bowel movements and gas if a torn anal sphincter is not repaired correctly.
- If a tear in the rectum is not repaired, the woman can suffer from infection and recto-vaginal fistula (passage of stool through the vagina).
- Repair of such tears should be done in the operating room, therefore consult or refer her immediately

Hematoma evacuation, vulvar/vaginal

- If a hematoma occurs, open and drain. If there are no signs of infection and bleeding has stopped, reclose the episiotomy.
- If there are signs of infection, open and drain the wound. Remove infected sutures and debride the wound:
- If the infection is mild, antibiotics are not required;
- If the infection is severe but does not involve deep tissues, give a combination of antibiotics:
 - Ampicillin 500 mg by mouth four times per day for 5days;
 - **Plus**, metronidazole 500 mg by mouth three times per day for 5days.
- If the infection is deep, involves muscles and is causing necrosis (necrotizing fasciitis) consult.

Repair of Cervical Tears

- Review general care principles and apply antiseptic solution to the vagina and cervix.
- Provide emotional support and encouragement. Anesthesia is not required for most cervical tears. For tears that are high and extensive, give pethidine and diazepam IV slowly (do not mix in the same syringe).
- Ask an assistant to massage the uterus and provide fundal pressure.
- Gently grasp the cervix with ring or sponge forceps. Apply the forceps on both sides of the tear and gently pull in various directions to see the entire cervix. There may be several tears.
- Close the cervical tears with continuous 0 chromic catgut (or polyglycolic) suture starting at the apex (upper edge of tear), which is often the source of bleeding.
- If a **long section of the rim of the cervix is tattered**, under-run it with continuous 0 chromic catgut (or polyglycolic) suture.
- If the **apex is difficult to reach and ligate**, it may be possible to grasp it with artery or ring forceps. Leave the forceps in place for 4 hours. Do not persist in attempts to ligate the bleeding points as such attempts may increase the bleeding. Then:
 - After 4 hours, open the forceps partially but do not remove;
 - After another 4 hours, remove the forceps completely.

If the apex of the cervical tear is not visible, the tear may have involved the uterus. A laparotomy may be required to repair a cervical tear that has extended deep beyond the vaginal vault. Hence, in such condition, refer urgently or consult as appropriate.

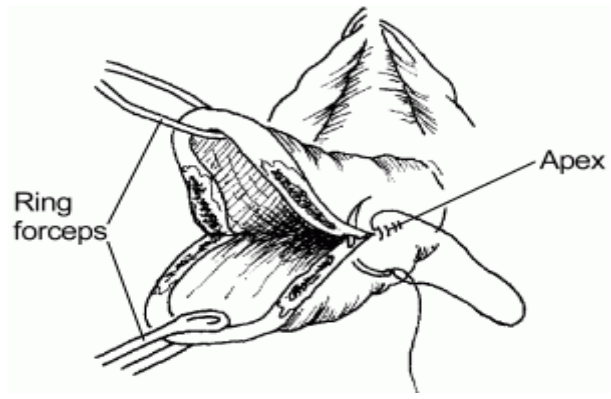


Figure: Repair of a cervical tear

Perioperative care for patients with pelvic Organ Prolapse

Pre-operative preparation and care

- Revise the clinical and drug history of the patient
- Monitoring patient's vital sign
- **Check investigations:** CBC, Blood group and Rh factor, urine analysis, HIV testing, prepare cross matched blood if indicated & others accordingly
- Explain to the woman and/or relatives and ensure written informed consent obtained
- Open IV line and administer IV fluids
- Administer prophylactic antibiotics (Ampicillin 2gm IV or Ceftriaxone 1gm IV)
- Urinary bladder catheterization
- Provide other prescribed medications as necessary
- Ensure necessary supplies and consumables prepared as ordered
- Document all cares provided and observation on the client's clinical record

Post-operative care

- ✚ Follow patients' level of consciousness
- ✚ Check patients vital sign on arrival to the ward and monitor as on post Op-order
- ✚ Check for vaginal bleeding and bleeding from surgical site
- ✚ Monitor patient for fluids intake and output (Maintenance fluid)
- ✚ Monitor for urine output
- ✚ Provide medications as ordered (antibiotics & others) and analgesics as required
- ✚ Do post op hematocrit after 8 hours, remove catheter as per the surgeon's order
- ✚ Support the patient in starting sips or fluid after ascertaining for active bowel sounds
- ✚ Discontinue IV fluids once started fluid diet unless there is other IV medication
- ✚ Encourage early ambulation: to minimize the risk of venous thrombosis and pulmonary embolism
- ✚ Look for evidences of bleeding, pulmonary infection, UTI, and wound infection
- ✚ Provide wound care as necessary
- ✚ Prepare the patient for discharge

Perioperative care and preparation for patients undergoing Obstetric Fistula repair

Pre-operative preparation and care

- Provide health education on improvements in nutritional status
- Assessment of nutritional status and correct with high-protein, high-fat diet; aggressive rehydration; de-worming and vitamin supplementation

- Encourage the patient on the likely to be cured and return to an activity and normal life
- Provide treatment for any infection or inflammation as ordered
- Perineal skin care and protection of skin around the vulva and thighs by silicone cream
- Prepare the patient and/or her attendant on what is going to happen in the operating theatre and ensure written informed consent taken (e.g., length of postoperative stay, the duration the catheter will be kept in, the restrictions on her activities, limitations of surgery in achieving a cure, including the risk of stress incontinence and etc.)
- Bowel preparation: enema need to be given the evening before operation in cases of recto-vaginal fistula or sphincter repair
- Rehydrate the patient before going to the operating theater with normal saline
- ***Other preparation See under Perioperative care for Pelvic Organ prolapse (page ____)***
- Document all cares provided and observation on the client's clinical record

Post-operative care

- Remove vaginal pack after 24hours
- Check patients vital sign on arrival to the ward and vital sign should be regularly observed as per the unit protocol
- Check for bleeding from surgical site
- Monitor patient for fluids intake and output (Maintenance fluid)
- Provide medications as ordered (antibiotics & others) and analgesics as required
- Do post op hematocrit after 8 hours, remove catheter as per the surgeon's order
- Support in starting sips or fluid after ascertaining that she is conscious and bowel sounds are active
- Discontinue IV fluids once started fluid diet unless there is other IV medication
- Encourage early ambulation: to minimize the risk of venous thrombosis and pulmonary embolism
- Provide perineal care
- Look for evidences of bleeding, pulmonary infection, UTI, and wound infection
- Counsel on pelvic floor exercise (Kegele's Exercise)
- Keep the patient at all times draining, drinking, and drying (check for the catheter not to be pulled or blocked)
- Counsel patients about traditional beliefs in their community, to abstain from sexual intercourse at least for 3 months, to report if leaking developed
- Discuss on family planning and inform them as future pregnancies must be delivered by caesarean section
- Give an appointment for return follow up consultation

- Document all cares provided and observation on the client's clinical record

Tubal ligation or Vasectomy

Preoperative assessment and care

- Counsel the clients on family planning (involve the partner if possible)
- Take client's complete history, physical examination and investigations if indicated
- Carry out preliminary screening for clients (particularly medical history, pregnancy) using a standardized checklist
- Take client's voluntary, informed consent
- Prepare the necessary equipment and drugs for tubal ligation or vasectomy
- Ask client to empty her bladder just prior to entering the operation theater

Post-operative care

- Monitor client's vital sign, check her general conditions and comfort, and observe surgical site to promptly identify any bleeding
- The client should be monitored every 15 minutes for at least the first hour after surgery or until fully awake
- Clients should be monitored for at least two hours before discharge
- Observe client for complications
- Provide post procedure client instruction and remind the client to return to the facility if there is warning signs present
- Give a follow-up appointment for 1 week after the procedure to assess healing
- Document all cares provided and observation on the client's clinical record

Visual Inspection with acetic acid (VIA) and Cryotherapy for precancerous cervical lesions

Post procedure activities

- Tell the result of the VIA to the client
- Post procedure counselling on warning signs (fever for more than two days, severe lower abdominal pain, especially if fever, foul-smelling or pus-colored discharge, bleeding heavier than heaviest days of menstrual bleeding for more than two days and bleeding with clots)
- Refer to higher institution if necessary
- Provide appointment for the next check up
- Instrument processing (**See National Infection Prevention guideline**)
- Document all cares provided and observation on the client's clinical record

Comprehensive Abortion Care

Post-procedure care

- Monitor patient's vital sign and for possible complications
- Counsel and provide post abortion family planning
- Provide prophylactic antibiotics if indicated
- Counsel on danger signs (fever, persistent abdominal pain, persistent vaginal bleeding, foul smelling vaginal discharge)
- Instrument processing (**see Infection prevention Guideline**)
- Document all cares provided and observation on the client's clinical record

Perioperative Care for patient with Benign and malignant Gynecologic Conditions

Pre-operative Care

- Monitoring patient's vital sign
- Provide psychosocial support and prepare the women for the procedure
- **Check laboratory assessments and tests:** (CBC, Blood group and Rh factor, urine analysis, HIV testing, ultrasound & others accordingly)
- Ensure written informed consent obtained
- Open IV line and administer IV fluids (fluid and electrolyte management)
- Administer prophylactic antibiotics and other medications as ordered
- Urinary bladder catheterization
- Diet: patients may have light food until 6 hours preoperatively
- Mechanical bowel preparation using of laxatives and enemas 12 to 24 hours before surgery in selected elective gynecologic malignancy surgeries is important.
- Ensure necessary equipment's/supplies and consumables prepared as ordered

- Document all cares provided and observation on the client's clinical record

Post-Operative Care

- Monitor patients vital sign as per the order sheet
- Monitor patient for fluids intake and output (Maintenance fluid)
- Monitor for urine output
- Provide medications as ordered (Antibiotics, Chemotherapy, etc.) and analgesics as needed
- Encourage early ambulation: to minimize the risk of venous thrombosis and pulmonary embolism
- Ensure post op hematocrit done after 8 hours, catheter removed catheter as per the surgeon's order and samples sent for pathological investigations if needed
- Support the patient on starting sips or fluid
- Monitor patients for complications (vaginal bleeding, bleeding from the surgical site...) and drug side effects
- Routine surgical patients care: prevent bedsores, detection of early complications
- Provide wound care as necessary
- Discharge counselling and follow-ups for consultation

Purpose:

- To maintain airway patency by removing mucus and encrusted secretions.
- To promote cleanliness and prevent infection and skin breakdown at stoma site.

Procedure

1. Verify the physician order.
2. Perform hand hygiene and don gloves.
3. Identify the patient.
4. Explain the procedure to the patient.
5. Protect Pt's privacy
6. Place the patient in semi- to high Fowler's position.
7. Suction tracheostomy tube. Before discarding gloves, remove soiled tracheostomy dressing and discard with catheter inside glove.
8. .Perform hand hygiene.
9. Ensure that sterile suction kit is available at head of bed.
10. When suctioning through a tracheostomy tube, insert catheter about 10 to 12 cm [in an adult].)
11. Replace oxygen or humidification source and encourage patient to deep breathe as you prepare sterile supplies. Do not snap in place.
12. Open sterile tracheostomy kit. Pour normal saline into one basin, hydrogen peroxide into the second. Don sterile gloves. Open several sterile cotton-tipped applicators and one sterile precut tracheostomy dressing, and place on sterile field. If kit does not contain tracheostomy ties, cut two 15-inch pieces of twill tape and set aside.
13. Remove oxygen source. The hand that touches the oxygen source is no longer sterile. (Note: For tracheostomy tube with inner cannula, complete steps 7 to 25. For tracheostomy tube without inner cannula or plugged with a button, complete steps 15 to 26.)
14. Unlock inner cannula by turning counterclockwise. Remove inner cannula.
15. Place inner cannula in basin with hydrogen peroxide.
16. Replace oxygen source over or near outer cannula.
17. Clean lumen and sides of inner cannula using pipe cleaners or sterile brush.
18. Rinse inner cannula thoroughly by agitating in normal saline for several seconds.
19. Remove oxygen source and replace inner cannula into outer cannula, then "lock" by turning clockwise until the two blue dots align. Replace oxygen or humidity source.
20. Remove tracheostomy dressing from under faceplate.

21. Clean stoma under faceplate with circular motion using hydrogen peroxide–soaked cotton applicators. Clean dried secretions from all exposed outer cannula surfaces.
22. Remove foaming secretions using normal saline-soaked, cotton-tipped applicators.
23. Pat moist surfaces dry with 4" × 4" gauze.
24. Place dry, sterile, precut tracheostomy dressing around tracheostomy stoma and under faceplate. Do not use cut 4" × 4" gauze.
25. If tracheostomy ties are to be changed, have an assistant don a sterile glove and hold the tracheostomy tube in place.
26. Perform hand hygiene.
27. Document procedure.

Airway suction for secretions

Goal: Remove excess mucous secretions to maintain patent airway; collect sputum or secretions for diagnostic testing.

1. Verify the physician order and identify the patient.
2. Perform hand hygiene.
3. Identify the patient.
4. Protect the Pt's privacy
5. Explain the procedure to the patient and the family.
 - Position the conscious patient with an intact gag reflex in a semi-Fowler's position.
 - Position the unconscious patient in a side-lying position facing you.
6. Turn on suction device and adjust pressure: infants and children, 50 to 75 mm Hg; adults, 100 to 120 mm Hg.
7. Open and prepare sterile suction catheter kit:
 - Unfold sterile cup, touching only the outside. Place on bedside table.
 - Pour sterile saline into cup.
8. Preoxygenate patient with 100% oxygen; hyperinflate with manual resuscitation bag.
9. Don sterile gloves. If kit provides only one glove, place on dominant hand.
10. Pick up catheter with dominant hand. Pick up connecting tubing with nondominant hand. The nondominant hand is now considered clean rather than sterile. Attach catheter to tubing without contaminating sterile hand.
11. Place catheter end into cup of saline. Test functioning of equipment by applying thumb from nondominant hand over open port to create suction.
12. Insert catheter into trachea through nostril, nasal trumpet, or artificial airway during inspiration and without suction.

13. Advance catheter until you feel resistance. Retract catheter 1 cm before applying suction. (Note: Patient usually will cough when catheter enters trachea).
14. Apply suction by placing thumb of nondominant hand over open port, then rotate the catheter with your dominant hand as you withdraw the catheter. This should take 5 to 10 seconds.
15. Hyperoxygenate and hyperinflate using manual resuscitation bag for a full minute between subsequent suction passes. Encourage deep breathing.
16. Rinse catheter thoroughly with saline.
17. Repeat steps 11 to 15 until airway is clear, limiting each suctioning to three passes.
18. Without applying suction, insert the catheter gently along one side of the mouth. Advance to the oropharynx.
19. Apply suction for 5 to 10 seconds as you rotate and withdraw catheter.
20. Allow 1 to 2 minutes between passes for the patient to ventilate. Encourage deep breathing. Replace oxygen if applicable.
21. Repeat steps 17 and 18 as necessary to clear oropharynx.
22. Rinse catheter and tubing by suctioning saline through.
23. Remove gloves by holding catheter with dominant hand and pulling glove off inside out. Catheter will remain coiled inside the glove. Pull other glove off inside out. Dispose of in trash receptacle.
24. Turn off suction device. Assist patient to comfortable position. Offer assistance with oral and nasal hygiene. Replace oxygen device if used.
25. Perform hand hygiene.
26. Ensure that sterile suction kit is available at head of bed.
27. Document procedure.

[Burns resuscitation and wound management](#)

Preoperative Nursing Care

- Use the general preoperative nursing care guideline

Intra operative Nursing Care

- Use the general Intraoperative nursing care guideline

Post-operative Nursing Care

Airway and Breathing

- Assessment and monitoring of airway patency and breathing should be carefully observed as patients at risk of inhalation burns can deteriorate up to 72 hours post burn injury

- Circulation
 - Closely monitored for Signs and symptoms of hypervolemia and hypothermia.
 - Circumferential burns should be identified, monitored for circulatory compromise (neurovascular observations nursing guideline) and the affected area elevated where ever possible.
 - Consider the need for an ECG and continuous cardiac monitoring if the burn is of electrical origin.

Pain assessment

- Assess pain regular intervals (1-4 hourly minimum)
- Wound assessment
 - Assess Total Body Surface Area (TBSA) burnt,
 - Assess depth of burn injury
 - Assess wound healing
 - documentation wound assessment
- Monitor vital signs frequently
- Check peripheral pulses on burned extremities hourly; use Doppler as needed.
- Arrange for patients with facial burns to be assessed for corneal injury.
- Continue to assess the extent of the burn; assess depth of wound, and identify areas of full and partial thickness injury.
- Assess neurologic status: consciousness, psychological status, pain and anxiety levels, and behavior.
- Assess patient's and family's understanding of injury and treatment. Assess patient's support system and coping skills.
- Promoting Gas Exchange and Airway Clearance
- Restoring fluid and Electrolyte Balance
- Maintaining Normal Body Temperature
- Minimizing Pain and Anxiety
- Monitoring and Managing Potential Complications
- Restoring Normal fluid Balance
- Preventing Infection
- Monitor culture results and white blood cell counts.
- Maintaining Adequate Nutrition
- Promoting skin integrity

- Relieving Pain and Discomfort
- Encourage patient to use analgesic medications before painful procedures.
- Promoting Physical Mobility
- Strengthening Coping Strategies
- Supporting Patient and Family Processes
- Monitoring and Managing Potential Complications
 - Heart failure
 - Pulmonary edema
 - Sepsis
 - ARDS
 - Visceral damage (from electrical burns)
 - Contractures
- Promoting Activity Tolerance
- Improving Body Image and Self-Concept
- Teaching Self care

Perioperative nursing for draining superficial abscesses

Safety considerations:

- Perform hand hygiene.
- Check room for additional precautions.
- Introduce yourself to patient.
- Confirm patient ID using two patient identifiers (e.g., name and date of birth).
- Explain process to patient and offer analgesia, bathroom etc.
- Listen and attend to patient cues.
- Ensure patient's privacy and dignity.

Perform hand hygiene.

Collect the necessary supplies. For example: drainage measurement container, non-sterile gloves, waterproof pad, and alcohol swab

Apply non-sterile gloves and goggles or face shield according to agency protocols. Personal protective equipment reduces the transmission of microorganisms and protects against an accidental body fluid exposure.

Maintaining sterile technique, remove plug from pouring spout as indicated on drain. Open plug pointing away from your face to avoid an accidental splash of contaminated fluid.

Maintain the plug's sterility.

The vacuum will be broken and the reservoir (drainage collection system) will expand.

Gently tilt the opening of the reservoir toward the measuring container and pour out the drainage. Pour away from yourself to prevent exposure to body fluids.

Place drainage container on bed or hard surface, tilt away from your face, and compress the drain to flatten it with one hand. With the other hand, swab the surface of the port, then insert the plug to close the drainage system. Gently squeezing the drain to flatten and remove all the air prior to closing the spout will establish the vacuum system.

Place the plug back into the pour spout of the drainage system, maintaining sterility. This establishes vacuum suction for drainage system.

Secure device onto patient's gown using a safety pin; check patency and placement of tube.

Ensure that enough slack is present in tubing, and that reservoir hangs lower than the wound.

Proper placement of the reservoir allows gravity to facilitate wound drainage. Providing enough slack to accommodate patient movement prevents tension of the drainage system and pulling on the tubing and insertion site.

Note character of drainage: colour, consistency, odour, amount. Discard drainage according to agency policy. Drainage counts as patient fluid output and must be documented on patient chart as per hospital protocol. Monitor drains frequently in the post-operative period to reduce the weight of the reservoir and to monitor drainage.

Remove gloves and perform hand hygiene. Hand hygiene must be performed after removing gloves. Gloves are not puncture-proof or leak-proof, and hands may become contaminated when gloves are removed.

Document procedure and findings according to agency policy. Report any unusual findings or concerns to the appropriate health care professional. This allows for an accurate recording of drainage.

Record the number the drains if there is more than one, and record each one separately. If the amount of drainage increases or changes, notify the appropriate health care provider according to agency policy. If amount of drainage significantly decreases, the drain may be ready to be assessed and removed.

[Nursing care to thoracotomy surgery](#)

Preoperative nursing care

- Provide routine preoperative nursing care as outlined in general nursing care.
- Assess for history of smoking, respiratory and cardiac diseases, and other chronic conditions.
- Instruct about postoperative procedures, including respiratory therapy, breathing exercises, and coughing techniques.
- Allow the patient to practice.

Intra-operative care

- Provide routine Intra-operative nursing care as outlined in general nursing care.
- Discuss with the surgical team on plan of the operation including:-
 - ❖ Position and position changes,
 - ❖ Instrument, equipment, and medication needs (e.g., vessel sealing devices, drainage tubes, local anesthetic),

Postoperative care

- Position the patient with elevate head of bed 30–40 degrees when patient is oriented and hemodynamic status is stable (Maintain an open airway).
- Monitor vital sign.
- Assess and control pain.
- Check for post operation special orders.
 - Assess for complications.
 - Monitor and record hourly intake and output.
 - Assess surgical wound dressing condition.
 - Initiate feeding as ordered.
- Encourage deep-breathing exercises and effective use of incentive spirometer.
- Assess and monitor the chest drainage system
- Encourage early ambulation.
- Encourage active exercises the patient to practice arm and shoulder five times daily at home.

Nursing Care a Patient with a Chest Drainage System

Purpose:

- Monitor respiratory status of a patient with a chest tube
 - Ensure chest drainage system is functioning adequately to promote lung expansion.
1. Confirm physician's order including amount of suction.
 2. Perform hand hygiene.
 3. Identify the patient.
 4. Explain the procedure to the patient.
 5. Protect the Pt's privacy
 6. Assist patient to semi- or high Fowler's position.
 7. Assess insertion site of chest tube. Note and document amount and color of drainage on dressing around insertion site. Assess for crepitus and document your findings. Reinforce insertion dressing as needed.

8. Assess status of chest tubing. Be sure tubing remains at the level of the patient and no dependent loops are present. Assess that there are no visible clots in the tubing. You may gently “milk” (compress tubing with fingers) the clots to encourage movement into the drainage system, but strip chest tubing.
9. Assess the drainage collection chamber. Be sure to keep chest drainage system upright. Assess for amount, color, and character of drainage and document. Note any significant increase in the amount of drainage.
10. Assess suction chamber. Make sure the water level in the suction chamber is at the prescribed amount of suction and that it is connected to the wall suction that is turned on to continuous suction. Usually, the suction is set at 10 to 20 mm Hg.
11. Assess the system for any air leaks. Check all external connections (i.e., the chest tube’s connection to the drainage system, the suction tubing’s connection to the drainage system). Examine the water seal chamber as the patient breathes normally and coughs.
12. Encourage the patient to cough, deep breathe, and use an incentive spirometer frequently. Provide analgesics as necessary.
13. Clamping chest tubes is no longer recommended.
14. If the chest tube becomes expelled, do not leave the patient. Cover the opening where the chest tube had been inserted with the sterile 4" × 4" gauze, and keep direct pressure on the site. Send a colleague to call the physician immediately.
15. Document chest tube drainage, chest tube patency, air leak, amount of suction, pain level, dressing status, and respiratory status

Wound care

Changing a Dry Wound Dressing

Purpose:

- Protect wound from trauma and external contamination
- Provide opportunity to assess the wound; provide an absorbent covering over the wound.

Procedure

1. Perform hand hygiene and don gloves.
2. Identify the patient.
3. Close door or bed curtains and explain the procedure to the patient and patient's family.
4. Position patient comfortably. Expose only wound area.
5. Ensure that an appropriate waste receptacle is within easy reach of work area.
6. Set up sterile supplies: a. Clear bedside table; wipe surface with paper towel and hand sanitizer, soap/water, or other disinfectant available. b. Open dressing package (or packages) by peeling paper down to expose dressing. Smaller dressings may be carefully dropped onto inner package of larger dressings. c. Open normal saline flush syringe packaging, or place a dermal wound cleanser spray on the table next to the open dressing packages.
7. Don gloves.
8. Remove dressing from wound. (Note: If dressing adheres to wound, apply a small amount of sterile saline on the wound to loosen the dressing.) If dressing is small, hold the dressing in the palm of one gloved hand. Remove the glove holding the dressing first, then place the first glove into the palm of the second glove. Remove the second glove.
9. Dispose of gloves and old dressing in appropriate waste container. Perform hand hygiene if gloves are contaminated from wound drainage. Don clean gloves.
10. Apply normal saline or spray dermal wound cleanser to the wound. Use gauze to gently cleanse wound. Cleanse around a closed incisional wound with small circular strokes to gently remove adherent wound exudates.
11. Inspect the wound for bleeding, inflammation, drainage, and healing. Note any areas of dehiscence (opening or gaping of wound edges).
12. Pick up sterile dressings by touching only the outer center of the dressing, and apply one at a time over the wound.
13. Secure the dressings with tape. Place tape over center of dressing and evenly apply pressure to outward edges of dressings.

14. Remove gloves. Perform hand hygiene.

15. Document procedure.

Irrigating a Wound and Applying a Saline-Moistened Dressing

Goal: Promote moist wound healing; protect the wound from contamination and mechanical trauma.

1. Review the provider's orders for frequency of dressing changes.

2. Prepare patient and remove dressing according to steps 1 through 6 of Procedure 29-1. (Note: Forceps may be used to remove a soiled dressing.) If dressing adheres to underlying tissues, moisten with saline to loosen. Gently remove the dressing while assessing patient's comfort level.

3. Observe dressings for amount and characteristics of drainage. Note odor and color.

4. Observe wound for slough (a layer of dead cells and dried plasma, usually a yellow or yellow-brown color), granulation tissue (reddish capillary loops that bleed easily), or epithelial skin buds. Measure and record wound depth, diameter, and length.

5. Place clean towel or absorbent drape pad on patient's skin adjacent to wound area.

6. Don clean gloves for a chronic open wound (e.g., a pressure ulcer). Don sterile gloves for an acute full-thickness wound (e.g., dehisced surgical wound).

7. Cleanse or irrigate wound as prescribed or with normal saline, moving from least to most contaminated areas. Use prefilled saline flush syringes to irrigate, or pour sterile saline from bottle into wound. Use gauze pads to cleanse wound bed and absorb excess wound exudates and irrigant solution.

8. Pick up dry gauze dressings in one hand, and pour or use syringe to apply a small amount of saline onto gauze dressings. Squeeze excess fluid from gauze dressing, then unfold and fluff out the dressings.

9. Check for tunneling so that all dead space can be filled. Gently fill moistened gauze into the wound cavity. If wound is deep, use forceps or cotton-tipped applicators to press gauze into all wound surfaces.

10. Apply several dry, sterile 4 × 4 pads over the wet gauze.

11. Place ABD pad over dry 4 × 4 pads, if necessary.

12. Dispose of gloves.

13. Secure dressings with tape, Kerlix gauze (for circumferential dressings), or Montgomery ties.

14. Assist patient to a comfortable position.

15. Perform hand hygiene.

16. Document procedure.

Splinting of fracture

In orthopedic trauma, we treat all different types of fractures, and we customize the treatment method to the particular fracture type and the particular patient. One thing that's relatively new is customizing

the treatment to a particular subtype of fracture. Every fracture that we treat involves, to some degree, a race between the fracture healing and our implants failing.

Every implant we use is designed to hold the fracture properly aligned and steady to allow the body's healing process to occur. It's a common misconception that the metal implants we insert provide all the necessary support to allow normal use of the injured limb.

The metal we put in is, in a way, like an internal cast. If, for example, we put a cast or a splint on your wrist or ankle, it holds the bone straight and steady while the body does the healing. The metal we implant on the inside acts in a similar way.

If you inappropriately walked on a cast, eventually that cast would wear out, give way, and crumble. Likewise, if the patient inappropriately walks on a metal implant prior to full bone healing, the metal will eventually give way.

In a similar fashion, if you walk on the metal we use to fix broken bones and stress it innumerable times, the metal will give way. If the body heals in an appropriate timeframe, the bone becomes solid and then when you walk or use the broken limb, the inserted metal is not stressed and won't ever break.

Indications for splinting include the following:

- Temporary immobilization of sprains, fractures, and reduced dislocations
- Control of pain
- Prevention of further soft-tissue or neurovascular injuries

Contraindications

There are no absolute contraindications for the use of splints in the emergency setting or in the field to stabilize for transport. For use as a temporary immobilizing device either until follow-up (eg, for stable fractures) or until definitive treatment can be performed (eg, ankle fractures), relative contraindications include the following:

Open fractures

Impending compartment syndrome

Neurovascular compromise

Developing or active reflex sympathetic dystrophy

Application of Splints

Plaster rolls

Use either 3- or 4-in. (7.5- or 10-cm) rolls. Measure the length necessary to immobilize the limb from the rolls and keep layering until approximately 12-15 layers thick. Measure a slightly longer splint out of cotton cast padding that is approximately three or four layers thick.

Alternatively, the limb could be circumferentially wrapped with cotton cast padding to achieve proper padding. However, there is a potential risk of compartment syndrome with any circumferential

padding; therefore, the extremity must be carefully monitored. If compartment syndrome is suspected, the splint must then be opened down through the circumferential padding.

Wet the stack of plaster splints thoroughly, and wring out excess water. Place the wet plaster on the cotton cast padding splint, and apply to the limb with the padding side facing the patient's skin. Next, wrap with cotton cast padding over the plaster to hold the splint in place and avoid adherence to the elastic bandage wrap. Overwrap the whole splint with an elastic bandage.

Forearm splints should go up to the metacarpophalangeal (MCP) joint, allowing full mobility of the fingers. Ankle splints should go no higher than at least 4 in. (10 cm) below the fibular head to avoid peroneal nerve injury.

The advantages to using plaster rolls include correct sizing and fit in each case, but a potential disadvantage is the time involved in rolling out the material and cotton cast padding.

Plaster strips

Plaster strips are manufactured precut splint sheets of varying lengths and widths. The common dimensions used in emergency rooms and clinics are 15 × 3 in. (37.5 × 7.5 cm), 15 × 4 in. (37.5 × 10 cm), 30 × 4 in. (75 × 10 cm), and 30 × 5 in. (75 × 12.5 cm).

Plaster strips are easily conformable to the limb being immobilized. The only disadvantage is a potential deficiency of material for a large or tall individual. Excess material for a petite individual can easily be fixed by tearing out the excess.

Pre-padded splints

For pre-padded fiberglass splints, first cut out a strip of premeasured length. Make sure to reseal the edge or the material will dry out. Wet the strip and wring out excess water. Apply to limb and overwrap with an elastic bandage. See the images below.

These splints are quick to apply, with the padding already built into the splint material. However, they are not easily conformable to the limb. In addition, the edges can be raw if the cut is not made carefully and edges well padded.

Prefabricated splints

Use prefabricated splints as directed by the manufacturer for the intended body part (see the image below).

These splints are quick and easy to use, but availability and cost may be issues. They also are not intended for use with manipulated fractures or dislocations because they are one-size-fits-all splints and are not customizable.

Hare traction splints

Hare traction splints are used in the field or the emergency department for stabilization of femur fractures or subtrochanteric hip fractures and for transport to centers for definitive care. The device

has a traction unit at the ankle that should be applied first, before placement of the actual splint under the patient.

Tighten the uppermost strap, taking care to pad the greater trochanter well. The traction is now applied to the ankle strap and slowly increased until the proper length is achieved. This can be estimated by the restoration of length comparable to either the contralateral side (with unilateral injuries) or the more normal size of the thigh (with bilateral injuries).

Make sure to avoid placing too much traction by ensuring that the toe circulation is intact. This can be done by having the patient move the toes comfortably; in an obtunded patient, check for capillary refill and distal circulation. When satisfied with the amount of traction, tighten the remaining straps.

Urinary Catheterization

Definition: Urinary catheterization refers to the insertion of a catheter tube through the urethra and into the bladder to drain urine. Both male and female catheterizations present unique challenges.

Check indications

- Acute/chronic urinary retention
- Accurate intake and output monitored
- Preoperative management/preparation

- ❖ Explain procedure to the Pt
- ❖ Perform hands hygiene
- ❖ Prepare materials
- ❖ Obtain consent
- ❖ Ensure pt's privacy and dignity
- ❖ Having adequate lighting and visualization
- ❖ Position Pt comfortably (supine/ lithotomy)
- ❖ Check V/S

Perform the procedure

- Apply principles of asepsis and safety.
- Insert urinary catheters using sterile technique.
- Only insert indwelling catheters when essential, and remove as soon as possible.
- Use the appropriate catheter size (Recommended catheter size is 12 to 16 Fr for females, and 14 to 16 Fr for males. Smaller sizes are used for infants and children)
- Ensure urine flow
- If no urine flow:
 - Verify correct placement of the catheter.
 - Verify there is urine in the bladder.
 - Check for kinks in the tubing.
 - Assist the patient to change position.
 - Slowly inflate the balloon and monitor for any resistance/discomfort.
 - Place the drainage bag lower than the patient's bladder, but no more than 12 inches below the hip.
 - If urine still does not drain, consider irrigating the catheter with 30 mL of saline to clear debris from the catheter tip.
 - Assess the patient's hydration status and provide fluids if the patient is dehydrated.
 - If none of the corrective interventions result in urine flow, remove the catheter and notify the team members
- Inflate the balloon with sterile water according to the manufacturer's guidelines.
 - After the balloon is inflated, gently tug on the catheter until resistance is felt.
 - Improper inflation can cause the catheter tip to bend and cause improper drainage, bladder spasms, and bladder irritation.
- Ensure a closed drainage system
- Secure the catheter
 - Indwelling catheters should be secured to avoid traction on the catheter and to prevent inadvertent dislodgement of the catheter
 - Use securement devices such as: tapes, leg straps, and adhesive and non-adhesive stabilizers or anchors

Post procedure care

- Monitor the urethra daily for irritation, erosion, or urine leakage

- Assess the skin integrity under the securement device
- Positioning of the catheter securement device: Catheters for both men and women can be secured to the abdomen or thigh as long as tension on the catheter is minimal during rest and activity
- Provide daily cleansing of the urethral meatus with soap and water or perineal cleanser, following agency policy.
- Avoid use of antiseptic solutions on the urethral meatus and/or in the urinary bag.
- Maintain/encourage fluid intake, unless restricted.

Suprapubic (SP) Catheterization (cystostomy)

Definition: a urinary catheter is inserted percutaneously through the anterior abdominal wall into the bladder for the purpose of urinary drainage.

Indications

Indications could be short-term/long-term

Short-term SP Catheterization

- Acute retention of urine in men caused by prostate obstruction, infection, or stricture.
- Urinary tract or pelvic trauma.
- Disorders of the genitalia, bladder, or urethra (e.g., urethral fistula).
- Severity of incontinence that prevents healing of stage III-IV pressure ulcers/injuries.
- Management of acute urinary retention when clean intermittent catheterization is not possible.
- Surgical or acquired urethral closure.
- Some urologic procedures to allow instruments to pass via the urethra.
- Temporary diversion of urine for some gynecological, abdominal, or urological surgeries.
- Traumatic bladder rupture or persistent problems due to urethral catheters (e.g., irritation, blocking, or leakage around a urethral catheter).

Indications for Long-Term Use of SP Catheters

- Patients who live alone and need to manage long-term urinary incontinence or retention and are unable to self-catheterize or lack a caregiver.
- Management of a urethral closure.
- Chronic bladder drainage when no other alternative therapy is possible.
- Worsening or deterioration of an underlying disease or medical condition.
- Personal choice for conditions in which a long-term catheter is indicated.

Preoperative nursing care

- Assess/check indications

- General pre-op nursing- Identify psychological concerns
- Explain the procedure to the Pt
- Patient Education
- Obtain informed consent
- Wash hands
- Prepare equipment/materials, local anesthesia, dressing set, antiseptic
- Administer ordered drugs

Intraoperative nursing care

- Assist with the procedure -Insertion/reinsertion of the Suprapubic catheter.
 - A physician or urologist performs initial insertion of the catheter.
 - if you are trained, you exchange a SP catheter
 - Make sure that patients at risk for UTI are treated with an antibiotic prior to the catheter exchange.
 - When exchanging, insert the catheter within 10 minutes of removing the existing catheter because the catheter tract will close quickly.
 - Determine the proper length/depth to insert the new catheter (mark the length of the existing catheter at the skin level where it exits; mark the corresponding length on the new replacement catheter to ensure it is placed at the correct depth); lubricate the tip of the catheter with water soluble gel and insert the new catheter to the same length; and inflate the balloon slowly to assure that the balloon is not inflated outside of the bladder

Post procedural Suprapubic catheterized Pt care

- Monitor the recovery
- Assess for pain and give pain medication
- Assis with activity of daily life.
- Observe for signs of infection
 - Pain or cramps
 - Redness or soreness around the catheter site
 - Odor, appearance
 - Catheter blockade
 - Fever
- Change dressing under strict asepsis
- Prevent infection
 - Teach how to care for catheter
 - Washing hands
 - Wearing gloves or masks

- Maintain sterility during dressing change
- Use hand hygiene when handling the catheter and drainage bag, and use a separate clean collection container for emptying the drainage bag.
- Clean the insertion site and catheter daily with soap and water; avoid aggressive cleansing, which can lead to skin irritation and local skin infection.
- Keep dressings in place for the first month until the stoma site is healed and then dressings can be discontinued..
- Secure the catheter to the lower abdomen to prevent traction and trauma to the anterior bladder wall or skin at the insertion site, and prevent dislodgement.

The new suprapubic tract matures in approximately 2 weeks, but the catheter should not be changed for 6 to 12 weeks (Harrison, Lawrence, Morley, Pearce, & Taylor, 2011).

- Monitor the stoma daily for irritation, erosion, urine leakage, and assess the skin integrity under the securement device (WOCN, 2012).
- Observe for urine output from the catheter to make sure it is patent.
- Perform catheter irrigations only with a physician's order. Routine bladder irrigations are not beneficial, but may be recommended in special circumstances, such as for management of blood clots or calculi blocking the catheter.
- Empty the catheter drainage bag frequently to avoid the bag pulling on the stoma site.
- Keep the drainage tubing below the level of the patient's bladder and free of kinks at all times to assure a constant flow of urine.
- The catheter may be clamped so the patient can void; then check the residual urine to determine if there is a continued need for the catheter.

Suprapubic catheter removal.

- When removing a Suprapubic catheter, a "ridge" can form on the catheter's balloon resulting in a "cuffing" effect.
- Do not withdraw water out of the balloon, but attach a syringe and allow the water to flow out by gravity (Geng et al., 2012).
- Consider clamping the catheter, prior to removal, to ensure there is a sufficient volume of urine in the bladder to drain with the insertion of the new catheter, and avoid a prolonged wait to confirm the placement (WOCN, 2011).
- Have the patient take deep breaths and relax the abdominal muscles during removal and reinsertion of the catheter.

Suprapubic Catheters Care: Special Issues/Considerations for Insertion/

Stomal abnormalities.

- Stoma strictures and skin dermatitis.

- Entero-cutaneous fistula.
- Hypergranulation tissue, which can cover the stoma site and narrow the SP tract can be treated with topical steroids/ or cauterized with silver nitrate as prescribed by a primary healthcare provider.

Urine leakage.

- Leakage around the catheter can be caused by kinked tubing, positioning of the tube, or bladder spasms.
- Maceration of tissue around the stoma from urine leakage may lead to inflammation, breakdown, and erosion.
- Surgical closure of the urethra may be considered for urethral urine leakage.

Spasms and pain.

- Individuals may have varying pain experiences with a SP catheter. – It has been reported that SP catheters cause less bladder pain than urethral catheters, possibly by avoiding trigonal stimulation
 - Injury associated with insertion and removal.
- Injury to the suprapubic tract and anterior bladder wall:
 - Trauma during insertion, bleeding, or infection.
 - Difficulty with reinsertion due to scar tissue or contraction of detrusor fibers as a result of traumatic removal.
- Catheter misplacement during insertion can cause bladder or small bowel injury and perforation.
- **Urethral injury can occur when the balloon is inflated in the urethra instead of the bladder.**
- – Incisional hernias may occur.

General Principles: Management of Indwelling Urinary Catheters

Routine Perineal Hygiene

- Routine daily hygiene using soap and water is appropriate for meatal care
- In uncircumcised males, the area under the foreskin should be cleansed daily to remove smegma, decrease trauma and ulceration to the meatus and glans penis, and reduce the risk for CAUTI.

Specimen Collection

- Obtain the specimen through the sampling port on the drainage bag.
- First, disinfect the port with 70% alcohol, allow the port to dry, and follow standard precautions.
- Indicate that the urine was obtained from an indwelling urinary catheter when send to Lab.

Routine Drainage Bag Care

- Follow standard (or appropriate isolation) precautions.

- Perform hand hygiene before and after manipulating the system, and use a new pair of non-sterile gloves with each patient.
- When emptying the drainage bag, use a separate, clean container for each patient and avoid contact between the tap and the container; wipe the tap with alcohol.
- Empty the drainage bag every 4 to 8 hours or when the bag is half full, and before transporting the patient.
- Place the bag in a dependent position, about 12 inches (30 cm) below the level of the hips at all times. Do not rest the bag on the floor.

Drainage Bag Decontamination

- Maintain a closed system at all times, but if a closed system is interrupted, replace it with a new bag or refer to facility policies for decontamination of the drainage bag

Catheter Removal – Routine, Difficult, and Accidental

- Urinary catheters should be removed as soon as the catheter is no longer required.
- In surgical patients, the removal of the indwelling catheter on the first postoperative day was associated with a lower incidence of UTI

Routine catheter removal (WOCN, 2009):

- Loosen the plunger of a syringe by sliding it up and down the barrel several times, and leave it pulled back approximately 0.5 mL.
- Connect the syringe to the balloon port, and allow the balloon to self-deflate.
- Wait at least 30 seconds for water in the balloon to force the plunger back, and then drain the balloon.
- Note the amount of water returning to the syringe.
- With slow or no deflation of the balloon, gently reinsert the syringe into the port; if the balloon still fails to deflate in the absence of kinks or traction, apply gentle, slow aspiration with the plunger.
- Avoid deflation of the balloon by manual aspiration or cutting the valve, which can create creases and ridges that are irritating to the urethra and make removal of the catheter difficult. – Slowly and gently remove the catheter.

Difficult catheter removal

Catheter removal may become difficult in:

- balloon encrustations
- enlarged prostate
- scar tissue formation after surgery

Its management should be guided by history and assessment

- Examine the balloon port by cleansing the port to remove any visible encrustation or debris.

- If unable to deflate the balloon due to a damaged or faulty inflation valve:
 - Check the valve for evidence of damage.
 - Add 2 to 3 mL of sterile water into the inflation channel to try to dislodge the blockage.
 - Attach a syringe to the inflation channel, and leave it in place for about 30 minutes, the effect of gravity will help with the deflation process.
 - If this is unsuccessful, use a needle and syringe (inserted above the valve) to aspirate fluid from the inflation channel.
 - Wrinkling of the balloon following deflation may result in formation of a “cuff” on the balloon.
 - Withdraw the catheter gently when the balloon is deflated; if resistance is met, stop the procedure.
 - Re-instill 1 to 2 mL of sterile water into the balloon to remove the “cuff”, and attempt to slowly remove the catheter.
- If unable to deflate, consult/referral to a physician (for ultrasound-guided, transabdominal balloon perforation).

Accidental catheter removal

- Secure the catheter to minimize risk of unintentional removal
- Use caution during transfer or transport of the patient to prevent dislodgment of the catheter.
- Monitor for balloon deflation.

Post-Removal Catheter Care

- Implement a post-catheter removal protocol to assess the patient’s voiding pattern, ability or difficulty in emptying the bladder (e.g., dysuria, incontinence), and assess the post-void residual using a portable, bladder ultrasound or straight or intermittent catheterization, if indicated.
- Continence management after catheter removal. – Consider use of toileting programs
- Encourage pts to maintain routine toileting (every 4 to 6 hours whether or not there is a sensation to void) and before bedtime.
- Habit re-training.
- Prompted voiding (for patients with altered mental status; prompt them to void every 2 to 4 hours)

Assess the need for devices and equipment to promote continence

- Bedside commode.
- Male and female urinals.

Determine need for incontinence management products

- Pelvic floor muscle exercise
- Use of absorbent materials: disposable; reusable/washable.
- Male external catheters

Trans-vesical Prostatectomy

Definition: an incision is made into the bladder, and the prostate gland is removed from above

Indications

- BPH
- Prostatic ca

Preoperative Nursing care

Reducing anxiety

Establish communication with the patient to assess his understanding of the diagnosis and of the planned surgical procedure.

The nurse clarifies the nature of the surgery and expected postoperative outcomes.

familiarizes the patient with the pre- and postoperative routines and initiates measures to reduce anxiety.

Relieving discomfort

Place Pt on bed rest, administer analgesic agents, and use measures to relieve anxiety. monitors the patient's voiding patterns, watches for bladder distention, and assists with catheterization if indicated.

If the patient cannot tolerate a urinary catheter, he is prepared for a cystostomy (see Chaps. 44 and 45).

Providing instruction

The nurse explains what will take place as the patient is prepared for diagnostic tests and then for surgery (depending on the kind of prostatectomy planned).

The nurse describes the type of incision, which varies with the type of surgical approach (directly over the bladder, low on the abdomen)

informed pt about the type of urinary drainage system that is expected, the type of anesthesia, and the recovery room procedure and postoperative use of medications for pain management.

Answer/ explain Pt's questions/address Pt's concern, provide psychological and physical supports as needed

Preparing the patient

General Pt preparation (as in the general section)

Elastic compression stockings are applied before surgery and are particularly important for prevention of deep vein thrombosis if the patient is placed in a lithotomy position during surgery.

Administer an enema the evening before surgery or the morning of surgery to prevent postoperative straining, which can induce bleeding.

Postoperative Nursing care

Maintaining fluid balance

During the postoperative period, the patient is at risk for imbalanced fluid volume because of the irrigation of the surgical site during and after surgery.

With irrigation of the urinary catheter to prevent its obstruction by blood clots, fluid may be absorbed through the open surgical site and retained, increasing the risk for excessive fluid retention, fluid imbalance, and water intoxication.

Maintain accurate fluid Intake and output

- Care of catheter(See under catheterization)
- Monitor for electrolyte imbalances (i.e., hyponatremia, check patient laboratory result), rising blood pressure, confusion, and respiratory distress (elder are particularly at increased risk)
- Document and report to the surgeon, if any

Relieving pain

- ❖ After a prostatectomy, the patient is assisted to sit and dangle his legs over the side of the bed on the day of surgery.
- ❖ Ambulate a patient on next morning.
- ❖ If pain occurs, determine the cause and location. It may be related to the incision or may be the result of excoriation of the skin at the catheter site. It may be in the flank area, indicating a kidney problem, or it may be due to bladder spasms. Bladder irritability can initiate bleeding and result in clot formation, leading to urinary retention.
- Administer ordered medications.
- Monitors the drainage tubing and irrigates the system as prescribed to relieve any obstruction that may cause discomfort.
- Irrigate the catheter with 50 mL fluid at a time.
- Make sure the same amount is recovered in the drainage receptacle.
- Securing the catheter drainage tubing to the leg or abdomen.
- Administer analgesic agents as needed.
- Encourage a patient to walk but not to sit for prolonged periods because this increases intra-abdominal pressure and the possibility of discomfort and bleeding.
- Teach the patient on measures to prevent constipation.

Monitoring and managing potential complications

Monitored for major complications such as

- ❖ Hemorrhage

- ❖ Infection
- ❖ Deep vein thrombosis
- ❖ Catheter obstruction, and
- ❖ Sexual dysfunction(at subsequent follow up)

Preoperative nursing care

- As general preoperative patient preparation
 - **Assessment of the client.**
 - **Identification of health problems – both actual and potential.**
 - **Plan of care based on individual health needs. (based on nursing care plan)**
 - **Prepare necessary surgical equipment and supplies**
 - **Provide health teaching of the client and family.**
 - **Perform actual preparation of the patient for surgery (physical, psychological, social etc).**

Intraoperative nursing care.

- Follow the general intraoperative nursing care

Postoperative nursing actions

It is the period between the admissions of the client to the recovery room till the healing is complete. The nursing activities during this phase include

- 1. Assessment of the client's response to surgery. (physical and psychological).**
- 2. Care to promote healing process.**
- 3. Activities to prevent complications.**
- 4. Health teaching and post operative exercises.**
- 5. Planning for home care.**

Specific activities for Laparotomy

- Monitor consciousness, vital signs, intake and output
- Observe and record drain properties (color, amount) and drainage.
- Organize and move the position of the patient must be careful not to drain uprooted.
- Maintain IV
- Perform wound care by using sterile technique
- Assess the patient for the following before initiating postoperative feeding
 - ✓ Check for no abdominal bloating

- ✓ Peristaltic normal bowel movement
- ✓ Ask patient for positive flatus
- ✓ The amount, color, consistency stomach contents every 6-8 hours
- **Initiate early ambulation as indicated**
- Observe color, the amount of urine, urine output < 30 ml / hour renal complications
- Observe complications
 - ❖ Impaired tissue perfusion with respect to thrombophlebitis.
 - ❖ Prevent/observe postoperative Infection.

Cholecystectomy and cholecystostomy, Common Bile Duct exploration, biliary bypass procedures and T-tube insertion

Preoperative nursing care

- Reinforce on the general preoperative teaching about the procedure and postoperative expectations,
- Secure IV line
- Catheterize the patient
- Assist insertion of NG tube if needed
- Keep the patient on NPO.
- Administer Pre Operative medication according to the hospital protocol.
- Ensure the written consent is signed
- ***Check Preoperative preparation was completed by using the checklist***

Intra operative nursing care for Cholecystectomy

- Position the patient with the team
- Assist operation

Postoperative nursing care for Cholecystectomy

- Monitor vital sign
- Assess and control pain.
- Show the patient how to splint incision.
- Elevate the head of bed; maintain low-Fowler's position.
- Support abdomen when coughing and ambulating.
- Assist patient to turn, cough, and deep breathe and instruct effective breathing technique.
- Asses GIT for peristaltic normal bowel movement
- Initiate and advance oral intake from ice chips to regular diet as tolerated
- Advice the patient to feed low fat diet
- Asses wound condition (drainage , t-tube) and provide wound care as indicated

Preoperative nursing care for repair of abdominal wall hernias

- Pre operative preparation- Provide routine preoperative preparation
- Place the patient in the Trendelenburg's position to reduce pressure on the hernia site.
- Administer IV fluids and analgesics for pain control.
- ***Check Preoperative preparation was completed by using the checklist.***

Intraoperative nursing care for repair of abdominal wall hernias

- Follow the general intraoperative nursing care

Postoperative nursing care for repair of abdominal wall hernias

- Provide routine postoperative care.
- Monitor vital sign
- Control pain
- Look for swelling, bleeding and redness
- Apply truss only after the hernia has been reduced. For best results, apply it in the morning before the patient gets out of bed.
- Assess the skin daily and apply powder to prevent irritation
- Encourage deep breathing and frequent turning.
- Apply ice bags and support the scrotum to reduce swelling and relieve pain; elevating the scrotum on rolled towels may also help to alleviate swelling.

Monitoring & Follow-up

- **Patient education on home care:**
 - ❖ Instruct patient to avoid heavy lifting for 2-4 weeks postoperatively.
 - ❖ Counsel obese patients on strategies for weight management.
 - ❖ For patient with a truss use, instruct him/her to bathe daily and apply powder to prevent skin irritation.
 - ❖ Remind the patient on follow-up.
 - ❖ Before discharge, assess for signs of infection (oozing, tenderness, warmth, redness) at the incision site.
 - ❖ Teach the patient to keep the incision clean and covered until the sutures are removed.
 - ❖ Teach the patient signs and symptoms of infection: poor wound healing, wound drainage, continued incision pain, incision swelling and redness, cough, fever, prevention of constipation and general health, and his lifestyle.

Definition: surgical opening into the colon by means of a stoma to allow drainage of bowel contents.

It may be temporary or permanent.

Temporary colostomy

Indication- For temporary diversion of fecal material:

To rest a portion of the colon following intestinal surgery, in preparation for further surgery

In cases of severe inflammatory disease (such as diverticulitis).

Permanent colostomy

Indication

When artificial anus for the remainder of the patient's life is required.

Preoperative nursing care

- Follow the routine general pre operative nursing
- Provide additional information depending on type of colostomies (temporary or permanent)
- Assess the emotional and psychological status of the patient to accept the procedure.
- Encourage the patient to express his/her concern
- Facilitate and coordinate for provision of social support
- Ensure necessary material (colostomy bag) is prepared and educated how to take care of colostomy.

Intraoperative nursing

- Follow the general intraoperative nursing care

Postoperative nursing care

- Assess whether the colostomy pouch has been applied during surgery or not.
- Check the dressing
- Assess the location and the type of colostomy performed.
- Assess stoma appearance and surrounding skin condition.
- Position a collection bag or drainable pouch over the stoma (initial drainage may contain more mucus and serosanguineous fluid than fecal material); the consistency of drainage depends on the stoma location in the bowel.
- Irrigate the colostomy by instilling water into the colon.
- If colostomy irrigation is ordered/needed for a client with a double-barrel or loop colostomy, irrigate the proximal stoma.
- Empty a drainable pouch or replace the colostomy bag as needed (it should be no than one-third full).
- Provide stomal and skin care.
- Use Stomahesive and a skin barrier wafer as needed to maintain a secure ostomy pouch.

- Teach the patient to consumed regular diet as preoperatively however, the patient may need to individualize it and then provide information on foods that cause stool odor and gas and foods that thicken and loosen stools (such as fish, beans, garlic, cabbage, onions, egg, dairy products...

Client and family teaching

- Prior to discharge, teach the patient about colostomy care, pouch management, skin care, and irrigation for the client.

Mastectomy

Pre-operative care and Intra operative care

- ❖ Follow the principles indicated general preoperative and intra operative procedure
- ❖ Assess patient anxiety and address patients concern.

Post-operative Care

- ❖ Asses for pain and manage it
- ❖ *Maintain an elevated arm position on the side of surgery (or as indicated.)*
- ❖ Encourage deep breathing exercise
- ❖ *Provide regular catheter care*
- ❖ *Encourage to eat vitamin C rich foods*
- ❖ *Emphasized necessity of taking antibiotics as directed*
- ❖ *Assess the wound for signs of infection*
- ❖ *Assess wound drains regularly*
- ❖ *Encourage ROM exercise of the side of affected arm*
- ❖ *Help with self-care activities as necessary.*
- ❖ *Assist with ambulation and encourage correct posture*

Thyroidectomy

Preoperative nursing

- Follow the routine general pre-operative nursing
- Provide additional information about the surgery
- Asses the emotional and psychological status of the patient.
- Assess patient anxiety level and address patients concern
- Ensure all medication has been taken
- Assess for respiratory infection

Postoperative nursing

- ❖ Position the patient on elevated head of the bed at 30 degree angle with the patient neck slightly tilted back
- ❖ Monitor Vital sign
- ❖ Asses and control pain.
- ❖ Observe for potential complications (hemorrhage, shock, tetany, for voice clarity and tone)
- ❖ Encourage deep breathing exercise
- ❖ Encourage early ambulation.

- ❖ Provide regular catheter care
- ❖ Emphasized necessity of taking antibiotics as directed
- ❖ Assess the wound dressing and drainage tube
- ❖ Maintain patients comfort.
- ❖ Provide cold drink/ soft food diet once feeding is initiated.
- ❖ Teach patient to;
 - Protect the dressing with dry towel while taking shower.
 - Return to hospital as soon as possible if feeling numbness or spasm of extremities, fever, restlessness, palpitation, difficult breathing, and wound swelling.
 - Encourage intake of diet rich in protein, and to avoid irritant foods.

Preoperative nursing care for trauma related amputation

Preoperative nursing care and patient education for the patient about to undergo amputation of all or part of a limb includes the following.

Build the patient's strength by implementing muscular exercises for the unaffected limbs.

1. Encouraging hydration, balanced diet high in vitamins and minerals and with adequate protein to enhance wound healing.
2. Follow the physician's orders for therapeutic measures used to stabilize any chronic medical conditions such as diabetes, hypertension, or any other condition that may interfere with surgery or rehabilitation.
3. Arrange preoperative counseling with the physical therapist. If a mobilization aid such as a walker or crutches is to be used postoperatively, it is easier to provide instruction in the preoperative period. The physical therapist will also inform the patient about his postoperative rehabilitation program.
4. If approved by the physician, schedule a visit from the prosthetic specialist. This may help to alleviate some of the patient's anxieties about the fitting and wear of prosthetic devices
5. Make NPO after midnight

Intraoperative nursing care for trauma related amputation

❖ Circulating nurse

- ✓ Manages operation room
- ✓ Protects safety and health needs of patient by monitoring all activities of members of surgical team and conditions of operation room

❖ Scrub nurse

- ✓ Perform sterile activities
- ✓ Scrub for surgery
- ✓ Set up sterile table, prepare sutures, especial equipment
- ✓ Assist surgeon during procedure – anticipate needs
- ✓ Ensure equipment /instrument count with circulating nurse

Postoperative nursing care for trauma related amputation

Postoperative nursing care involves routine nursing observation, pain control, positioning and exercise, stump conditioning, and patient education. Patient education should be done in conjunction with all nursing interventions.

1. Monitor the patient's vital signs closely for changes in pulse or blood pressure that may indicate hemorrhage under the bulky dressing. A temperature elevation may indicate the presence of infection.
2. Check the stump dressing regularly. Evidence of bloody drainage should be marked with date and time, and excessive bleeding reported to the physician. Check the proximal end of the stump dressing for swelling. The dressings are applied to provide some compression of the stump, but a dressing that is too tight may cause ischemia at the stump end.
3. Observe the patient for pain. Pain medication may be required for several days post-operatively. Some patients experience a phenomenon known as "phantom pain" or "phantom sensation" in which they "feel" the lost limb.
4. Maintain the prescribed position of the stump. Depending upon the type of procedure used, the extremity may be in a splint, in traction, or elevated on pillows. Proper positioning will prevent contracture of the involved muscles.
5. Encourage prescribed exercises to preserve the range of motion in the affected limb and to strengthen the remaining limbs.
6. Instruct patient to lie in the [prone](#) position as tolerated at least twice a day with a pillow under the abdomen and lower-extremity stump.
7. Remove and reapply the bandage. When the wound is healed, the stump must be conditioned and shaped for the proper fitting of prosthesis. A special bandaging technique is used to shrink and mold the stump to a smooth, conical shape. During the shaping process, the bandage is worn day and night. It is customarily removed and reapplied twice daily or as ordered by the physician. Different methods are employed in wrapping the bandage, but the objective is the same: to provide equal, firm compression to the stump.
8. Demonstrate and assist with transfer techniques and use of mobility aids like trapeze, crutches, or walker

Male circumcision and adult hydrocelectomy

Pre-operative assessment Male circumcision and adult hydrocelectomy

This is a very important step prior to the procedure and is conducted by a trained nurse or nursing assistant under the supervision of the doctor at the site. It should involve history-taking, physical examination of infant, signing informed voluntary consent by parent or legal guardian, and pre-operative guidance of the patient.

History-taking phase of the assessment, the male infant should be screened for:

- History of uncomplicated delivery including gestation age and birth weight
- Maternal HIV status to assess infant's risk
- Stability with review of hospital course up to that time including vital signs.
- Family history of coagulopathies/bleeding disorders (note: family history of anemia is not a contraindication for circumcision) If procedure is being done after hospital stay – history-taking phase should also include:

- Any history of illness since leaving hospital
- Any difficulty with urination since leaving hospital

Physical Examination

The physical examination should be tailored to look for conditions that may contraindicate male circumcision. However, a focused general examination ought to be performed complete with the vital signs and the patient's weight.

Performing a newborn assessment

A basic newborn physical exam should include but is not limited to:

- Review vital signs – Temperature, Pulse, and Respiration Rate
- Check the current weight, length, head circumference
- Inspection of general appearance including activity of infant, quality of cry, color of skin, muscle tone, dysmorphic appearance.
- Inspection of skin to include color, milia, Mongolian spots, hemangiomas, petechiae/bruising
- Exam of HEENT to include head for moulding, sutures, fontanelles, caput; Eyes for symmetry, shape, discharge, red reflexes; ENT for ear shape, nasal patency, intact palate.
- Exam of Chest to include inspection for asymmetry, breast hypertrophy and auscultation of lungs and heart sounds.
- Exam of Abdomen to include inspection of appearance, evidence of distention, cord, number of vessels; palpation for abnormalities such as hepatosplenomegaly; and auscultation of bowel sounds.
- Exam of Musculoskeletal system for deformity, movements of limbs especially hips, potential for extra digits, spinal intactness, sacral dimples
- Exam of Neurological system including reflexes such as suckling, moro, rooting, grasp, and stepping

Perform any other systemic examination as dictated by the patient's history.

Routine early infant male circumcision should only be undertaken if the infant is healthy, full-term, weighs more than 2500 g, is greater than 12 hours old, less than 60 days old, has a normal physical examination, and has an intact penis and scrotum of completely normal appearance.

- Any evidence of jaundice (yellow sclera or purpuric skin lesions) should be addressed prior to clinic-based circumcision.
- Any congenital abnormality of the genitalia is a contraindication. If an abnormality exists the foreskin should be left intact because the tissue may be required to repair the defect.

• **Congenital abnormalities that are contraindications include:**

Ambiguous genitalia, bilateral hydroceles, curvature with penile torsion, penile torsion, absence of ventral foreskin, concealed penis trapping beneath the foreskin, megalourethra, penoscrotal webbing, megameatus, epispadias, hypospadias, micropenis (if < 2 cm in length).

Performing a genital examination

- Wash hands with soap and water and dry with a clean, dry towel
- Put on examination gloves on both hands
- Examine the penis and look for any abnormalities
- Examine the scrotum and check for any abnormalities

Assessment of a child with hydrocele includes:

Physical examination. The scrotum is enlarged on both sides; a smooth, cystic feeling mass completely surrounding the testicle and not involving the spermatic cord is characteristic of a hydrocele.

Informed voluntary consent

Informed consent is required from all parent/legal guardians of clients. The consent form should be explained to the parent/legal guardians and signed as part of the pre-operative procedure.

Health-care providers should give all the information needed to make a fully informed decision. The following elements should be included:

- Explanation of male circumcision and the nature of the surgery
- Risks and benefits (short term and longer term) of infant male circumcision

Provider should assess whether the parent or legal guardian understands the information provided and their capacity to make the necessary decisions.

Consent form should be signed and filed in infant's record.

Getting ready: Pre-operative tasks

To help improve outcomes and avoid complications, providers should follow a standard procedure. As part of the preoperative assessment the following steps should be done:

1. Ensure availability of appropriate equipment and supplies

2. Provide information to parents/legal guardians
3. Ensure that informed consent was obtained and filed in chart
4. Thoroughly wash/clean hands
5. Screen patient – ensure proper documentation in patient’s chart
6. Safety check - ensure that the correct patient is brought to the procedure room and that he remains a suitable candidate for male circumcision
7. Preparing the patient and the prepuce

Feeding restrictions - Although it is a standard surgical precaution to restrict oral intake before surgery because of the risk of regurgitation and aspiration, this typically does not apply to minor outpatient surgeries performed under local anesthesia and should not be considered a necessity for early infant male circumcision.

Intra-Operative nursing Care for Adolescent Circumcision

The following steps are common to all early infant male circumcision techniques.

1. Determine the device and appropriate size
2. Determine and prepare the most appropriate anesthesia
3. Position the infant - Clean gloves should be worn when positioning the infant in a well-lit warm area of a soft surface. The infant should be restrained by an assistant or a circumcision board. The patient’s head and mouth should NEVER be covered and the patient should be continually monitored to minimize any discomfort during restraint. If a restraint board is used, it can be helpful to prop up the torso so that the infant is not lying flat on his back. A blanket can be placed between the infant and the restraint board for comfort and soft Velcro straps can be used to gently restrain the infant.
4. A nappy should be removed and the perineum cleaned with moist wipes. A fresh nappy can be tucked under the patient and left open.
5. Preparing the surgical area - Using clean gloves, a 2.5 cm area of skin around the penis should be thoroughly cleaned with at least three applications of swabs soaked in providone iodine or an equivalent antiseptic agent.
6. Apply sterile gloves and proceed using sterile technique.
7. Inspect/assemble device.
8. Drape the surgical area with a fenestrated drape, exposing the penis. Care should be taken to ensure the infant’s face is not covered by the drape.
9. Clean and dry the shaft of the penis.
10. Palpate and examine penis to determine location of the corona. - In most infant male the corona is prominent and can be visualized beneath the foreskin. In some, however, the location of the corona may not be obvious. In all cases, the penis should be palpated to determine and/or confirm the location

of the corona. In some cases, it may be helpful to pinch the foreskin on one side of the penis, pushing the corona to the other side, making it more visible beneath the foreskin.

11. Mark the location of the incision with a sterile marking pen or gentian violet.
12. Administer anesthesia and wait for effectiveness.
13. Grasp foreskin and remove preputial glandular adhesions with blunt flexible probe or hemostat.

Mogen clamp Technique

1. Ensure that the clamp is the correct size (infant) and in good working order
2. Ensure that the foreskin is free from the glans
3. Grasp dorsal foreskin with straight hemostats at 12 o'clock position
4. Put traction on the foreskin and introduce it into the slit in the device with concavity facing the glans and flat surface facing the provider. Ensure glans is down and out of the way.
5. Align the foreskin using the surgical mark as a guide.
6. Close clamp and activate using the lever arm.
7. Clamp should remain closed for 5 minutes.
8. Incise foreskin with scalpel.
9. Manipulate the penis, using gentle pressure from the side to allow the glans to emerge.
10. Place postoperative wound dressing with impregnated Vaseline gauze.

Post-Operative nursing Care for Adolescent Circumcision

Post-Operative care

After the procedure is complete,

- Monitor the client for at least 30 minutes after surgery. This can be done with infant in mother's room during hospital stay.
- Check the client's vital signs and for bleeding 30 minutes after surgery and record findings.
- Answer the parent/legal guardian's questions and concerns.
- Advise the parent/legal guardian on postoperative care of the penis (handout)
- When stable, discharge the patient home.
- Inform the client to come back for follow-up after 48 hours or anytime earlier should there be any complications
- Complete operation notes and other client record forms.

Health education and guidance to parents/legal guardians for proper care

- No special care is needed except to place a lot of petroleum jelly on the penis with every nappy change.
- Keep the area as clean and dry as possible; do not use any medicine or herbs or any other substance on the wound.
- Do not leave dressing on longer than 48 hrs.

- Small amount of blood on the gauze or nappy is almost always present and is normal.
- Shiny white or yellowish film may cover part of the penis as it is healing. This is a normal part of the healing process and cannot be easily removed with moist wipe.
- May take several days to a week for circumcision to heal completely. Be gentle around the area during this time.
- Telephone contact of persons or health facility and location to contact in case of emergency
- Return to the clinic immediately or seek emergency care if a problem develops such as
 - Infant is lethargic
 - Infant has fever
 - Infant is inconsolable
 - Infant appears to be in pain
 - Infant does not wake for feeding in accordance with his usual pattern
 - Any separation of the skin edges
 - Unusual swelling or bleeding
 - Infant has difficulty with urination

48-Hour Post-operative follow-up visit

Follow this basic checklist to ensure the follow up care is complete:

1. Gather all necessary items
2. Greet the parents and patient respectfully
3. Review the patient's records
4. Ask the parents if he has had any problems since leaving the hospital/since procedure was done.
5. Ask the parents if the dressing on the penis is still intact
6. Lie the infant down on the examination table or across the parents lap.
7. Wash hands with soap and water and dry them with a clean, dry towel.
8. Put examination gloves on both hands
9. Open nappy and gently remove gauze dressing. To remove the dressing it should be moistened and gently unwrapped. Some minor bleeding may occur and should be managed with simple direct pressure.
10. Examine the penis for bleeding, wound discharge, evidence of healing, evidence of infection, and wound disruption
11. Dispose of contaminated wastes and gloves in covered leakproof container
12. Wash your hands with soap and water and dry them
13. Inform parents about examination findings and repeat postoperative care instructions and expected steps in healing.
14. Ask if parents have any questions or concerns. Answer them.

15. Give the parents the date for the next appointment (typically 7 days or 6 weeks of life)

16. Complete client record forms

Infection

Normal wound-healing must be understood so that a true infection can be identified and treated. It is normal for a circumcision wound to have a thin yellow film, which could be mistaken for pus. One distinct difference is that this yellow film cannot be easily removed. Pus, which is NOT normal, can typically be easily wiped away with a moist wipe and often is associated with an odor.

During the first 48 hours, infection is rare and the wound looks its worst, with inflammation, redness and tenderness being normal. After 48 hours, the wound should look better, but if it starts to look worse and is accompanied by more swelling, redness, pain, or frank pus – a wound infection should be seriously considered.

Fever, poor feeding, decreased urine output, or an infant that is inconsolable or lethargic should immediately raise concern for systemic involvement.

Postoperative Complications

Providers must be able to recognize and address postoperative complications.

Post-circumcision bleeding

Most episodes of bleeding can be addressed by simply applying an appropriate dressing and simple direct pressure.

How to manage bleeding with clamping device

1. Don't panic.
2. Closely inspect the penis to ensure that there has been no injury to the glans or other surrounding structures.
3. Using gauze, apply temporary direct pressure to the wound while carefully applying a firm circumcision dressing.
4. If bleeding continues through or around the dressing, leave the dressing in place and apply direct pressure over it for 5 minutes by the clock.
5. If bleeding continues the dressing should be removed and the wound reinspected. Frenular artery bleeding comes from a small area on the ventral side. If the bleeding is diffuse and rapid, consider the possibility of a bleeding disorder and seek immediate medical and surgical consultation.
6. If the bleeding appears to be minor, reapply a compression dressing and apply direct pressure over the dressing for 10 minutes by the clock. If bleeding continues despite these conservative measures, medical and surgical intervention should be considered while continuing to hold direct pressure.

Too little skin is removed

If insufficient foreskin is removed the wound should be allowed to heal before any further intervention. If a revision is deemed necessary the procedure should be delayed until after 6 months of age and scheduled with an appropriate surgeon.

Too much skin is removed (degloving)

In mild cases, the wound can be managed conservatively and will heal reasonably well through secondary intervention.

Occasionally the wound may need to be closed with sutures. In severe cases, the patient should be referred for immediate specialist consultation.

Injury to penis or surrounding structures

Do not panic and don't try to hide the injury. Basic first aid should be administered as needed and bleeding should be controlled. If an injury occurs to the penis or to a surrounding structure, immediate specialist consultation should be obtained.

A thin mucosal layer is not excised

Usually the outer keratinized skin is tightly adhered to the very thin inner mucosal layer. Under RARE circumstances this thin membrane can be separated from the outer skin, especially when a dorsal slit is made. Typically the mucosal layer will be tightly adhered to the glans and can be teased away from the glans with gauze or a blunt instrument. In some cases, this membrane will be thick and require excision.

Other possible complications

- Reactions to anaesthetic agent - Emergency hospital protocols should be observed and immediate specialist consultation should be obtained.
- Pain - Paracetamol has been suggested for treating postoperative pain but is rarely necessary.
- Infection – rare in the first 48 hours. In the event of a wound infection, the infant should be evaluated for possible sepsis and treatment should begin immediately.
- Urine Obstruction – dressing should be removed immediately. If plastibell was used, ring should be removed urgently. Specialist consultation should be considered.
- Adhesions – can be reduced over time by carefully wiping and pushing the foreskin back away from the glans.

Rarely will adhesions require subsequent surgical intervention.

- Preputial glandular fusion – important to enforce liberal application of petrolatum during healing process.
- Trapped penis – important to ensure that the healing wound stays beneath the level of the corona. Typically managed with application of topical steroids and rarely surgical consultation.
- Meatal stenosis
- Skin bridge

Infection control

The primary objectives of infection control are to minimize the risk of infections in people having surgery; And to minimize the risk of transmitting HIV and hepatitis B virus to clients and health care staff, including cleaning and housekeeping staff. Exposure may take place during patient care, clinical or surgical procedures, processing of soiled instruments, cleaning and waste disposal. Hepatitis B vaccination is recommended for the surgical team.

Standard Precautions

Standard precautions are practices aimed at preventing and controlling infections, such as use of personal protective equipment, designed to protect health-care workers and patients from contact with infectious agents.

Wash Hands or treat with a hand rub:

- After removing gloves
- Before handling an invasive device for patient care
- After contact with blood, blood products, body fluids or excretions, mucous membranes, non-intact skin, or wound dressings;
- After using the toilet (normal personal hygiene).

Post-operative nursing care for hydrocelectomy

Diet

Patients only consume clear liquids immediately after surgery and then progress to a regular diet as tolerated. The anesthesia can cause some stomach discomfort and nausea.

Pain management

Patients may be sent home with Tylenol #3 to be taken as needed for pain. Most children need it for one to three days. If the doctor prescribed Tylenol #3 (with codeine) tablet or elixir, please try to give it to the patient as little as possible because codeine can cause constipation, which can be painful.

Miralax is an over the counter stool softener and can be used to relieve constipation if it occurs.

Whenever possible, try to use Ibuprofen (also known as Motrin or Advil) instead of the Tylenol #3. *Do not take Tylenol #3 and Tylenol at the same time – this can be an overdose and is harmful.* If needed,

Ibuprofen and ONE Tylenol product can be taken within the same time period. Should you have questions regarding dosage and timing of pain medication after surgery, please contact our office.

To reduce swelling and discomfort, you may place a sandwich bag full of ice covered in a cloth or towel over the surgical area. Never apply ice directly to the skin.

Incision care

The child may be placed in the bath or swimming pool 24 hours after surgery. The dressing may or may not come off on its own, and either way is fine. Swelling and bruising are normal, especially near the incision on the abdomen or the scrotum. It is normal for the incision to be pinkish or red; however,

if it becomes very red or dark red and/or has pus, please call the office. The clear bandage on top is called "Tegaderm," and the little cloth-like bandages underneath are called "steri-strips." Sometimes there is a little blood that has soaked through the steri-strips, which is normal. Often a gray material (surgical glue) will be over the incision area and will fall off on its own. The stitches will dissolve on their own in about two weeks.

Testicles

After surgery, try to be mindful of the position of the patient's testicles. They should be in the base of the scrotum; however, sometimes after surgery involving an inguinal incision (hernia and/or hydrocele), it is possible for scar tissue to develop and "tug" the testicle upwards. At each diaper change, or three to four times each day, make sure that you can gently pull the testicle down into the base of the scrotum. Older children can do it themselves. If the child had an orchidopexy, the testicle is now stitched into the scrotum and cannot travel upwards. Sometimes there is a very small dimple that looks like a hole at the base of the scrotum where the stitch is. This will reduce over time and is normal.

Activity Restrictions

For two to three weeks after the surgery, the child should avoid trauma to the surgical area and avoid rough-housing, contact sports, bicycle riding or physical education. Younger children should avoid walkers or straddle toys like bouncy chairs and jumpers or rocking horses. At the child's follow-up appointment, about one week after surgery, our staff will provide more specific directions as to when it is safe to return to activities. Most children are able to return to school within a few days of surgery, as tolerated.

Preoperative nursing care

General Nursing management for Laparotomy

1. Reducing complication from surgery
2. Accelerate healing process
3. Restoring the function of the patient as much as possible before surgery
4. Maintain the patient's self-concept
5. Preparing the patient goes home

Intra operative for the laparotomy

1. Deal with the management of unsterile activities in the operating area
2. Document the nursing care of the patient
 - Assessment
 - Intravenous
3. Movement of unsterile items out of surgical site
 - Labeling and transporting specimens
4. Is gowned and gloved and able to handle and pass sterile items into surgical field
5. Boss of sterile field (Scrub nurse)
6. Assist the actual procedures during operation
7. Work collaboration with surgeon
8. Handle, assist and use instruments during surgery

Post operation management for laparotomy of trauma

- a. Monitor consciousness, Vital sign, CVP, output and input
- b. Observe and record drainage i,e color and amount
- c. Position the patient
- d. Wound care
- e. Administering food e.g. Protein and Vitamin C which helps for wound healing and increase body resistance to infection respectively
- f. Mobilization e.g. encourage to perform early ambulation
- g. Management for pain
- h. Ensuring optimal respiratory function
- i. Maintenance of nutritional balance
- j. Return of normal urinary function
- k. Promote comfort
- l. Maintain ace of adequate cardiovascular function

Complex orthopedic trauma

Preoperative nursing care

- Pre-operative assessment and physical examination
- Assisting with preparation of patients for surgery
- Assisting with surgical procedures in the operating theatre under the supervision and direction of the operating surgeon
- Being first or second assistant at operations
- Ordering of pre and post-operative investigations as part of the multi-professional team

Postoperative nursing care

Systemic function

- Pain
- Protecting the surgery
- Regaining function
- Client compliance

Systemic Function

Nurses carefully assess integumentary, musculoskeletal, cardiovascular, pulmonary, neurological, gastrointestinal and urinary integrity and function is a vital part of comprehensive nursing care.

Pain

Appropriate pain management potentiates patient comfort, systemic function, recovery and healing. Fortunately, we have an excellent arsenal of pharmaceuticals and modalities available to help us manage pain well in our patients.

Protecting the Surgery

The importance of the nursing components involved in protecting the surgery cannot be overemphasized. Keeping the patient, wounds and bandages clean and dry, putting on and maintaining bandages well, managing pain effectively, promoting appropriate and controlled activities and educating the client fully are all major components of protecting the surgeries we perform and the patients we perform them on.

Regaining Function

This is really what it is all about - regaining full and pain-free function. All of the components of postoperative nursing care listed above contribute to success in this all-important category. In addition, nutrition, physiotherapy and recheck evaluations with adjustments in the postoperative management protocol as needed all play important roles.

Client Compliance

Client compliance to postoperative instructions for care is another 'have to' for success. Compliance is all about communication and follow-up. Communication should be in both verbal and written forms and should be clear, definitive and instructive. The client should understand what the goals are, what defines success, what would be considered problems and what to do if problems occur. They should be given a timeline for progress and clearly understand their roles at each step in their pet's progression. Help them understand the purpose and importance of each medication, restriction and activity. Treat them like a member of their pet's healthcare team so that they will engage fully and be compliant.

Administering blood and blood products

Purpose:

- Replace the lost blood volume or blood components through trauma, surgery, or due effects of a disease process; prevent complications from transfusing incompatible blood products.

Procedure

1. Perform hand hygiene.
2. Identify the patient (preferably two nurse identifiers).
3. Explain the procedure to the patient
4. Maintain the privacy of a patient.
4. Instruct a patient what to report in the event of an adverse reaction, such as chills, back pain, headache, nausea or vomiting, rapid heart rate, rapid breathing, or skin rash.
5. Ensure informed consent has been signed by provider and patient.
5. Administer premedications, such as diphenhydramine (Benadryl), if ordered.
6. Record patient's vital signs
7. With another nurse or a Dr at the patient's bedside, verify the blood component and the patient's identity by comparing the laboratory blood record with the following:
 - The patient's name and identification number (both verbally and against patient's identification band)
 - The blood unit number on the blood bag label
 - The blood ABO group and Rh factor on the blood bag label
 - The type of blood component and the expiration date on the blood label.
8. Inspect blood product for integrity of bag and appearance of component (clots, cloudiness, abnormal color). write expiration date and time on the transfusion report.
9. Wash your hands. Put on clean gloves.
10. Open Y-type blood administration set, and clamp both rollers completely.
11. Spike blood component unit bag port. Prime drip chamber and tubing with blood component.
12. Spike 0.9% NaCl container with second spike. Keep roller clamp shut.

13. Remove primary IV tubing from catheter hub, and cover end with sterile protector.
14. Attach blood administration tubing to catheter hub, and secure with tape. The IV should be started into an 18- or 19-gauge catheter.
15. Open clamp to blood component. Open roller clamp below drip chamber and begin transfusion. and infuse blood slowly for first 15 minutes.
16. Observe and document patient's condition during first 15 minutes, assessing for the an adverse reaction (Note: If any adverse reactions occur, close clamp to blood, open clamp to 0.9% NaCl, and notify physician immediately. Follow agency policy for laboratory notification and obtaining blood and urine specimens.)
17. If no adverse reactions occur after 15 minutes, increase infusion rate according as to ordered.
 - A unit of RBCs is usually administered over 2 to 4 hours.
 - Observe the patient for signs and symptoms of transfusion reaction at least every 30 minutes throughout the transfusion.
 - Obtain vital signs when observations warrant.
 - Document observations, including the absence of any signs of transfusion reaction, in the medical record.
18. When blood transfusion is complete, clamp roller to blood and open roller to 0.9% NaCl. Infuse until tubing is clear (usually no more than 50 mL of normal saline).
19. Obtain and document vital signs.
20. If second blood component unit is to be transfused, slow 0.9% NaCl to keep vein open until next unit is available. Follow verification procedure and vital sign monitoring for each unit.
21. If transfusion orders are complete, disconnect the blood administration tubing from the IV catheter hub. Reconnect the primary IV solution and tubing and adjust to desired rate.
22. Administer post procedure medication if any
23. Wash hands and document procedure.

Standard pre and post-operative care for all orthopedic patients

Day of surgery/admission

- Complete nursing admission documentation on arrival in Patient Care and Accountability Plan (PCAP)
- Ensure vital signs are completed 4 hourly as per CHHS Vital Signs (Adult) and Early Warning Scores procedure
- Ensure the following have been completed:
 - o Blood tests including group and screen
 - o Electro-cardiograph (ECG) if 50 years or above and/or if required
 - o Intravenous (IV) fluids charted if required

- o Regular medications ordered on medication chart
- Ensure the patient has fasted
- Ensure the patient takes their essential regular medications on the morning of surgery
- Ensure the following has been attended:
 - o Consent form for treatment/surgery is valid, the operation site is marked and initialled and the goals of care planning and resuscitation plan have been completed
 - o Complete pre-operative checklist form and ensure all current medication charts, fluid balance charts, IV therapy fluid charts and any hardcopy x-rays go with the patient to theatre/holding bay
 - o Inform relatives of patients transfer to theatre if applicable

Day 0 post operation

- Patient bed area has been cleaned ready for admission/transfer
- All emergency equipment is functioning and available at the patient bed space, including oxygen and suction
- Patient may have an alternating mattress if high risk for developing pressure injury (not for pelvic fractures)
- Monitor indwelling urinary catheter (IDC) output hourly for the first 24 hours; aim for urine output to be at least 0.5 mL/kg/hr.
- Administer regular medications as per patient's medication chart
- Assess patient's pain levels and sedation score when vital signs are completed Administer analgesia within prescribed limit as required based on the pain assessment and sedation level. Encourage regular use of analgesia to promote improved movement and mobility. If the patient is on a Patient Controlled Analgesia (PCA) or Continuous Opioid infusion (COI), ensure patient is reviewed by the Acute Pain Service (APS)
- Commence aperients to assist in prevention of constipation
- Patient may require prophylactic intravenous antibiotics post surgery, check post-operative record and medication chart
- Reinforce wound dressing if required. Do not remove theatre dressings
- If the patient is at risk of pressure injuries put preventative measures in place according to level of risk assessment including minimum 4 hourly change of position and pressure areas inspected as per Pressure Injury Prevention and Management procedure.

Day 1 post operation

- When the first 24 hours post-operative is completed continue to attend vital signs as per
- Attend patient hygiene daily. Bed wash or shower depending on patient's current condition

- Consider IDC removal as per medical orders for lower limb surgery. If a patient has not voided for 6 hours a bladder scan should be performed and medical staff informed of the result
 - Anticoagulation therapy to be administered as ordered
 - Liaise with physiotherapists in the mobilisation of suitable patients-this will occur according to postoperative instructions. Encourage mobilisation, repositioning and deep breathing and coughing throughout the day
 - Inspect the wound dressing for exudate. If exudate is visible may require a pressure dressing
- Day 2 - 4 post operation
- Continue to attend vital signs as per Adult vital signs and early warning scores' procedure.
 - Continue to assess and manage post operative pain
 - Ensure bowels and bladder function is returning to normal
 - Inspect the wound dressing for exudate.
 - Perform daily skin integrity check, increase level of observation if patient at high risk for a pressure injury.
 - The patient should be mobilising as per physiotherapist's recommendations and gait aid. They should be becoming increasingly independent as the post op days increase
 - Ensure the pharmacist is aware of discharge date/time and the discharge medications script has been organized
 - Patient education for anticoagulation therapy continues with the patient being given opportunity to practice administration of Clexane injections. If the patient is unable to self-administer the injections a family member or carer needs to be taught to perform the task.

STANDARD OPERATING PROCEDURE FOR EMERGENCY FRACTURE AND DISLOCATION MANAGEMENT

Pre-operative nursing actions

Nursing Assessment

Assessment of the fractured area includes the following:

- Close fracture. The patient with close fracture is assessed for absence of opening in the skin at the fracture site.
- Open fracture. The patient with open fracture is assessed for risk for osteomyelitis, tetanus, and gas gangrene.

- The fractured site is assessed for signs and symptoms of infection.

Diagnosis

Based on the assessment data gathered, the nursing diagnoses developed include:

- Acute pain related to fracture, soft tissue injury, and muscle spasm.
- Impaired physical mobility related to fracture.
- Risk for infection related to opening in the skin in an open fracture.

Nursing Interventions

Nursing care of a patient with fracture include:

- The nurse should instruct the patient regarding proper methods to control edema and pain.
- It is important to teach exercises to maintain the health of the unaffected muscles and to increase the strength of muscles needed for transferring and for using assistive devices.
- Plans are made to help the patients modify the home environment to promote safety such as removing any obstruction in the walking paths around the house.
- Wound management. Wound irrigation and debridement are initiated as soon as possible.
- Elevate extremity. The affected extremity is elevated to minimize edema.
- Signs of infection. The patient must be assessed for presence of signs and symptoms of infection.

Evaluation

The following should be evaluated for a successful implementation of the care plan.

- Pain was relieved.
- Achieved a pain-free, functional, and stable body part.
- Maintained asepsis.
- Maintained vital signs within normal range.
- Exhibited no evidence of complications.

Intra operative nursing care

- Follow the general intraoperative nursing care

Post-operative nursing actions

- Maintain bed rest or limb rest as indicated. Provide support of joints above and below fracture site, especially when moving and turning.
- Secure a bed board under the mattress or place patient on the orthopedic bed.
- Support fracture site with pillows or folded blankets. Maintain a neutral position of affected part with sandbags, splints, trochanter roll, footboard.
- Use sufficient personnel for turning. Avoid using abduction bar for turning patient with a spica cast.

- Observe and evaluate splinted extremity for resolution of edema.
- Maintain position or integrity of traction.
- Ascertain that all clamps are functional. Lubricate pulleys and check ropes for fraying. Secure and wrap knots with adhesive tape.
- Assist with placement of lifts under bed wheels if indicated.
- Position patient so that appropriate pull is maintained on the long axis of the bone.
- Maintain immobilization of affected part by means of bed rest, cast, splint, traction.
- Avoid use of plastic sheets and pillows under limbs in cast.
- Elevate bed covers; keep linens off toes.
- Assess capillary return, skin color, and warmth distal to the fracture.
- Monitor respiratory rate and effort. Note stridor, use of accessory muscles, retractions, development of central cyanosis.
- Assess the degree of immobility produced by injury or treatment and note patient's perception of immobility.
- Examine the skin for open wounds, foreign bodies, rashes, bleeding, discoloration, duskiness, blanching.
- Inspect the skin for preexisting irritation or breaks in continuity.
- Assess pin sites and skin areas, noting reports of increased pain, burning sensation, presence of edema, erythema, foul odor, or drainage.
- Discuss dietary needs.
- Assess pulses in casted above or below the extremity, edema, coolness, inability to move digits, paleness or cyanosis, numbness of areas distal to the cast every 2 hours.
- Assess the reason for and type of traction, extremity or body part affected.

Standard Operating Procedure for Amputation

Perioperative care for patients with amputation

Nursing care and patient education

1. Preoperative care and patient education can be done in cases of elective amputation. There is time to prepare the patient for what lies ahead. In the case of a traumatic amputation, this may not be

possible. Preoperative nursing care and patient education for the patient about to undergo amputation of all or part of a limb includes the following.

- o Build the patient's strength by implementing muscular exercises for the unaffected limbs.
 - o Improve the patient's nutritional status by encouraging a balanced diet high in vitamins and minerals and with adequate protein to enhance wound healing. Maintain adequate hydration.
 - o Follow the physician's orders for therapeutic measures used to stabilize any chronic medical conditions such as diabetes, hypertension, or any other condition that may interfere with surgery or rehabilitation.
 - o If ordered, arrange preoperative counseling with the physical therapist. If a mobilization aid such as a walker or crutches is to be used postoperatively, it is easier to provide instruction in the preoperative period. The physical therapist will also inform the patient about his postoperative rehabilitation program.
 - o If authorized by the physician, schedule a visit from the prosthetic specialist. This may help to alleviate some of the patient's anxieties about the fitting and wear of prosthetic devices.
2. Postoperative nursing care involves routine nursing observation, pain control, positioning and exercise, stump conditioning, and patient education. Patient education should be done in conjunction with all nursing interventions.
- o Monitor the patient's vital signs closely for changes in pulse or blood pressure that may indicate hemorrhage under the bulky dressing. A temperature elevation may indicate the presence of infection.
 - o Check the stump dressing regularly. Evidence of bloody drainage should be marked with date and time, and excessive bleeding reported to the physician. Check the proximal end of the stump dressing for swelling. The dressings are applied to provide some compression of the stump, but a dressing that is too tight may cause ischemia at the stump end.
 - o Observe the patient for pain. Pain medication may be required for several days post-operatively. Some patients experience a phenomenon known as "phantom pain" or "phantom sensation" in which they "feel" the lost limb.

- o Maintain the prescribed position of the stump. Depending upon the type of procedure used, the extremity may be in a splint, in traction, or elevated on pillows. Proper positioning will prevent contracture of the involved muscles.
- o Encourage prescribed exercises to preserve the range of motion in the affected limb and to strengthen the remaining limbs.
- o Remove and reapply the bandage. When the wound is healed, the stump must be conditioned and shaped for the proper fitting of a prosthesis. A special bandaging technique is used to shrink and mold the stump to a smooth, conical shape. During the shaping process, the bandage is worn day and night. It is customarily removed and reapplied twice daily or as ordered by the physician. Different methods are employed in wrapping the bandage, but the objective is the same: to provide equal, firm compression to the stump. A criss-cross or spiral pattern is used to avoid constricting the stump and interfering with circulation.

Intra operative nursing care

- Follow the general intraoperative nursing care

Post-operative nursing actions

1. Relieving pain

Surgical pain can be effectively controlled with opioid analgesics, nonpharmaceutical interventions, or evacuation of the hematoma or accumulated fluid. Changing the patient's position or placing a light sandbag on the residual limb to counteract the muscle spasm may improve the patient's level of comfort. Evaluation of the patient's pain and responses to interventions is an important part of the nurse's role in pain management. The pain may be an expression of grief and alteration of body image.

2. Minimizing altered sensory perceptions

Amputees may experience phantom limb pain soon after surgery or 2 to 3 months after amputation. It occurs more frequently may in above-knee amputations. The patient describes pain or unusual sensations, such as numbness, tingling, or muscle cramps, as well as a feeling that the extremity is present, crushed, cramped, or twisted in an abnormal position. When a patient describes phantom pains or sensations, the nurse acknowledges these feelings and helps the patient modify these perceptions.

Phantom sensations diminish over time. The pathogenesis of the phantom limb phenomenon is unknown. Keeping the patient active helps decrease the occurrence of phantom limb pain. Early intensive rehabilitation and stump desensitization with kneading massage brings relief. Distraction

techniques and activity are help-ful. Transcutaneous electrical nerve stimulation (TENS), ultra-sound, or local anesthetics may provide relief for some patients. In addition, beta-blockers may relieve dull, burning discomfort; anti-seizure medications control stabbing and cramping pain; and tri-cyclic antidepressants are used to improve mood and coping ability.

3. Promoting wound healing

The residual limb must be handled gently. Whenever the dress-ing is changed, aseptic technique is required to prevent wound infection and possible osteomyelitis.

Residual limb shaping is important for prosthesis fitting. The nurse instructs the patient and family in wrapping the residual limb with elastic dressings (Figs. 69-18 and 69-19). After the in-cision is healed, the nurse teaches the patient to care for the resid-ual limb.

4. Enhancing body image

Amputation is a reconstructive procedure that alters the patient's body image. The nurse who has established a trusting relationship with the patient is better able to communicate acceptance of the patient who has experienced an amputation. The nurse encour-ages the patient to look at, feel, and then care for the residual limb. It is important to identify the patient's strength and resources to facilitate rehabilitation. The nurse assists the patient to regain the previous level of independent functioning. The patient who is ac-cepted as a whole person is more readily able to resume responsi-bility for self-care; self-concept improves, and body-image changes are accepted. Even with highly motivated patients, this process may take months.

5. Helping the patient to resolve grieving

The loss of an extremity (or part of one) may come as a shock even if the patient was prepared preoperatively. The patient's behavior (eg, crying, withdrawal, apathy, anger) and expressed feelings (eg, depression, fear, helplessness) will reveal how the patient is cop-ing with the loss and working through the grieving process. The nurse acknowledges the loss by listening and providing support.

The nurse creates an accepting and supportive atmosphere in which the patient and family are encouraged to express and share their feelings and work through the grief process. The support from family and friends promotes the patient's acceptance of the loss. The nurse helps the patient deal with immediate needs and become oriented to realistic rehabilitation goals and future inde-pendent functioning. Mental health and support group referrals may be appropriate.

6. Promoting independent self-care

Amputation of an extremity affects the patient's ability to pro-vide adequate self-care. The patient is encouraged to be an active participant in self-care. The patient needs time to accomplish these tasks and must not be rushed. Practicing an activity with consistent, supportive supervision in a relaxed environment en-ables the patient to learn self-care skills. The patient and the nurse need to maintain positive attitudes and to minimize fatigue and frustration during the learning process.

Independence in dressing, toileting, and bathing (shower or tub) depends on balance, transfer abilities, and physiologic tolerance of the activities. The nurse works with the physical therapist and occupational therapist to teach and supervise the patient in these self-care activities.

The patient with an upper extremity amputation has self-care deficits in feeding, bathing, and dressing. Assistance is provided only as needed; the nurse encourages the patient to learn to do these tasks, using feeding and dressing aids when needed. The nurse, therapists, and prosthetist work with the patient to achieve maximum independence.

7. Helping the patient to achieve physical mobility

Positioning assists in preventing the development of hip or knee joint contracture in the patient with a lower extremity amputation. Abduction, external rotation, and flexion of the lower extremity are avoided. Depending on the surgeon's preference, the residual limb may be placed in an extended position or elevated for a brief period after surgery. The foot of the bed is raised to elevate the residual limb.

The nurse encourages the patient to turn from side to side and to assume a prone position, if possible, to stretch the flexor muscles and to prevent flexion contracture of the hip. The nurse discourages sitting for prolonged periods, to prevent flexion contracture. The legs should remain close together to prevent an abduction deformity.

Postoperative ROM exercises are started early, because contracture deformities develop rapidly. ROM exercises include hip and knee exercises for below-knee amputations and hip exercises for above-knee amputations. It is important that the patient understand the importance of exercising the residual limb.

The upper extremities, trunk, and abdominal muscles are exercised and strengthened. The extensor muscles in the arm and the depressor muscles in the shoulder play an important part in crutch walking. The patient uses an overhead trapeze to change position and strengthen the biceps. The patient may flex and extend the arms while holding weights. Doing push-ups while seated strengthens the triceps muscles. Exercises, such as hyper-extension of the residual limb, conducted under the supervision of the physical therapist or occupational therapist, also aid in strengthening muscles as well as increasing circulation, reducing edema, and preventing atrophy.

Because an upper extremity amputee uses both shoulders to operate the prosthesis, the muscles of both shoulders are exercised. A patient with an above-the-elbow amputation or shoulder disarticulation is likely to develop a postural abnormality caused by loss of the weight of the amputated extremity. Postural exercises are helpful.

Strength and endurance are assessed, and activities are increased gradually to prevent fatigue. As the patient progresses to independent use of the wheelchair, use of ambulatory aids, or ambulation

with a prosthesis, the nurse emphasizes safety considerations. Environmental barriers (eg, steps, inclines, doors, wet surfaces) are identified, and methods of managing them are practiced. It is important to anticipate, identify and manage problems associated with the use of the mobility aids (eg, pressure on the axillae from crutches, skin irritation of the hands from wheelchair use, residual limb irritation from a prosthesis).

Amputation of the leg changes the center of gravity; therefore, the patient may need to practice position changes (eg, standing from sitting, standing on one foot). The patient is taught transfer techniques early and is reminded to maintain good posture when getting out of bed. A well-fitting shoe with a nonskid sole should be worn. During position changes, the patient should be guarded and stabilized with a transfer belt at the waist to prevent falling.

As soon as possible, the patient with a lower extremity amputation is assisted to stand between parallel bars to allow extension of the temporary prosthesis to the floor with minimal weight bearing. How soon after surgery the patient is allowed to touch down the artificial foot depends on the patient's physical status and wound healing. As endurance increases and balance is achieved, ambulation is started with the use of parallel bars or crutches. The patient learns to use a normal gait, with the residual limb moving back and forth while the patient is walking with the crutches. To prevent a permanent flexion deformity from occurring, the residual limb should not be held up in a flexed position.

The patient with an upper extremity amputation is taught how to carry out the ADLs with one arm. The patient is started on one-handed self-care activities as soon as possible. The use of a temporary prosthesis is encouraged. The patient who learns to use the prosthesis soon after the amputation is less dependent on one-handed self-care activities.

A patient with an upper extremity amputation may wear a cotton T-shirt to prevent contact between the skin and shoulder harness and to promote absorption of perspiration. The prosthetist advises about cleaning the washable portions of the harness. Periodically, the prosthesis is inspected for potential problems.

The residual limb must be conditioned and shaped into a conical form to permit accurate fit, maximum comfort, and function of the prosthetic device. Elastic bandages, an elastic residual limb shrinker, or an air splint is used to condition and shape the residual limb. The nurse teaches the patient or a member of the family the correct method of bandaging.

Bandaging supports the soft tissue and minimizes the formation of edema while the residual limb is in a dependent position. The bandage is applied in such a manner that the remaining muscles required to operate the prosthesis are as firm as possible, whereas those muscles that are no longer useful atrophy. An improperly applied elastic bandage contributes to circulatory problems and a poorly shaped residual limb.

Effective preprosthetic care is important to ensure proper fitting of the prosthesis. The major problems that can delay prosthetic fitting during this period are (1) flexion deformities, (2) nonshrinkage of the residual limb, and (3) abduction deformities of the hip.

The physician usually prescribes activities to condition or “toughen” the residual limb in preparation for a prosthesis. The patient begins by pushing the residual limb into a soft pillow, then into a firmer pillow, and finally against a hard surface. The patient is taught to massage the residual limb to mobilize the surgical incision site, decrease tenderness, and improve vascularity. Massage is usually started once healing has occurred and is first done by the physical therapist. Skin inspection and preventive care are taught.

The prosthesis socket is custom molded to the residual limb by the prosthetist. Prostheses are designed for specific activity levels and patient abilities. Types of prostheses include hydraulic, pneumatic, biofeedback-controlled, myoelectrically controlled, and synchronized prostheses.

Adjustments of the prosthetic socket are made by the prosthetist to accommodate the residual limb changes that occur during the first 6 months to 1 year after surgery. A light plaster cast, an elastic bandage, or a shrinking sock is used to limit edema during periods when the patient is not wearing the permanent prosthesis.

Some patients are not candidates for a prosthesis and are thus nonambulatory amputees. If use of a prosthesis is not possible, the patient is instructed in the use of a wheelchair to achieve independence. A special wheelchair designed for patients who have had amputations is recommended. Because of the decreased weight in the front, a regular wheelchair may tip backward when the patient sits in it. In an amputee wheelchair, the rear axle is set back about 5 cm (2 inches) to compensate for the change in weight distribution.

8. Monitoring and managing potential complications

After any surgery, efforts are made to reestablish homeostasis and to prevent problems related to surgery, anesthesia, and immobility. The nurse assesses body systems (eg, respiratory, gastrointestinal, genitourinary) for problems associated with immobility (eg, pneumonia, anorexia, constipation, urinary stasis) and institutes corrective management. Avoiding problems associated with immobility and restoring physical activity are necessary for maintenance of health.

Massive hemorrhage due to a loosened suture is the most threatening problem. The nurse monitors the patient for any signs or symptoms of bleeding. It is also important to monitor the patient’s vital signs and to observe the suction drainage.

Infection is a frequent complication of amputation. Patients who have undergone traumatic amputation have a contaminated wound. The nurse administers antibiotics as prescribed. It is important to monitor the incision, dressing, and drainage for indications of infection (eg, change in color, odor, or

consistency of drainage; increasing discomfort). The nurse also monitors for systemic indicators of infection (eg, elevated temperature) and promptly reports indications of infection to the surgeon.

Skin breakdown may result from immobilization or from pressure from various sources. The prosthesis may cause pressure areas to develop. The nurse and the patient assess for breaks in the skin. Careful skin hygiene is essential to prevent skin irritation, infection, and breakdown. The healed residual limb is washed and dried (gently) at least twice daily. The skin is inspected for pressure areas, dermatitis, and blisters. If they are present, they must be treated before further skin breakdown occurs. Usually, a residual limb sock is worn to absorb perspiration and to prevent direct contact between the skin and the prosthetic socket. The sock is changed daily and must fit smoothly to prevent irritation caused by wrinkles. The socket of the prosthesis is washed with a mild detergent, rinsed, and dried thoroughly with a clean cloth. The nurse advises the patient that the socket must be thoroughly dry before the prosthesis is applied.

9. Promoting home and community-based care

Teaching the Patient to Manage Self-Care

Before discharge to the home or to a rehabilitation facility, the nurse encourages the patient and family to become active participants in care. They participate, as appropriate, in skin care and residual limb care and in the management of the prosthesis. The patient receives ongoing instructions and practice sessions in learning how to transfer and how to use mobility aids and other assistive devices safely.

Standard Operating Procedure for Acute Osteomyelitis

Perioperative care for patients with Acute Osteomyelitis

Definition:- Osteomyelitis is an infection of the bone. It can be caused by a variety of microbial agents (most common in staphylococcus aureus) and situations.

Nursing Diagnosis for Osteomyelitis

1. Acute pain related to inflammation and swelling
2. Impaired Physical Mobility related to pain and limitation of the load weight
3. Risk for Infection

Targets to be achieved:

1. Pain is reduced
2. Improvement of physical mobility within the limits of therapeutic
3. Infection control

Nursing interventions for Osteomyelitis

1. Immobilization of the affected area with a splint to reduce pain and muscle spasms.

2. Joints above and below the affected area should be made so that still can be moved according to the range yet gently. The wound itself is sometimes very painful and must be handled carefully and slowly
3. Elevate the affected area to reduce swelling and discomfort.
4. Monitor the affected extremity neurovascular status.
5. Do pain management techniques such as massage, distraction, relaxation, hypnosis to reduce pain perception and collaboration with medical for providing analgesic.
6. Protect your bones by means of immobilization and avoid stress on the bone because bones become weak due to the infection process.

Standard Operating Procedure for Acute Osteomyelitis

Perioperative care for patients with Septic arthritis

Definition:- Septic, or infectious, arthritis is infection of one or more joints by microorganisms. It is a painful infection in a joint that can come from germs that travel through the bloodstream from another part of the body. Septic arthritis can also occur when a penetrating injury, such as an animal bite or trauma, delivers germs directly into the joint.

Nursing Diagnosis for Septic arthritis

1. Actively intolerance related to joint inflammation and pain secondary to arthritis
2. Desired outcome:- the patient will demonstration active participation in necessary and desired and demonstrate increase in actively levels

Nursing intervention

- Assess the patients activities of daily living, as well as actual and perceived limitations to physical activity. Ask for any form of exercise that he/she used to do or wants to try.
- Encourage progressive activity through self-care and exercise as tolerated. Explain the need to reduce sedentary activities. alternative periods of physical activity with 60-90 minutes of undisturbed rest
- Administer analgesics as prescribed prior to exercise / physical activity.
- Administer other prescribed medications for septic arthritis
- Teach deep breathing exercise and relation techniques.
- Provide adequate ventilation in the room
- Assess the patient's vital sign. Ask the patient to rate the from 0 to 10 and describe the pain he / she is experiencing
- Reposition the patient in his/her comfortable/preferred position

MANAGEMENT OF ACUTE HAND INJURY AND HAND INFECTION

NURSING DIAGNOSES

- Impaired Skin Integrity of the right foot and hands related to lesions (cuts) on the hands and Stage II ulcer with exudate on the right foot
- Powerlessness related to perceived loss of control over life situation
- Ineffective Thermoregulation related to trauma
- Acute Pain related to expression of pain secondary to skin lesions

EXPECTED OUTCOMES

- Regain skin integrity—ulcer on right foot and lesions on hands will heal.
- Identify aspects of his life still under his control.
- Maintain body temperature at normothermic levels.
- Express feeling of comfort and relief from pain.

PLANNING AND IMPLEMENTATION

- Inspect skin every shift; describe and document skin condition; report changes.
- Perform prescribed treatment regimen for skin condition. Clean lesions on hands and right foot every 8 hours and assess healing.
- Arrange psychosocial consult(s).
- Guide the client through a life review. Encourage reflection on past achievements.
- Help the client identify the aspects of his life that are still under his control.
- Allow the client the right to express feelings.
- Monitor client's body temperature every 4 hours, more often if indicated.
- Monitor and record client's heart rate and rhythm, blood pressure, and respiratory rate every 4 hours.
- Administer analgesics, antipyretics, and medications as indicated. Monitor and record their effectiveness.
- Maintain hydration; monitor intake and output.
- Assess client's signs and symptoms of pain and administer pain medication as prescribed. Monitor and record the medication's effectiveness and adverse effects.
- Assess for the presence, existence of, and history of the common causes of infection
- Assess for the presence of local infectious processes in the skin or mucous membranes.
- Monitor for signs and symptoms of infection.

- o Redness, swelling, increased pain, purulent discharge from incisions, injury
- o Elevated temperature.
- o Color of respiratory secretions
- o Appearance of urine.
- Maintain strict asepsis for dressing changes, wound care, intravenous therapy, and catheter handling.
- Ensure that any articles used are properly disinfected or sterilized before use.
- Wash hands or perform hand hygiene before having contact with the patient. Also impart these duties to the patient and their significant others. Know the instances when to perform hand hygiene or “5 moments for hand hygiene”:
- o Before touching a patient.
- o Before clean or aseptic procedure (wound dressing, starting an IV, etc).
- o After body fluid exposure risk
- o After touching a patient
- o After touching the patient’s surroundings.

MANAGEMENT OF ACUTE PELVIC INJURY

Nursing care for acute pelvic injury

The nurse’s primary role is to assess the patient and be aware of the signs and symptoms of potential complications.

Evaluation of the trauma patient

A systematic approach to the evaluation and management of the trauma patient is required to optimise the patient’s condition and recovery. An ABCDE (airway, breathing, circulation, disability, exposure) approach should be taken to patient assessment.

Blood products and transfusion

As the patient with an unstable pelvic fracture has the potential to exsanguinate, it is essential that the nurse anticipates the need for transfusion. Fluid replacement should be approached with care as it can increase bleeding if not used judiciously.

Pain management

Post-operatively, the nurse will carry out routine observations of vital signs, including observing the operative site for bleeding, monitoring blood pressure, pulse and fluid balance, and assessing respiratory function. Pelvic fractures can be extremely painful and require appropriate assessment and management of pain to promote a speedy recovery and participation in rehabilitation exercises.

Complications

Complications can occur at the time of injury or at any stage of care and rehabilitation. Patients may be immobile for prolonged periods of time and consequently at risk of developing complications such as pressure ulcers, respiratory tract infections or constipation. Difficulties in eating and drinking may lead to poor nutritional status, which will affect the general health of the patient.

PRINCIPLES OF MANAGEMENT OF PEDIATRICS FRACTURE AND DISLOCATION

Nursing diagnosis Nursing Care Plan for Dislocated or Fractured

- Acute pain
- Ineffective airway clearance
- Anxiety
- Disturbed body image
- Imbalanced nutrition: Less than body requirements
- Impaired verbal communication
- Risk for aspiration
- Risk for deficient fluid volume
- Risk for infection

Nursing Key outcomes Nursing Care Plan for Dislocated or Fractured

Nursing outcomes Nursing Care Plan for Dislocated or Fractured , Patient will:

- Express feelings of comfort and relief of pain.
- Demonstrate methods (coughing, suctioning) to maintain a patent airway.
- Express that he feels less anxious.
- Express positive feelings about self.
- Have no further weight loss.
- Use an alternative method of communication if unable to communicate with language.
- Avoid aspiration.
- Fluid volume will remain adequate.
- Exhibit no signs or symptoms of infection.

Nursing interventions Nursing Care Plan for Dislocated or Fractured

- Pain Management, Analgesic Administration, and Environmental Management Comfort: Alleviation of pain or a reduction in pain to a level of comfort that is acceptable to the patient. Use of pharmacologic agents to reduce or eliminate pain. Manipulation of the patient's surroundings for promotion of optimal comfort

- Respiratory Monitoring, Airway Management: Facilitation of patency of air passages. Collection and analysis of patient data to ensure airway patency and adequate gas exchange
- Nutrition Management Assisting with or providing a balanced dietary intake of foods and fluids. Weight Gain Assistance Facilitating gain of body weight. Eating impairment Management
- Communication Enhancement: Speech Deficit: Assistance in accepting and learning alternative methods for living with impaired speech. Active Listening Attending closely to and attaching significance to a patient's verbal and nonverbal messages
- Aspiration Precautions Prevention or minimization of risk factors in the patient at risk for aspiration
- Fluid Monitoring, Hemodynamic Regulation, Bleeding Precautions: Collection and analysis of patient data to regulate fluid balance, Optimization of heart rate, preload, afterload, and contractility, Reduction of stimuli that may indicate bleeding or hemorrhage in at risk patients
- Infection Protection, Infection Control, infection Surveillance: Prevention and early detection of infection in a patient at risk. Minimizing the acquisition and transmission of infectious agents Purposeful and ongoing acquisition, interpretation, and synthesis of patient data for clinical decision making

PRINCIPLES OF MANAGEMENT OF NEUROVASCULAR INJURY AND COMPARTMENT SYNDROME

Neurovascular assessment

A neurovascular assessment is required for each affected limb and includes assessment of

- Pain
- Sensation
- Motor function
- Perfusion (colour, temperature, capillary refill, swelling, pulses)

Pain

The most important indicator of neurovascular compromise is pain disproportionate to the injury. Pain associated with compartment syndrome is generally constant however worse with passive movement to extension and is not relieved with opioid analgesia. Indication of pain in non-verbal patients includes restlessness, grimacing, guarding, tachycardia, hypotension, tachypnoea or diaphoresis. If pain is disproportionate to injury notify medical team

Please refer to the Pain Assessment and Measurement Clinical Guideline for further information regarding paediatric pain assessment.

Sensation & Motor function

If neurovascular status is compromised, patients may report decreased sensation, loss of sensation, dysesthesia, numbness, tingling or pins and needles. Altered sensation may be a result of a nerve block or epidural, this should be documented in the patient's neurovascular assessment in the flowsheet in EMR.

Note amount of pain on movement of the limb, including if it was is active or passive movement. It is important to compare movement of digits bilaterally and to the baseline observations as some patients may have had limited or no movement previous to injury.

The medical team should be contacted immediately if the child experiences any deterioration or deviation from the baseline assessment.

Documentation

- A baseline neurovascular assessment of both limbs is essential in recognising neurovascular compromise and should be documented on admission
- Neurovascular observations for both upper and lower limbs can be added into flowsheets in EMR for documentation
- Alterations in neurovascular status should be documented in flowsheets and the leading medical team should be notified immediately
- Photographs can be taken with permission/ consent from the parents/guardian and saved in the media file in EMR, to document any changes neurovascular status and allows the medical team to view progress

Management

Ensure affected limb is elevated to minimise the risk of compartment syndrome. Lower extremities can be elevated with pillows or using bed mechanics; upper extremities can be elevated on either a pillow, sling or box sling.

Management

- A. Reassure the patient that this is normal after a bone fracture, and reposition the cast.
- B. perform neurovascular checks (6 P's)
- C. Re-adjust the cast to ensure it fits snugly against the fracture.
- D. Perform neurovascular checks.
- E. Elevate the leg above heart level.
- F. Loosen and remove restrictive items.
- G. Notify the physician.

Assessing the 6 P's:

1. Pain (early sign)
2. Paresthesia (can be an early sign too)

3. Pallor
4. Paralysis
5. Poikilothermia
6. Pulselessness (late sign)

Pain: worst with passive touch or movement, elevating the limb, or any pressure, stretching increases the pain. Pain medication is not relieving it.

PRINCIPLES OF MANAGEMENT OF SOFT TISSUE AND BONE TUMORS

Nursing Care Plans

Care plan for a child with osteosarcoma includes prevention of injury, improved condition of oral mucous membranes, relief from anxiety and absence of complications.

Here are four (4) nursing care plans (NCP) and nursing diagnosis (NDx) for osteogenic sarcoma (Osteosarcoma):

1. Ineffective Protection
2. Impaired Oral Mucous Membrane
3. Anxiety
4. Risk for Injury

Nursing Interventions

- Monitor for any signs of bleeding and febrile episodes; Note laboratory findings: WBC, platelet count, Hct, and absolute neutrophil count.
- Inform to avoid exposure to people with upper respiratory infection or any illness.
- Encourage to avoid contact play or sports, straining at defecation, forcefully blowing nose.
- notify health care provider for signs of increased temperature, changes in behavior, headache, dizziness, fatigue, pallor, bleeding episode, exposure to a communicable disease.
- Teach handwashing technique before providing care, using of protective gear such as mask and gown when appropriate, providing a private room, monitor for any signs and symptoms of infections.
- Discourage the use of hard toothbrush, obtaining rectal temperatures, undergoing unnecessary invasive procedures.
- Assess oral cavity for painful burning sensation, erythema, ulcerations, and difficulty eating and drinking.
- Allow to choose foods they prefer from the list given.
- Teach the patient in performing oral hygiene using a soft bristle toothbrush or sponge-tipped swab.
- Encourage the patient to eat foods high in protein and vitamins.

- Assess the patient's level of anxiety and how it is manifested; the necessity for information that will relieve anxiety.
- Assess possible need for special counseling services for the patient.
- Encourage parents to stay with child; Leave a telephone number in case of a need for more information.
- Allow open expression of concerns about illness, procedures, management, and possible consequences of surgery.
- Assess patient for type of surgery and condition and healing of the stump, type of bandaging or cast, presence of drains, type of prosthetic device and fit.
- Observe dressing for bleeding, redness, pain, drainage at stump area every 2 to 4 hours; maintain dressing pressure or wrapping of the stump as advised; change dressing only if ordered.
- Allow expressions about sudden lifestyle changes and permanent disability adjustment difficulties.
- Provide stump and socket care using mild soap and warm water, rinse and pat dry
- Assist patient with range-of-motion exercises daily as recommended by the physical therapist.
- Maintain Trendelenburg and prone position as ordered; avoid elevation, external rotation, or abduction of stump.
- Stress the importance of performing daily activities and avoiding restrictions as advice.
- Discuss alteration in clothing and instruct in crutch walking and how to move around the environment.

Principles of traumatic wound management

Tetanus immune status

All patients with wounds (including burns) should be asked about their tetanus immunisation status.

Tetanus-prone wounds include the following:

- The penetrating type - for example, a rusty nail in the foot;
- Those containing a significant amount of devitalised tissue;
- Those which have been in contact with soil or manure;
- Clinically infected wounds;
- Those which are six or more hours old (before thorough surgical toilet).

Individuals who are at particular risk of a tetanus-prone wound include agricultural workers, gardeners and vets.

The management of tetanus-prone wounds is as for clean wounds, with the addition of a dose of tetanus immunoglobulin. This is purified immunoglobulin from the sera of donors with high levels of tetanus antitoxin. It provides an immediate protective level that lasts for approximately four weeks.

Nurses must follow local treatment guidelines, as these may vary according to the drug and the time elapsed since injury.

Wound assessment

The most important part of the initial wound assessment is to determine if important structures that lie deep to the wound have been damaged - for example, tendons, bones or nerves. This is achieved through gentle, systematic examination of the limb or digit distal to the injury

Wound site, direction, size and shape

The site of the wound may indicate wound-healing potential. For instance, a wound on the head will probably heal quickly because the scalp has an excellent blood supply, whereas a wound on the lower leg may be compromised due to the presence of peripheral vascular disease.

Practice point

Large wounds may require grafting, as healing may be prolonged and the resulting cosmetic effect as well as function may be poor.

Wound exudate

Initially, the amount and type of bleeding should be noted, as the patient may be at risk of hypovolaemic shock. Major or minor haemorrhage can be controlled by pressure over the bleeding point and elevation of the part, if possible. Subsequently, the amount of exudate will influence dressing choice: for example, a wet wound will require a dressing that can absorb excess fluid, while a dry wound may require hydration. Exudate can be described by its colour - serous (straw-like), sanguinous (bloody), serosanguinous (straw-like fluid streaked with blood) and purulent.

A wound that contains healthy living tissue will require protection, while a wound that contains debris or dead tissue will require some form of debridement.

In general, black tissue is dead tissue, yellow tissue is subcutaneous fat, tendon or dead tissue, and red tissue is living tissue.

Wound edge

A clean incised wound edge usually indicates that the injury has been inflicted using a sharp implement, while a ragged edge indicates blunt trauma. If a flap of tissue is present, practitioners should check if the attached edge is viable. This is largely determined by colour - for example, a dusky blue flap edge is unlikely to be viable.

Surrounding skin

Note the general condition of the skin. Look for and record any other evidence of tissue trauma (old and new) - for example, bruising, grazing, blistering, scarring, erythema. If the wound is on the leg, examine for signs of venous or arterial disease, such as varicose veins, no pulses, cold, white or mottled skin. Coexisting disease may need to be treated in order to improve a patient's wound-healing potential.

Practice point

Carefully document all your findings - negative as well as positive. Good documentation aids communication and is therefore integral to nursing care. In addition, given the violent causes of many of these wounds, your assessment may later be required as evidence.

Preventing skin tears

As aging occurs, the skin becomes more prone to skin tear injuries

Prevent skin tears by using:

- Proper lifting, positioning, transferring and turning techniques to reduce or eliminate friction or shear
- Padding on support surfaces where the risk is greatest
- Pillows or cushions to support the patient's arms and legs
- A skin barrier wipe before applying dressing
- The push pull techniques to cautiously remove tape
- Skin lotion applied twice per day to areas at risk

[Nursing care for patient undergoing brain surgery](#)

Preoperative nursing care

- In addition to routine assessment and preparation for preoperative patient:
 - Review the neurological system and assess for comorbidities.
 - Anticipate and plan for potential postoperative complications

Intraoperative nursing care

- As in general section

Postoperative nursing care

- Position the Pt on 30 degree HOB elevated
- Monitor vital signs
- Assess and manage pain
- Monitor the patient for postop complications
- Assessment location, intensity, quality, onset, and duration.
- Use a 1–10 pain scale, with 1 indicating no pain and 10 indicating the worst pain assessment
- Administer pain medications as ordered
- Assess potential hemorrhage: Hemorrhage may result in decreased neurologic status.
- Signs and symptoms include deteriorating neurologic status, nausea, vomiting, or changes in cranial nerve function or extremity weakness.
- The Pt may require diagnostic work ups such as CT scan, which is necessary to rule out hemorrhage, if so prepare the Pt as such.

- Postoperative hematoma may require reoperation for evacuation.
- Postoperative edema causes decreased neurologic status and is treated with corticosteroids.
- Practice point: anticipate signs of deteriorating neurologic status report any deterioration of the patient to the neurosurgeon.

Assess for hypertension

- Maintain blood pressure parameters as ordered

Assess for neurologic deficits

- Assess for alteration in neurologic condition (weakness extremities).
- Assess for alteration in personality and
- Assess for alteration in ability of language use
- Assess for alteration in sensation and position.
- Assess for coordination.
- Coordinate team efforts to the patient (Occupational, physical, and speech therapists)
- Involve families so everyone can work toward the same discharge goals

Assess for CSF leaks

- Postoperative pseudomeningoceles or CSF leaks may occur following surgical procedures involving the posterior fossa.
- Assessment the Pt for: Presence of otorrhea or rhinorrhea, or watery drainage from the incision and report immediately to the surgeon.
- Watch for signs of meningitis- The risk of meningitis increases with the longer the CSF leak.
- If a Pt has CSF leak instruct the Pt avoid coughing, sneezing, nose blowing, or Valsalva maneuvers to prevent subsequent CSF leaks

Monitor for seizures

- If a patient has had a preoperative seizure, he or she is placed on antiepileptic drugs (AEDs) prior to surgery and remains on AEDs after surgery.
- If a patient has never had a preoperative seizure, he or she may still be vulnerable to a seizure resulting from cortical irritation during the postoperative period.
- Postoperative seizures may be focal or generalized.
- Seizure treatment: Treatment includes a loading dose of an AED followed by daily dosing of an AED.
- Any seizure activity should be treated immediately to prevent status epilepticus.
- A patient who sustains a postoperative seizure should have a CT scan to rule out structural causes such as edema, hemorrhage, or stroke.

- Assess for AED adverse effects: headache, rash, nausea, somnolence, confusion, diplopia, and dizziness
- So, monitor for seizure activity and adverse AED effects in patients who undergo postoperative craniotomy.

Assess for Infection: Infection is a potential complication after craniotomy surgery.

Assess for predisposing risk factors

- Proximity of a procedure to the paranasal sinuses
- Long surgical time, and
- Prolonged corticosteroid use.

Implement measures to prevent of infection:

- Preoperative antibiotics are started within 1 hour before incision.
- Surgical Care Improvement Project guidelines identify measures to prevent infection that include skin asepsis, barrier devices, surgical hand hygiene, surgical technique, and preoperative antibiotics
- Instruct the Patient to wash his/her 5–10 days to shampoo or wait until staples or sutures are removed.
- Advise the patients to avoid sun exposure until the incision is completely healed.
- Remove the sutures or staples when ordered (usually after 7–14 days).

Assess for Hydrocephalus

- Signs and symptoms include headache, decreased level of consciousness, nausea and vomiting, and pupillary abnormalities.
- Hydrocephalus is treatment by an external ventricular drain
- Observe for hydrocephalus and monitor ICP and CSF laboratory results as ordered by the neurosurgeon.

Patient and family teaching and support

- Patients and families of patients with brain surgery require support health teaching and after surgery.
- The effects of the causes (eg brain tumor, trauma) and surgery may cause fear and uncertainty about the patient’s future or may need long-term rehabilitation.
- As a nurse, you are responsible to coordinate the health care team to answer the patients’ and families’ questions and concerns.
- Teach the patient and family to immediately come back and report any drainage from the incision, fever, and change in patient’s consciousness level.

1. Head Injury

Preoperative nursing care for neurosurgery

- Check Vital signs (heart rate, heart rhythm, blood pressure, temperature, respirations, and oxygen)
- Insure Preoperative blood work was done
- Insure Electrocardiogram (EKG) was done
- Insure Chest X-ray was done
- Insure Lung function test was done
- Insure OR instrument was prepared

Post-operative nursing care for neurosurgery

- Keep the head of the bed at thirty degrees to reduce intracranial pressure.
- Maintain normal body temperatures.
- Monitor swelling of the brain.
- Provide seizure precautions (tongue blade available for airway, pads on the bed rails, and suctioning equipment set up).
- Complete frequent checks of overall skin integrity and surgical site status.
- Monitor intake and output of fluids, drainage, and secretions.
- Monitor respiratory status and encourage coughing and deep breathing; perform chest percussion to loosen secretions if warranted.
- Perform regular orientation checks and reorientation as needed.
- Control pain of the patient.
- Do passive range of motion exercises to keep the patient's joints and muscles strong.

2. General Nursing management for Spinal Injury and Degenerative Spinal Injury

Pre Operative Nursing Care

- Monitor routine Vital Sign as prescribed intervals and PRN
- Give basic hygiene care until pt is independent + skin care Q4 hours
- Check Sign of thrombophlebitis – redness, warmth, swelling
- Turn pt Q2 hours
- Carry out ROM exercise four times per day
- Provide catheter care- remove asap
- Provide eye care
- Evaluate if pt, is restless for underlying causes – pain, cerebral edema
- Administer analgesics as ordered
- Do not combine nursing activities that are known to increase ICP in the pt at risk
- Monitor laboratory values

Post-Operative Nursing Care for Spinal and Degenerative Injury

- Assess respiratory function by asking patient to take a deep breath. Note presence or absence of spontaneous effort and quality of respirations (labored, using accessory muscles).
- Auscultate breath sounds. Note areas of absent or decreased breath sounds or development of adventitious sounds (rhonchi).
- Note strength or effectiveness of cough.
- Observe skin color for developing cyanosis, duskiness.
- Assess for abdominal distension and muscle spasm.
- Monitor and limit visitors as indicated.
- Monitor diaphragmatic movement when phrenic pacemaker is implanted.
- Elicit concerns and questions regarding mechanical ventilation devices.
- Provide honest answers.
- Maintain patent airway: keep head in neutral position, elevate head of bed slightly if tolerated, and use airway adjuncts as indicated.
- Assist patient in “taking control” of respirations as indicated. Instruct in and encourage deep breathing, focusing attention on steps of breathing.
- Assist with coughing as indicated for level of injury (have patient take deep breath and hold for 2 sec before coughing, or inhale deeply, then cough at the end of a slow exhalation). Alternatively, assist by placing hands below diaphragm and pushing upward as patient exhales (quad cough).
- Suction as necessary. Document quality and quantity of secretions.
- Reposition and turn periodically. Avoid and limit prone position when indicated.
- Encourage fluids (at least 2000 mL per day).
- Administer oxygen by appropriate method (nasal prongs, mask, intubation, ventilator).
- Assist with use of respiratory adjuncts (incentive spirometer, blow bottles) and aggressive chest physiotherapy (chest percussion).
- Refer and consult with respiratory and physical therapists.
- Deal with the management of unsterile activities in the operating area
- Document the nursing care of the patient. Eg. Assessment and Intravenous
- Movement of unsterile items out of surgical site
- Labeling and transporting specimens
- Is gowned and gloved and able to handle and pass sterile items into surgical field
- Boss of sterile field (Scrub nurse)
- Assist the actual procedures during operation
- Work collaboration with surgeon
- Handle, assist and use instruments during surgery

3. Neural tube defect

Pre-operative care for Neural Tube defect

- Monitor temperature pattern every 2 to 4 hours; Assess temperature of extremity present.
- Provide radiant warmer or place infant in an incubator (isolette) based on hypothermia evaluation keeping sac moist postoperatively.
- Educate parents on how to take temperature and notify of any changes.
- Educate parents regarding the appropriate amount of clothing and room temperature suitable for the infant/child.
- Put the child in prone with legs abducted
- Put the child in incubator or warmer area with cloths
- Apply dressing (moist ,no adhesion) to avoid drying of the area due to heat in the incubator

incubator

- Strictly use the sterile gauze to avoid re-infection
- Change dressing two-four hourly, to avoid drying
- Use normal saline or silver nitrate in dressing
- Gentle handling of child to avoid any risk of trauma
- Change the child's position every two hours or as ordered
- Check Vital signs and sign of increased ICP(Intra cranial pressure)
- Asses for the sign of hydrocephalous
- Measure the head circumference
- Prepare the mother psychologically
- Gently do range of motion of the extremities to the child

Post-operative care of Neural tube defect

- Position of the child in prone position to avoid pressure on suture or side lying position alternatively
- Monitor child's vital sign every 30 minutes until stable
- Use all measures to avoid any infection e.g hand washing
- Monitor input and output
- Encourage the mother to continue breastfeeding if the child is being
- Resume the feeding after the effect of an aesthesia
- Remove the dressing after 48 hrs to check any bleeding or bulging
- Psychologically, care the mother
- Observe for leakage
- Maintain passive range of motion of the extremities to promote circulation
- Give high fiber diet to the child (if above 6 month) to avoid constipation

- Counsel the mother on the condition of child's
- Teach the parents to observe the sign of complication eg. Convulsion
- Teach on the care of the child

Pediatrics Surgery

Management of acute abdomen in children

Preoperative interventions

1. Maintain NPO status.
2. Administer fluids intravenously to prevent dehydration.
3. Monitor for changes in level of pain.
4. Monitor for signs of ruptured appendix and peritonitis
5. Position right-side lying or low to semi fowler position to promote comfort.
6. Monitor bowel sounds.
7. Apply ice packs to abdomen every hour for 20-30 minutes as prescribed.
8. Administer antibiotics as prescribed
9. Avoid the application of heat in the abdomen.
10. Avoid laxatives or enema.

Postoperative interventions

1. Monitor temperature for signs of infection.
2. Assess incision for signs of infection such as redness, swelling and pain.
3. Maintain NPO status until bowel function has returned.
4. Advance diet gradually or as tolerated or as prescribed when bowel sound return.
5. If ruptured of appendix occurred, expect a Penros drain to be inserted, or the incision maybe left to heal inside out.
6. Expect that drainage from the Penros drain maybe profuse for the first 2 hours.

Documentation

Location, intensity, frequency, and duration of pain

- Response to pain medication, ice applications, and position changes
- Patient's ability to ambulate and tolerate food
- Appearance of abdominal incision (color, temperature, intactness, drainage)

Discharge and Home Healthcare Guidelines

- MEDICATIONS.** Be sure the patient understands any pain medication prescribed, including doses, route, action, and side effects. Make certain the patient understands that he or she should avoid operating a motor vehicle or heavy machinery while taking such medication.

□ **INCISION.** Sutures are generally removed in the physician's office in 5 to 7 days. Explain the need to keep the surgical wound clean and dry. Teach the patient to observe the wound and report to the physician any increased swelling, redness, drainage, odor, or separation of the wound edges. Also instruct the patient to notify the doctor if a fever develops. The patient needs to know these may be symptoms of wound infection. Explain that the patient should avoid heavy lifting and should question the physician about when lifting can be resumed.

□ **COMPLICATIONS.** Instruct the patient that a possible complication of appendicitis is peritonitis. Discuss with the patient symptoms that indicate peritonitis, including sharp abdominal pains, fever, nausea and vomiting, and increased pulse and respiration. The patient must know to seek medical attention immediately should these symptoms occur.

□ **NUTRITION.** Instruct the patient that diet can be advanced to her or his normal food pattern as long as no gastrointestinal distress is experienced.

Perioperative Anorectal malformation

Preoperative nursing care

- After birth, as soon as the anomaly is noticed, oral feeding should be withheld.
- I/V fluids are started to meet nutritional requirement
- Abdominal girth should be measured.
- Gastric compression should be done by nasogastric aspiration.
- Monitor vital signs; prepare the family psychologically for infant's surgery.

Intra operative nursing care

- Use general guideline

Postoperative nursing care

- I/V fluids are to be continued.
- Nasogastric suction is continued.
- Oral feeding are started when peristalsis returns.

For children with anorectal malformations, decades of support and medical management is needed from the second postoperative week with an anal dilation program through constipation or fecal incontinence management and the transition to adult care.

Constipation management

Aggressive constipation management is crucial to prevent further complications. The first line of defense is emptying the rectum each day using laxatives.

Enemas are often used but are not an ideal type of management. Sacral nerve stimulation has been used for idiopathic constipation but has not been evaluated fully for use in anorectal malformations.

Perioperative Abdominal wall defect in neonates

Preoperative nursing care

- Assess & document pain q1-4h & prn.
- o Use appropriate pain scale
- o Administer analgesia as ordered prn.
- o Assess effectiveness of analgesia (abdominal girth, if distention is an issue) 30-45 minutes post administration
- o If analgesia ineffective contact appropriate service i.e. General Surgery team and/or Acute Pain Service (APS)
- o Use distraction techniques as appropriate. Use: warm blankets, Child Life, pt. specific i.e. personal blanket or stuffy
- o Assist with repositioning q2-4h and prn
- o Initiate fluids as ordered
- o Daily weights using same scale
- o Keep HOB elevated if ordered, otherwise nurse flat.
- o Advance diet as ordered/tolerated.
- o Advocate Occupational Therapy as directed by General Surgery
- o Dietician as required to optimize weight gain.
- o Assess and document accurate intake and output
- o Maintain IV as ordered.
- o Check site q 1 h and prn
- o Assess IV site using TLC
- o Advance diet as ordered/tolerated
- o Assess and document accurate intake and output q1-4h and prn
- o Maintain NG as ordered
- o Replace NG losses as ordered q4h

Post-operative nursing care

- Orientate family to unit and hospital routines
- Involve family in patient transfer and establishing patient careplan and routines.
- Establish autonomy and control by structuring the plan of care with the caregiver at the start of the shift.
- Encourage questions and discussion
- Encourage the use of the whiteboard in the patients room to promote communication.
- Collaborate with family regarding goals for hospitalization
- Consult lactation services if Mom is planning to breastfeed.

- Offer support services if required i.e. Social Work, Community Nurse, Pastoral Care, Psychology, Child Life and Volunteer Services, First Nations Advocate, etc.

Perioperative Infantile Hypertrophic Pyloric Stenosis (IHPS)

Preoperative nursing care

If bottle-fed, use compressible bottle, longer nipple, larger hole in nipple, any other special device for feeding this infant.

Feed slowly in upright position and bubble frequently Keep bulb syringe and suction equipment at bedside Position on side after feeding². What nursing interventions does the nurse utilize to achieve these goals?

Home care: breastfeeding may be possible if child has a small cleft; compressible bottle will prevent a child from having to suck, longer nipple may allow the milk to be swallowed without entering the nose. Keep child in an upright position during feedings; burp frequently

Explain why the nurse would include frequent burping in teaching the parents/caregivers of this infant. Frequent bubbling decreases amount of air in stomach because increase air intake is a problem. If the air is not removed, causes distention and colic symptoms, increase passing of flatus.

Therapeutic Management Surgical Correction

A number of professionals are involved including surgeons, nurses, ear, nose, and throat specialists, audiologists, speech therapist, orthodontists, and plastic surgeons.

Post-Op Care

Do not allow to suck Maintain upper arm restraints Position supine No hard objects in mouth- straws, pacifiers, spoons

Do not take temperature orally Reduce Pain Mild analgesics and sedatives Parents to provide, holding, rocking, and parental voices⁴. What are measures to prevent pain, trauma and infection to the suture line post-operatively?

Post-op Care Prevent Infection Cleanse suture lines as ordered

rinse with water after each feeding Use cotton swab, use rolling motion vertically down suture line

Apply anti-infective ointment as ordered

Call Doctor for any swelling or redness, bleeding, drainage, fever

Make early Referrals to appropriate team members

Assess for Complications

Otitis media, hearing loss, speech difficulties, growth, altered dentition.

Perioperative Acute Scrotum

Preoperative nursing care

- Educating the patient on scrotal disorders like epididymitis which may be associated with sexual activity. Patients who have been diagnosed with torsion should be told to avoid sporting activities unless cleared by the urologist, as there is a small risk of recurrence.
- Educate patient on surgery for testicular torsion
- Pain relief
- Antibiotics for acute epididymitis
- Keep patient NPO if testicular torsion
- IV fluids if patient going for surgery

Intra operative nursing care

- Use general guide line

Post-operative nursing care

- Pain relief
- Educate patient on management of acute epididymitis
- Hand washing and prevention of infection
- Safe sex practices
- Wound check
- Urine output
- Manage anxiety
- Monitor vital/cognitive signs, watching for changes in blood pressure, heart & respiratory rate.
- Monitor Input and Output.
- Obtain patient history to ascertain the probable cause of the fluid disturbance.
- Assess or instruct patient to monitor weight daily and consistently, with same scale and preferably at the same time of day.
- Evaluate urine output in response to diuretic therapy.
- Provide adequate activity or position

Perioperative Foreign body swallow and aspiration

- Assess vital signs
- Get a history from the parents
- Assess for respiratory distress
- Listen to the chest for wheezing
- Provide oxygen if saturations are low
- Start two large-bore IVs

- Keep patient NPO in case endoscopy is required
- Provide comfort care
- Suction to ease drooling
- Check x-ray report for the location of the foreign body
- Educate caregiver on safe storage of toys and keeping small objects away from the child
- Assess the mental status of the child to ensure that it was not the cause of the foreign body ingestion
- Respiratory distress
- Chocking
- Low oxygen saturation
- Cyanotic
- No air entry in the lungs
- Unstable vital signs

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