Dr . Thair Radhi **LECTURE 1**

Peri-operative nursing

The peri-operative period is the time (before(**pre**), during(**intra**), and after(**post**)

Phases of peri-operative period

1-Preoperative phase:

2-Intra operative phase :

3-Post-operative phase

Classification of surgical procedure is:

1-**Based on Urgency**

a- Emergency surgery: Is performed immediately to the life of the client without delay ex. Intestinal obstruction,. gunshot wound, sever bleeding or repair a fracture

b - Elective surgery: Is performed when surgical treatment but it is not imminently life threatening, ex. (Hernia, hemorrhoid ectomy), repair of scar

c- Urgent surgery: must be done within a reasonably short time frame to preserve health, (Usually done within 24–48 hours) ex. appendectomy

2- surgical procedure are classified according to Degree of risk:

a- Major surgery: Involves a high degree of risk produce high compilation such as open heart, nephrectomy

b - Minor surgery: Involves little risk produce few complications such as tonsillectomy

3-Based on Purpose

a – diagnostic: ex. Biopsy of mass in a breast

b – Palliative: Relives or reduce pain or to relieve symptoms of disease ex. Resection of nerve roots

c – Ablative: Remove of diseased organs. (ectomy) ex. Remove of the gall bladder (cholecystectomy) e.g. appendectomy, hysterectomy, thyroidectomy

d – Constructive: Restores function or Repair of congenitally defective organ, e.g. Orchidopexy , repair cleft palate and lip

e – Transplant: Replace malfunctioning structure ex. Hip replacement

f- Reconstructive: To restore function to traumatized malfunction tissue

Ex. Skin graft, plastic surgery

g-Exploratory: To estimate the extent of the disease, e.g. : laparotomy

h-Cosmetic: To improve appearance, e.g. septoplasty
i-Optional: Surgery that a client request. E.g., mammoplasty

Factors affecting surgical risk

1. Physical and mental condition of the client:

- Age: premature babies and elderly persons are at higher risk.
- Nutrition status: malnourished and obese are at risk.
- State of fluid and electrolyte balance: dehydration and hypovolemia predispose a person to complication.
- General health: infectious process increase operative risk.
- Mental health:
- Economic and occupational status

2. Type of drugs taken regularly:

- Steroids
- Antibiotics
- Anti-hypertension
- Diuretics
- Alcohol
- Insulin

Preoperative Phase

Is The period of time from when decision for surgical intervention is made to when the patient is transferred to the operating room table.

1-Nursing Management

2-Nursing activities associated with this phase include

3-Identify factors that may place the patient at greater risk for complication

during and after surgery

The degree of risk involved in the surgical procedure are

-Age

-General heath

-Nutritional status

-Medication

-Mental status

The nursing Process for Preoperative care

1-Assessment: Identifying potential or actual health problems, planning specific

and providing preoperative teaching. To determine the client needs both pre- and post-operative.

Past medical history Nursing :

-Current health status, presence of chronic disease (diabetes, asthma),

physical limitation, ability to communication

-Allergies to medications, (penicillin, food)

-Medication (corticosteroids, anticoagulants, aspirin)

-Bleeding tendencies or the use of medications that determine clotting, such as aspirin, heparin, and warfarin sodium.

-Herbal medications may also increase bleeding time
-Diabetes mellitus, a condition that not only requires strict control of blood glucose levels but also known to delay wound healing.
- Emboli, previous embolic events (such as lower leg , blood clots) may recur because of prolonged immobility
-Malnutrition

-**History of previous surgery**

-Mental status (ability to understand)

-Understanding of surgical procedure and anesthesia -

-Smoking history and alcohol ingestion

-Social resources

-Cultural consideration

Screening tests

1-Complete blood count (RBC, WBC, hemoglobin (Hgb) Hematocrit

2-Blood grouping and cross matching, blood typing, cross-matching, PT/PTT (prothrombin time, partial thromboplastin time)

+Ca+ ,Mg ,+3-Serum electrolyte(Na3, K, Ca+ ,Mg,CL)

4-Fasting blood glucose

5-Blood urea nitrogen (BUN) and creatinine

6-LDH, ALT, AST, and bilirubin

7-urine analysis

8-Chest x-ray and 9- ECG

Physical preparation

On the night of the surgery:

Prepare the client's skin: shave against the grain of the hair shaft to ensure clean and close shave.

Preparing the GIT:

1. NPO after midnight.
2. Administration of enema may be necessary
3. Insertion of gastric or intestinal tube .

- Preparing for anesthesia

Promoting rest and sleep: use of drugs

On the Day of Operation

Early morning care: about 1 hour before the pre-operative medication schedule:

- Vital signs taken and recorded promptly.
- Patient changes into hospital gown that is left untied and open at the back.
- Braid long hair and remove hair pin.
- Provide oral hygiene.
- Prosthetic devices, eyeglasses, dentures removed.
- Remove jewelries and polish.
- Patient should void immediately before going to the OR.
- Make sure that the patient has not taken food for the last 10 hours by asking the client.

Pre- Operative Medications

Generally administered 60-90 min before induction of anesthesia surgery

Types of Pre-Operative medications:

1. Sedative:

- Promote sleep and decrease anxiety e.g. midazolam

2. Anticholinergic:

- Decrease respiratory secretion e.g. glycopyrrolate.

3. Antianxiety:

- Reduce anxiety e.g. lorazepam.

4. Narcotics:

- Decrease the amount of anesthesia needed in OR e.g. Demerol.

5. Antibiotic:

- Destroy enteric microorganism e.g. levofloxacin

Pre-operative teaching

1.Deep breathing and coughing
2. exercises To prevent pneumonia
3. Incentive spirometer
5. Turning & moving, leg exercise to prevent DVT
6 .Pain management.

Informed Consent", Surgical Consent; Permission obtained from a patient to perform a specific test or procedure.

o Surgical procedure, alternatives, possible complications, disfigurements, or removal of body parts are explained

o Adult client (over 18 years of age) signs own permit unless unconscious or mentally incompetent.

Consents are not needed for emergency care if all four of the following criteria are met:

o There is an immediate threat to life

o Experts agree that it is an emergency
o Client is unable to consent
o A legally authorized person cannot be reached

2-Nursing Diagnosis for the preoperative client include:

-Deficient Knowledge (preoperative routine, postoperative care)

Fear related to-

1-Effects of surgery on ability to function in usual roles

2-Risk of death

3-Loss of control during anesthesia or waking up during anesthesia

-Disturbed sleep pattern related to

1-Hospital routines

2 -Psychological stress

- Ineffective coping related to

1-Lack of clear outcome of surgery

2-Unresolved past negative experience with surgery

3-Planning of the nursing care

1-To ensure that the client is mentally and physically prepared for surgery

2-The length of the preoperative period affects preoperative care planning

3-When the client is admitted several days before surgery a nursing care plan * and teaching plan can be developed

4-When the client admitted the day of surgery, preoperative care, planning and * teaching may be done on an outpatient basis or by surgeon's office, or on same day of surgery

4-Implementing of Preoperative teaching is a vital part of nursing care

1-Reduces client's anxiety

2-Postoperative complications

3-Increase satisfaction with surgical procedures

Preoperative teaching has been identified as

-Information, including what will happen to the client, when and the client

will experience (sensation, discomfort)

-**Skills training**: These include moving, deep breathing, coughing , splinting incisions with hand\and pillows and using an incentive spirometer.

-The nurse provides support by actively listening and providing accurate information.

5-Evaluating phase: The nursing evaluates success at preoperative. Teaching and promoting the client's physiological function, rest and physical comfort. However, evaluation of this intervention must also continue after surgery

Intra operative phase

Is the Period of time from when the patient is transferred to the operating room table to when he or she is admitted to the post-anesthesia care unit (PACU)

Anesthesia is classified as

1-**General anesthesia**: Is the loss of all sensation and consciousness

2-Regional anesthesia: Is the temporary interruption of transmission of nerve

.impulses to and from a specific area of the body but remains conscious

3-Spinal anesthesia

4-Topical anesthesia*

5-Local anesthesia*

Positioning the Client

1-Supine: hernia repair, explore lap, cholecystectomy, mastectomy
2-Prone: spine surgery, rectal surgery
3-Trendelenburg
4–Lithotomy position
5-thyroidectomy - head hyperextende

Dr . Their Radhi **LECTURE (2)**

Postoperative phase

Is begins with the admission of the client to the post anesthesia area and ends when healing is complete

The clients are usually discharged from the post anesthetic care unit (PACU)

.They are conscious and oriented *

.They are able to maintain a clear airway and deep breathe and cough freely *

.Vital signs have been stable or consistent with preoperative vital signs for at *

.least 30 minutes

.Protective reflexes (e.g gag, swallowing) are active *

.They are able to move four extremities *

.(Intake and output is adequate (at least 30 mL/hr *

.Dressing are dry and intact: there is no overt drainage

The nursing process for Postoperative phase

Assessing

As soon as the client returns to the nursing unit, the nurse consults the surgeon's

postoperative orders to learn the following

Food and fluids permitted by mouth*

Intravenous solution and intravenous medications*

Position in bed*

medication ordered(e.g., analgesics, antibiotics)*

laboratory tests*

.Activity permitted, include ambulation*

The nurse also checks the PACU record for the following data:

Operation performed *

Present and location of any drains *

Anesthesia used*

Postoperative diagnosis*

Estimated blood loss*

Medication administration in the recovery room*

In some agencies, assessments are made every 15 minutes until vital signs .stabilize, every hour for the 4 hours then every 4hours for the next 2 days

The nurse assesses the following;

1-Level of consciousness (assess reaction to verbal stimuli and the ability to .move extremities

2-Vital signs (P. Respiration. B.P and oxygen saturation level) every 15 minutes until sable

3-Skin color and temperature :(the lips and nail beds) indicate tissue perfusion

4-assess pain

5-Fluid balance: Assess the type and amount of intravenous fluid, flow rate and infusion site Monitor the clients fluid intake and output. In addition to ,watching for shock

6-Dressing and bedclothes

7-Drain and tubes. Determine color, consistency, and amount of drainage from all tubes and drains

Diagnosing

Actual and potential NANDA diagnoses for the postoperative client include

Actual pain*

Risk for infection*

Risk for injury*

Risk for deficient fluid volume*

Ineffective airway clearance*

In effective breathing pattern*

Self-care deficit: Bathing/Hygiene, dressing/grooming ,toileting*

Ineffective health maintenance*

.disturbed body image*

Implementing: Nursing intervention designed to promote client recovery and prevent complications include

1-Pain management

Pain is usually greatest 12 to 36 hours after surgery, decreasing after the second or third postoperative day. During the initial period , patient controlled analgesia should administer every 2 to 6 hours)

2-Positioning-

Positioning the client as ordered. Clients who have had spinal anesthesia usually lie flat for 8 to 12 hours. Change positions in bed every 1-2 hrs. Observe the client's dressing regularly for evidence of bleeding

3-Deep Breathing and Coughing Exercises

Breathing exercises at least every 2 hrs. While the client a wake

4-Leg Exercises

5-Moving and ambulation (Early ambulating

6-Hydration

7-Diet (Help to maintain proper fluid, electrolyte and food intake

8-Urinary elimination and elimination: Assess for the return of peristalsis every -8 hours. Normal peristalsis may not return for 2-3 day's. Passing gases is a sign 8-4 for normal bowel function

9-Suction (Be alert to an obstruction in the airway

The common post-operative discomfort:

. Nausea and vomiting

.Pain .

.Hiccups .

.Urinary retention .

.Anxiety and insomnia . And thirst

Postoperative complication

1-Immediate complication

.The complication occurs in patients who received prolonged or deep anesthesia

.a. Respiratory difficulties

b. Circulatory failure.

2-Later complication

.a. Shock

.b. Hemorrhage

.c. Wound infection

.d. Atelectasis

.e. Respiratory tract infection

.f. Urinary tract infection

.g. Thrombo phlebitis

.h. Pulmonary embolism

.i. Emotional disturbance

Nursing care of post – operative complication:

1-Hemorrhage : Is excessive blood loss owing to the escape of blood from resells in a short period of time

Signs and symptoms

Bleeding from external or internal place .

. Plus .

. Hypotension .

. Thirst .

. Pale .

. Cold and moist skin .

. Restless and anxiety .

.Rapid respiration .

. Unconscious .

Nursing care:

. 1-Apply pressure dressing on bleeding site .

. 2-Checking dressing regularly .

. 3-Check vital signs .

. 4-Nursing care of pt. on shock .

. 5-Compensate the blood loss .

2-Wound infection

: Signs and symptoms

. 1-Redness .

. 2-Tenderness .

. 3-high temp .

4-Drainage with bad odor .

. Rapid pulse rate .

Nursing care:

. Clean and irrigate at the wound .-

. Good nutrition and fluid .-

. Strict aseptic techniques in dressing .

. Be prepared to administer antibiotic .

3-Thrombo phlebitis .

Is an inflammation in a vein associated with thrombus (blood clot)

: Signs and Symptoms

. 1-Pale and cramping in the calf of the leg .

. 2-Swelling / edema .

. 3-Fever some time with chill .

. 4-Redness in area .

Nursing care

. Teach the pt. To do the exercise of leg and feet .

. Wrap the legs from toes to groin with elastic material .

. Bed rest .

. Elevate the leg to reduce pressure .

. Don’t massage the leg .

. Anticoagulant as order (heparin I.V) and analgesics as order .

5-Pulmonary embolism .

Is an obstruction of a blood vessel in the lungs, usually due to a blood clot, which blocks a

coronary artery (By clot or any foreign matter

Signs and Symptoms

. 1-Shortness of breath .

. 2-Sharp chest pain .

. 3-Rapid pulse .

. 4-Rapid Resp .

5-Coughing sometimes with hemoptysis.

6-Hypoxia .

Nursing care

. Bed rest .

. Sime fowler position to prevent dyspnea .

. O2 theory as ordered .

. Checking vital signs .

. Maintains fluid and electrolyte balance .

. Control pain with prescribed drugs .

. Emotional support .