FUNDAMENTALS OF NURSING

FIRST STAGE

MSC. Jamal Sabr Idan

ALFURAT Al-Awsat Technical University

Lect 1

Fundamental of nursing

Fundamentals of Nursing: is the branch of nursing science that provides the theoretical framework and basic practical skills necessary for delivering comprehensive, safe, and patient-centered care.

It encompasses the nursing process, basic human needs, communication, infection control, safety measures, and essential nursing procedures, serving as the foundation for advanced nursing practice

Nursing: is helping people stay healthy, recover from illness, and live comfortably. It means taking care of patients' bodies, minds, and feelings while making sure they are safe and supported.

A nurse: is a trained person who cares for people when they are sick and helps them stay healthy. Nurses give treatment, comfort, and support to patients and their families.

Health : state of complete emotional, mental, and physical well-being, and not merely the absence of disease.

Patient: A patient is an individual who receives medical or nursing care, treatment, or health-related services due to illness, injury, disability, or preventive needs.

A hospital is a place where patients receive organized medical care and treatment.

The fields of nursing

Medical-Surgical Nursing → Care of adult patients in hospitals.

Pediatric Nursing → Care of infants, children, and adolescents.

Maternity (Obstetric) Nursing → Care of pregnant women, mothers, and newborns.

Community Health Nursing → Care for people in the community, focusing on prevention and health education.

Psychiatric (Mental Health) Nursing → Care for patients with mental and emotional problems.

Emergency and Critical Care Nursing → Care for patients in emergencies and intensive care units.

Geriatric Nursing → Care for elderly people.

Operating Room (Perioperative) Nursing → Assisting during surgeries.

Role of a Nurse

Caregiver → Provide direct care to patients (feeding, bathing, giving medicines).

Advocate → Speak for the patient's needs and rights.

Educator → Teach patients and families about health, disease, and healthy lifestyle.

Communicator → Connect between patients, doctors, and other health staff.

Leader/Manager → Organize patient care and sometimes supervise other staff.

Responsibilities of a Nurse

Assess the patient's condition (check vital signs, symptoms).

Give medications and treatments as prescribed.

Monitor patient progress and report changes to doctors.

Maintain cleanliness and infection control.

Provide emotional support to patients and families.

Keep accurate records and documentation.

Promote health and prevent illness through education.

Lect 2:

Admission and discharge of Patient from hospital

Admission and discharge are two important processes in nursing care.

They represent the first and last impressions patients and families have of the hospital.

Proper management ensures patient satisfaction, safety, and continuity of care.

Admission of Patients

Admission is the process of receiving a patient into the hospital for diagnostic, therapeutic, or supportive care.

Objectives of Admission:

To provide safe, effective, and timely care.

To collect baseline information about the patient.

To orient the patient to the hospital environment.

To establish trust and rapport with the patient and family.

Types of Admission:

Emergency admission – sudden illness, accident, urgent conditions.

Elective (Planned) admission – scheduled for surgery, investigations, or therapy.

Direct admission – referred from outpatient department or another facility.

Nurse's Responsibilities During Admission:

Prepare the unit and equipment.

Receive the patient politely, introduce yourself.

Verify identification details.

Record personal and medical history.

Assess vital signs and general condition.

Orient the patient to the ward, bed, bathroom, and facilities.

Explain hospital rules, visiting hours, and routine.

Provide psychological support to reduce anxiety.

Discharge of Patients

Discharge is the process of officially releasing a patient from the hospital after treatment, recovery, or transfer.

Objectives of Discharge:

Ensure continuity of care at home.

Provide health education and instructions.

Prepare patient and family for self-care.

Complete all administrative and legal formalities.

Types of Discharge

Planned discharge – when treatment is completed.

Discharge on request – patient requests to leave.

Discharge against medical advice (DAMA/AMA).

Transfer to another hospital.

Absconded discharge – patient leaves without informing.

Death

Nurse's Responsibilities During Discharge:

Confirm doctor's discharge order.

Inform patient and family.

Settle accounts and complete hospital records.

Remove IV lines, catheters, or drains if ordered.

Give discharge summary and prescriptions.

Provide health teaching (diet, medications, follow-up, hygiene, activity restrictions).

Explain warning signs to watch for.

Arrange transportation if needed.

Document the discharge process.

Importance of Admission and Discharge in Nursing

Builds trust between patient and healthcare team.

Promotes safety and comfort.

Reduces stress and anxiety.

Ensures legal and professional accountability.

Facilitates holistic patient care.

A detailed written record of patient's medical history, diagnosis, treatment, progress, and outcomes.

Chart Report

Content:

Patient identification data (name, age, gender, ID).

History of illness.

Physical examination findings.

Laboratory and diagnostic results.

Physician's orders and treatment plan.

Daily progress notes.

Purpose:

Provides continuity of care.

Serves as a legal document

Health Report

A comprehensive report describing patient's overall health condition, preventive measures, and follow-up care.

Content:

Past medical history.

Current health status.

Immunization status.

Lifestyle factors (diet, smoking, physical activity).

Patient education and preventive advice.

Purpose:

Helps in discharge planning.

Assists in community health follow-up.

Guides patient and family for self-care.

Nurse Report

A professional record maintained by nurses to document nursing care provided to the patient.

Content

Nursing assessment on admission.

Nursing interventions during hospital stay.

Patient's response to treatment.

Vital signs charting.

Intake and output record.

Discharge teaching and patient understanding.

Purpose

Communication between nursing shifts.

Provides evidence of nursing care.

Ensures accountability and quality of care.

Importance of Reports in Admission and Discharge

Ensure accuracy and continuity of care.

Provide legal protection for staff and institution.

Facilitate research, audit, and education.

Build trust between patient and healthcare team.

Lect 3

Vital signs

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:

Change in health status.

Admission the patient to health care agency.

Nursing or medical order.

Before or after surgery or diagnostic procedure.

Before and after administration of medication.

Before and after any nursing intervention.

Body temperature

Is a balance between heat production and heat loss, the normal degree of body temperature is 37Co (98.6 F)

Sites for Assessing Temperature

Orally (common way) 37 C° (3 – 5 min)

Axillary (safe way) 36 C° + 5 C° (10 min)

Rectal (accurate reading) 37 C° – 5 C° (2 – 3 min)

Tympanic membrane.

The purpose of checking vital signs

For making diagnosis.

Planning progressing of patient.

Seeing reactions of patient to the specific medications treatment and care.

Oral body temperature

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

When we cannot use oral thermometer?

For unconscious patient.

The child under 6 years & Infant.

Patient who breathe from mouth.

Patient who has disease in the oral cavity or surgery of nose or mouth.

Patient on oxygen mask.

Psychiatric patients

Auxiliary method

by putting thermometer in auxiliary place for 10 minute.

Be ensuring that thermometer is contact with skin surface.

Pluses 0.5 degree to the degree of checking temperature.

Rectal method

check temperature by rectal when you cannot 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

With patients who have rectal surgery .

With patients who have any rectal disorders.

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:

Mercury thermometer

Electric thermometer

Electronic thermometer

Factors affecting body temperature

Time of the day.

Physical exercise.

Sex

Age and growth hormone.

Hypothermia ,hyperthermia

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

Fever (pyrexia)The body temperature is above usual range (37 Co)

The type of fever:

Intermittent fever.

Remittent fever.

Continued fever.

Signs and symptoms of fever:

High heat rate.

High and depth of respiratory rate.

Flash face and sweating.

Back pain.

Fatigue.

Headache.

Nausea and vomiting.

Chilling and thirst.

Delirium.

Loss of appetite.

Nursing care

Check body temperature every 10 minute.

Cold compress made for patient.

Give good nutrition and fluid.

Change clothing if necessary.

Make bathing if necessary.

Reduced physical activity.

Giving anti pyrel drugs (paracetamol, aspe gic,….).

If cold compress is unless used alcohol bath (70% alcohol with water).

Make oral hygiene.

Good ventilation and circulation.

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.

Type of respiration

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.

Pulse

The pulse is the number of heart beats in a specific unit of time for example, (a minute) or it is the distension of the artery as a result of the flow of blood waves in the blood vessels in each heartbeat, and it depends on the number of ventricular contractions.

The amount of pulse in adults is (60-100) beats per minute, while in children (80-140) beats per minute,

and the state of the pulse is evidence of heart health.

A- Pulse rate

Tacky cardiac: pulse rate is over 100 beat /minute

Brady cardiac: pulse rate is below 60 beat /minute

-Arrhythmia: irregular pulse rhythm.

B- Rhythm of pulse

It means the time interval between heart beats is equal.

Arrhythmia: Irregularity of time interval between heart beats.

Heart rhythm

Regular pulse: The heartbeat is regular and the interval between them is equal.

Irregular pulse: The heartbeat is regular for one period and irregular for other periods.

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

Notes in observed respiration

Respiratory rate.

Respiratory depth.

Pulse volume.

Nature of Respiration (ordinarily regular, or irregular).

Eupnea: normal Respiration.

Poly nea : increase rate of Respiration.

Hyperpnea: increase depth of Respiration.

Dypnea: difficult breathing.

Stertorous: breathing with sound.

BP

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 the maximum of the pressure 100 – 140 mm /Hg.

Diastolic pressure: is the minimum of the pressure 60 - 90 mm /Hg.

The average of blood pressure 80\120mm Hg.

Condition of blood pressure

Hypertension: the pressure is above 140 mm /Hg.

Hypotension: the pressure is below 60 mm /Hg.

Blood pressure checked by sphygmomanometer and stethoscope.

Factors maintaining normal arterial pressure

Cardiac output.

Peripheral resistance.

The quantity of blood.

The viscosity of blood.

The elasticity of vessel walls.

Lect 4

Medication Administration:

The process of preparing, giving, and evaluating the effect of a prescribed drug to a patient.

It requires accurate knowledge, good judgment, and professional accountability.

Routes of Medication

Medications can be given through several routes depending on the drug type, condition, and desired effect

A. Enteral Routes (through the digestive tract)

Oral (PO): tablets, capsules, liquids.

Advantages: convenient, safe, inexpensive.

Disadvantages: slower absorption, not suitable for unconscious patients

Sublingual: under the tongue (e.g., nitroglycerin).

Rapid absorption into the bloodstream.

Buccal: between cheek and gum.

Rectal: suppositories or enemas used when oral route is not possible.

B. Parenteral Routes (injection)

Intravenous (IV): directly into the vein — fast action.

Intramuscular (IM): into muscle (e.g., deltoid, gluteal).

Subcutaneous (SC): into subcutaneous tissue (e.g., insulin).

Intradermal (ID): into the dermis (e.g., TB test).

C. Topical and Other Routes

Topical: creams ointments, patches on the skin.

Inhalation: through the respiratory tract (e.g., nebulizers, inhalers).

Ophthalmic / Otic: eye or ear drops.

Nasal: sprays or drops into the nose.

Vaginal: creams, suppositories

The "Ten Rights" of Medication Administration

Right patient

Right drug

Right dose

Right route

Right time

Right documentation

Right reason

Right response (evaluate effect)

Right education (inform patient)

Right to refuse

Steps of Safe Medication Administration

Check the doctor's order carefully.

Identify the patient using at least two identifiers (name, ID number).

Wash hands and maintain aseptic technique.

Check the "Ten Rights."

Prepare the medication in a clean, well-lit area.

Explain the procedure and purpose of the medication to the patient.

Administer the drug through the correct route.

Observe for any immediate reactions.

Ensure the patient swallows oral medication completely.

Record the medication given (time, dose, route, and signature).

Monitor the patient's response.

Report any adverse or allergic reaction immediately.

Medication Errors

Any preventable event that may cause or lead to inappropriate medication use or patient harm.

Common Causes:

Wrong dose or drug.

Similar drug names.

Poor communication or handwriting.

Distraction during preparation.

Prevention

Follow the Ten Rights.

Use electronic medication records when possible.

Double-check calculations.

Clarify unclear orders

Nurse's Responsibilities

Verify all medication orders.

Know the action, side effects, and contraindications of the drug.

Educate the patient about the medication.

Document all medications accurately.

Report and record any errors or adverse effects

Documentation

Proper documentation is essential:

Name of drug, dose, route, and time.

Patient's response to the drug.

Any side effects or refusals.

Signature or initials of the nurse

Lect 5

Intravenous infusion

Intravenous infusion (IV infusion) is the administration of fluids, medications, nutrients, or blood products directly into a vein through a catheter or needle at a controlled rate.

It is one of the most common methods of fluid and drug delivery in healthcare settings.

2. Purpose of Intravenous Infusion

To replace lost fluids and electrolytes.

To maintain fluid balance in patients who cannot take fluids orally.

To administer medications directly into the bloodstream for rapid action.

To provide nutrients (such as glucose, amino acids).

To transfuse blood or blood products.

3. Types of Intravenous Infusion

1. Continuous Infusion:

Fluids are given continuously over a long period (e.g., saline, dextrose).

2. Intermittent Infusion:

Fluids or medications are given for a short period, then stopped (e.g., antibiotics).

3. Volume-Controlled Infusion:

A specific volume is administered using burette or infusion pump.

4. Equipment Required

IV fluid bag or bottle (e.g., Normal Saline, Dextrose).

IV administration set (infusion set).

IV stand.

Sterile gloves.

Alcohol swabs.

Tourniquet.

IV cannula (appropriate size).

Adhesive tape and gauze.

Infusion pump (if available).

5. Sites for IV Infusion

Upper limb veins are most commonly used:

Cephalic vein (forearm).

Basilic vein.

Dorsal veins of the hand.

Lower limb veins (used if upper veins are unavailable).

6. Procedure of Intravenous Infusion

Preparation Phase

1. Verify the doctor's order for type and rate of fluid.
2. Identify the patient and explain the procedure.
3. Perform hand hygiene and wear gloves.
4. Prepare the required equipment.
5. Select a suitable vein and apply the tourniquet.

Insertion Phase

6. Clean the puncture site with alcohol swab.
7. Insert the IV cannula into the vein.
8. Remove the needle and connect the IV line.
9. Secure the cannula with adhesive tape.

Infusion Phase

10. Hang the IV fluid bottle on the stand.
11. Adjust the flow rate (drops per minute) as prescribed.
12. Monitor the patient for any reaction or complications.

Post-Procedure Care

13. Record the time, type, and amount of fluid infused.
14. Observe the site regularly for signs of infection or infiltration.
15. Dispose of used equipment safely.

8. Nursing Responsibilities

Check the doctor's order carefully.

Inspect IV solution for color, clarity, and expiration date.

Maintain aseptic technique during the procedure.

Observe the infusion site for:

Swelling (infiltration).

Redness (phlebitis).

Leakage or pain.

Monitor patient’s vital signs regularly.

Report any abnormal reactions immediately.

9. Complications of IV Infusion

1. Infiltration: Fluid leaks into surrounding tissue causing swelling and pain.

2. Phlebitis: Inflammation of the vein (redness, tenderness, warmth).

3. Air Embolism: Air enters the vein, causing chest pain or breathing difficulty.

4. Infection: At the insertion site or systemic.

5. Fluid Overload: Especially in elderly or cardiac patients.

10. Prevention of Complications

Use sterile equipment.

Select appropriate vein and cannula size.

Secure the line properly.

Regularly inspect and rotate IV sites.

Follow prescribed infusion rates carefully.

11. Documentation

After completing the procedure, the nurse must record:

Type and amount of solution.

Time started and completed.

Site of insertion and cannula size.

Patient’s response and any complications.

Lect 6&7

Wounds and bleeding

oA wound: is a break in the continuity of the skin, mucous membrane, or tissue caused by physical, chemical, or biological injury.

oBleeding(Hemorrhage): Is the loss of blood from damaged blood vessels.

oIt can be internal (inside the body) or external (visible outside the body)

Causes of Wounds

oMechanical injury (cuts, falls, accidents)

oBurns or scalds

oBites or stings

oSurgical procedures

oPressure (bed sores)

oChemical or thermal exposure

Type of wounds

Closed Wound: The surface of the skin is intact, but the underlying tissues may be damaged. e.g. contusions, haematomas, or Stage

Open Wounds: the skin is split or cracked and the underlying tissues are exposed to the outside environment.

Classification of Wounds

A. According to Cause:

Incised wound – caused by sharp objects (knife, glass).

Lacerated wound – irregular tear due to blunt trauma.

Abrasion – superficial damage to the skin surface.

Puncture wound – caused by pointed objects like nails.

Contusion (bruise) – injury without skin break, caused by blunt force.

Gunshot wound – caused by firearm projectiles.

B. According to Condition:

Clean wound: No contamination.

Contaminated wound: Contains dirt or bacteria.

Infected wound: Shows signs of infection (pus, odor, redness).

The types of wound exudate

Serous: Clear, thin, and watery fluid; typical during the inflammatory healing stage.

Sanguineous: Red, bloody drainage; indicates fresh bleeding.

Serosanguineous: A mix of clear and red fluid; often seen in healing wounds.

Purulent: Thick, yellow, green, or brown drainage; indicates infection.

Fibrinous: Thin, watery, and cloudy; contains fibrin, a normal finding.

Lect 8 suture

A suture: is a thread or strand used to sew tissues together after injury or surgery.

It helps approximate wound edges to promote healing and prevent infection or bleeding.

Sutures can be absorbable or non-absorbable, depending on whether they are naturally broken down by the body or require removal later

Classification of Sutures

A. According to Absorbability

A- Absorbable sutures:

These are broken down by the body's enzymes.

Used for: Internal tissues, mucosa, or deep layers.

B- Non-absorbable sutures:

These are not absorbed and must be removed after healing.

Used for: Skin closure, vascular, or orthopedic surgery.

B. According to Material Origin

Natural: Silk, Catgut.

Synthetic: Nylon, Vicryl, Prolene.

C. According to Filament Structure

Monofilament: Single strand — less infection risk, but harder to handle.

(e.g., Nylon, Prolene)

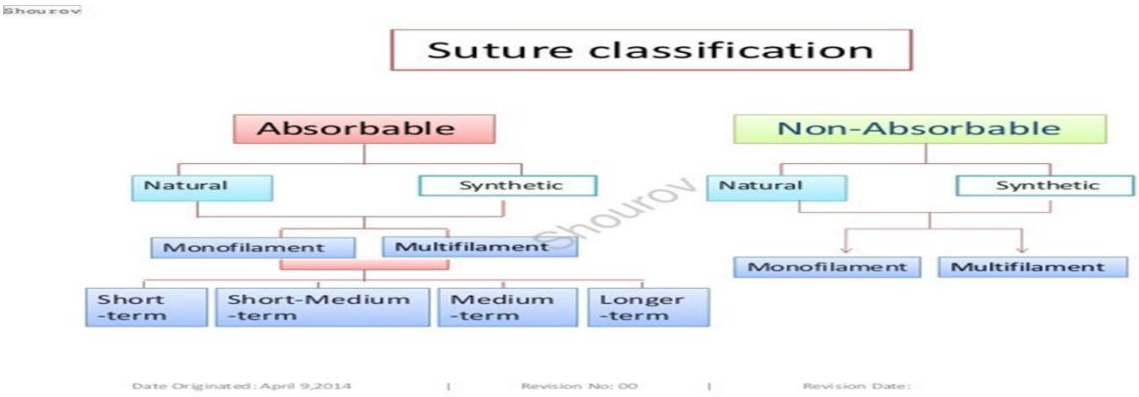
Multifilament (Braided): Multiple strands — easier to tie, but higher infection risk.

(e.g., Silk, Vicryl)

D. According to Coating

Coated sutures: Reduce friction and tissue trauma.

Uncoated sutures: More friction, may cause tissue drag.



Principles of Suturing

Handle tissue gently to avoid trauma.

Use the smallest suture size that provides adequate strength.

Avoid excessive tension on the wound edges.

Ensure good wound edge approximation — not too tight or gaping.

Maintain aseptic technique throughout the procedure.

Evert wound edges slightly for better healing.

Follow anatomical lines for cosmetic results.

Suture Techniques

A. Simple Interrupted Suture

Most common and versatile.

Each stitch is tied individually.

Provides strong and secure closure.

B. Continuous (Running) Suture

One continuous strand without cutting between stitches.

Faster but if one knot fails, the whole line may loosen.

C. Mattress Sutures

Vertical Mattress: Provides strong eversion and good tension.

Horizontal Mattress: Used for fragile skin or areas under tension.

D. Subcuticular (Intradermal) Suture

Placed just under the skin surface.

Used for cosmetic closure with minimal scarring.

E. Purse-string Suture

Circular stitch used to close an opening (e.g., around drains).

Suture Equipment

Needle holder	Tissue forceps
Scissors	Needle
Suture material	Sterile gloves & drapes

Suture Removal

Purpose:

To prevent scarring, infection, and irritation after the wound has healed.

Timing of Removal

Face	3 days
Scalp	5 days
Chest	7–10 days
abdomen	7–10 days
Extremities	10–14 days
Joints	14 days

Procedure

Prepare sterile equipment (suture removal set).

Clean the wound with antiseptic solution.

Lift the knot gently with forceps.

Cut the suture close to the skin to avoid pulling external thread inside.

Pull out the suture smoothly with forceps.

Apply sterile strip or dressing if needed.

Complications of Suturing

Infection

Scarring or keloid formation

Wound dehiscence (separation)

Allergic reaction to suture material

Tissue necrosis if too tight

Lect 9 Body mechanics

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

Purpose:

To keep important organs in their correct anatomical and physiological position.

To facilitate good muscular control and the smoothness of movement.

To move and work with minimum muscular effort.

To make good impression on other and produce feeling of self-confidence.

Body posture

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

Principles of body mechanics:

Use a wide base of support when moving object.

Keep objects to be moved close to the body.

Push, pill, roll or slides objects rather than lifting.

Avoid twisting the spine by pushing or pilling the objects.

Use the body weight when pushing objects.

Factors that influence body mechanics and posture

General health.

Nutrition.

Emotions.

Situation factors.

Life style.

The important of exercise

Improve the strength and flexibility of all body muscle.

Improve blood circulation.

Promote good respiratory function.

Relieve depression.

Common danger immobility

Respiratory system: like atelectasis, collapse of lung tissue.

Circulatory system: like thrombosis, bed sores.

Urinary system: like urinary tract infection or stone.

Gastro intestinal system: happened disturbance in appetite, poor digestion, constipation.

Psychological effects.

Type of changing patient position

Helping the patient move to the side of the bed.

Raising the shoulder of helpless patient.

Raising the shoulder of semi helpless patient.

Moving the helpless patient up in the bed (two nurses).

Using a draw sheet pill to move a helpless patient up in bed.

Assisting the patient to get out of bed and into a chair.

Body position for comfort

Standing position (anatomical position).

Dorsal position.

Dorsal recumbent position.

Sitting position.

Prone position.

Fowler's position.

Lateral position.

Sim's position.

Lithotomy position.

Trendelenburgs position.

Knee-chest position.

Purpose of changing position

For diagnosis.

To prevent bed sores.

To help out of drainage.

For rest.

For therapeutic

Positions of patient during examination

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

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

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

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.

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.

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

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.

Nursing Care for Activity and Immobility

Maintain body alignment (positioning, transferring, ambulating and lifting the client)

Identifying client who needs assistance and determine the degree of assistance.

Provide assistance when needed.

Teaching client and family safe moving, lifting and transfer techniques.

Care should be individualized.

Bed-rest care.

Prevent complications of immobility

Lect 10

Method of Sterilization

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

An infectious agent.

Reservoir.

Portal of exit.

Mode of transmission.

Portal of entry.

Susceptible host

Infectious Agents

Bacteria.

Viruses

Fungi.

Parasites

Reservoirs

Human beings.

Animals.

Inanimate objects.

Portal of Exit

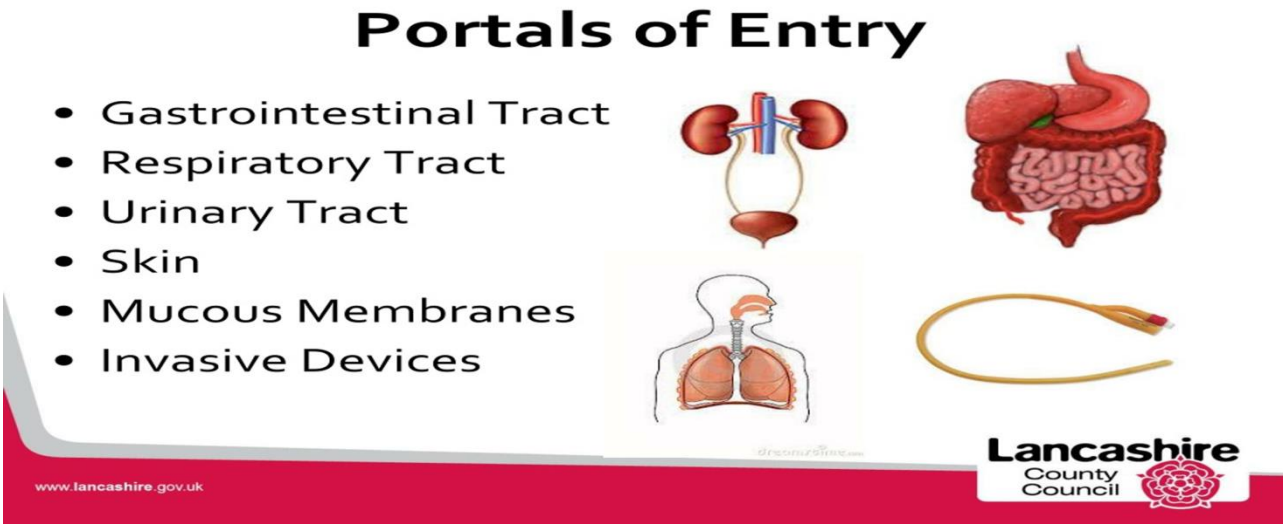
Blood.

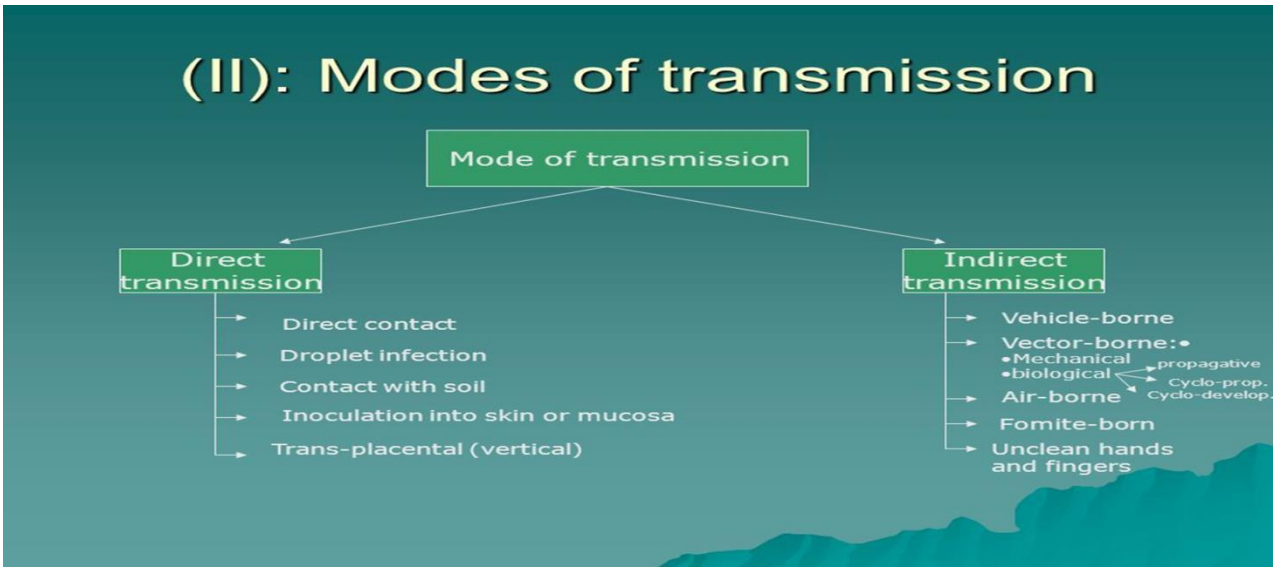
Emesis.

Sputum.

Stool.

Urine





Aseptic Technique

Includes all practices to prevent or break the chain of infection cycle.

Two categories:

Medial asepsis (clean technique)

Surgical asepsis (sterile technique)

Medical Asepsis

Hand washing. Cleaning.

Disinfection. Private room.

Personal protective equipment and supplies:

Gloves. . Head cover.

Gowns. . Protective eyewear.

Masks. . Overshoes.

Uniforms. . Protective eyewear

Surgical Asepsis

Skin preparation.

Sterile gloves.

Surgical hand washing.

Sterile field .

Sterilization

The process by which all microbes including spores are destroyed.

Physical and chemical techniques:

Radiation (i.e. ultraviolet)

Boiling water.

Heating.

Chemicals i.e. gas ethylene oxide)

Isolation

Protective procedure designed to prevent the transmission of specific microbes

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

Follow sterile techniques.

Use personal protective equipment's.

Clean and sterilize the equipment which are used.

Assure cleanness for wards and patients rooms.

Wash hands before and after care of the patients.

Teach the patients and their family about infectious diseases.

Work with health team to control the infectious diseases.

Isolate patients with infectious disease.

Provide personal hygiene for patients.

Lect 11

Body hygiene

Definition :Body hygiene refers to all the practices that keep the body clean, healthy, and free from infection

Factors Influencing Personal Hygiene

Culture.

Socioeconomic class.

Spiritual practices.

Developmental and knowledge level.

Health state.

Personal preference.

Purpose of bathing

Cleansing the skin:

Promoting comfort and relaxation

Stimulating circulation:.

Promoting range of motion

Observation opportunity

Enhancing self-esteem and social interaction

Reducing infection risk

Bed sores (pressure ulcer)

Definition: Is progressive destruction of the under lying tissue.

Causes of bed sores:

Poor nutrition.

Poor circulation of blood.

Dry skin and without resistance.

Unclean of skin.

Lie or sleep for long periods

Areas of pressure sores

Heels.

Scapula.

Elbows.

Back of the head.

Coccyx.

Signs and symptoms of Bedsore

Painful.

Redness, heat, and discomfort in the area.

Fever.

Area become cold to touch.

Area become blue.

Gangrene formation.

Sloughing and infection

Patients Prone to Pressure Sores

Bed – ribbon patients.

Obese patients .

Very thin patients.

Patients in traction.

Patients in complete bed rest.

Diabetic patients.

factors affecting the formation of pressure sores.

Moisture: due to urine, feces, drainage and perspiration.

Hygiene: poor hygiene, high number of micro-organism present on the skin (bacteria).

Poor nutrition.

Body heat.

Prevention of Bedsore

Find out and detect the patients who are prone to bedsores.

Daily observation of the rubber rings.

Stimulate circulation .

Relive pressure by:

Moving the patient in bed, changing position every 2 hours.

Avoid the use of rubber rings.

Use abed cradle to take the weight off the linen.

Use pillows between legs.

Early ambulation of the patient.

Nursing care for bed sores

Clean and dress sores.

Change position every 2 hours.

Reduce friction by using powder.

Use floating mattress.

Change clothing and sheets.

Make back massage to prevent new sores.

Prevent sleep on sores side.

Check vital signs.

Giving good nutrition and fluid.

Reduce pressure on site of pressure (fulcrum area).

Lect 12

Blood transfusion

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

Blood transfusion reaction:

Hemolytic reaction: When this happened it caused the following sign:

Fever.

Chilling.

Headache.

Back pain.

Oliguria.

Jaundice.

Chest pain.

Cyanosis.

Hypotension

nursing intervention:

Observe the patient for first 10 minute.

Discontinue blood transfusion immediately.

Notify the physician.

Notify the laboratory.

Maintain (I.V) infusion with 5% dextrose in water or saline.

Monitor vital signs every 15 minute.

Record fluid intake and out put

Febrile reaction: the signs and symptoms of this are.

Fever.

Chilling

Diarrhoea

Warm and flushed skin

confusion and dilirum.

Nursing intervention

Observe the patient for first 30 minute.

When the case become sever stop transfusion.

Monitor vital signs every 30 minute.

Notify the physician.

Implement therapy as order of doctor.

Apply alcohol sponges for fever if necessary.

Blood transfusion reaction:

Allergic reaction: the signs and symptoms are:

Urticaria and itching.

Artheralgia.

Nasal congestion.

Bronco spasm.

Sever Dyspnea

Monitor vital signs.

Notify the physician.

Lect 13

Oxygen administration

Type of Artificial Airways

Oropharyngeal.

Nasopharyngeal airway

Endotracheal tube.

Tracheostomy tube.

Equipment that need:

Oxygen supply.

Oxygen mask or tent or nasal catheter.

Cases that used inhalation

Pneumonia.

Asthma.

Respiratory problem.

Heart failure.

Toxicity by CO1

type of giving O2

Nasal catheter: the equipment that need:

Nasal catheter size 8 – 14 with several opening at end.

Rubber tube.

Lubricant and adhesive tap.

Oxygen mask: it covers the patient nose and mouth made of plastic or rubber

Oxygen tend: there is:

Face tend.

Body tend.

Precautions for Oxygen Administration

Avoid open flames in patient's room.

Place no smoking signs in conspicuous places.

Check to see electrical equipment in room is in good working order.

Avoid wearing and using synthetic fabrics (builds up static electricity)

Avoid using oils in the area (ignite spontaneously in oxygen)

Artificial respiration

Artificial respiration, also known as artificial ventilation, refers to the process of manually or mechanically assisting or stimulating breathing in individuals who cannot breathe naturally or sufficiently. This technique is crucial for maintaining the exchange of oxygen and carbon dioxide in the lungs, which is vital for sustaining life.