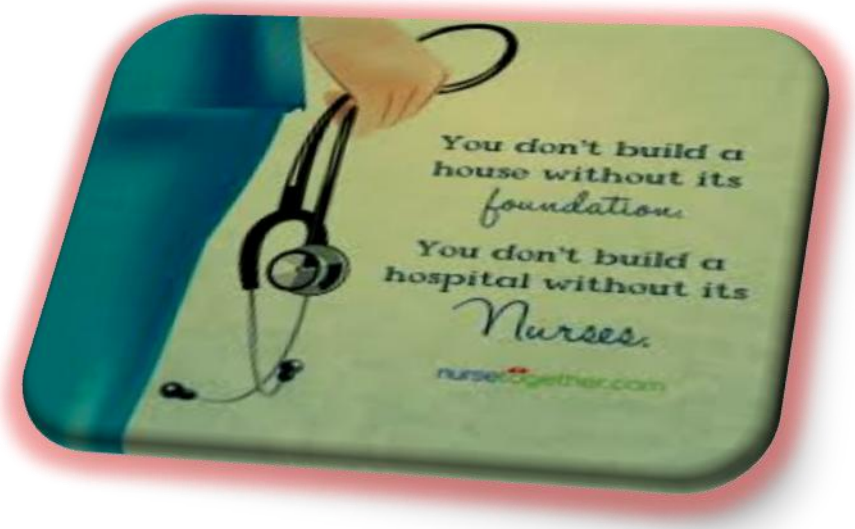
MINISTRY OF HIGHER EDUCATION & SCIENTIFIC RESEARCH
SOUTHERN TECHNICAL UNIVERSITY

Fundamental of Nursing

Presented to the first class students
Of
Institute of Medical Technology-Amara
Department of Nursing

Designed by
Ali Kadhim al-Bayati
B.Sc.Nursing



2018-2019

Lec:1

Health and its maintain

✓ Health:

A state of complete physical, mental, social well being and not the absence of disease or infirmity.

✓ Factors that affecting health.

1. Environmental pollution.
2. Nutrition and food.
3. Illiteracy poverty and traditions.
4. Micro- organisms.
5. Medications and treatments.

* Enumerate the factors that affected health .

✓ The role of the world health organization in maintenance of health:

1. Control of communicable disease.
2. Research work.
3. Diversion and recreation.
4. The health environmental controlled.
5. Personal care and hygiene.
6. Body alignment and activity.
7. Nutrition and fluid.
8. Elimination.

✓ The basic daily human needs of individuals:

1. Health environment.
2. Sleep and rest.
3. Nutrition and fluid.
4. Elimination.
5. Personal care and hygiene.
6. Body activity.
7. Mental, emotional and spiritual support.

* What is the basic daily needs of individual ?

✓ Factors that affecting health environment:-

1. Health housing.
2. Temperature and humidity of the air.
3. Ventilation.(air circulation)
4. Lighting.
5. Quietness.
6. Order lines.
7. Safety of the environmental.

Hospital and its divisions

✓ Definition of hospital:

Place where people are treatment for, nursed through, their illness or injuries.

✓ Functions of hospitals:

1. Care of the patient (pt.).
2. In service education.
3. Promotion of the level of heath.
4. Scientific researches.

*Mention the function of hospital.

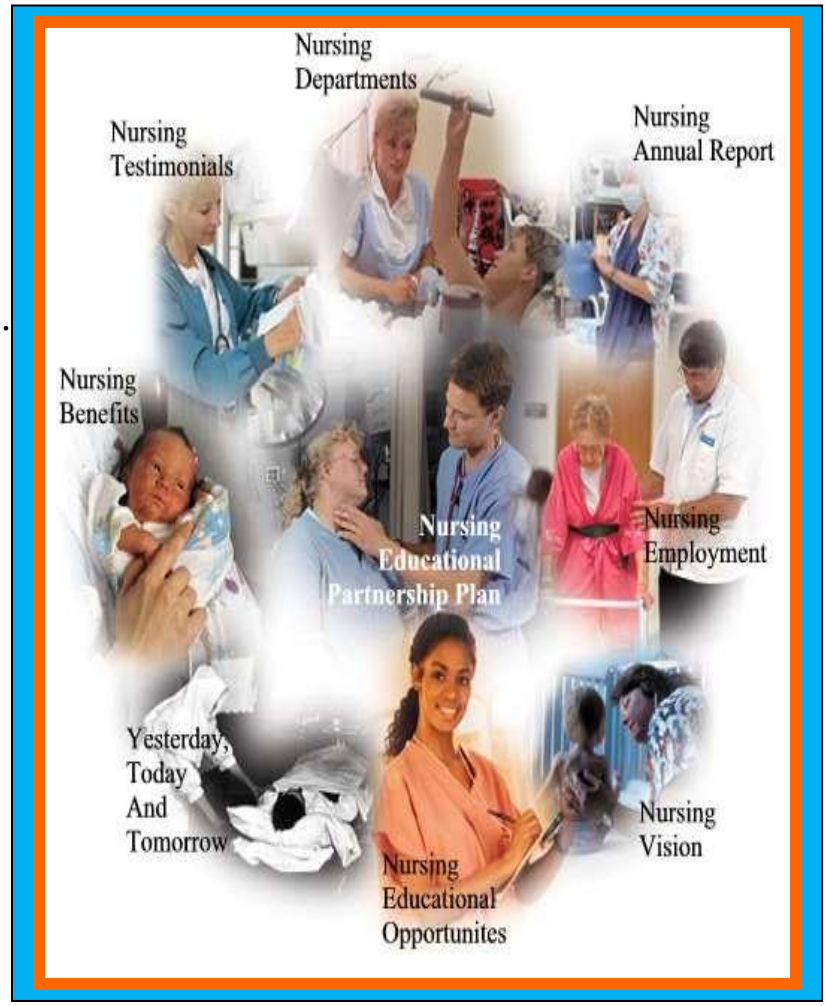
✓ Classification of hospitals:

1. General hospitals.
2. Special hospitals. (Private) e.g. mental, surgical,…

✓ Administration and ownership:

1. Governmental.
2. Non governmental or private.

✓ Division of the hospitals:



1. The admitting department.
2. Medical staff.
3. Nursing department.
a. Director of Nurse.
b. Assistant director Nurse.
C. Supervision of patients units.
d. Head Nurse.
4. The clinical department.
a Medical worlds.
b. Surgical worlds.
5. The medical therapy facilities.
a. Clinical laboratory test.
b. X ray department.
c. Anesthesia department.
d. Electro encephalography department (E.E.G).
e. Electro cardiograph department (E.C.G).
f. The pharmacy.
h. Dental service department.
i. Electroconvulsive therapy department.
j. The out patient department.
k. The medical social service department.
l. The medical records department.
m. The central supply department.
n. The dietary department.
o. Engineering service department.
p. Laundry department.
q. The hospital library department.

✓ Definition of Nurse:

Is a person who has completed a programmed of basic nursing education and is qualified and authorized in her/ his country to practice nursing.

✓ Qualification of Nurse:

1. Mental and physical health.
2. Well educated.
3. An integrated personality.
4. Good power of observation.
5. Good memory for details.
6. Manual dexterity.
7. A calm, clear, pleasant speaking voice.
8. Normal hearing ability and a willingness to listen.
9. A sense of discipline and responsibility.
10. An optimistic attitude toward life and success

✓ Definition of Nursing:

As an art, science and spiritual in the giving of health nursing to help people to be in a good status and prevent illness.

* What is the meaning of nursing ,& enumerate the qualification of nurse ?

• *Recipients of Nursing*

The Recipients of Nursing are sometimes called ***consumers,*** sometimes ***patients,*** and sometimes ***clients.***

a) ***A consumer*** is an individual, a group of people, or a community that uses a service or community. People who use health care products or services are consumers of health care.

b) ***A patient*** is a person who is waiting for or undergoing medical treatment and care. The word patient comes from a Latin word meaning "to suffer" or "to bear". Traditionally, the person receiving health care has been called a patient. Is an individual who requires assistance to achieve health or peaceful death.

c) ***A client*** is a person who engages the advice or services of another who is qualified to provide this service. The term client presents the receivers of health care as collaborators in the care, that is, as people who are also responsible for their own health.

The basic needs of the patient:

1- Breath normally.
2- Eat and drink adequately.
3- Eliminate body wastes.
4- Move and maintain desirable position.
5- Sleep and rest .
6- Select suitable clothes, dress.
7- Maintain body temperature within normal range.
8- Keep the body clean.
9- Avoid dangers in the environment and avoid injuring other.
10- Communication with others in expressing emotions and needs.

✓ Patient units:

Is the place that the patient occupies when he/ she enters the hospital, it include the following :

(Bed, mattress, blanket, sheets, table bedside, dish soap, urinal, bed pan, wheel chair, jug, glass).

Lec:2&3

Admission and discharge of Patient from hospital

Admission the patient to the hospital is whether scheduled or follows emergency.

✓ The goals of admission of patient.

1. To assess the clinical status of patient.
2. Make him as comfortable as possible in his new environment.
3. Complete the treatment that he/ she need to become well being.

* What is the goals of administration of patient to the hospital ?

✓ Information that record by the nurse when the patient admitted the hospital.

1. Information about the patient includes, his name, address, age, date of birth, religion, sex, marital status, occupation or school, telephone number, nearest relative for emergency.
2. Doctor recommending admission.
3. Provisional diagnosis.
4. Check vital signs (temperature, pulse, respiration and pressure).
5. Measure weight and recorded.
6. Obtained the specimen of urine, tested and charted.
7. All valuables and money take home by relatives.
8. History of disease recorded by doctors. And record the doctors order and reason for admission .

✓ Observation made by Nurse:

1. General reaction of patient e.g. anxiety.
2. Cleanliness of clothes, skin, hair, mouth.
3. Abnormalities of skin and other structure.
4. Complaints of patient e.g. pain, breath lessens.
5. Last passing of urine, stool, menstruation.
6. Medication brought with patient.

✓ Discharge from hospital:

1. Discharge planning aims' to teach the patient and his family about his illness and its effect on his life-style.
2. Provide the patient instruction for home care about the diet and the activity of patient.
3. Arrangement made for suitable transport.
4. Give written instruction regarding treatment.
5. Follow up care if necessary, like made dressing if the patient had operation.

✓ After discharge of the patient:

1. Sends linen and blankets to laundry.
2. Sends mattress and pillow to autoclaved.
3. Wash the bed and table bedside.
4. Locker scrubbed out.

The nursing process (ADPIE)

Definition : An organized sequence of problem-solving steps used to identify and to manage the health problems of clients.

1. **Assessing:** is the act of reviewing a human situation from a data base in order to diagnose, potential client problem.**(History taking, Physical examination) .**
2. **Diagnosis:** is the first diagnosis when the patient entered the hospital, it done by the signs and symptoms that patient compliant .
3. **Planning:** the nurse put her/ his nursing planning from the information of the patient compliant (**Setting priorities, Establishing goals for nursing action, Establishing expected outcomes, Team planning**) **Formulating the nursing care plan** .
4. **Implementation:** is the complete of action to accomplish nursing care plan, it dependent on the nature of problem, condition of the client as well as action of planned (**Nursing assurance, Outcome criteria**) .
5. **Evaluation:** is the effect of action (**Quality assurance, Outcome criteria**).

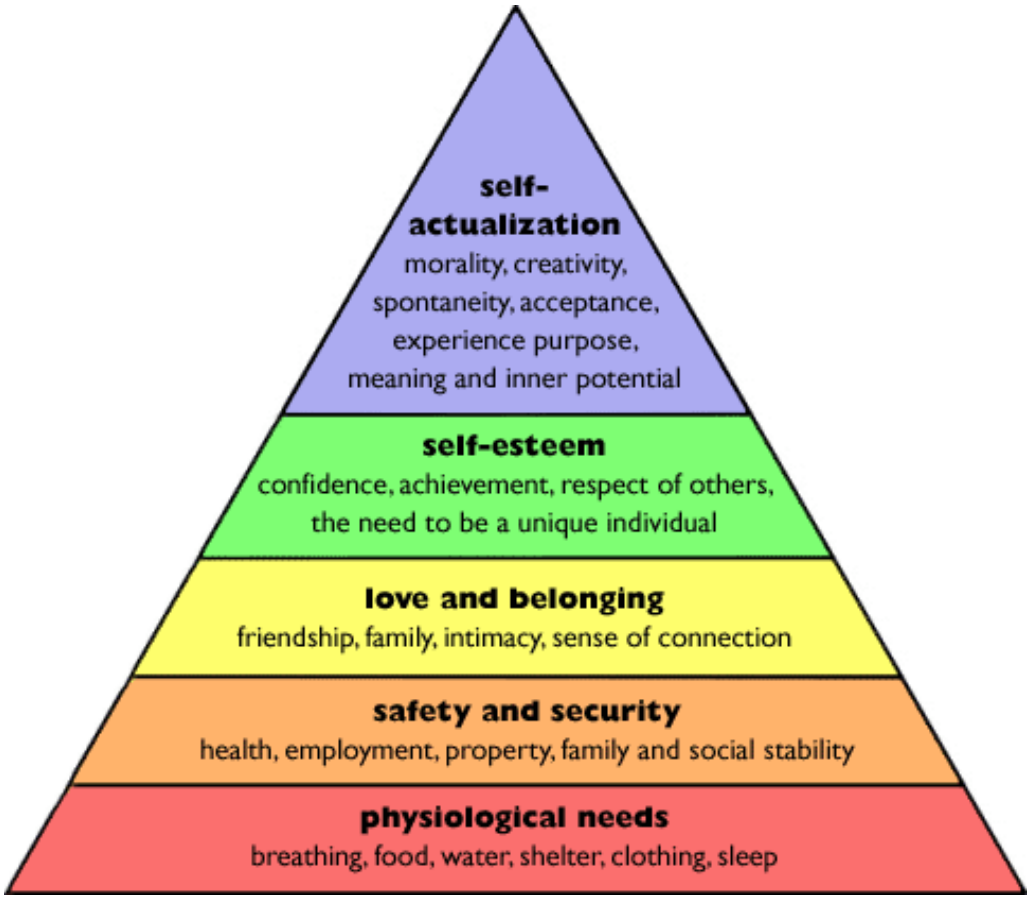
* Mention nursing process .

Medical Diagnosis vs. Nursing Diagnosis

Medical Diagnosis	Nursing Diagnosis
Determined by : • Indicates disease, illness Ex. Appendicitis, Anxiety, Depression, Myocardial Infarction , etc.	Determined by : • Clinical judgment about the client • Human response to disease or treatment Ex: Chest pain (**problem**) related to decrease coronary blood flow (**etiology**) as manifested by facial expression (**characteristics**)

✓ Nursing Diagnosis

Prioritize your nursing diagnoses based on Maslow's hierarchy of needs



Documenting care

Is the written , legal record of all pertinent interaction with the patient assessing , diagnosing , planning , implementing and evaluation to facilitate patient care .

Patient record

Is a compilation of patients health information

❖ Purposes of Patient Records

1. Communication : between health care professionals
2. Care planning : patient responding to treatment from day to day .
3. Education : for the manifestations and treatment
4. Decision analysis.
5. Research .
6. Legal documentation.

Methods of Documentation

1. **Source – oriented records :** one in which each health care group keeps data on its own separate form .
2. **Problem- oriented medical records:**

POMR is organized around a patients problems rather than a round sources of information .

3. **Charting by exception:**

Is a shorthand documentation method that makes use of well-defined standards of practice

4. **Computerized records.**

Lec:4

Nursing Health Assessments

• Components of a Health Assessment

i. **Health history** — focus on interviewing skills
ii. **Physical assessment:** (head- to- toe sequence, or systems sequence)

Definition of Health History : Systematic collection of subjective data which stated with client, and objective data which observed by the nurse.

✓ Phases of taking health history

Two phases:-

- The interview phase
- The recording phase

✓ Types of Nursing Health History

i. **Complete health history:** taken on initial visits to health care facilities.
ii. **Interval health history:** collect information in visits following the initial data base is collected.
iii. **Problem- focused health history:** collect data about a specific problem.

• Components of Health History

1. **Biographical Data:** This **includes**

- Full name
- Address and telephone numbers (client's permanent contact of client)
- Birth date and birth place.
- Sex
- Religion and race.
- Marital status.
- Social security number.
- Occupation (usual and present)
- Source of referral.
- Usual source of healthcare.
- Source and reliability of information.
- Date of interview.

2. Chief Complaint: "Reason For Hospitalization".

Examples of chief complaints:

- Chest pain for 3 days.
- Swollen ankles for 2 weeks.
- Fever and headache for 24 hours.
- Pap smear needed.
- Physical examination needed for camp.

3. History of present illness :

Gathering information relevant to the chief complaint, and the client's problem, including essential and relevant data, and self medical treatment.

Component of Present Illness :

- Introduction: "client's summary and usual health".
- Investigation of symptoms: "onset, date, gradual or sudden, duration, frequency, location, quality, and alleviating or aggravating factors".
- Negative information.
- Relevant family information.
- Disability "affected the client's total life".

4. Past Health History:

The purpose: (to identify all major past health problems of the client)
This includes:

- Childhood illness e.g. history of rheumatic fever.
- History of accidents and disabling injuries
- History of hospitalization (time of admission, date, admitting complaint, discharge diagnosis and follow up care.
- History of operations "how and why this done"
- History of immunizations and allergies.
- Physical examinations and diagnostic tests.

5. Family History :

The purpose: to learn about the general health of the client's blood relatives, spouse, and children and to identify any illness of environmental genetic, or familiar nature that might have implications for the client's health problems.

- Family history of communicable diseases.
- Heredity factors associated with causes of some diseases.
- Strong family history of certain problems.
- Health of family members "maternal, parents, siblings, aunts, uncles…etc.".
- Cause of death of the family members "immediate and extended family".

6. Environmental History:

Purpose

"to gather information about surroundings of the client", including physical, psychological, social environment, and presence of hazards, pollutants and safety measures."

7. Current Health Information :

The purpose is to record major, current, health related information.

- Allergies: environmental, ingestion, drug, other.
- Habits "alcohol, tobacco, drug, caffeine"
- Medications taken regularly "by doctor or self prescription
- Exercise patterns.
- Sleep patterns (daily routine).
- The pattern life (sedentary or active).

8. Psychosocial History :

Includes :

- How client and his family cope with disease or stress, and how they responses to illness and health.
- You can assess if there is psychological or social problem and if it affects general health of the client.

9. Review of Systems (ROS) :

Collection of data about the past and the present of each of the client systems.
(Review of the client's physical, sociologic, and psychological health status may identify hidden problems and provides an opportunity to indicate client strength and liabilities).

Physical Systems

Which includes assessment of:-

- General review of skin, hair, head, face, eyes, ears, nose, sinuses, mouth, throat, neck nodes and breasts.
- Assessment of respiratory and cardiovascular system.
- Assessment of gastrointestinal system.
- Assessment of urinary system.
- Assessment of genital system.
- Assessment of extremities and musculoskeletal system.
- Assessment of endocrine system.
- Assessment of heamatoboitic system.
- Assessment of social system.
- Assessment of psychological system.

10. Assessment of Interpersonal Factors :

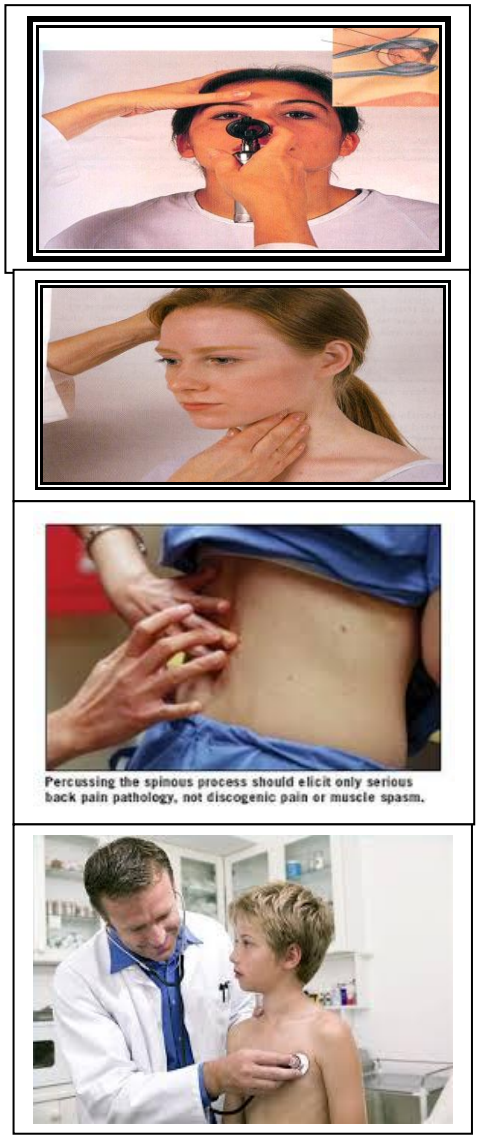
This **includes** :-

- Ethnic and cultural background, spoken language, values, health habits, and family relationship.
- Life style e.g. rest and sleep pattern
- Self concept perception of strength, desired changes
- Sexuality developmental level and concerns
- Stress response coping pattern, support system, perceptions of current anticipated stressors.

Lec:5&6

Physical examination

✓ Techniques of physical examination:



1. **Inspection method:** it involves the visual sense, such as looking to observe the color of skin, or listening to the quality of voice or smelling the characteristic of an odor.
2. **Palpation method:** involves the sense of touch or the examiner used his hand, fingers to feel or press on the body for tenderness or soft or masses.
3. **Percussion method:** tapping a particular area of the body, either with the finger or with percussion hummer.
4. **Auscultation method:** use the sense of hearing to interpret sounds made the body usually is performed with the aid of stethoscope to listens heart sound.

* Enumerate the type of physical examination .

Commonly instruments used:

1. **Ophthalmic scope:** to see various structures in side of the eye.
2. **Otoe scope:** to see interior of the external ear.
3. **Tuning fork:** to test hearing.
4. **Percussion hummer:** to test reflexes and determine tissue density.
5. **Tone meter:** to test pressure within the eye.
6. **Vaginal speculum:** to examine the vagina and cervix.

Other equipment:

Tongue depressor, skin pencil, tape measure, safety pins, light, cotton, test tubes, gloves, lubricant, paper towels, and waste container.

✓ Methods of observation of patient by nurse.

1. **Visual observation (Inspection method) :** includes physical characteristics facial expressions, behavioral response to interaction with other, and posture of the person being observed **. (looking)**
2. **Auditory observation (Auscultation method) :** includes a person's cough, breathing sounds and heart sound **. (listening)**
3. **Tactile observation (Palpation method):** includes the warmth of skin, the nature of pulse and size of various body organs. **(touching)**
4. **Percussion method** (**by hands and fingers**)
5. **Olfactory observation :** includes the odor of drainage from a wound, stool and the odor of breath . **(smelling)**
6. **Manipulation :** By movement of part body such as hand, head, and neck, for nursing diagnostic related to nervous system, muscular system, and mental system.

* How you observe the patient when he/she inters hospital .

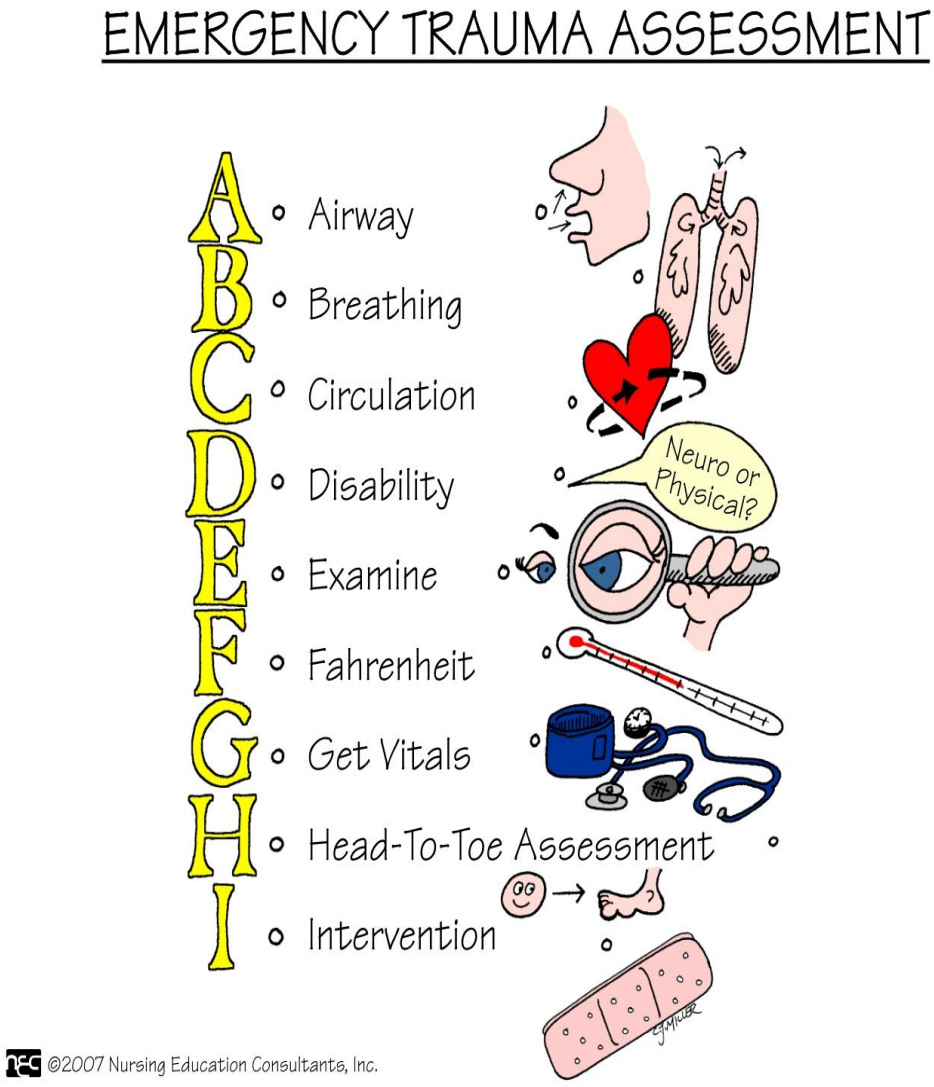
Preparing the patient for Physical Assessment:

1. Prepare equipment needed for assessment (stethoscope, torch, disposable gloves, pin,…)
2. Wash hands.
3. Have good lightening (daylight or artificial). Answer patient questions directly and honestly.
4. Explain to the patient what we do.
5. Undress the wear the patient gown.
6. Empty urinary bladder.
7. Provide privacy to the patient.
8. Draping the client.
9. Put the patient in good position.
10. Assessing the patient in his/ her position as well as his health status.

* How you prepare the patient to the examination .

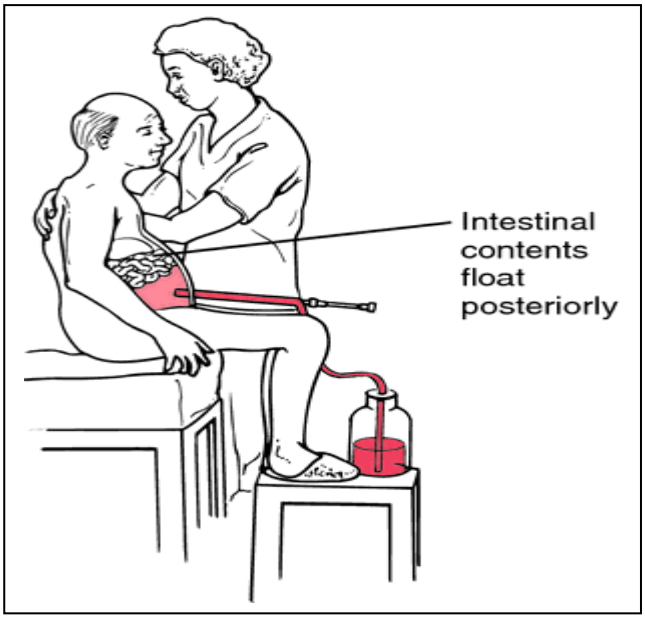
Nurse's Role in Diagnostic Procedures

1. Assist before, during, and after diagnostic tests.
2. Be responsible for other activities associated with diagnostic tests.
3. Witness the patient's consent.
4. Schedule the test.
5. Prepare the patient physically and emotionally for the test.
6. Provide care after the test.
7. Dispose of used equipment.
8. Transport specimens.



Abdominal paracentesis

Definition: aspiration of fluid from the peritoneal cavity.



Purpose:

1. To withdraw fluid from the peritoneal cavity for the purpose of diagnosis or laboratory analysis.
2. For therapeutic effect by aspirate the fluid from the abdominal cavity.

Preparation of the patient:

1. Take vital signs.
2. Explain the patient what you are going do.
3. Empty the bladder patient from urine.
4. Put the patient in position for the treatment.
   a. Sitting up in the chair.
   b. Fowler's position.
5. Put draw sheet over patient and exposed the abdomen.
6. Shave the area of operation.
7. Disinfect the area of operation.

Site of paracentesis:

Midway between the umbilicus and symphysis pubis in center of abdomen.

* Determined the site of injection of abdominal paracentesis .

Important point:

1. Aseptic technique is used in process.
2. Prevent patient from moving during procedure.
3. Sterile drapes are applied around the puncture site.
4. Skin should be prepared by cleansing with antiseptic solution.
5. Give attention to patient's appearance, skin color like pallor and T.P.R.
6. Record the amount, color, and adore of fluid.

Thoracentesis

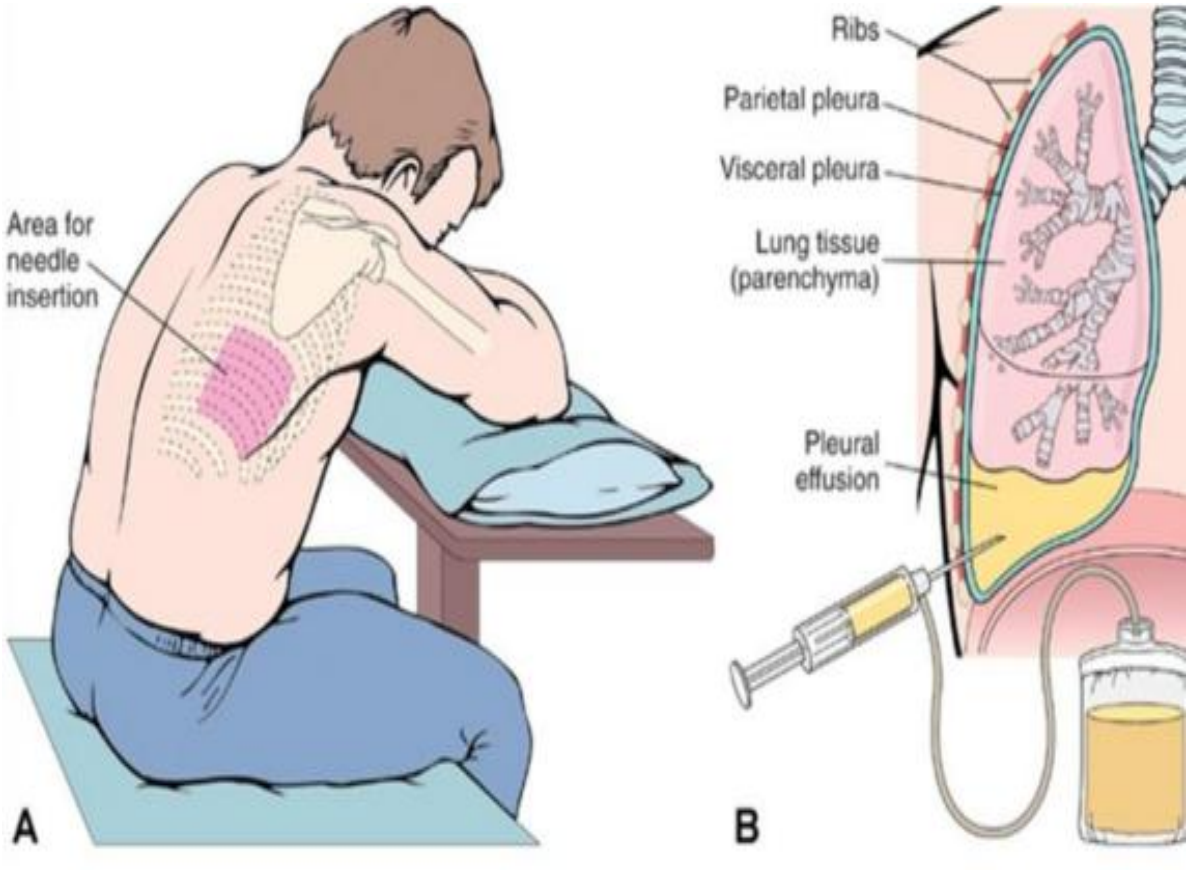
Definition: aspiration of fluid from the pleural cavity.

Purpose:

1. Aid in diagnosis.
2. Remove accumulation of fluid in the pleural cavity.
3. May be done for therapeutic reasons.
4. Relieve symptoms.

Important point:

1. Assist doctor as needed.
2. Observe the patient during procedure for pallor, dyspnea, and chest pulse rate.
3. Measuring fluid and record amount and appearance on intake and out put sheet.



Lec:7&8

Body mechanics

Definition : is the term used to describe the physical coordination of all parts of the body.

Purpose:

1. To keep important organs in their correct anatomical and physiological position.
2. To facilitate good muscular control and the smoothness of movement.
3. To move and work with minimum muscular effort.
4. To make good impression on other and produce feeling of self confidence.

* Enumerate the purpose of body mechanics .

Body posture : is the relation of various parts of the body at rest or in any phase of activity.

Principles of body mechanics:

1. Use a wide base of support when moving object.
2. Keep objects to be moved close to the body.
3. Push, pill, roll or slides objects rather than lifting.
4. Avoid twisting the spine by pushing or pilling the objects.
5. Use the body weight when pushing objects.

Factors that influence body mechanics and posture:

1. General health.
2. Nutrition.
3. Emotions.
4. Situation factors.
5. Life style.

* What is the factors that influence body mechanics & posture ?

The important of exercise:

1. Improve the strength and flexibility of all body muscle.
2. Improve blood circulation.
3. Promote good respiratory function.
4. Relieve depression.

Common danger immobility:

1. **Respiratory system:** like atelectasis, collapse of lung tissue.
2. **Circulatory system:** like thrombosis, bed sores.
3. **Urinary system:** like urinary tract infection or stone.
4. **Gastro intestinal system:** happened disturbance in appetite, poor digestion, constipation.
5. **Psychological effects.**

* Enumerate the common danger immobility.

Type of changing patient position:

1. Helping the patient move to the side of the bed.
2. Raising the shoulder of helpless patient.
3. Raising the shoulder of semi helpless patient.
4. Moving the helpless patient up in the bed **(two nurses)**.
5. Using a draw sheet pill to move a helpless patient up in bed.
6. Assisting the patient to get out of bed and into a chair.

Body position for comfort

1. Standing position (anatomical position).
2. Dorsal position.
3. Dorsal recumbent position.
4. Sitting position.
5. Prone position.
6. Fowler's position.
7. Lateral position.
8. Sim's position.
9. Lithotomy position.
10. Trendelenburgs position.
11. Knee-chest position.

The purpose of changing position:

1. For diagnosis.
2. To prevent bed sores.
3. To help out of drainage.
4. For rest.
5. For therapeutic.

Positions of patient during examination:

Patients are put in special positions for examination, for treatment or test, and to obtain specimens.

a) **Horizontal Recumbent Position :** Used for most physical examinations. Patient is on his back with legs extended. Arms may be above the head, alongside the body or folded on the chest.

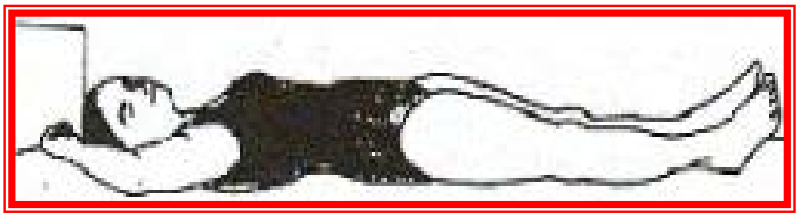


Figure 1-1. Horizontal recumbent position

b) **Dorsal Recumbent Position.** Patient is on his back with knees flexed and soles of feet flat on the bed. Fold sheet once across the chest. Fold a second sheet crosswise over the thighs and legs so that genital area is easily exposed.

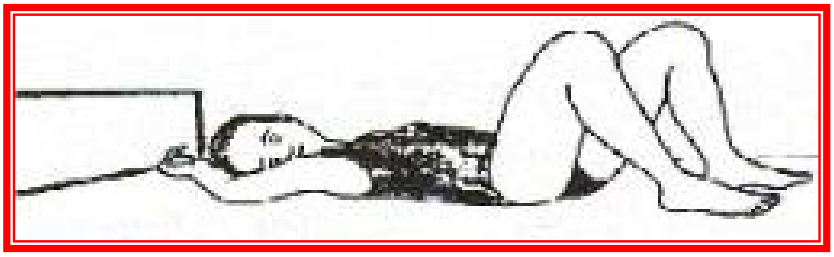


Figure 1-2. Dorsal recumbent position.

c) Fowler's Position : Used to promote drainage or ease breathing. Head rest is adjusted to desired height and bed is raised slightly under patient's knees

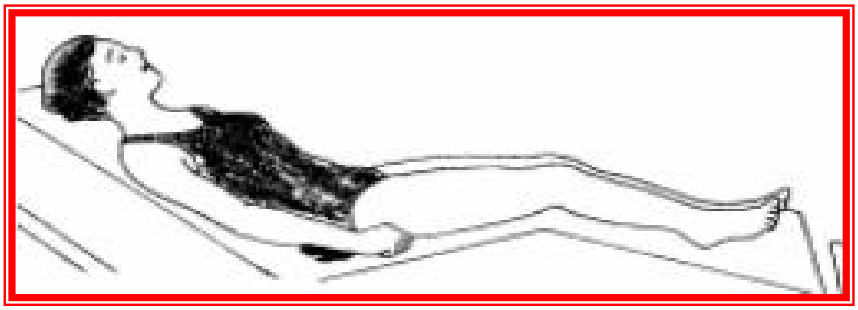


Figure 1-3. Fowler's position.

d) Dorsal Lithotomic Position : Used for examination of pelvic organs. Similar to dorsal recumbent position, except that the patient's legs are well separated and thighs are acutely flexed. Feet are usually placed in stirrups. Fold sheet or bath blanket crosswise over thighs and legs so that genital area is easily exposed. Keep patient covered as much as possible.

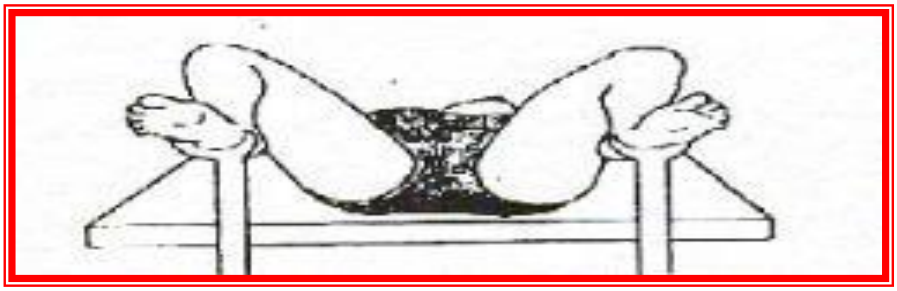


Figure 1-4. Dorsal lithotomic position.

e) Prone Position : Used to examine spine and back. Patient lies on abdomen with head turned to one side for comfort. Arms may be above head or alongside body. Cover with sheet or bath blanket.

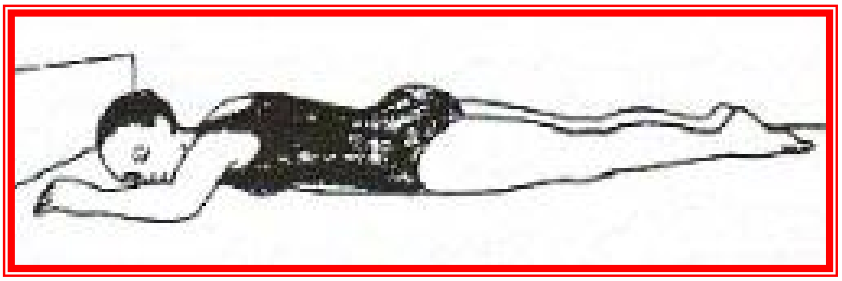


Figure 1-5. Prone position.

f) Sim's Position : Used for rectal examination. Patient is on left side with right knee flexed against abdomen and left knee slightly flexed. Left arm is behind body; right arm is placed comfortably.

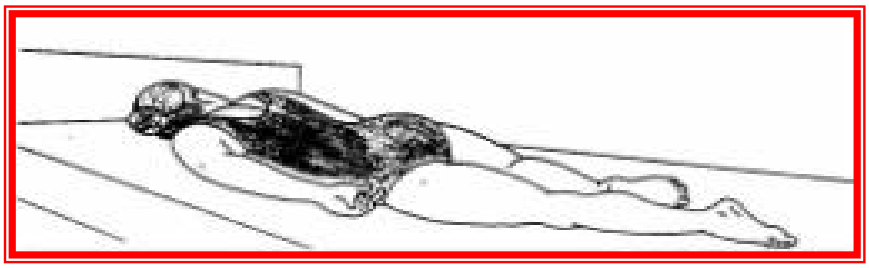


Figure 1-6. Sim's position

g) Knee-Chest Position : Used for rectal and vaginal examinations and as treatment to bring uterus into normal position. Patient is on knees with chest resting on bed and elbows resting on bed or arms above head. Head is turned to one side. Thighs are straight and lower legs are flat on bed.

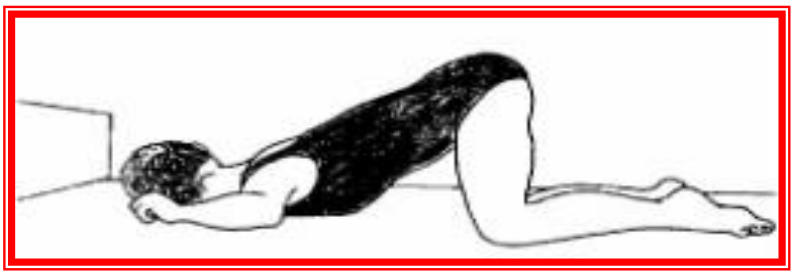


Figure 1-7. Knee-chest position.

- **Nursing Care for Activity and Immobility**

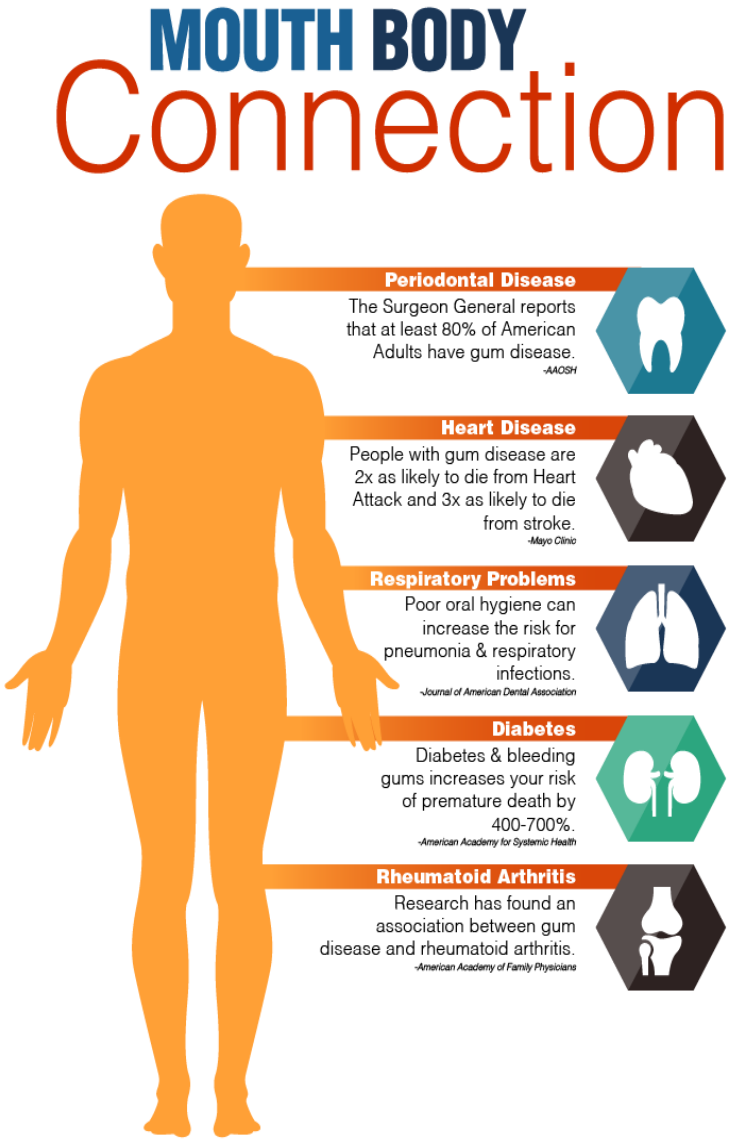
1. Maintain body alignment (positioning, transferring, ambulating and lifting the client)
2. Identifying client who needs assistance and determine the degree of assistance.
3. Provide assistance when needed.
4. Teaching client and family safe moving, lifting and transfer techniques.
5. Care should be individualized.
6. Bed-rest care.
7. Prevent complications of immobility.

Lec:9&10

Body & oral hygiene

✓ Factors Influencing Personal Hygiene

1. Culture.
2. Socioeconomic class.
3. Spiritual practices.
4. Developmental and knowledge level.
5. Health state.
6. Personal preference.



✓ Hygienic Needs

- ✓ Oral hygiene.
- ✓ Skin care.
- ✓ Care of hair.
- ✓ Eye care.
- ✓ Ears care.
- ✓ Nose care.
- ✓ Feet care.
- ✓ Genital area care.

❖ Oral hygiene.

Definition : cleaning and freshening the teeth, gums and mouth.

✓ Purpose of Oral Care

1. To prevent dental carries and tooth decay.
2. To feel fresh, clean and socially acceptable.
3. To stimulate salivation.
4. To promote sense of well-being and comfort.
5. To prevent inflammation of gums and salivary glands.
6. To prevent complications as stomatitis, pyorrhea.

✓ Those Who May Require Mouth Care

1. Unconscious patients.
2. Helpless patients.
3. Patients on fluid diet.
4. Patients have local disease of mouth.

Equipment:

1. Tooth brush and paste.
2. Kidney basin.
3. Face towel.
4. Paper wipes.
5. Glass containing water or mouth wash.

Halitosis : full odor of breath caused by high number of bacteria.

Caries : decay of teeth with the formation of cavities.

Periodentitis or pyorrhea: sever inflammation of the gums, including bone tissue around the teeth.

* Define the following .

a. Oral hygiene b. Caries c. Periodentitis

❖ Bath of patient

✓ Purposes of Bathing

1. To clean the skin.
2. To prevent skin irritation.
3. To prevent skin infection.
4. To stimulate circulation.
5. To promote relaxation and feeling of well-being.
6. To provide comfort.
7. To regulate body temperature.
8. To prevent bed sores.

✓ Types of Patients Needing Bed bath

1. Unconscious patient.
2. Operated patient.
3. Orthopedics patient.
4. Seriously ill patients.

Back massage

Definition: making massage to the individual back to give comfort and therapeutic.

Purpose:

1. To stimulate circulation of blood supply to the area.
2. To observe any signs on the skin (sores).
3. To promote relaxation and relive tension.

Important points:

1. If skin is dry don't use alcohol but use Vaseline or lotion.
2. Massage that given to the patient skin must be no break

* What is the important point in making back massage .

After making back massage:

1. Recording date and time.
2. Any abnormal defect observed during making back massage.

Bed sores (pressure ulcer)

Definition : Is progressive destruction of the under lying tissue.

Causes of bed sores:

1. Poor nutrition.
2. Poor circulation of blood.
3. Dry skin and without resistance.
4. Unclean of skin.
5. Lie or sleep for long periods.

Areas of pressure sores:

1. Heels.
2. Scapula.
3. Elbows.
4. Back of the head.
5. Coccyx.

Signs and symptoms of Bedsore:

1. Painful.
2. Redness, heat, and discomfort in the area.
3. Fever.
4. Area become cold to touch.
5. Area become blue.
6. Gangrene formation.
7. Sloughing and infection.

✓ Patients Prone to Pressure Sores

1) Bed – ribbon patients.
2) Obese patients .
3) Very thin patients.
4) Patients in traction.
5) Patients in complete bed rest.
6) Diabetic patients.

Factors affecting the formation of pressure sores:

1. Moisture**:** due to urine, feces, drainage and perspiration.
2. Hygiene**:** poor hygiene, high number of micro-organism present on the skin (bacteria).
3. Poor nutrition.
4. Body heat**.**

* Enumerate the signs& symptom of bed sores .

✓ Prevention of Bedsore

1) Find out and detect the patients who are prone to bedsores.
2) Daily observation of the rubber rings.
3) Stimulate circulation .
4) Relive pressure by:

a. Moving the patient in bed, changing position every 2 hours.
b. Avoid the use of rubber rings.
c. Use abed cradle to take the weight off the linen.
d. Use pillows between legs.
e. Early ambulation of the patient.

Nursing care for bed sores:

1. Clean and dress sores.
2. Change position every 2 hours.
3. Reduce friction by using powder.
4. Use floating mattress.
5. Change clothing and sheets.
6. Make back massage to prevent new sores.
7. Prevent sleep on sores side.
8. Check vital signs.
9. Giving good nutrition and fluid.
10. Reduce pressure on site of pressure (fulcrum area).

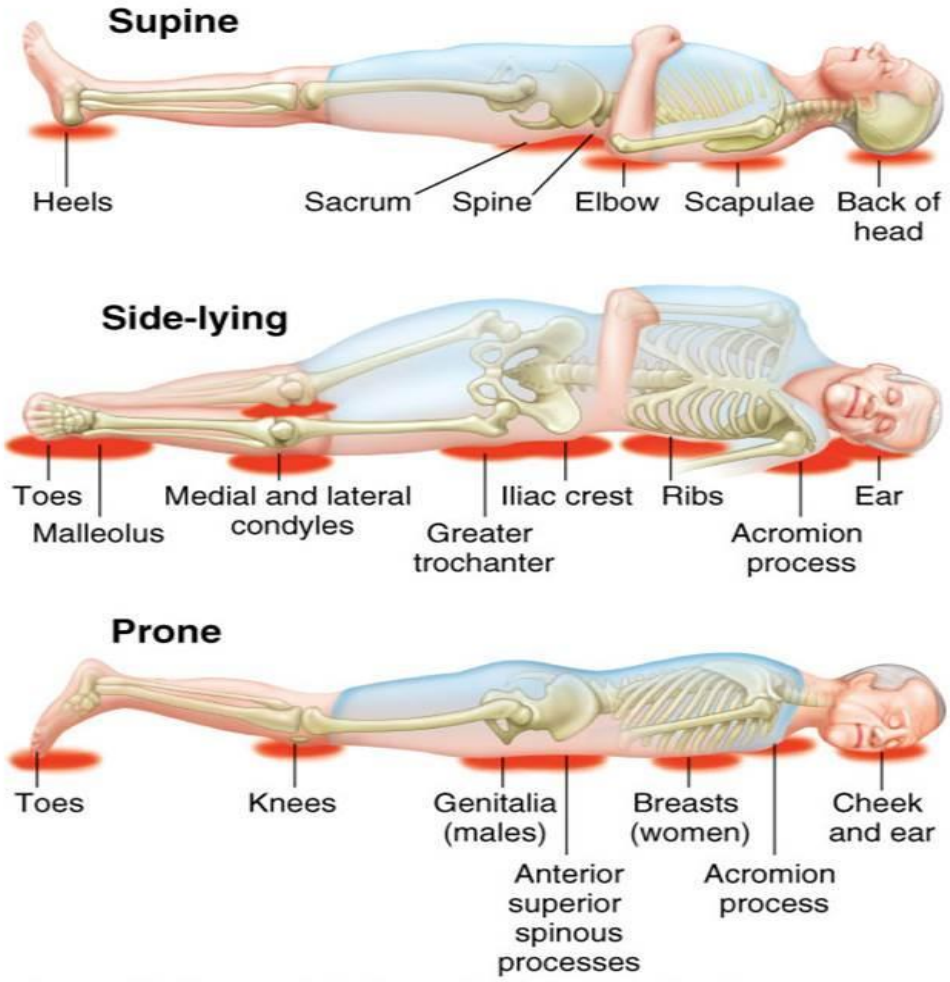
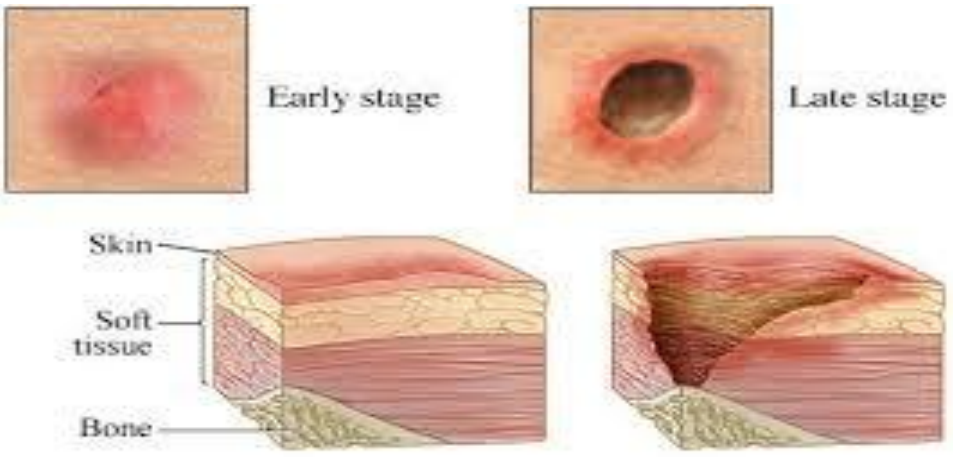


Fig. 33-2. Bony prominences subject to pressure, ischemia, necrosis, and ulceration in the supine, side-lying, and prone positions.



Lec:11

Nutrition

Food : Substance essential to health and this food must be containing carbohydrates, proteins, fats, vitamins, and minerals. Water is important to maintain fluid balance in the body.

The requirement of the foods: it depends on:

1. The demands of the body for growth and tissue repair.
2. Activity and climate.
3. Emotional status.
4. Pregnancy.
5. Illness.

*Define the foods & enumerate the requirement of the foods .

Appetite : is nature's first defense against hunger.

Hunger : is a sensation which tells us that our body needs nourishment.

Factors helping to improve the patient appetite:

1. Comfortable position.
2. Clean and free from damp or soiled of patient.
3. Remove of pain or discomfort.
4. Removal of tight dressing.
5. Give the patient an opportunity to avoid of the desire of losing appetite.
6. Avoid treatment or dressing and injection, before or after meal time if possible.
7. Comfortable room and good ventilation.
8. Remove unpleasant looking while the patient is eating such as bed pan, dressing tray.
9. Make the meal pleasant by arranging dishes.
10. Help the patient to eat and drink if he need.
11. Ask the patient which foods he would like to eat first.

* Mention the factors helping to improve the patient appetite .

✓ Functions of Water in the Body

1. Transporting nutrients to cells and wastes from cells.
2. Transporting hormones, enzymes, blood platelets, and red and white blood cells.
3. Facilitating cellular metabolism and proper cellular chemical functioning.
4. Acting as a solvent for electrolytes and non-electrolytes.
5. Helping maintain normal body temperature.
6. Facilitating digestion and promoting elimination.
7. Acting as a tissue lubricant.

✓ Major Electrolytes and Functions

1) **Sodium** — controls and regulates volume of body fluids.
2) **Potassium** — chief regulator of cellular enzyme activity and water content.
3) **Calcium** — nerve impulse, blood clotting, muscle contraction, B12 absorption.
4) **Magnesium** — metabolism of carbohydrates and proteins, vital actions involving enzymes.
5) **Chloride** — maintains osmotic pressure in blood, produces hydrochloric acid.
6) **Bicarbonate** — body's primary buffer system.
7) **Phosphate** — involved in important chemical reactions in body, cell division and hereditary traits.

✓ Source of Fluids For the Body

1. Ingested liquids.
2. Food.
3. Metabolism.

✓ Fluid Losses

1. Kidneys — urine.
2. Intestinal tract — feces.
3. Skin — perspiration.
4. Insensible water loss.

✓ Fluid Volume Deficiency

- **Hypovolemia —** deficiency in amount of water and electrolytes in Extracellular fluid (ECF) with near normal water/electrolyte proportions.
- **Dehydration —** decreased volume of water and electrolyte change.

✓ Fluid Volume Excess

- **Hypervolemia —** excessive retention of water and sodium in ECF.
- **Over-hydration —** above normal amounts of water in extracellular spaces.
- **Edema —** excessive ECF accumulates in tissue spaces

✓ Functions of Electrolytes and Their Normal Ranges

Electrolyte	Functions	Normal adult range
Calcium.	**muscle contraction, nerve function, blood clotting, cell division, healthy bones, and teeth.**	**4.5-5.5 MEq/L**
Chloride	**Maintains fluid balance in the body.**	**97-107 MEq/L**
Potassium	**Regulates heart contraction, fluid balance.**	**3.5-5.3 MEq/L**
Magnesium	**Necessary for muscle contraction, nerve function, heart rhythm, bone strength, generating energy and building protein.**	**1.5-2.5 MEq/L**

✓ Electrolyte Imbalances

a) **Hyponatremia and hypernatremia**
b) **Hypokalemia and hyperkalemia**
c) **Hypocalcemia and hypercalcemia**
d) **Hypomagnesemia and hypermagnesemia**
e) **Hypophosphatemia and hyperphosphatemia**

✓ Nursing Assessment

1) Identify patients at risk for imbalances.
2) Determine a specific imbalance is present and its severity, etiology, and characteristics.
3) Determine effectiveness of plan of care.

a) Parameters of Assessment

1) Nursing history and physical assessment.
2) Fluid intake and output.
3) Daily weights.
4) Laboratory studies.

b) Risk Factors for Imbalances

1) Pathophysiology underlying acute and chronic illnesses.
2) Abnormal losses of body fluids.
3) Burns.
4) Trauma.
5) Therapies that disrupt fluid and electrolyte balance.

c) Nursing Diagnoses Related to Imbalances

1) Excess fluid volume.
2) Deficient fluid volume.
3) Risk for imbalanced fluid volume.

d) Expected Outcomes

1) Maintain approximate fluid intake and output balance (2500mL intake and output over 3 days)
2) Maintain urine specific gravity within normal range (1.010 to 1.025)
3) Practice self-care behaviors to promote balance.

e) Implementing

1) Dietary modifications.
2) Modifications of fluid intake.
3) Medication administration.
4) IV therapy.
5) Blood and blood products replacement.

f) Administering Medications

1) Mineral-electrolyte preparations.
2) Diuretics.

Lec:12

Gastric gavage

Definition : is a process of feeding the patient through a tube passed into the esophagus and stomach by way of the mouth or nose.

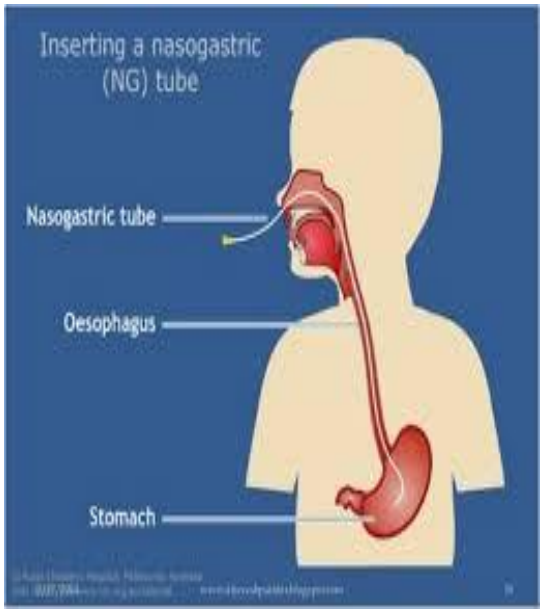
Purpose:

1. To provide food or fluid to patient who had unable to take nourishment by mouth.
   - **a.** Unconsciousness.
   - **b.** Fracture of jaw.
   - **c.** Cleft palate.
   - **d.** Psychosis and delirium patient.
   - **e.** Operations on the mouth or patient with nausea and vomiting.
2. To provide for maximal nutritional recovering from disease for injury.

* Enumerate the purpose of gastric gavages .

The way of nasal gastric tube:

- ✓ The tube inserted through one of the nostrils down the nasal pharynx and esophagus into the stomach.
- ✓ Or the tube is passed through the mouth and pharynx into esophagus and stomach.



Kind of food that gives to the patient:

- ✓ Milk, sugar with water, and vegetable.
- ✓ The quantity of food order by doctor.

Equipment that need :

1. Nasogastric tube (plastic tube).
2. Tongue depressor, lubricant, and syringes.
3. Pitcher with liquid feeding 500 CC / 37C^{o}
4. Paper tissues and towel.
5. Adhesive tap.
6. Glycerin and ice.

Important point:

1. Tube feeding must be refrigerated for 15 -20 min.
2. Put patient in semi sitting position.

Nursing care for Gastric gavages :

1. Clean the nostril and gastric tube with moistened cotton.
2. Apply water soluble lubricant to the nostril if it dries.
3. Giving frequent mouth care.
4. Record the intake and out put liquid

Gastric lavage

Definition : it means empty of the content of the stomach by insert the tube from mouth or noise to the stomach.

Equipment that needs :

1. Rubber tube.
2. Syringe 50 cc.
3. Solution for irrigation (sodium bicarbonate).
4. Oil or libricant and ice.

Nursing care:

1. Clean the noise and mouth before and after procedure.
2. Collecting the specimens to measuring.
3. Return the procedure until solution from the stomach is clean.
4. Clean the equipment that used in procedure.
5. Record the time of procedure and abnormal signs of patient in chart.

* What is the nursing care to the patient with gastric lavage .

Lec:13

Method of Sterilization

- **Asepsis and Infection Control**

  - An infection: is a disease that result from the presence of pathogens in or the body.
  - Pathogens: are microorganisms that cause illness.
  - Infectious disease: is a disease spread from one person to another.

✓ Infection Cycle

1. An infectious agent.
2. Reservoir.
3. Portal of exit.
4. Mode of transmission.
5. Portal of entry.
6. Susceptible host.

✓ Infectious Agents

a. Bacteria.
b. Viruses.
c. Fungi.
d. Parasites

✓ Reservoirs

a. Human beings. b. Animals. c. Inanimate objects.

✓ Portal of Exit

a. Blood.
b. Emesis.
c. Sputum.
d. Stool.
e. Urine.

✓ Modes of Transmission

a. Contact:

1. Direct contact: contact between an infected or carrier such as touching, shaking hands,
kissing, sexual inter course.
2. Indirect contact: by inanimate object such as contaminated instrument, contaminated blood,
and contaminated food or water.

b. Vectors : non human carriers that transmit organisms from host to another such as mosquitoes , lice , ticks.
c. Airborne: by droplet nucleus when an infected host coughs , sneezes or talks.

✓ Portal of Entry

a. Mucous membranes.
b. No intact skin.
c. Respiratory tract.
d. Gastrointestinal tract.
e. Genitourinary system.

✓ Susceptible Host

a. Trauma.
b. Surgery.
c. Chronically ill.
d. Immuno-suppressed elderly.

• Aseptic Technique

- Includes all practices to prevent or break the chain of infection cycle.
- Two categories:

a. Medial asepsis (clean technique)
b. Surgical asepsis (sterile technique)

Medical Asepsis

1. Hand washing.
2. Cleaning.
3. Disinfection.
4. Private room.
5. Personal protective equipment and supplies:

a. Gloves.
b. Gowns.
c. Masks.
d. Uniforms.
e. Head cover.
f. Protective eyewear.
g. Overshoes.

Surgical Asepsis

1. Skin preparation.
2. Surgical hand washing.
3. Sterile gloves.
4. Sterile field .

Sterilization

- The process by which all microbes including spores are destroyed.
- Physical and chemical techniques:

a. Radiation (i.e. ultraviolet)
b. Boiling water.
c. Heating.
d. Chemicals i.e. gas ethylene oxide)

Isolation

- Protective procedure designed to prevent the transmission of specific microbes

also could (a protective aspect techniques).

- Isolation Unit:

It is a special room as burn unit this unit has special clothes (hair cap, gown facial mask, disposable gloves) for health team which have contact with the patient and it can be used for visitors.

Nursing Interventions to Prevent Infections

1. Follow sterile techniques.
2. Use personal protective equipments.
3. Clean and sterilize the equipment which are used.
4. Assure cleanness for wards and patients rooms.
5. Wash hands before and after care of the patients.
6. Teach the patients and their family about infectious diseases.
7. Work with health team to control the infectious diseases.
8. Isolate patients with infectious disease.
9. Provide personal hygiene for patients.

Skin Integrity and wound Care

Types of Wounds

1) Intentional or unintentional .
2) Open or closed.
3) Acute or chronic.
4) Partial thickness, full-thickness, complex.

Phases of Wound Healing

1. Inflammatory.
2. Proliferative.
3. Remodeling.

i. Inflammatory Phase

1) Begins at time of injury.
2) Prepares wound for healing:
    a. Hemo-stasis (blood clotting) occurs
    b. Vascular and cellular phase of inflammation

ii. Proliferative Phase

1) Phase begins within 2 to 3 days of injury and may last up to 2 to 3 weeks.
2) New tissue is built to fill wound space through action of fibroblasts.
3) Capillaries grow across wound.
4) Thin layer of epithelial cells forms across wound.
5) Granulation tissue forms foundation for scar tissue development.

iii. Remodeling Phase

1) Begins about 3 weeks after injury to possibly 6 months.
2) Collagen is remodeled.
3) New collagen tissue is deposited.
4) Scar becomes a flat, thin, white line.

Factors Affecting Wound Healing

1) Age – children and healthy adults heal more rapidly.
2) Circulation and oxygenation – adequate blood flow is essential.
3) Nutritional status – healing requires adequate nutrition.
4) Wound condition – specific condition of wound affects healing.
5) Smoking delay healing.
6) Some medications – corticosteroid drug and postoperative radiation therapy delay healing.

Wound Complications

1) Infection.
2) Hemorrhage.
3) Dehiscence and evisceration.
4) Fistula formation.

Wound Assessment

1) Inspection for sight and smell.
2) Palpation for appearance, drainage, and pain.
3) Sutures, drains or tube, manifestation of complications .

Signs of Wound Infection

1) Wound is swollen.
2) Wound is deep red in color.
3) Wound feels hot on palpation.

4) Drainage is increased and possibly purulent .
5) Foul odor may be noted .
6) Wound edges may be separated with dehiscence present.

Purposes of Wound Dressings

1) Provide physical , psychological , and aesthetic comfort.
2) Remove necrotic tissue .
3) Prevent, eliminate , or control infection .
4) Absorb drainage .
5) Maintain a moist wound environment .
6) Protect wound from further injury .
7) Protect skin surrounding .

Lec:14&15

Vital signs

Definition : further information about patient's health status is obtained by taking his vital signs; it includes temperature, pulse, respiration and blood pressure.

Times assess vital signs :

1. Change in health status.
2. Admission the patient to health care agency.
3. Nursing or medical order.
4. Before or after surgery or diagnostic procedure.
5. Before and after administration of medication.
6. Before and after any nursing intervention.

The purpose of checking vital signs :

1. For making diagnosis.
2. Planning progressing of patient.
3. Seeing reactions of patient to the specific medications treatment and care.

* What is the purpose of checking vital signs

1. Body temperature (BT):

Definition : is a balance between heat production and heat loss, the normal degree of body temperature is **37C^{o} (98.6 F)** .

Factors Affecting Body Temperature

1. Age: very young and very old are more sensitive to change in environmental temperature .
2. Gender: women tend to have more function in body temperature than men the increase in progesterone secretion at ovulation increase body temperature .
3. Stress: the body respond to both physical and emotional stress .
4. Environmental temperature : wearing clothing allow to increase heat loss when it is hot or retain heat when it is cold.

* Mention the factors that affecting body temperature .

Sites for Assessing Temperature

1. Orally (common way) 37 C° (3 – 5 min)
2. Axillary (safe way) 36 C° + 5 C° (10 min)
3. Rectal (accurate reading) 37 C° – 5 C° (2 – 3 min)
4. Tympanic membrane.

i. Oral body temperature :

Measuring body temperature by putting thermometer under tongue for 3 -5 minute.

When we cannot use oral thermometer?

1. For unconscious patient.
2. Psychiatric patients
3. The child under 6 years & Infant.
4. Patient who breathe from mouth.
5. Patient who has disease in the oral cavity or surgery of nose or mouth.
6. Patient on oxygen mask.

* Enumerate the contraindication of checking body temperature by mouth .

ii. Axillary method :

by putting thermometer in auxiliary place for 10 minute.

Important point:

- ✓ Be ensuring that thermometer is contact with skin surface.
- ✓ Pluses 0.5 degree to the degree of checking temperature.

iii. Rectal method :

check temperature by rectal when you can not take temperature by mouth or auxiliary.

- ❖ Put thermometer inside rectal by using especial thermometer with square bulb.
- ❖ Putting thermometer inside the rectal for 2 minute and minus 0.5 degree from the degree of checking temperature.

❖ When we cannot use rectal thermometer?

1. With patients who have rectal surgery .
2. With patients who have any rectal disorders.
3. With patient who have diarrhea .

Clinical thermometer: is the instrument that used to measure the body temperature it constructed of the bulb and stem.

Kind of thermometer:

1. Mercury thermometer
2. Electronic thermometer
3. Paper thermometer.
4. Tympanic membrane thermometer.

- The normal degree of body temperature is 36 – 37 C^o or 98.6 F
- How you change one degree from one system to anther.
- To convert one degree from one system to another need to know the following formula:

- From C^o to F $[(C^o \times \frac{9}{5}) + 32 = F]$

- From F to C^o $[(F - 32) \times \frac{5}{9} = C^o]$

Hypothermia : it is a body temperature below the normal limit – 34 c°.

Fever (pyrexia): The body temperature is above usual range (37 C^o)

The type of fever:

1. Intermittent fever.
2. Remittent fever.
3. Continued fever.

Signs and symptoms of fever:

1. High heat rate.
2. High and depth of respiratory rate.
3. Flash face and sweating.
4. Seizures in young child and infants.
5. Back pain.
6. Fatigue.
7. Headache.
8. Nausea and vomiting.
9. Chilling and thirst.

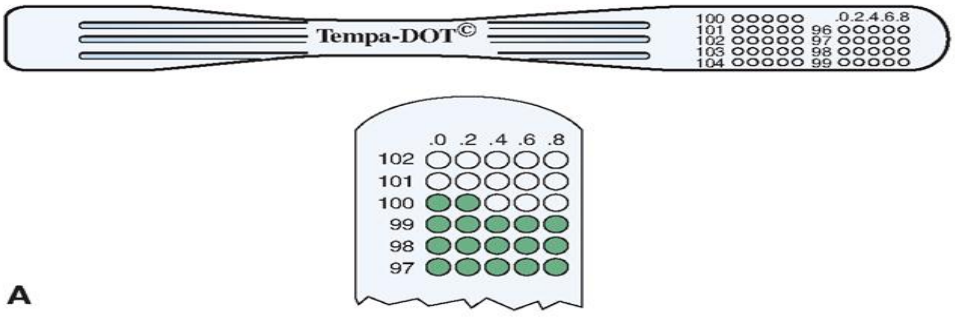
10.Delirium.
11. Loss of appetite.
12. Decrease in urine output.

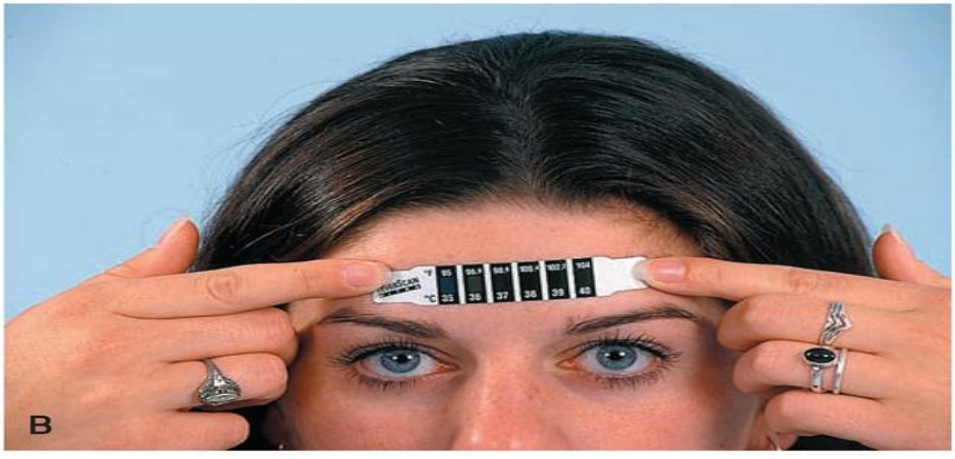
- **Nursing care:**
  1. Check body temperature every 10 minute.
  2. Cold compress made for patient.
  3. Give good nutrition and fluid.
  4. Change clothing if necessary.
  5. Make bathing if necessary.
  6. Reduced physical activity.
  7. Giving antipyrel drugs (paracetamol, aspegic,….).
  8. If cold compress is unless used alcohol bath (70% alcohol with water).
  9. Make oral hygiene.
  10. Good ventilation and circulation.

* How you made nursing care to the patient with fever .

Preparation of disinfecting solution:

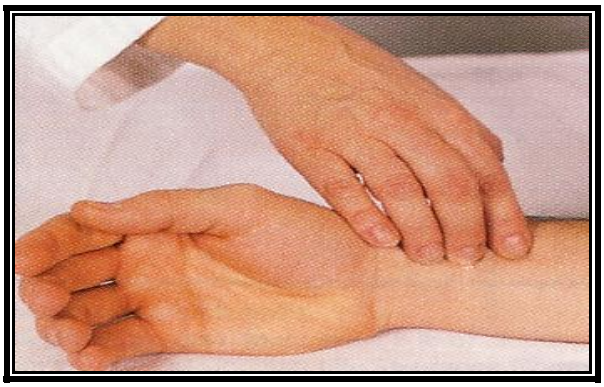
To prepare (100cc) of disinfected solution you need to mixed (99cc) of alcohol 70% with (1cc) of iodine.





2. Pulse:

Definition: is the expansion of the arterial wall occurring with each ventricular contraction.



Notes when taking pulse

A- Pulse rate:

Is the number of heart beat in minute it is (60 -100) beat /minute.

- **Factors affecting pulse rate:**

1. **Sleeping:** pulse rate morning lowest than at afternoon.
2. **Sex:** female is faster about (7 -8) beat / minute than male.
3. **Age:** infant higher than adult.
   - ❖ Infant 120 - 130 beat /minute
   - ❖ Adult 60 - 100 beat /minute
4. **Body build:** body size and build may affect pulse rates.

❖ Thin and long body …… low pulse
❖ Fat and small body……high pulse

5. Other factors are emotion, medication, activity, digestion of food and hormones

➧ **Tacky cardiac:** pulse rate is over 100 beat /minute
➧ **Brady cardiac:** pulse rate is below 60 beat /minute

B- Rhythm of pulse:

it means the time interval between heart beats is equal.

➧ **Arrhythmia:** Irregularity of time interval between heart beats.

C- Volume of pulse:

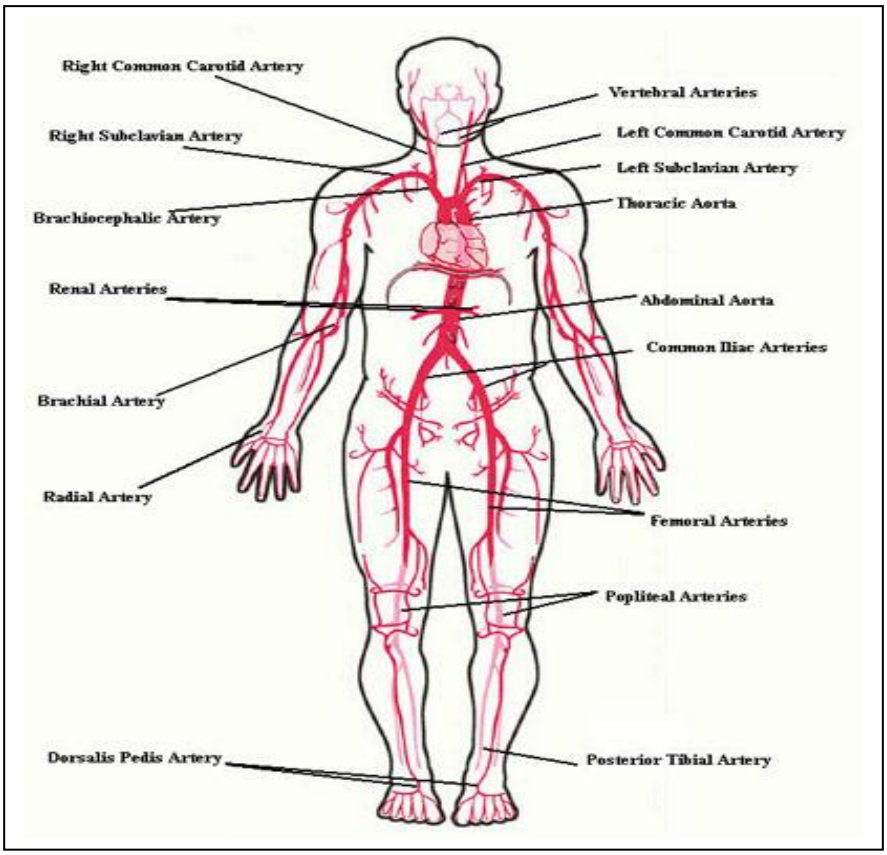
Is the degree of fullness of the artery and reflects the strength of the left ventricular contraction.

❖ **Bounded pulse:** when is not particularly easy to do.
❖ **Feeble or weak pulse:** when the volume of blood is small and very easy to stop the feel of the pulse.

D- Arterial wall condition:

The condition of wall artery and this become abnormal with old age

- **Site of taking pulse:**
  1. Radial artery
  2. Temporal artery.
  3. Carotid artery.
  4. Facial artery.
  5. Femoral artery
  6. Posterior tibia artery.
  7. Dorsal pedis artery
  8. Brachial artery.
  9. Apical pulse rate.



* Determined the site of checking pulse .

- **Factors Contribute to Increase Pulse Rate**
  1. Pain.
  2. Fever.
  3. Stress.
  4. Exercise .
  5. Bleeding.
  6. Decrease in blood pressure .
  7. Some medications as (adrenalin, aminophylline)
- **Factors May Slow The Pulse**
  1. Rest .
  2. Increasing age.
  3. People with thin body size .
  4. Medication as (digitalis).
  5. Thyroid gland disturbances .

3. Respiration :

Is the process by which oxygen and carbon dioxide are interchanged.

- **The normal adult breath is (14 – 24) time in minute.**

Pulmonary ventilation (breathing): movement of air in and out of the lungs.

External respiration: Inspiration (inhalation)

Is providing oxygen to the blood and removal carbon dioxide from the blood.

Internal respiration: Expiration (exhalation)

Is providing oxygen that is in the blood to the cells in the body and removal of carbon dioxide from the tissue to the blood.

✓ Notes in observed respiration:

1. Respiratory rate.
2. Respiratory depth.
3. Pulse volume.
4. Nature of Respiration (regular, or irregular).

- **Eupnea:** normal Respiration.
- **Polynea :** increase rate of Respiration.
- **Hyperpnea :** increase depth of Respiration.
- **Dyspnea :** difficult breathing.
- **Stertorous :** breathing with sound.

Is the snoring sound resulting from secretion in trachea and large bronchi.

• Factors Affecting Respiration

1. Pain.
2. Anxiety.
3. Exercise .
4. Medications .
5. Trauma .
6. Infection.
7. Respiratory and cardiovascular disease .
8. Alteration in fluids, electrolytes, acid- base balances.

Assessing Respirations

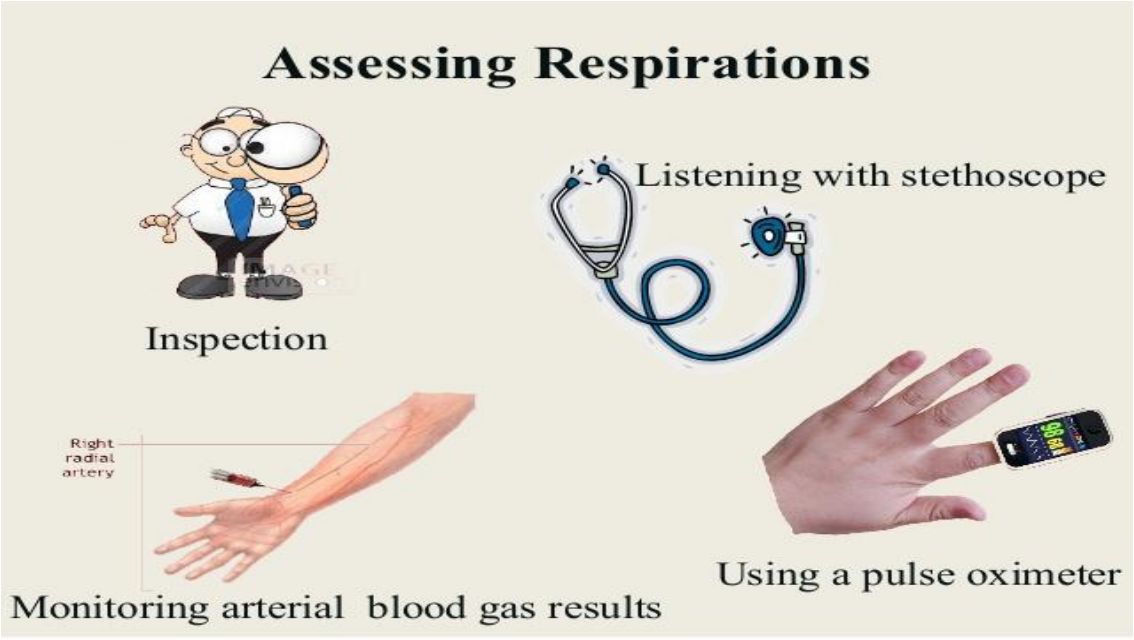
1. Inspection.
2. Listening with stethoscope.
3. Monitoring arterial blood gas results.
4. Using a pulse oximeter.

IMPORTANT NOTE :

- (Nurse must not tell the patient that he or she will assess his respiration because the patient can control his breathing so that will give a wrong assessment).
- A complete cycle of an inspiration composes one respiration .
- The best position for breathing is upright position.

Patterns of Respiration

	Description
Normal	**14 – 20 breath / minute**
Tachypnea	**24b / min shallow**
Bradypnea	**10 b / min Regular**
Hyperventilation	**Increased rate and depth**
Hypoventilation	**Decreased rate and depth Irregular**



4. Blood pressure:

Definition: the pressure is exerted on the wall of the arteries when the left ventricles of the heart push blood into the aorta.

- Systolic pressure: is known as the force to pump blood out of the heart. the maximum of the pressure **100 – 140 mm /Hg.**
- Diastolic pressure: it is known as relaxation period of the heart pump (ventricles) is the minimum of the pressure **60 - 90 mm /Hg.**
- **The average of blood pressure 120 mm /Hg.**
  80

- **Factors maintaining normal arterial pressure:**

1. Cardiac out put.
2. Peripheral resistance.
3. The quantity of blood.
4. The viscosity of blood.
5. The elasticity of vessel walls.

- **Hypertension:** the pressure is above 140 mm /Hg.
- **Hypotension:** the pressure is below 60 mm /Hg.
- Blood pressure checked by **sphygmomanometer** and **stethoscope.**

- **Factors increasing blood pressure :**

1. Increasing age .
2. Obese person .
3. Emotions as anger, fear .
4. Tension .
5. Exercise .
6. Food intake.
7. Illness.
8. Medications.

- **Factors that reduce blood pressure :**

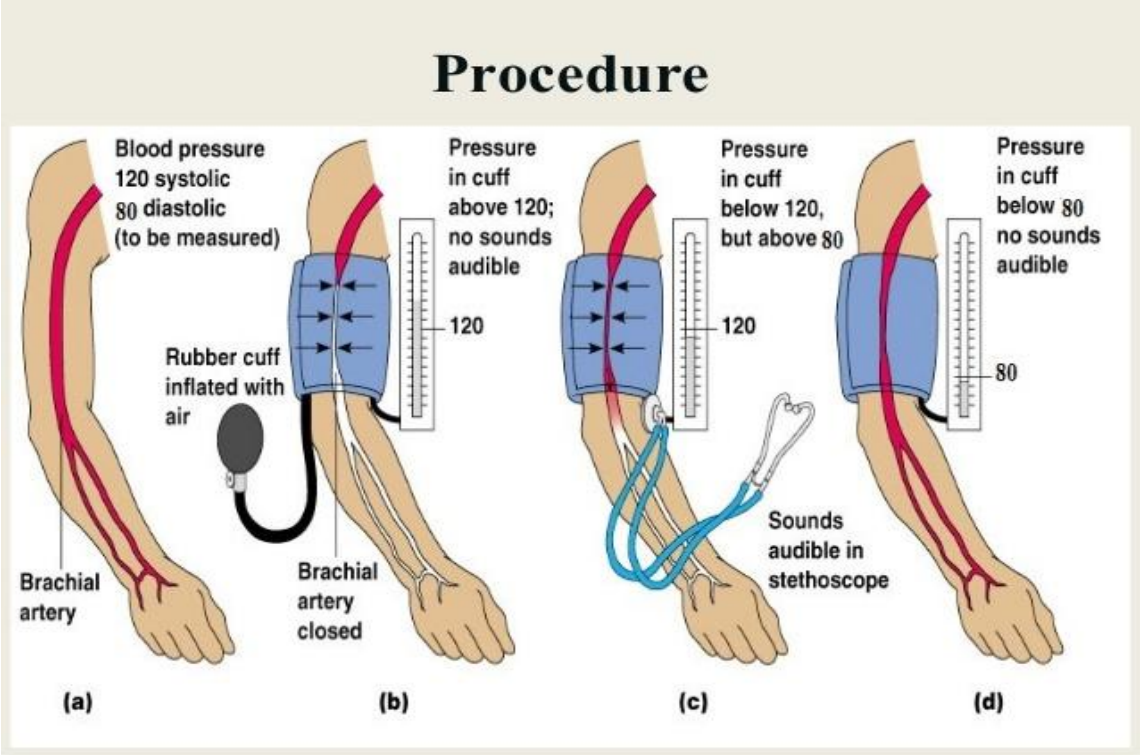
1. severe blood loss (bleeding)
2. burns .
3. vomiting .
4. Diarrhea.
5. Medications

❖ Equipment for Assessing Blood Pressure

- ✓ Stethoscope and sphygmomanometer.
- ✓ Doppler ultrasound.
- ✓ Electronic or digital devices.

* Define the following .

1- Hypertension . 2-Systolic pressure .



❖ Age – related variations in normal vital signs

Age	Temp.	Pulse rate	Resp. rate	Blood pressure
New born	36.8C ° Axillary	80-100	30-80	73/55
1-3 years	37.7 C° rectal	80-140	20-40	90/55
6-8 years	37C ° oral	75-120	15-25	95/75
10 years	37C ° oral	75-120	15-20	102/80
Teens	37C ° oral	60-100	15-20	102/80
Adults	37C ° oral	60-100	15-20	120/80
70 years	36C ° oral	60-100	15-20	120/80 normally Be up to 160/95

Lec:16&17

Administration of Medication

✓ **Definition of drug:** drug is the substance which used to prevent, treat and diagnosed the disease.

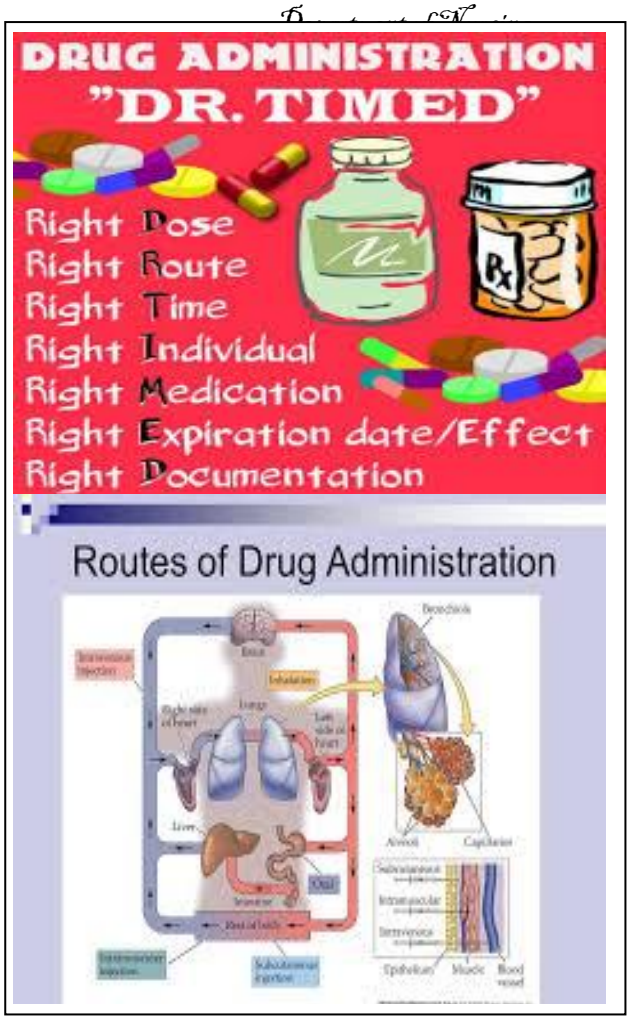
- **Effect of drugs:**
  1. Local effect.
  2. General effect.

✓ **The purpose of giving drug:**

1. For diagnosis (such as T.B test).
2. For cure (like antibiotic).
3. For prevention (like vaccines).
4. For treatment (like paracetamol, vit…….).

❖ **Principle of administration of drug**

1. Doctor prescription and this include.
   a. Name of drug.
   b. Name of patient.
   c. Dosage.
   d. Frequency.
   e. Route.
   f. Time.
   g. Doctor name.
   h. Date.
2. Washing hand before giving drugs.
3. Clean the equipment.
4. Not to give the drugs without reported in chart.
5. Don't used hand in giving drugs.
6. Don't return the drug to the tube.
7. Be sure of expire day of the drug.
8. Don't mix any drug without the order of doctor.
9. Check the name of drug, patient, and doctor before give it to patient.
10. If the drugs have another name reported their name drug.
11. Repot the time of giving drug, date, name of drug, dosage, methods of giving drug and the signature of nurse.



❖ The six rights:

1. True patient.
2. True time.
3. True rout.
4. True dose
5. True effect.
6. True drug.

• Methods of drugs administration:

1. Oral Method.
2. Injection Method.
3. Intra spinally Method.
4. Intra peritoneal Method.
5. Inhalation Method.
6. Rectally Method.

• Administration of drug by mouth:

- ❖ It is safety to gives the drug by mouth.
- ❖ Easily to give the drug.

• Disadvantage of this method:

1. Irritation of stomach by some drug.
2. Some of drugs not digested in stomach.
3. Cannot measure the dose of the drug.
4. If the patient has any defect in mouth we cannot give the drug by mouth.
5. Patient with vomiting or feeding tube or gastric lavage.

• How to give drug by mouth:

1. Check the order for medication and medicine chart, patient name, date, drug, dose, method, frequency, time and doctors signature.
2. Red the labile 3 times while preparing drug.
3. Identify the patient carefully; check the bed cart, asked the patients name.
4. Give patient his medication; be sure that he swelled it.
5. Record the medication given, refused or omitted.

- **Injection method:**

It is easy to give all the doses of drug by inject but it's expensively for patient.

- **Disadvantage of injection method:**

1. May cause infection or death if the drug is roung.
2. Cannot stop the action of drug when it given by injection.

- **Factors help absorption of drugs:**

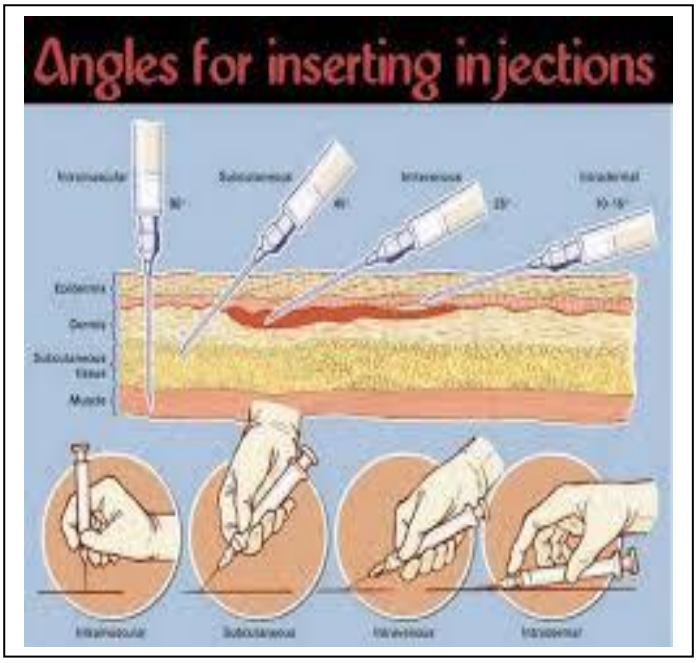
1. Massage.
2. Moving of area.
3. Dilute of drug.

- **Selection of needle size:**

1. Kind of drug.
2. Method of drug.
3. Thickness of tissue.
4. Fasting of giving drug.

- **Types of giving injection:**

1. Subcutaneous injection.
2. Intra dermal injection.
3. Intra muscular injection.
4. Intravenous injection.



i. Subcutaneous injection (S.C):

Definition: forcing liquid into the fatty tissue under the skin.

- **45 ingles**

✓ **The purpose:**

1. When the patient must receive repeated subcutaneous injection like diabetic patient who received insulin subcutaneously.
2. For diagnosis like sensitivity test.
3. For some medication which is not suitable in any other method.

The site of injection for this method:

1. The outer surface of upper arm below the shoulder.
2. In the middle anterior position of the thigh.
3. In the abdomen.

ii. Intra dermal injection (I.D).

Definition: forcing of a small amount of fluid in to the dermal layer of the skin.

❖ **15 ingles**

The purpose:

- ❖ For diagnostic purpose like (T.B) test.
- ❖ For preventive purpose like (B.C.G).
- ❖ For treatment.

The site of injection for this method:

1. Inner aspect of forearm is usually used for diagnostic test.
2. Sub scapular region of the back (the end of shoulder).
3. For skin treatment, the site depends on doctor order like abdomen.

iii. Intramuscular injection (I.M):

Definition: forcing of a medicine into muscle tissue.

90 ingles

The purpose:

1. When drug is too irritating for use subcutaneously.
2. Large quantities of drug given.
3. When absorbed more rapidly into the blood stream than (S.C).

The site of injection:

1. Dividing the gluteus into quadrants, the injection is given in the upper outer quadrant of buttocks.
2. The vastus laterals muscle of the thigh and below the hip joint for (4 inches)
3. In the deltoid muscle.

iv. Intravenous injection (I.V):

Definition: injection of liquid medicine directly into the vein.

❖ **0 - 15 ingles**

The purpose:

1. When a very rapid action is desired.
2. For diagnostic test.
3. When the medication cannot be given by other methods.

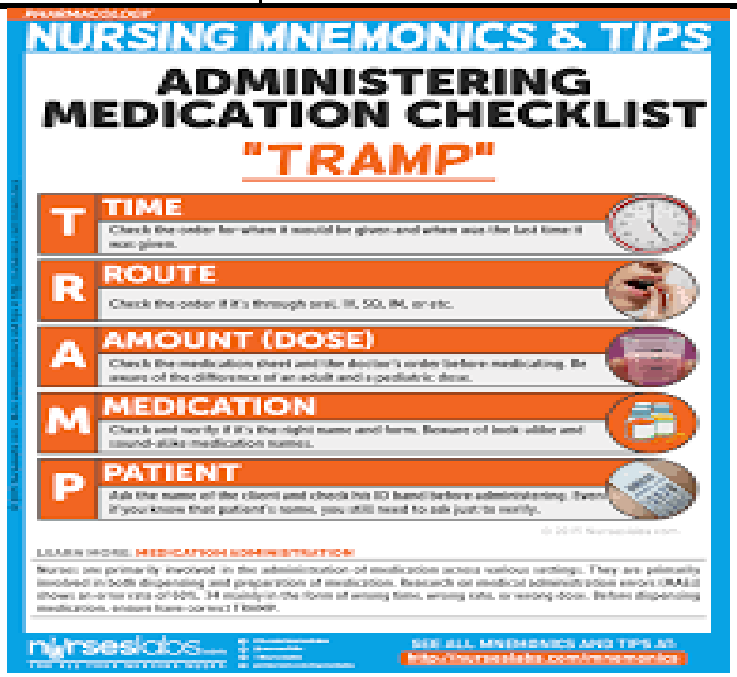
The site of injection:

1. Cephalic vein.
2. Median basilica vein.
3. Any other accessible vein

❖ The observation that record after injection:

1. Date of injection.
2. Name of medication and dosage.
3. Method of injection.
4. Site of injection.
5. Reaction of patient.
6. Signature of nurse.

BID	***(twice daily)***
TID	***(three times a day)***
QID	***(four times a day)***
E.O.D	***(every other day)***
Stat	***(once and stop)***
PRN	***(when necessary)***
ABT	***(at bed time)***
AM	***(at morning)***
P.M	***(at night)***



Lec:18&19

Intravenous infusion

Definition: giving a large quantity of solution directly into the vein.

Purpose:

1. When a very rapid effect is need of drug.
2. When drug is too irritating or ineffective if given by any other way.
3. In treating the blood and blood vessels.
4. When the patient unable to take and retain oral nourishment.

Equipment that need:

1. Fluid.
2. Cannula.
3. Infusion set.
4. Tourniquet, cotton and alcohol.

The drop fluid rates are:

15 drop /minute
20 drop /minute
60 drop /minute

❖ Factors affecting rate given of fluid:

1. Size of the needle.
2. High of the bottle.
3. Viscosity of the fluid.

* Enumerate the factors that affecting rate given of fluid.

❖ Notes that nurse should be observed:

1. The rapid of infusion.
2. The continues of solution into the vein.
3. The quantity of infusion that patient need.
4. Any medication that added to the bottle.

5. The movement of the arm because it cause tension of the vein and out of the needle from vein.

* What is the notes that nurse should be observed in giving intra venous infusion.

How to calculate the number of drop in hours:

By using this formula:

$$\frac{\text{1000 ml x 15 drop (or 20 or 60)}}{\text{Number of hours x 60 minute}}$$

e.g: give (3) bottle of fluid for (8) hours with (20) drop in minute, to the patient?

1000 x3 = 3000 ml of fluid.

$$\frac{3000 \times 20}{8 \times 60} = \frac{60000}{480} = 125 \text{ drop /hours}$$

Bleeding

Definition: losing of blood away from the body when there is cutting in the artery or vein.

Signs and symptoms:

1. Face and lips become pale.
2. Cold skin.
3. Faster and weaker of pulse;
4. The patient feels thirsty.
5. Blurring of vision and drowsiness.
6. Fainting due to reduce of blood to the brain.

- What is the signs & symptoms of bleeding ?

❖ Nursing care:

1. Stopping the bleeding by dressing the wound.
2. Giving a large amount of fluid and nutrition.
3. Warmed the patient to prevent cooling.
4. Put the patient in bed and promote comfort and sleep
5. Apply another padding when the bleeding is continues and bandage firmly.
6. Don't remove the original dressing to prevent restart of the bleeding.
7. If the patient need blood give him blood transfusion by the order of doctor.

* Mention the nursing care that gives to the patient with bleeding.

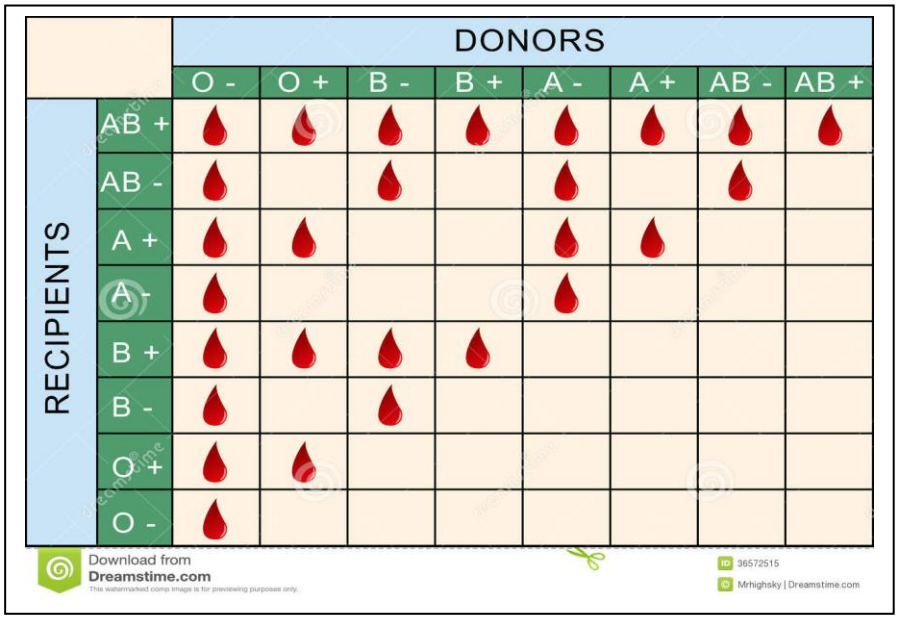
Blood transfusion

Definition: giving or plasma platelets to the patient who need that.

❖ Blood transfusion reaction:

i. **Hemolytic reaction:** When this happened it caused the following sign:

1. Fever.
2. Chilling.
3. Headache.
4. Back pain.
5. Oliguria.
6. Jaundice.
7. Chest pain.
8. Cyanosis.
9. Hypotension.



*Enumerate the signs& symptoms of hemolytic reaction.

Nursing intervention:

1. Observe the patient for first 10 minute.
2. Discontinue blood transfusion immediately.
3. Notify the physician.
4. Notify the laboratory.
5. Maintain (I.V) infusion with 5% dextrose in water or saline.
6. Monitor vital signs every 15 minute.
7. Record fluid intake and out put.

ii. **Febrile reaction:** the signs and symptoms of this are.

1- Fever. 2- Chilling 3- Diarrhoea
4- Warm and flushed skin 5- confusion and dilirum.

Nursing intervention:

1. Observe the patient for first 30 minute.
2. When the case become sever stop transfusion.
3. Monitor vital signs every 30 minute.
4. Notify the physician.
5. Implement therapy as order of doctor.
6. Apply alcohol sponges for fever if necessary.

*How you gives the nursing care to the patient with febrile reaction.

iii. **Allergic reaction:** the signs and symptoms are:

1. Urticaria and itching.
2. Artheralgia.
3. Nasal congestion.
4. Bronco spasm.
5. Sever Dyspnea .

Nursing intervention:

1. Monitor vital signs.
2. Notify the physician.
3. In severe cases stop transfusion.

Lec:20

Intensive care unit C.C.U
(Coronary care unit)

Definition of C.C.U: is an area in hospital that is equipped with special electronic devices in monitoring patient with actual or potential heart problem.

The equipment of C.C.U:

1. Bed side C.C.U monitor.
2. Central station monitor, used for.
    a. Monitoring the patient.
    b. Direct record of E.C.G.
    c. Alarm system.
3. E.C.G. machine.
4. Temporal pacemaker.
5. Defibrillator (D.C. Shock).
6. Resuscitation equipment, this includes.
    a. Laryngoscope.
    b. Endo tracheal tubes.
    c. Oral airway (assorted sizes).
    d. Ambo bag mask.
    e. Lubricant, adhesive tape, syringes.
7. Suction and sterile tube.
8. Sphygmomanometer, stethoscope and thermometer.
9. Ophthalmoscope.
10. A portable x ray machine.
11. Medication for all cases.

❖ Responsibility of the nurse:

1. The nurse can act on behalf of the patient, guide him, and provide physical and psychological support.
2. Teach the patient about his condition and treatment.
3. The nurse should be responsible for informing relatives that the patient has been admitted the hospital.
4. The nurse should be qualities of constant awareness, patience, optimism and maturity.

*What is the responsibility of nurse in **C.C.U**.

Nursing the patient in C.C.U:

1. Providing physical and psychological support.
2. Keeping the body clean.
3. Rest and sleep.
4. Provide the patient with food and fluids orally or by intravenous infusion for the first 24 hours before the diet is gradually started.
5. Initially, patient may be nousealed or vomited because of the sedation that gives to him, the nurse should give to the patient ant emetic, if patient continued to vomit oral fluid should be discontinued and intravenous therapy may be give.

Classification of patient admitted to the C.C.U:

1) Angina pectoris:

Is a clinical syndrome characterized by paroxysms of pain or feeling of pressure in the anterior chest.

The cause of this case:

- ❖ Insufficient of blood in the artery that supply blood to the myocardium also caused inadequate of oxygen supply of myocardium.
- ❖ Other factors that causes angina sever exercise and heavy meal eating.

* Enumerate the cause of angina pectoris.

❖ Nursing observation and intervention:

1. Observe the patient of restlessness or anxiety.
2. Put the patient in rest position and avoid over work.
3. Avoid heavy diet.
4. Stopped cigarette smoking.
5. Observe the patient of any signs of pallor, sweating which may indicate returning of pain.
6. Check vital signs hourly.

2) Myocardial infarction:

It is damage to an area of myocardium occurs by thrombus , the site of infarction depends on the vessel blocked.

- **Signs and symptoms:**
  1. Sever pain for long time even patient have drug.
  2. Pallor and sweating.
  3. Nausea and vomiting.
  4. May be Cardiogenic shock happened.

- **Nursing observation:**
  1. Observe any sign of pallor, sweating, anxiety or restlessness which might indicate returning of pain.
  2. Check temperature every 4 hours because it happened for first few days of the disease.
  3. Check pulse and blood pressure is very important.
  4. Check fluid intake and out put.

- **Complication of this case:**
  1. Sudden death occurs within first few minutes.
  2. Arrhythmias may be happened. cyanosis, pale, cold, and sweating.
  3. May happen cardiac failure.
  4. Thrombosis in the legs.

* Mention the complication of myocardial infarction .

- **Nursing care:**
  1. Complete bed rest is important for first days.
  2. If chock or hypotension happened, lies the patient flat in bed and reduce exercise.
  3. Help the patient to move his legs in bed to improve blood circulation and prevent formation of thrombosis.
  4. Personal hygiene is very important and oral hygiene.
  5. Oxygen is given while there is pain, dyspnoea or cardiac failure.
  6. Help the patient to wash him self after 2 – 3 days.

Lec:21&22

Respiratory intensive care unit

Definition of R.C.U: as an area where the patient can be treatment by the most highly qualified staff with most modern equipment every 24 hours daily.

* What is the definition of (R.C.U.)

❖ Patient who needs R.C.U:

1. Unconscious patient.
2. Head injury patient.
3. Paralyzed patient.
4. Patient with obstructive trachea disease who need intensive care to help him to breath by making to him tracheotomy.

- **Equipment:**

1. Endo tracheal tube.
2. Tracheotomy tube and set.
3. Nasal canella or tube.
4. Face mask.
5. Suction machine.
6. Mechanical ventilation, to maintain respiration for long time and it used to patient who can unable to breath.

- Enumerate the equipment of (R.C.U.)

Inhalation

Definition: is the process of breath of air vapors steam or drugs or oxygen by the lungs.

The purpose:

- To supply of oxygen to the body.
- To make mucus and secretion out of respiratory tract.

Factors Affecting Respiratory Functioning

1) Age.

2) Medications.

3) Lifestyle.

4) Level of health.

5) Environment.

6) Psychological health.

Nursing Interventions Promoting Adequate Respiratory Functioning

1) Teaching about a pollution-free environment.

2) Promoting optimal function.

3) Promoting proper breathing.

4) Managing chest tubes.

5) Promoting and controlling coughing. Promoting comfort.

6) Meeting respiratory needs with medications.

Manifestations of Altered Respiration Function

1) Cough.
2) Sputum production.
3) Short breath.
4) Dyspnea.

Hypoxia: insufficiency or oxygenation of blood caused heart failure, respiration inefficiency and asthma.

Cyanosis: bluish color of membranes, nail, or skin due to deoxygenation of hemoglobin.

❖ Signs of Hypoxemia

1) Rapid pulse.
2) Restlessness.
3) Cyanosis.
4) Rapid, shallow breathing.

Oxygen administration

❖ Type of Artificial Airways

1) Oropharyngeal.
2) Nasopharyngeal airway
3) Endotracheal tube.
4) Tracheostomy tube.

Equipment that need:

- ❖ Oxygen supply.
- ❖ Oxygen mask or tent or nasal catheter.

✓ Important point:

1. Allow no open flame or smoking.
2. Allow no electrical use.
3. No use of oil, alcohol, or lotion.
4. Use matters without wool, or nylon

Cases that used inhalation

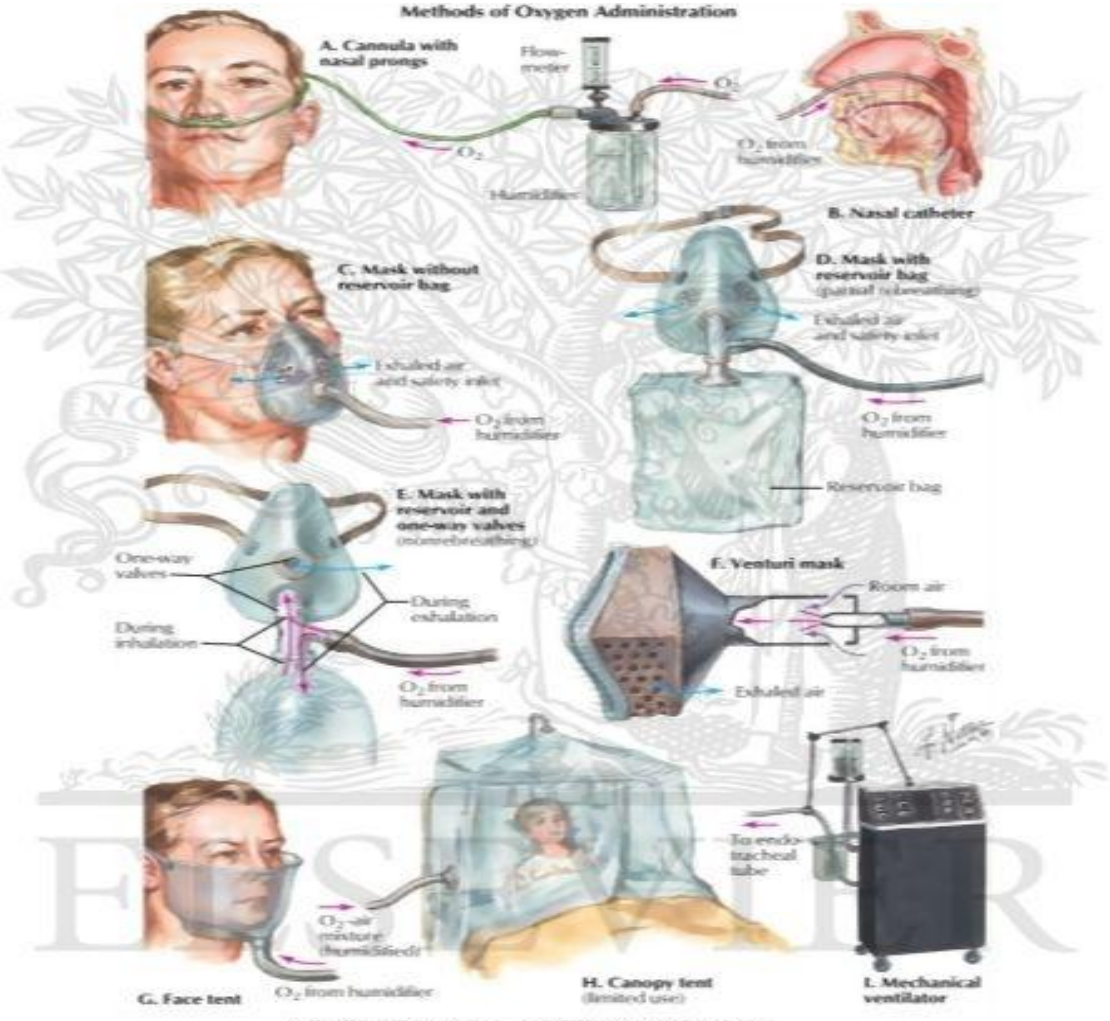
1. Pneumonia.
2. Asthma.
3. Respiratory problem.
4. Heart failure.
5. Toxicity by CO1

❖ Type of giving O_2:

1. **Nasal catheter**, the equipment that need:
   - **a.** Nasal catheter size 8 – 14 with several opening at end.
   - **b.** Rubber tube.
   - **c.** Lubricant and adhesive tap.
2. **Oxygen mask:** it covers the patient nose and mouth made of plastic or rubber.
3. **Oxygen tend**: there is:
   - **b.** Face tend.
   - **c.** Body tend.

❖ Precautions for Oxygen Administration

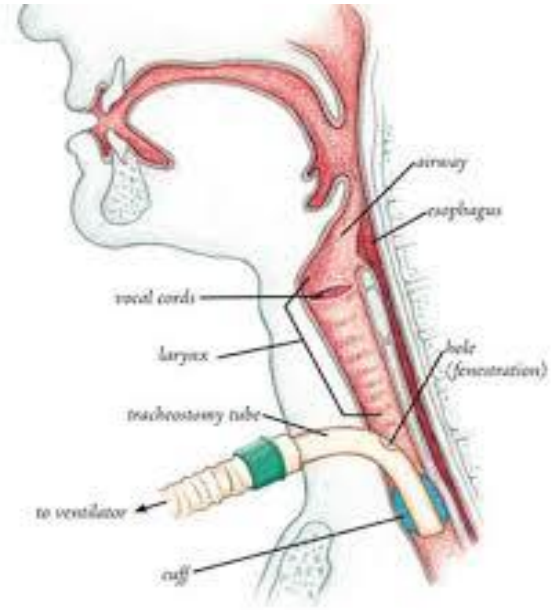
1) Avoid open flames in patient's room.
2) Place no smoking signs in conspicuous places.
3) Check to see electrical equipment in room is in good working order.
4) Avoid wearing and using synthetic fabrics (builds up static electricity)
5) Avoid using oils in the area (ignite spontaneously in oxygen)



Lec:21

Tracheotomy

Definition: making an opening into the trachea and skin. It done as an emergency operation and it mainly performed under general anesthesia also it done under local anesthesia.



✓ Indication:

1. Upper respiratory tract obstruction.
2. Assisted ventilation.
3. Pulmonary cleaning.

* Enumerate the indication of making tracheostomy ?.

Types of tracheostomy tube:

1. Metal with an inner tube, which is useful when there are thick secretions.
2. Portex, they are:
   a. Un cuffed, used later when the secretions are less voluminous and the tracheostomy tract is formed.
   b. Cuffed used mainly during the first hours to prevent aspiration or when positive ventilation is needed.

Important point:

Horizontal incision about 5 cm. in length is made 2cm. below lower border of the cricoids or 2 fingers above the upper end of sternum. This procedure done as a following.

1. Horizontal incision about 5 cm. in length is made 2cm. below lower border of the cricoids or 2 fingers above the upper end of sternum.

2. A transverse incision is made in the inter-cartilaginous membrane between the 2nd and 3rd tracheal ring or below that.

❖ Nursing care after operation:

1- The nurse should be using mask, gloves, with the procedure.
2- Sterile dressing is done to prevent the complication.
3- Put the patient in semi-fowler position to stimulate respiration and prevent edema.
4- Giving sedation as order to decrease of cough reflexes.
5- Sucking the secretion every 1 -2 hours.
6- Observe the patient closely.
7- Prevent any strain to the patient.

*What is the nursing care that gives to the patient with tracheostomy ?.

Lec:22

Urinary catheterization

Definition: Is the introduction of catheter through the urethra into the bladder for the purpose of removing urine from the bladder.

Reasons for Catheterization

1. Relieving urinary retention.
2. Measuring amount of urine in bladder.
3. Obtaining a urine specimen.
4. Emptying bladder before during or after surgery.
5. Monitoring of critically ill patients.

* Enumerate the causes of catheterization ? .

❖ The equipment of catheterization:-

1. Sterile catheterization set .
2. Sterile bowl .
3. Gloves .

❖ The complication of making catheterization:

1) May be happened infection of urinary tract.

2) Trauma may be happened .

Nursing observation:

1- Measuring the amount of urine & record intake & 0utput sheet.

2- Report any unusual characteristics of urine .

3- Note procedure date & time.

4- Note if specimen was sent to the laboratory.

*What is the nursing care that gives to the patient with catheterization ? .

Lec:23&24

Pre & post operative Nursing care

The perioperative period is the time before, during, and after an operation it encompasses three phase :

i. Preoperative phase.
ii. Intra-operative phase.
iii. Postoperative phase.

Nursing responsibility for pre-operative care:-

1- Giving psychological & physiological support because of the anxiety of& fair of operation.
2- Report of routine information about patient examination &its includes .
   a. Check vital signs& charted.
   b. Check the weigh & carted.
   c. Made general investigation to the patient for blood & urine &E.C.G.
3- Observe any abnormal signs & notify the physician about it.
4- Explain to the patient & his family the important foods that gives after operation.
5- Personal hygiene must be gives to the patient.
6- Explain to the patient the operation that made to him & the drugs that gives before the operation done.

*What is the nursing responsibility of pre- operative care ?.

Nursing responsibility before day of operation :-

1- Shaving the area of operation because hair caused infection of the wound .
2- Stop any drugs that gives to the patient before 24 hours of making operation.
3- Make enema to empty of intestinal & empty the bladder by making catheterization .
4- Stop foods & fluid before 6 hours of operation.
5- Check vital signs & reported.
6- Explain to the patient the important of exercise after operation.

Nursing responsibility in the operative day :-

1- Check vital signs before operation done & notify physician about any change in it.
2- Personal hygiene must be done to the patient.
3- Empty the bladder from urine.
4- Giving sedation before operation like pathdine.
5- Transport the patient to the operating room with his chart.

* Who you gives nursing care to the patient in the day of operation.

Nursing responsibilities in the recovery room

1- Put the patient lateral position or semi prone with out pillow to prevent aspiration of secretion or vomiting.
2- Put air way tube in his mouth to prevent obstruct of air way.
3- Gives O_2 by mask to the patient.
4- Clean the mouth from accumulation of secretion.
5- Put blanket on the patient to prevent chilling.
6- Check vital signs every 15 minute .
7- Observe the dressing wound to observe bleeding if happened.
8- Observe intravenous infusion that gives to the patient.
9- Giving sedation to reduce the pain of operation.
10- Observe the activity of respiratory system & retrain of patient to his conscious.
11- Take the patient to his room in the surgical word.

*Enumerate the nursing responsibility in recovery room.

❖ Post- operative complication:-

The complication that happened during 24 hours are:-

1) **Hemorrhage** ,that includes
   a. External bleeding.
   b. Internal bleeding.

- **Signs & symptoms of internal bleeding:-**
  1. Hypotension.
  2. Tacky cardiac.
  3. Restless of patient .
  4. Pallor of skin.
  5. Thirsty & cold skin.

* What is the signs & symptoms of internal bleeding ?.

2) **Shock** because of losing of large quantity of fluid or blood or pain.
3) **Hypoxia** because of sedation that gives before operation.
4) **Cardiac arrest** because of ,
   - **a.** Hypotension.
   - **b.** Decries of blood in the artery .
   - **c.** Increase of potassium.
   - **d.** Cardiac failure may be occur.

- **In case of cardiac arrest happened the nursing care that gives are :-**

1- Giving artificial respiration to the patient.
2- Cardiac massage had done.
3- Tracheotomy operation done to stimulate respiratory system action.

❖ General complication of post- operative operation:-

1- Vomiting.
2- Pain in the area of operation.
3- Returning of urine .
4- Constipation or distention of abdomen.
5- Paralytic intestinal.
6- Complication of respiratory system, like pneumonia, bronchitis.
7- Thrombosis.
8- Wound infection.

Nursing care of complication

1- Put the patient in bed rest.
2- Change the position of the patient to prevent retention of urine& stimulate blood circulation.
3- Giving large quantity of fluid.
4- Putting hot compress on the abdomen to prevent constipation.
5- Promote the patient to make breathing exercises to stimulate the secretion out of the body.

*Enumerate the Nursing care of complication .

Nursing care that gives to the wound infection

1- Dressing the wound to discharge of the pus from the wound.
2- Making swap to the infection that happened to know the kind of bacteria that caused infection.
3- Giving anti biotic by the order of physician .
4- Giving good nutrition.
5- Psychological support must be gives to the patient.
6- Prevent the activity of patient.

*What is the nursing care that gives when the wound is infected ?.