

# **NURSING**

**HIGHER SECONDARY - FIRST YEAR**

**VOLUME - II**

**Untouchability is a sin  
Untouchability is a crime  
Untouchability is inhuman**



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## THE NURSES PLEDGE

I solemnly pledge myself before God and in the presence of this assembly to pass my life in purity and to practice my profession faithfully.

**I will abstain from what ever is** deleterious and mischievous and will not take or knowingly administer any harmful drug. I will do all in my power to maintain and elevate the standard of my profession and will hold the confidence in all personal matters committed to my keeping and all family affairs coming to my knowledge in the practice of my calling.

**With loyalty, I will endeavor to aid the** physician in his work and devote myself to the welfare of those committed to my care.

The modified Hippocratic Oath arranged by Mrs. Lystra E. Gretter and her committee for the Farrand Training School for Nurses, Detroit is called the Florence Nightingale Pledge as a token of esteem for the **Founder of Modern Nursing.**

The pledge is taken by all the nurses who have completed the training program before entering to their practice.

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## 9. HEALTH ASSESSMENTS

Health assessment is an important component in health care for proper diagnosis and effective treatment.

Health assessment includes the following

- Ø Physical assessment
  - √ Head to foot examination
  - √ Systemwise examination
  - √ Recording height and weight,
- Ø Mental status examination
- Ø Laboratory investigation
- Ø Special investigation

### Techniques in physical assessment.

Techniques in physical assessment are

1. **Inspection** – It means looking with eyes. It reveals any rash scar, colour, size shape, contour and symmetry of the body parts
2. **Palpation** - It means feeling using sense of touch. It reveals any swelling, coldness, hotness, stiffness, hardness, smoothness, roughness, pain, vibration, firmness and flaccidity
3. **Percussion** – It means striking or tapping with fingers. It elicits sounds which indicate whether the underlined tissues are solid or filled with fluid. The sounds may vary
  - a) **Resonant**: A loud sound over the normal lung tissue
  - b) **Tympanic**: A drum like sound over the air filled tissues such as gastric air bubble.

- c) **Dull:** a medium pitched sound with medium duration without resonance, heard over the solid tissues, such as heart, liver.
  - d) **Flat:** A pitched sound with short duration without resonance, heard over the complete solid tissues, such as bones.
4. **Auscultation** – It means listen with stethoscope or placing the ear against the body. It reveals sounds produced within the body and the blood vessels such as heart beat, bowel sounds.
  5. **Manipulation:** It means moving with the body parts. It reveals rigidity, difficulty or discomfort in moving the body parts.
  6. **Reflex testing:**  
Means automatic response to a given stimulus. It reveals reflex is present, or not present, strength and movements of hands and legs.
  7. **Olfaction** – It means sense of smell (odour). It reveals the nature of disease condition of the patient.

### **Taking height & weight.**

It is a measurement from head to toe that indicates the state of growth and health. It is measured in feet, inches or centimeters.

### **Purpose**

1. To measure accurate height of the patients

### **Equipments**

1. Measuring scale attached to the wall
2. A straight object
3. Paper and pencil
4. Newspaper

### **Guidelines**

1. Have the patient's shoes/ slippers removed while taking height to avoid any variations in the reading



2. If thick object is placed on the top of the head, at right angle to the scale indicating the reading, note the bottom reading of the object.

### **Procedure**

1. Gather the equipments
2. Explain the purpose and the procedure to the patient
3. Wash your hands
4. Tell the patient to remove the slippers or shoes
5. Assist the patient to stand on a lean newspaper kept on the floor.
6. Tell the patient to stand with the buttocks and the back of head against the scale on wall, feet flat, heels together and eyes looking straight ahead.
7. Place the straight object on the top of the head at right angles to the scale on wall, touching the scale calibration. Note the reading where the said object touches the scale
8. Tell the patient to put on slippers.
9. Place the patient in a comfortable position.
10. Replace the equipments.
11. Wash your hands.



**Fig 9.1 Measurement of height.**

### **Recording**

- 1) Record the date and time of the procedure and the height in the nurse's notes or graphic sheet

### **Taking weight**

It is the quantitative expression of a body that indicates the state of growth and health. It is measured in kilograms, pounds or grams.

### **Purposes**

- 1) To obtain accurate weight of the patient
- 2) To aid in accurate diagnosis of the patient
- 3) To evaluate patient's response to treatment

### **Equipments**

- 1) Weighing scale
- 2) Newspaper

## **Guidelines**

- 1) Weigh on weighing scale when the patient is ambulatory
- 2) Sdaily weigh the patient at the same time with the same scale and with same clothing
- 3) Weigh before meals and after voiding
- 4) Weigh on admission to provide a base line information to subsequent daily weight recording and assess any significant increase or decrease in the patient' s weight.
- 5) The weighing scale must be accurate, hence the balance scale, be prepared before weighing the patient

## **Procedure**

- 1) Gather the equipments
- 2) Explain the purpose and procedure to the patient
- 3) Wash your hands
- 4) Assist the patient to void or empty the bladder.
- 5) Check the commonly used flat weighing machine' s reading is set at zero level.
- 6) Tell the patient to remove the slippers or shoes and extra clothes.
- 7) Assist the patient to step on the center of the scale platform.
- 8) Assist the patient to step off the scale platform.
- 9) Assist the patient to return to the bed
- 10) Wash your hands



**Fig 9.2 Taking weight**

### **Recording of weight**

- 1) Record the weight in the graphic sheet or nurse's notes.

## **Vital Signs**

### **The importance of vital sign in health sciences**

**Vital signs** include the physiological measurements of temperature, Pulse, BP and respirations. Vital signs are a quick and efficient way of monitoring a patient's condition or identifying problems and evaluating the patient's response to intervening changes. One vital sign can influence characteristics of other vital signs.

The basic techniques of inspection, palpation and auscultation are used to determine vital signs. Assessment of vital signs allows the nurse to identify nursing diagnoses, to implement planned intervention and to evaluate success. When the nurse learns the physiological variables influencing vital



- Vital signs are documented and communicated to the nurse assuming care of the patient and well of patient.

### **Body temperature**

- **Temperature** is the “hotness” or “coldness” of a substance.
- **Body temperature** is the difference between the amount of heat produced by body processes and the amount of heat lost to the external environment.

Heat produced – Heat lost = Body temperature.

- **Normal body temperature:** For healthy young adults the average body temperature is 37° C (98.6° F). The body tissues and cells function best in the normal body temperature.
- **Core temperature** is temperature of deep tissues. Despite extreme in environmental condition and physical activity, the temperature – control mechanisms of the human beings maintains the body’s core temperature constant.

Surface temperature fluctuates depending on blood flow to the skin and the amount of heat lost to the external environment.

### **Temperature – control mechanism of human beings**

The body temperature is precisely regulated by physiological and behavioral mechanisms. For body temperature to stay constant and with normal range, the relationship between heat production and heat loss must be maintained.

The relationship is regulated by neurological and cardiovascular mechanisms. The nurse applies knowledge of temperature control mechanisms to promote temperature regulation.

### **Neural and vascular control**

- 1) The **hypothalamus** located between the cerebral hemispheres, controls the body temperature.

- 2) The hypothalamus senses main changes in body temperature.
- 3) The anterior hypothalamus controls the heat production.
- 4) A comfortable temperature is the 'set point' at which a heating system operates.
- 5) When the nerve cells in the anterior hypothalamus became heated beyond the set point, impulses are sent out to reduce body temperature.
- 6) Mechanisms of heat loss include sweating, vasodilatation (widening) of blood vessels and inhibition of heat production.
- 7) If the posterior hypothalamus senses the body temperature is lower than the set point, heat conservation mechanisms are instituted.
- 8) Vasoconstriction (narrowing of blood vessels) reduces blood flow to the skin and extremities.
- 9) Heat production is stimulated through voluntary muscle contraction and muscle shivering.
- 10) Trauma to the hypothalamus or to the spinal cord (which carries hypothalamic tract) can cause serious alternations in temperature control.

### **Heat production:**

Thermoregulation requires the normal function of heat – production processes. Heat is produced in the body by **metabolism** which is the chemical reaction in all body cells. Activities requiring additional chemical reactions increase the metabolic rate.

As metabolism increases additional heat is produced. When metabolism decreases, less heat is produced. Heat production occurs during rest, **voluntary movements and involuntary shivering** (shivering is an involuntary body response to temperature differences in the body). Shivering can increase heat production 4 to 5 times greater than normal.

Heat is produced to equalize body temperature.

## Heat loss

Heat production and heat loss occur simultaneously. The skin's structure and exposure to the environment result in constant, normal heat loss through radiation, conduction, convection and evaporation.

Ø **Radiation** is the transfer of heat from the surface of one object to another without actual contact between the two. Peripheral vasodilatation increases blood flow to the skin to increase heat loss.

Peripheral vasoconstriction minimizes blood flow to the skin and inhibits heat loss.

Ø **Conduction** is the transfer of heat from one object to another with direct contact.

Ø **Convection** is the transfer of heat away by air movement. Heat is first conducted to air molecules directly in contact with the skin. Air currents carry away the warmed air.

Ø **Evaporation** is the transfer of heat energy when a liquid is changed to a gas. The body continuously loses heat by evaporation. About 600 – 900 ml of water evaporates from skin and lungs daily, resulting in water and heat loss.

By regulating sweating, the body promotes additional evaporation and heat loss. When body temperature rises, the anterior hypothalamus signals the sweat glands to release sweat to evaporate from the skin surface, resulting in heat loss.

## Factors affecting body temperature

Many factors affect body temperature. The nurse must be aware of these factors when assessing temperature variables and evaluating deviation from normal.

Ø **Age** : For newborn, the temperature – control mechanisms are immature. An infant's temperature may respond drastically to changes in the environment.



Temperature regulation is unstable until children reach puberty. Older adults are sensitive to temperature extremes because of deterioration in control mechanisms, reduced sweat gland activity, reduced amounts of subcutaneous fat and reduced metabolism.

- Ø **Exercise:** Muscle activity causes increased metabolism by increasing carbohydrate and fat breakdown. Any form of exercise can increase heat production and thus body temperature.
- Ø **Hormone level:** Women generally experience greater fluctuations in body temperature than men. Hormonal variations during menstrual cycle cause body temperature fluctuation.

Temperature changes occur in women during menopause. (cessation of menstruation)

- Ø **Circadian rhythm:** Body temperature normally changes  $0.5^{\circ}$  to  $1^{\circ}$  C during 24 hour period. The temperature is usually lowest between 1.00 AM and 4.00 AM.
- Ø **Stress :** Physical and emotional stress increases body temperature through hormonal and neural stimulation. These physiological changes increase metabolism, which increases heat production.
- Ø **Environment** Environment influences body temperature. In a very warm room, the body temperature will be elevated. In a cold weather , the body temperature may be low because of extensive radiant and conductive heat loss.
- Ø **Temperature alterations :** Changes in body temperature can be related to excess heat production, excessive heat loss, minimal heat production, minimal heat loss or any combination of these.
- Ø **Fever :** Hyperpyrexia or fever occurs because heat loss mechanisms are unable to keep pace with excess heat

production, resulting in an abnormal rise in body temperature.

- Ø **Hyperpyrexia:** An elevated body temperature related to the body's inability to promote heat loss or reduce heat production is hyperthermia. Any disease or trauma to the hypothalamus can impair heat loss mechanisms.
- Ø **Heat stroke:** Prolonged exposure to the sun or high environmental temperature can overwhelm the body's heat loss mechanisms.

Heat also depresses hypothalamic function. These conditions cause heat stroke, a dangerous emergency condition with a high mortality rate.

Patients at risk for heat stroke are the very young, very old, cardio vascular condition, diabetes and alcoholics.

- Ø **Hypothermia:** Heat loss during prolonged exposure to cold overwhelms the body ability to produce heat causing hypothermia. Hypothermia is classified as follows:

### Classification of hypothermia

	Centigrade	Fahrenheit
Mild	33 - 36° F	91.4° - 96.8°
Moderate	30 - 33°	86.0° - 91.4°
Severe	27 - 30°	80.6° - 86.0°
Profound	< 30°	< 80.6°

**Frost bits** occurs when the body is exposed to subnormal temperature. Ice crystals forming inside the cell result in permanent circulatory and tissue damage. Areas at risk for frost bite are the earlobes, tip of the nose and fingers and toes. The injured area is white, waxy and firm to touch.

### Sites for assessing temperature

- 1) Oral
- 2) rectal
- 3) axillary

- 4) tympanic route

### **Types of thermometers**

- 1) Mercury – in – glass thermometers
- 2) Electronic thermometer
- 3) Disposable thermometer

### **Purpose of taking Temperature**

- 1) To aid in diagnosis or the patient' s condition
- 2) To find out the progress of the patient

### **Taking temperature by mouth**

#### **General instructions**

- 1) Oral temperature should not be taken immediately after the patient has had a hot or a cold drink or food.
- 2) Oral temperature should not be taken for the following patients
- 3) Children below the age of five years
  - patients receiving oxygen
  - Patients with nasal obstruction, dyspnoea or sore mouth
  - Patient who are delirious, unconscious and not cooperating, hysterical, restless or mentally ill
  - Patients with oral surgeries

### **Procedure ( Recording temperature – oral)**

#### **Equipment**

Tray containing

- 1) 3 or 4 test tubes or bottles with antiseptic lotions savlon 2%) and a little cotton underneath
- 2) A glass tumbler with clean water and little cotton underneath
- 3) A bowl containing a bit soapy white wipers
- 4) A small piece of clean cloth
- 5) A kidney tray
- 6) A paper bag
- 7) watch with second hand
- 8) red lead pen

## **Procedure**

- 1) Explain the procedure and take the patients cooperation
- 2) Let the patient be sitting or lying down
- 3) Remove thermometer from the lotion, wash with clean water and dry with clean piece of cloth from the bulb upwards to prevent bacteria from setting down on the lower part which goes into the mouth of the patient.
- 4) Shake down the mercury by a quick sudden movement of the wrist and bring down the mercury level at 95° F.

Place the bulb of the thermometer under the tongue and tell the patient not to bite the thermometer but to hold it with his lips.

- 5) Leave the thermometer in the mouth for 2 minutes (during this time take his pulse and respiration).
- 6) Remove the thermometer , note the temperature clean with the soapy wiper from above downwards towards the bulb (to prevent bacteria from spreading all over the thermometer.
- 7) Collect the dirty soapy water in the kidney tray and place the dirty wiper in the paper bag
- 8) Replace thermometer in the test tube or bottle with the lotion
- 9) Record the temperature in the chart

## **After care of the equipment**

- 1) Clean all the articles used.
- 2) Wash the thermometer with soap and cold water
- 3) Keep the thermometer in the antiseptic lotion for 2 to 5 minutes
- 4) Reset the tray and keep it ready for the next use.

## **Nursing care of individual with altered body temperature**

### **Hyperthermia – Assessment**

- 1) obtain all vital signs
- 2) observe skin color
- 3) observe for shivering are diaphoresis

**Non – pharmacological therapy** are methods that increase heat loss by evaporation, convection conduction or reduction.

- 1) Tepid sponge bathes
- 2) Bathing with alcohol – water solution
- 3) Cooling fans
- 4) Allow rest period
- 5) Limit physical activity
- 6) Reduce external covering on patient’ s body to promote heat
- 7) loss through reduction and conduction.
- 8) Provide fluids (atleast 3 litres per day) to replace fluids loss.
- 9) Encourage oral hygiene because oral mucous membranes dry easily from dehydration.
- 10) Provide measures to stimulate appetite and offer well balanced meals.
- 11) Provide supplemental oxygen therapy as ordered to improve oxygen delivery to body cells.
- 12) Control environmental temperature without inducing shivering. Eg. Cooling fans

### **Heat stroke**

The best treatment for heat stroke is prevention. The nurse teaches the patient:

- 1) To avoid strenuous work in hot weather.
- 2) To drink fluids such as clear fruit juices before, during and after exercise.
- 3) To wear loose cotton clothing.
- 4) To avoid exercising in areas with poor ventilation.
- 5) To wear protective hats over the head when going outdoors.

### **First aid for heat stroke**

- 1) Move the patient to cooler environment.
- 2) Reduce clothing covering the body
- 3) Place wet towel over the skin

- 4) Use cooling fans to increase heat loss
- 5) Summon emergency medical treatment (intravenous fluids)

## **Hypothermia**

Prevention is the key for patient's at risk for hypothermia and frostbite.

- Ø Educate patient who are at risk for hypothermia (Eg. the very young, the very old, persons debilitated by trauma, stroke, diabetes, drug or alcohol intoxication, sepsis, mentally ill, alcohol intoxication, malnutrition).

## **Treatment**

- 1) Prevent a further decrease in body temperature.
- 2) Remove wet clothes, provide dry ones and wrap the client in blanket.
- 3) If the patient is conscious offer warm liquids such as milk or soups
- 4) Place the patient in a warm room
- 5) When the patient reaches emergency treatment, patients are closely monitored for cardiac irregularities and electrolyte imbalances.

## **PULSE**

The pulse is the palpable bounding of blood flow noted at various points of body. pulse is an indicator of circulatory status.

Circulation is the means by which cells receive nutrients and oxygen and remove waste products of metabolism. For cells to function normally, there must be a continuous blood flow and an appropriate volume and distribution of blood to cells that need nutrients.

Blood flows through the body in a continuous circuit. Electrical impulses originating from the sinoatrial (SA) node travel through heart muscle to stimulate Cardiac contraction.

When, about 60 to 70 ml of blood enters aorta during each ventricular contraction the wall of aorta distends creating a pulse wave.

This pulse wave travels rapidly toward the distal ends of arteries. When the pulse wave reaches a peripheral artery, it can be felt by palpating the artery lightly against underlying bone or muscle.

The pulse is the palpable bounding of the blood flow in the peripheral artery. The pulse rate is the number of pulsing sensation occurring in one minute.

### Assessment of pulse

Any artery can be assessed for pulse rate, but the radial and carotid arteries are easily palpated.

### Peripheral pulse site.

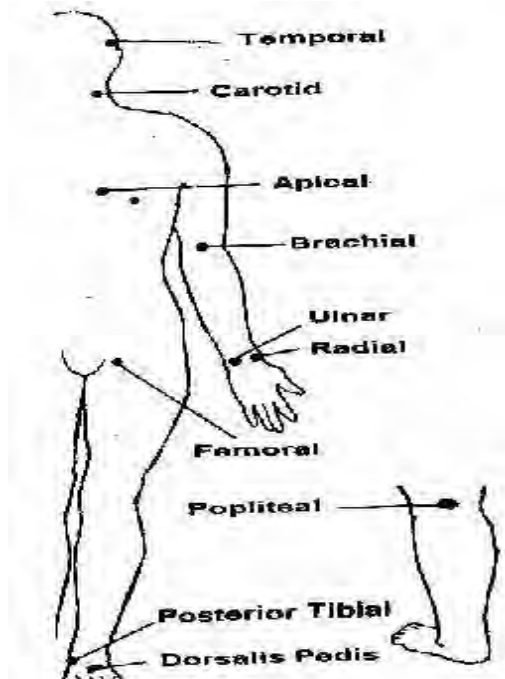


Fig 9.3 . Locations of pulse points in body (potter and pery)

## Pulse site

Site	Location
Temporal	over temporal bone of head, above and lateral to eye.
Carotid	along medial edge of sternocleido mastoid muscle in neck
Apical	Fourth and fifth intercostal space at left elavicular line.
Radial	Radial or thumb side of forearm at wrist
Ulnar	Ulnar side of fore arm at wrist.

When assessing the heart rate, the nurse uses the stethoscope.

## Character of the pulse

Assessment of radial pulse includes measurement of the rate, rhythm, strength and quality.

## RATE

Pulse rate is counted for minute when the patient is in a sitting, standing and lying position.

## Normal heart rate:

Age	Heart rate
Infant	120 – 160 / min
Toddlers	90 – 140 / min
Pre schooler	80 – 110 / min
School going	75 – 100 / min
Adolescents	60 – 90 / min
Adult	60 – 100 / min

## Factors influencing pulse rate

- 1) **Exercise** : Short term exercise increases pulse rate. An athlete, who participates in long – term exercise will have lower pulse rate at rest.
- 2) **Temperature** : Fever and heat increases pulse rate. Hypothermic decreases pulse rate.
- 3) **Emotion** : Pain and anxiety increase pulse rate.



- 4) **Drugs** : Epinephrine increases pulse rate.
- 5) Digoxin decreases pulse rate.
- 6) **Hemorrhage** : blood loss increases pulse rate
- 7) **Postural changes** : In standing or sitting positions, pulse rate increases. In lying down position, the pulse rate decreases.
- 8) **Pulmonary condition** : Causes poor oxygenation and decreased pulse rate.

### **Purposes of Monitoring Pulse**

- 1) To test the health and efficiency of heart
- 2) To test the elasticity and the health of arteries.
- 3) To get an approximately idea of how much blood is being pumped into the artery system.
- 4) To estimate the change in the needs of the body circulation.
- 5) To understand the general condition of the body, recovery, or death
- 6) To give emergency treatment if necessary

### **General Instructions**

- 1) The pulse may be felt over any large artery that is close to the surface of the body and has a boney structure or other solid surface beneath. Common arteries used for counting the pulse rate are
  - Radial
  - Facial
  - Temporal
  - Dorsalis Pedis
  - Carotid
  - Femoral
  - Tibial
  - Popliteal

## **Equipments**

- 1) Watch
- 2) Chart and Pen

## **Procedure**

- 1) Keep the patient in a comfortable position
- 2) Hold the wrist firmly, place first three fingers over the artery, press it to make the pulsation distinct.
- 3) Count the pulse for one minute
- 4) Note rhythm , volume and any other abnormalities
- 5) Record your observation

## **Common abnormalities in pulse rate**

- Ø **Tachycardia** is an abnormally elevated heart rate above 100 beats per minute in adults.
- Ø **Bradycardia** is a slow rate, below 60 beats per minute in adults.

## **Rhythm**

Normally a regular interval occurs between each pulse.

### **Abnormal rhythm :**

When there is irregular interval or a missed beat that condition is abnormal rhythm. When dysarrhythmic occurs repetitively, it threatens the hearts ability to provide adequate cardiac output.

### **Strength:**

The strength of a pulse reflects two volume of blood ejected against the arterial wall with each heart contraction. Normally the pulse strength remains same. Pulse strength may be graded as strong, weak, thready or bounding.

### **Equality**

Normally the pulse in one extremity is equal in strength and rate. In some disease condition it may be unequal. Eg. clot formation, injury to blood vessels cervical rib syndrome. The carotid pulse should never be measured simultaneously because excessive pressure may occlude the blood supply to the brain.

## Respiration

Human survival depends on the ability of oxygen to reach body cells and for CO<sub>2</sub> to be removed from the cells. **Respiration** is the mechanism the body uses to exchange gases between the atmosphere and the blood and the blood and the cells. Respiration involves :

- a) Ventilation
- b) Diffusion and
- c) Perfusion

## Definition

Respiration is the act of breathing. It is made up of one inspiration, one expiration and one pause.

- Ø **Ventilation** the movement of gases in and out of the lungs. The rate, depth and rhythm of ventilatory movements indicate the quality and efficiency of ventilation.
- Ø **Diffusion** is the movement of oxygen and CO<sub>2</sub> between the alveoli and the red blood cells.
- Ø **Perfusion** is the distribution of red blood cells to and from the pulmonary capillaries.

## Physiological regulation

Breathing is generally a passive process. The respiratory center in the brain stem regulates the involuntary control of respiration.

The most important factor in the control of ventilation is the level of CO<sub>2</sub> in the blood. An elevation of CO<sub>2</sub> in arterial blood causes the respiratory control system in the brain to increase the rate and depth of breathing.

The increased ventilatory effort removes excess CO<sub>2</sub> during exhalation.

- Ø **Eupnea** : Condition where there is normal rate and depth of Ventilation.
- Ø **Respiratory rate** : Adults normally breath smoothly 12 to 20 times a minute.

## Characters of respiration

- Ø **respiratory rate** : the nurse observe a full inspiration and expiration when counting ventilation or respiration rate.

**Table**  
**Normal average respiratory rate:**

Age	Rate
New born	35 – 40
Upto 1 year	30 – 50
1 –2	25 – 32
3 – 12	20 – 30
13 – 19	16 – 19
Adults	12 – 20

- Ø **Ventilatory depth** is the degree of excursion or movement in the chest wall. Ventilatory movements may be deep, normal or shallow.
  - **Deep respiration involves** a full expansion of the lungs with full exhalation.
  - **Shallow respiration:** is present when only a small quantity of air passes through the lungs and ventilatory movement is difficult to see.
- Ø **Ventilatory rhythm:**

With normal breathing, a regular interval occurs after each respiratory cycle. Respiration is regular or irregular in rhythm.

## Factors which regulate respiration :

- 1) Respiratory center in the medulla
- 2) Nerve fibres of the autonomic nervous system.
- 3) Chemical composition of blood.

## What to Note when taking respiration:

- 1) Rate and depth
- 2) Movement and expansion of chest and abdomen.
- 3) Rhythm.
- 4) Whether quiet or noisy.

- 5) Comfort of the patient, whether breathing is done unconsciously or with effort.

**Procedure :**

- 1) Keep the patient in a relaxed and comfortable position.
- 2) Try to count the respirations without the patient knowing that you are watching him or he may change the rate of respiration.
- 3) Keep the fingers on the patient's wrist, as if for counting pulse and watch the rise and fall of the chest and abdomen or if the patient is sitting watch the movements of the shoulders.
- 4) Chart the rate and record any abnormalities.

**Frequency of Monitoring Respiration:**

- 1) Twice a day for all patients.
- 2) Every four hours for postoperative patients.
- 3) Every 30 minutes for immediate postoperative patients.
- 4) Every 15 minutes for critically ill patients.

**Alteration in (abnormal) breathing patterns**

- 1) Brady pnea: the respiratory is abnormally slow (less than 12 breaths per minute) Occurs in coma due to cerebral haemorrhage or large doses of sedatives,
- 2) Tachy pnea : the respiratory rate is abnormally rapid (greater than 20 breaths per minute)
- 3) Apnea : Respirations cease for several seconds.
- 4) Respiratory arrest: Persistent cessation of respiration.
- 5) Hyper Ventilation : Rate and depth of respirations increase.
- 6) Hypoventilation : Rate is abnormally low and depth is shallow. Shallow respiration occurs in diseases of the lung such as pneumonia and pleurisy.
- 7) Sighing or air hunger: Indicates a need for more oxygen. Occurs in severe haemorrhage diabetic

- coma or due to stimulation of respiratory center by excess of acid.
- 8) Wheezing: Sound made during expiration may be due to obstruction in the lower respiratory tract as in the case of asthma.
  - 9) Stertorous breathing: Noisy snoring inspiration occurs in unconscious patients which may be due to the tongue slipping back. Peculiar hissing respiration occurs in uraemic coma.
  - 10) Stridor: It is noisy inspiration due to the obstruction of upper respiratory tract. This noise may be harsh, grating or whistling sound.
  - 11) Orthopnea: Inability to breathe easily unless in an upright position.
  - 12) Dyspnoea: Difficult breathing. If it is during inspiration it is due to laryngeal obstruction; if it is during expiration it is due to Asthma.
  - 13) Cheyne stokes or periodic breathing : Alternative periods of hyperpnea, occurring in a rhythmical cycle. It is important to note this phenomenon as this is a serious sign.
  - 14) Asphyxia: Occurs due to lack of oxygen supplied to the cells. This is found in drowning patients of persons who have inhaled poisonous gases (coal gas).

### **Blood pressure**

Blood Pressure (BP) is the lateral force on the walls of artery by the pulsing blood under pressure from the heart. The heart's contraction forces blood under high pressure into the aorta.

The peak of maximum pressure when ejection occurs is the **systolic** blood pressure. When the ventricles relax, the blood remaining in the arteries exerts a minimum a diastolic pressure.

Diastolic pressure is the minimal pressure exerted against the arterial walls at all times.

The standard unit for measuring blood pressure is millimeters of mercury (mmHg). The BP is recorded with the systolic reading before diastolic.

Eg. 120 / 80 mmHg. 120 is systolic pressure  
80 is diastolic pressure

The difference between systolic and diastolic pressure is the pulse pressure.

**Physiology of BP** : BP reflects inter relationship of cardiac output, peripheral vascular resistance.

Ø Cardiac output is the volume of blood pumped by the heart (stroke volume) during one minute.

○ **Cardiac output** = Heart rate x stroke volume

○ The BP depends on the cardiac output and peripheral vascular resistance (R).

○  $BP = \text{Cardiac output} \times R$

Ø **Peripheral vascular resistance** is the resistance to blood flow determined by the vascular wall and diameter of blood vessels when the diameter is less, the vascular resistance to blood flow is increased.

Ø **Blood volume** the volume of blood circulating with in vascular system, affects BP. For adults, normal circulating blood volume is 5000 ml. If volume increases, BP elevates. Eg. rapid uncontrolled intravenous fluid. When circulating volume falls, blood pressure falls. Eg. haemorrhage, dehydration.

Ø **Elasticity** : Normally the arterical walls are elastic and easily distensible. Contain diseases such as arteriosclerosis, lose their elasticity and cannot stretch wall. When the blood is forced into blood vessels, due to the rigid blood walls, the systolic pressure rises.

**Table**  
**Average normal BP**

Age	B P (mm Hg)
New Born	40 (mean)
1 month	85 / 54
1 year	95 / 65
6 years	105 / 65
10 – 13 years	110 / 65
14 – 17 years	120 / 75
Middle adult	120 / 80
Older adult	140 / 90

Ø **Factors influencing Variations in BP**

- **Age :** Normal BP levels vary through out life larger children have higher BP than smaller children of same age.
- **Stress:** Anxiety, fear pain and emotional stress result in increase in heart rate resulting in increasing in BP.
- **Race :** Certain race are more prone for high BP. Genetically and environmentally.
- **Medication:** Some medications can affect BP directly or indirectly.
 

Eg.	Diuretics	---	decreases BP
	Nifedipine	---	decreases BP
	Dopamine	---	increases BP
- **Diurnal variation :** BP levels vary over the course of a day. BP is lowest in the early morning, gradually arises during morning and afternoon and peaks in evening.
- **Gender :** After puberty males tend to have higher BP. After, menopause, women tend to have high BP. BP is measured by sphygmomanometer.



## Variation in BP

- Ø **Hypertension** : Elevated or high blood pressure is known as hyper tension. Hyper tension is a major factor causing deaths from strokes and myocardial infarction (Heart arrest)

### Classification of hyper tension

Category	Systolic (mm Hg)	Diastolic (mm Hg)
Normal	< 130	< 85
Hyper tension		
Stage I (mild)	140 – 159	90 – 99
Stage II (moderate)	160 – 179	100 - 109
Stage III (Severe)	180 – 209	110 – 119
Stage IV (very severe)	210	120

### Causes of Hypertension:

- Ø Family history of Hypertension .
- Ø obesity
- Ø cigarette smoking,
- Ø alcohol consumption,
- Ø high blood cholesterol level,
- Ø continued exposure to stress,
- Ø old age.

### Treatment:

- Ø Early diagnosis,
- Ø long – term follow up care and therapy.

### Hypotension:

When the systolic pressure falls to 90 mm Hg or below, that condition is known as hypo tension.

### Causes of Hypotension:

- Ø Dilatation of the arteries.
- Ø Loss of blood, Due to haemorrhage.
- Ø Failure of heart muscle to pump adequately (Heart attack)

## **Signs symptoms of Hypotension :**

- Ø pallor,
- Ø skin mottling,
- Ø cold and clammy
- Ø increased heart rate.
- Ø Decreased urine output.

## **Monitoring BP**

### **Purposes:**

- 1) To aid in the diagnosis of the patient' s condition
- 2) To guide in his treatment.
- 3) To evaluate the patient' s progress.

### **General Instructions:**

- 1) See that the patient is relaxed and is a comfortable position.
- 2) Help to take blood pressure for patients with the following conditions.
  - New patients.
  - Pre and post operative patients.
  - Antenatal and post natal patients.
  - Patients with shock and haemorrhage.
  - Patients with cardiac conditions and hypertension
  - Patients with neurological disorders.
- 3) Record pulse along with blood pressure.
- 4) Blood pressure is taken at the same arm, same time, same posture daily.

### **Equipments**

- 1) Sphygmomanometer.
- 2) Stethoscope.
- 3) Pen.

### **Guidelines**

- 1) The sphygmomanometers generally used in clinical setting are mercury type. And aneroid type. The mercury type sphygmomanometers are more reliable than the aneroid type sphygmomanometers. The aneroid

sphygmomanometers gives blood pressure reading on dial indicator.

- 2) Systolic pressure is increased in pressure induced by systolic contraction and diastolic pressure is decrease in pressure induced by diastolic relaxation of the left ventricle of heart.
- 3) Never take blood pressure when the patient is excited, exhausted and just after exercise, smoking or meals.
- 4) Allow the patient to rest for five minutes before taking blood pressure.
- 5) Do not use the extremity that is injured, diseased, paralysed, receiving intravenous infusion or when a female patient is with radical mastectomy on the same side.
- 6) When the arm cannot be used to measure the blood pressure, the thigh can be used being a good alternative site.
- 7) Always take the blood pressure reading on the same side and in the same position to maintain consistency.
- 8) Place the site (arm or leg) about the level of heart while taking blood pressure.
- 9) The apparatus should be in working order. The cuff should be of appropriate size (12-14 cm for arm and 18-20 cm for thigh) and deflated before wrapping around the patient' s site.
- 10) While taking blood pressure, certain sounds are heard in sequence. These are called as Korotkoff sounds and are described as under.
  - **Tapping** The faint clear sounds that gradually become louder, the first tapping sound may be followed by an absence of sound (auscultatory gap)and indicates systolic pressure reading.
  - **Murmuring** The low swishing sounds that increase with cuff deflation.

- **Knocking** The crisp, clear sounds that occur with each heart beat.
  - **Muffling** Abrupt change of sound indicates first diastolic pressure reading.
  - **No sounds** The sound disappears and indicates second diastolic pressure reading.
- 11) When deflating the cuff to take the readings, deflate the cuff to 0. Do not stop in between and start inflating again as this gives a false reading.
  - 12) Note the variations in blood pressure.

### **Procedure:**

- 1) Explain the procedure to patient. See patient is relaxed and is in a comfortable position. Support the arm.
- 2) Expose the arm and keep it extended.
- 3) Apply the end of the cuff with the rubber bag over the brachial artery two inches above the elbow.
- 4) Apply the end of the cuff smoothly and snugly around the upper arm. Tuck the end neatly.
- 5) Place the Sphygmomanometer in position.
- 6) Stay with the patient until the procedure is over.
- 7) Remove the cuff from the patient's arm, roll neatly and replace in the box. See patient is comfortable.
- 8) The reading is recorded in the chart.
- 9) Systolic pressure is always written over the diastolic pressure Eg. 120/80mm/Hg

### **SUMMARY**

- Ø Health assessment includes physical assessment, mental status examination, laboratory investigation and special investigation.
- Ø Techniques of physical assessment are inspection, palpation, percussion, manipulation, auscultation and observation.

- Ø Measurement of height indicates the state of growth and health.
- Ø Vital signs include the physiological measurements of temperature, pulse, BP and respiration.
- Ø Vital signs are a quick and efficient way of monitoring a patient's condition or identifying problems and evaluating the patient's response to interviewing changes.
- Ø The normal range of temperature for adults 96.4° F to 98.6° F.
- Ø Core temperature is the temperature of deep tissues.
- Ø The hypothalamus located between the cerebral hemispheres controls the body temperature.
- Ø Heat is produced in the body metabolism.
- Ø Heat is lost by radiation, conduction, convection and evaporation.
- Ø Age, exercise, hormone level, stress, circadian rhythm and environment are the factors that influence body temperature
- Ø Pulse in the palpable bounding of blood flow noted at various points of body.
- Ø Normal pulse rate for adults 60-100 per minute.
- Ø Exercise, temperature, emotion, drugs and hemorrhage influence the pulse rate.
- Ø Respiration is the act of breathing. Normal respiratory rate for adults 12-20 per minute.
- Ø Blood pressure is the lateral force on the walls of artery by the pulsing blood under the pressure of heart.
- Ø The normal blood pressure for adults 80/120 mm Hg
- Ø Age, race, medications and gender influence Blood pressure of individuals.

## QUESTIONS

### Part A

1. Feeling using sense of touch is -----
2. ----- means striking or tapping with fingers to elicit sounds.
3. A loud sound over the normal lung tissue is called -----
4. Auscultation is done with -----
5. ----- is means sense of smell.
6. ----- are a quick and efficient way of monitoring a patient' s condition.
7. Normal pulse rate for adults ----- per minute.
8. Normal respiratory rate for adults ----- per minute
9. Normal temperature for adult -----

### Choose the right answer

1. Temperature of deep tissues
  1. Hypothermia
  2. Hyperthermia
  3. Normal temperature
  4. Core temperature
2. Body temperature is controlled by
  1. Hypothalamus
  2. Thalamus
  3. Pituitary glands
  4. All of the above
3. Abnormally elevated heart rate above 100 beats per minute in adults.
  1. Tachycardia
  2. Brady cardia
  3. Abnormal rhythm
  4. None of the above
4. Condition where there is normal rate and depth of ventilation.
  1. Tachyphnoea
  2. Bradypnoea
  3. Eupnea
  4. Apnoea
5. Causes of hypotension
  1. Blood loss
  2. Dilation of arteries
  3. Heart failure
  4. All of the above

## **Part B**

1. Define Pulse.
2. Define blood pressure.
3. What do you mean by body temperature?
4. What are the sites for assessing body temperature? What are the types of thermometer.
5. What is respiration.

## **Part C**

1. How is the body temperature regulated?
2. How will you manage hyperthermia?
3. Write about heat stroke.
4. What are the factors that influence pulse rate?
5. What are the purposes of monitoring pulse rate?
6. Write about the factors that influence blood pressure.

## **Part D**

1. What are the factors that influence body temperature.
2. State about the altered temperature status.
3. What are the abnormal breathing patterns?
4. Write about the physiology of blood pressure.
5. Explain about measuring Blood Pressure

## **Part E Practical**

1. Taking oral temperature
2. Monitoring Pulse
3. Monitoring Respiration
4. Measurement of Blood Pressure
5. Taking height and Taking weight

## 10. COMMUNICATION

Communication is the basic element of human interaction that allows people to establish, maintain and improve contacts with other.

Communication is defined as a process of exchange of thought or an idea from one individual to another individual through verbal language or gesture.

Communication refers to nonverbal and verbal behaviour within a social context and includes all symbols and clues used by people to give and receive meaning.

Communication is an important component of nursing practice. To communicate effectively with patients, nurses must develop skilled communication techniques.

### **Process of Communication:**

The basic elements of communication are:

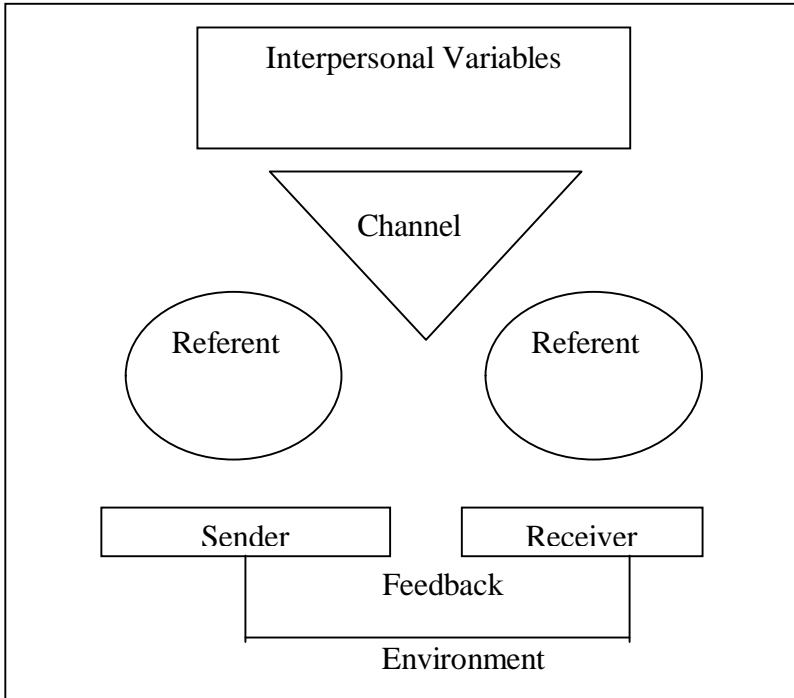
- 1) The referent
- 2) The sender
- 3) The message
- 4) The channels
- 5) The receiver
- 6) Environment.
- 7) Feedback.

### **The communication Process**

- 1) The Sender is the person who initiates the interpersonal communication.
- 2) The message is the information sent by the sender.
- 3) Channels are means of conveying ,messages.
- 4) Receiver is the person to whom the messages is sent.
- 5) The environment is the physical and emotional atmosphere present at the time of interaction.



- 6) Feedback is the return message of the receiver to the sender.
- 7) Referent may be an object, emotion or experience that motivates one person to communicate with another.



### **Modes of Communication:**

- 1) Verbal Communication involves the spoken or written word. Clear messages require using effective verbal communication techniques.
- 2) Nonverbal Communication is the exchange of a message without using words.

### **Level of Communication:**

- 1) Interpersonal Communication is the interaction between two people or in a small group.

- 2) Public Communication is the interaction with large groups of people.
- 3) Interpersonal Communication is the way people consider their thoughts internally so that they can express themselves appropriately to others.

**Characteristics of effective Communication:**

- 1) Maintaining silence.
- 2) Listening attentively.
- 3) Willingness to hear a message.
- 4) Asking related questions.
- 5) Paraphrasing or restating the message.
- 6) Focusing on a specific topic.
- 7) Summarizing (or) concise review of main ideas at the end.

**Factors that influence Communication:**

- 1) Perceptions of individuals.
- 2) Values.
- 3) Development stage.
- 4) Space.
- 5) Gender.
- 6) Emotions.
- 7) Socio – cultural background..
- 8) Knowledge.
- 9) Roles and relationships.
- 10) Environmental setting.

**Factors inhibiting effective Communication:**

- 1) Giving an opinion.
- 2) Offering false assurance.
- 3) Being defensive.
- 4) Showing approval or disapproval.
- 5) Asking why.
- 6) Changing the subject inappropriately.
- 7) Forming communication barriers by inadvertently saying something that blocks the communication process.

## **Therapeutic Communication (or) Nurse – Patient relationship:**

Without knowing the patient's needs, a nurse is unable to effectively diagnose, respond to illness and initiate actions. Through therapeutic relationship, the nurse develops a working, functional relationship with patients and fulfil purpose of nursing process.

1. **Social interaction:** Social interaction is the first attempt at communicating with a patient. The messages conveyed are usually superficial.

A social interaction at the beginning of conversation is necessary to establish a close relationship of trust. (eg) The nurse might greet a client by saying "Good morning, Mrs. Rani" A skillful nurse maintains a congenial and warm style of communicating to elicit a patient's trust.

The nurse's goal is to help the clients to feel comfortable in sharing attitudes and feelings.

2. **Developing a helping relationship:** Nurse-patient relationship is the learning experience whereby two people interact to face an immediate health problem, to share, if possible in resolving it and to discover ways to adapt to the situation.

The nurse uses interpersonal communication skills to develop a relationship that will lead to understanding the patient as a total person. The relationship in therapeutic, promotes positive change and growth.

### **Dimension of helping relationship:**

1. Trust is the assured belief that other individuals are capable of assisting in times of distress. Trust fosters open, therapeutic communication. To foster trust, the nurse acts consistently, reliably and competently. Honesty also builds trust.
2. Empathy is the ability to understand and accept the life of another person and to accurately perceive feeling.

The nurses communicates an understanding of the client's expressions.

3. Caring is the foundation of nursing as a human science. Caring attitudes involves.
  - a. attention to or concern for the patient.
  - b. responsibility for the patient and
  - c. regard, fondness or attachment to a patient.

A nurse shows caring by accepting patients for themselves and respecting them as individuals.

### **Autonomy and mutuality:**

Autonomy refers to ability to be self-directed. Mutuality involves sharing with another. The nurse and patient work as a team. Nurse offers patients opportunity to make decision and works with the patient to achieve and maintain an optimal level of wellness.

Communicating with Children involves sitting at eye level, using simple direct language and incorporating play into discussion.

Communication with older adult patients with sensory losses require communication techniques that maximize existing sensory and motor function.

Communication is one of the most important skill for a nurse. Through communication a nurse establishes a relationship with patients and families to help them acquire healthy behaviour.

### **COMMUNICATION IN HEALTH EDUCATION**

Health education mainly depends upon good communication. The purpose of communication is to transmit information from one person or group of people to another person or group, with a view to bringing about desirable behavioural change.

In communication, ideas must travel between the sender and the receiver that is between the speaker and listener or writer

and reader. In effective communication the receiver must understand the message correctly.

### **Need for communication:**

- ✓ To get along with people
- ✓ To understand people (patients, team workers, friends, etc) and, in turn, to be understood.
- ✓ To gain their confidence and respect, especially patients and community, and to be respected.

### **The key elements in the communication process are:**

1. Communicator or sender, He is the originator of the message, his objectives must be clearly stated. In health education the nurse is the originator of the message.
2. Message, It should be carefully chosen, Valid, useful and understandable. It must be arranged in proper sequence (order)
3. Audience. They are the receives or consumers of the message and they respond to the message.
4. Channels of communication. The media through which the message is sent.

### **Barriers to communication**

1. **Physical** - The receiver may have some problem or handicaps for example he may not be able to listen.
2. **Psychological** - Emotional disturbances, worry, anxiety. Environmental noise, congestion, invisibility etc.
3. **Cultural** - strong beliefs, customs, attitudes, religious sentiments, illiteracy etc.

### **Key to effective communication:**

Just as keys are used to open strong locks to reveal what is inside, effective communication will help to overcome most of the barriers in communication.

First of all we must understand our own ideas and beliefs before we talk to others. Plan your communication. You must be

known what you want to say and how to say it and to whom to say it.

Think before you talk, use the right word in the right place, to the right person, at the right time and in the right manner. People not only hear what you say but how you say it and observe your facial expressions, voice, actions and other clues that convey the real message.

Once the message is sent and received allow for a feedback, that is giving a chance for the receiver to let you know what they have understood. Be a good listener and allow the receiver to talk and to convey his ideas and feelings.

It is important in the patient nurse relationship to help the patient tell his problems and feelings, which will help proper diagnosis and treatment.

Make use of your five senses - touch, taste, smell, hearing and sight for clues in the receiver. Observe with the intent to understand and report to a senior nurse when necessary. Do not interrupt when others are talking.

Try to understand just as you would like to be understood. As important function of the nurse is to get to know the sick and the well in need of help, effective communication will be helpful to a large extent.

## **Education**

Education is a process of learning and experience, through which knowledge is acquired and attitudes are developed to result in intelligent and skillful behaviour.

Teaching is the art of inducting and helping people to learn. The teacher only induces and helps, but the actual knowledge must be acquired by the effort of the learner himself.

1. What is learning? Learning is doing.
2. Under what conditions do we learn better?
  - a) When do we need to learn?
  - b) When are we known of what our goals or aims?

- c) When do we learn in a practicals?
  - d) At what time do we reward and punish?
  - e) When do we connect that is being learned with something we already knew or familiar with.
  - f) When do our learning signifies the personal meaning ?
  - g) When do we learn through emotional experiences?
  - h) When do we know to apply our knowledge and skills that are already learnt?
3. What are some ways in which we can help people to learn?
- a) We should make our points clear.
  - b) Whenever possible, we should demonstrate what we want people to learn.
  - c) We should make the group feel secured(friendly and at ease).
  - d) We should encourage free discussion among people.
4. What are causes of non-learning?
- a) Use of poor teaching method.
  - b) Poor health of the learner.
  - c) Frustration of the learner because his needs have not been met.
  - d) Worries of the learners.
  - e) Bad home and work conditions.
  - f) Standards too high for learned to understand.
  - g) Use of difficult instead of simple teaching methods.
  - h) Helping the learner so much that he does not learn to help himself.

Health is only one aspect of human welfare and does not exist in isolation. It is closely lined with others such as housing, economy, security, agricultural property and so on.

For prevention of disease and promotion of health, health education is one of the most important functions of the health

team. The nurse should know some of the common methods of health teaching so that she can select the most suitable methods for individual and group teaching.

Some of these methods that the nurse uses will depend on the groups educational background and their experience with the situations and their experience of work.

1. Why should we use health education materials or media?

We use materials

- (a) To provide information
- (b) To encourage change in attitudes
- (c) To stimulate change in behaviour.

2. What should we look for when selecting materials for use in health education?

- a) The contents should be scientifically accurate.
- b) They should be understood by the people.
- c) The material should be brief and simple.
- d) The material should be attractive.
- e) The material should be up to date and timely.
- f) It should have a central theme or idea.
- g) It should suggest action to be followed by the people.

## **SUMMARY**

Communication is an important component of nursing practice.

- Ø Communication allows people to establish, maintain and improve human relations
- Ø Communication refers to verbal and non-verbal behaviour within a social context. It includes all symbols and clues to give and receive meaning.
- Ø The basic elements of communication are the referent , the sender, the message, the channels, the receiver, the feedback and the environment.



- Ø Communication takes place within the individual, in between two individuals, or to a large group of individuals
- Ø For effective communication one should listen attentively, willing to hear and focus on a specific topic.
- Ø Factors such as perception of individuals, values, emotions, space, knowledge, roles and relationship influence communication process.
- Ø Being defensive, changing subject inappropriately and offering false assurance are the barriers of communication.
- Ø By knowing patient's needs and thereby developing therapeutic relationship with patients and families
- Ø The dimensions of helping relationship are trust, empathy, caring attitude, autonomy and mutuality.
- Ø Communication with children and older adults patients with sensory losses requires communication techniques.

## QUESTIONS

### Part A

1. \_\_\_\_ or restating the message enhance effective communication.
2. Channels are means of conveying message
3. Interpersonal Communication is
  - a) Interaction between two
  - b) Internal thoughts
  - c) Interaction with large group of people
  - d) All the above.
4. Barriers of effective communication are
  - a) Being Defensive
  - b) Summarising
  - c) Perceptions of individuals
  - d) All the above

5. Communication with children involves
  - a) Sitting at eyelevel
  - b) Using simple direct language
  - c) Incorporating play into discussion
  - d) All the above.

### **Part B**

1. Define communication
2. What are the elements of communication?
3. What are the levels of communication?
4. What are the modes of communication?
5. Why communication skill is important to nurses?

### **Part C**

1. What are the factors that influence communication?
2. Write about the characteristics of effective communication.
3. What are the barriers of effective communication?

### **Part D**

1. Explain communication process.
2. How will you develop a therapeutic relationship?

# 11. FIRST AID AND EMERGENCIES

First aid was being practical from ancient times. It was the famous surgeon who was the first to conceive the idea of first aid. He was **General Esmarch** (1823-1908).

In 1877 **St John Ambulance Association** of England was formed in 1920, **The Red Cross society** of India was established with more than 400 branches all over India.

## Definitions

**Medical Aid:** refers to treatment by a doctor either on the spot at home or in the hospital

**First Aid** is the immediate and temporary care given to an injured or sick person until the services of a qualified doctor are obtained with such material as may be available. The first aid is not an end by itself. It indicates that the person is in need of a secondary aid.

First aid is based on the knowledge of biology, medicine and surgery. It can be a life saving skill .

## First aider :

The person who renders emergency service on the spot until the medical aid is obtained.

A sound knowledge based on first aid enables a nurse to give skilled services during accidents and sudden illness to preserve life promote recovery and prevent injury or illness being aggravated until the medical aid has been obtained.

## Objectives

1. To save life
2. Adverse effects of injury are controlled.
3. To ease the Pain-to reduce Pain.
4. To avoid further injury.

5. Prepare for medical treatment
6. To assist the doctor.

### **Scope of first aid**

- a. **Diagnosis:** Observation and information elicited will enable for diagnosis.
- b. **Treatment:** The nurse (nurse) decides on the character and extends of the treatment and applies the most suitable treatment until the doctor's help is available.

### **Basic principles and rules of first aid**

1. Obtain a correct detailed history
2. Observe and examine thoroughly and note every symptom.
3. Treat the casualty until the details arrives or patient is shifted to the near by hospital.
4. If the accident is at home- call neighbour, if the accident is at the public place –call police
5. Keep phone numbers of doctor, police control room.

### **Golden rules**

1. Be calm and quick, be methodical and find out all major injuries.
2. In stoppage of breathing, start artificial respiration.
3. Try to stop bleeding.
4. Prevent shock if present and shift to near by hospital
5. Keep the patient warm. Do not move unnecessarily
6. Do only what is necessary.
7. Reassure the casualty
8. Avoid crowd.
9. Allow fresh air
10. Quickest means of transport at emergency
11. For serious accident inform police.

## Accidents

An accident is an event, which happens unexpectedly. The extent of the injury depends on various factors. The accidents, which are most likely to come across, are as follows.

1. Wounds
2. Sprains and dislocations
3. Fractures (broken bones)
4. Burns and scalds.

Some times there may be a history given that the patient has received an injury to the head or some other part of the body but there is no visible injury.

However in these cases the patient may be unconscious, may show signs of shock or may complain of pain. In all such cases you transfer the patient to the Health Center immediately.

As you are a nurse and the aim of your assistance is as follows.

- 1) To prevent immediate danger of death.
- 2) Give artificial respiration.
- 3) Guard against shock or treat for shock.
- 4) Do not remove clothing unnecessarily.
- 5) Reassure the patient and relieve pain.
- 6) Arrange for removal of the patient to the nearest Hospital

Signs and Symptoms	Treatment
1. Severe pain in the joint .	If there is sprain rest and support the injured in the most comfortable position
2. Swelling of the joint	2. Apply a cold compress and bandage the joint firmly
3. bruising around the joint	3. inform the health worker
4. reduced movement of the joint	4. if there is a dislocation rest and support the injured joint in the most comfortable position

5.deformity of the joint 6.sign of shock may be present	Treat for shock, if present Transfer the patient to the primary health center Inform the health worker.
--	---

## Wounds

A wound is a tear or break in the skin following an accident. The deeper the wound the more likely it is to bleed and to get infected as it can't be properly cleaned. You must stop the bleeding and, as far as possible, prevent infection from occurring.

### Types of wounds:

- Ø **Abrasion:** this is usually a superficial wound with peeling of skin.
- Ø **Cut,** eg. by a knife or other sharp cutting instrument: This is usually accompanied by profuse bleeding and the deeper structures may also be cut.
- Ø **Torn,** eg, by barbed wire or by a blunt instrument: The edges of the wound are irregular and there is bruising.
- Ø **Punctured,** eg., by a knife, nail or bullet: This wound is small but deep so that important organs may be damaged.

### Treatment

- 1) Make the patient sit or lie down.
- 2) Handle the injured part gently.
- 3) Wash the wound with clean water and soap. Always clean away from the wound.
- 4) Remove as much dirt or foreign matter as possible.
- 5) Wash the wound with antiseptic lotion.
- 6) Stop any bleeding by using direct pressure or by applying a tourniquet.
- 7) Apply antiseptic solutions ( dettol) and dust wound with sulphonamide powder.

- 8) If the wound is gaping, apply strips of adhesive plaster to bring the edges together.
- 9) Apply a clean dressing and bandage.
- 10) If necessary treat for shock.
- 11) Give pain reliever, if policy permits.
- 12) Support the arm in a sling when necessary.

**You must always refer the patient to the hospital in the following cases:**

- 1) If the wound is large and needs stitching
- 2) If there is severe bleeding
- 3) If there is shock or the patient is unconscious.
- 4) If there is a foreign body embedded in the wound.
- 5) In all deep wounds of the chest and abdomen.

**Haemorrhage**

Bleeding or loss of blood accompanies an accident in which a wound, a fracture or damage to organs occurs.

If there is oozing or a steady flow of blood, it can usually be controlled by direct pressure on the wound.

If however, bleeding is severe and is coming out in spurts, a tourniquet will be needed to control bleeding. A narrow fold triangular bandage, a handkerchief, a necktie, a broad belt or any other piece of material of sufficient length can be used as an improvised tourniquet.

The method described here refers to the use of an improvised tourniquet.

- 1) Fold the triangular bandage or handkerchief to a width of 5 cm
- 2) Apply it on clothing at the level of the middle of the upper or lower limb
- 3) Tie the free ends of the bandage in a half-knot on the outer side of the limb.
- 4) Place a pencil, piece of wood, spoon etc., on the half-knot

- 5) Complete the knot to hold the pencil in position
- 6) Twist the pencil gradually so as to tighten the bandage until the bleeding stops.
- 7) Use a second bandage tied around the limb to keep the pencil in the tightened up position
- 8) Leave the tourniquet in place, but loosen it gently every 15 minutes.
- 9) If the bleeding has stopped, leave the tourniquet in place but do not tighten up again
- 10) If the bleeding starts again, tighten the tourniquet and repeat steps vi, vii, viii
- 11) Go with the patient to the hospital, if possible so the you can control the bleeding
- 12) Attach a label or any piece of paper to the patient's shirt showing the time when the tourniquet was applied.

**Note:** A tourniquet is a very useful appliance to use in the presence of open fractures of a limb.

### **Control of bleeding from the nose:**

Nosebleeds are fairly common and are due to rupture of small vessels in the walls of the nostrils. If the bleeding does not stop refer the patient to the medical aid.

### **Electric shock**

An electric shock is caused by a person touching a live electric wire. The signs of electric shock are as follows.

1. The patient is unconscious.
2. The patient is in contact with a source of electricity.

When you see a person who has an electric shock you must act promptly in order to save his life. Proceed as follows:

- 1) Whenever possible shut off the current.
- 2) Free the person from the source of electricity by using a piece of wood, paper or rubber to push or pull him away.



- 3) If there is cessation of breath, give mouth-to mouth respiration immediately. (refer CPR). Mouth to mouth respiration should be continued for a long time, and certainly for as long as the respiration is restored.
- 4) After the patient has recovered, examine the skin for the presence of any burns and refer to the person for further treatment.
- 5) Educate the community on how to avoid electric shock by talking on the following points.
  - Ensure that all electric points are safe and that there are no exposed live wires.
  - Prevent children from playing with electric switches and sockets.
  - Prevent children from climbing up electric poles.

## **Heat stroke**

Heat stroke results from exposure to excessive heat and sun and may occur during the hot summer months. It is more likely to occur in those who have been drinking alcohol and those who are weak.

The early signs and symptoms of heat stroke are as follows.

1. High temperature (up to 42 C)
2. Headache
3. Dizziness
4. Nausea and vomiting
5. Cramps in the limbs
6. Dry flushed, hot skin

The patient may become unconscious later on. When this happens he usually dies. When you see a patient with heatstroke proceed as follows.

- 1) Put him in the shade in the coolest and most cold clothes.
- 2) Undress him completely

- 3) Cover the head and back of the neck with a turban or towel when exposed to the sun for long periods.
- 4) If conscious provide cool water.

### **Sprains, dislocations and fractures**

These occur when a joint is twisted by tripping or falling, or by a sudden wrench. In a sprain the joint is not displaced, while in a dislocation part of the joint is displaced.

#### **Dislocation of the shoulder joint**

Signs and symptoms	Treatment
1. Severe pain in the joint. 2. Swelling of the joint 3. Bruising around the joint 4. Reduced movement of the joint 5. Deformity of the joint (only a dislocation) 6. Signs of shock may be present	1. Rest and support the injured joint in the most comfortable position. 2. Apply a cold compress and bandage the joint firmly. 3. Inform the medical aid  <b>If there is dislocation</b> 1. Rest and support the injured joint in the most comfortable position. 2. Treat for shock if present 3. Transfer the patient to the hospital. 4. Inform the medical aid

### **Fractures**

A fracture is a broken bone, it may be cracked, broken into two or more pieces.

Further fractures may be **classified** :

- 1) **Closed**: there is no wound leading down to the bone and there is no bone protruding through the skin

- 2) **Open:** there is a wound reaching from the skin right down to the broken bone, or the broken bone may protrude through the wound

You must remember the following **rules** when dealing with a fracture:

- 1) All fractures should be given first aid treatment and sent to the hospital.
- 2) Interfere as little as possible with a fracture and do only what is absolutely necessary to prepare the patient for the transfer to the hospital.
- 3) Immobilize the fractured part.

### **Signs and symptoms**

- 1) History of a fall or a fit.
- 2) Pain at the site or near the site of fracture
- 3) Inability to move the fractured limb
- 4) Swelling at the site of fracture
- 5) Fracture may be felt
- 6) Movement at the place where there should be no movement
- 7) Broken end of bone seen protruding under the skin.

### **Treatment**

- 1) Place the patient in a comfortable position with the injured part well supported
- 2) Do not remove clothing
- 3) Immobilize the injured part by using a splint and bandages
- 4) Always immobilize the joint above and below the fracture site
- 5) Treat for shock, but do not give any drink, as the patient may have to have an anaesthesia for setting the fracture on arrival to the hospital.
- 6) Inform the medical aid

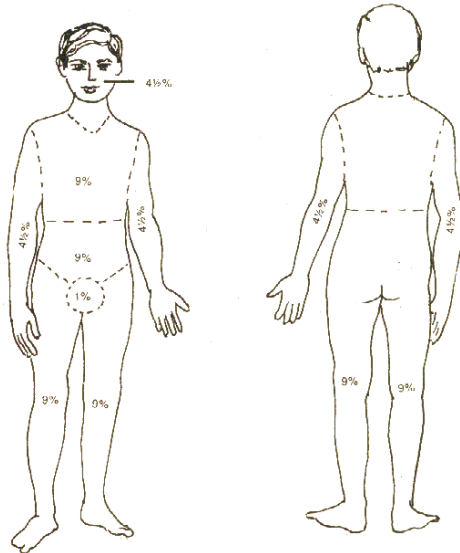
If the fracture is an open one, in addition to the six steps mentioned, carry out the following

- 1) Cut away
- 2) Remove the clothing over the wound and
- 3) Cover it with a clean dry dressing.
- 4) Stop any bleeding by applying a pad and bandage.
- 5) If the bleeding is severe and comes out in spurts
- 6) Apply a tourniquet.

### **Burns and scalds**

Burns are caused by dry heat such as fire, explosion of pressure stoves, petrol burns, hot metals and electrocution. Corrosive chemicals such as strong acid from batteries of cars also cause burns.

Scalds produce the same type of injury as burns and are caused by wet heat such as boiling water, steam, hot oil or ghee and tar.



**Fig. 11.1 Estimation of percentage of burns**

The treatment of burns and scalds will depend on whether the skin is intact or only partially destroyed or whether it is completely destroyed.



**Fig.11.2 First aid for burns**

Signs and symptoms	Treatment
<p><b>Skin intact or only partially destroyed</b></p> <p>(i)The skin may be red or blistered</p> <p>(ii) Signs of shock</p> <p>(iii) Severe pain</p> <p><b>Skin completely destroyed</b></p> <p>(i)The burnt area looks raw</p> <p>(ii) Signs of severe shock</p> <p>(iii) Severe pain.</p>	<p>(1)Wash with soap and water.</p> <p>(2)Dress with gauze or clean cloth</p> <p>(3)Make the patient drink plenty of fluids.</p> <p>(1) Cover with a clean sheet or clean other piece of cloth</p> <p>(2) Make the patient drink plenty of fluids.</p> <p>(3) Rush to the Hospital</p>

## Bites & Stings

### Snake bite

Snake bite results in punctured wounds caused by the fangs of a snake. The wounds by themselves are minor ones, you should always treat the bite as poisonous.

<b>Signs and symptoms</b>	<b>Treatment</b>
<p>1.The patient may tell you that a snake has bitten him.</p> <p>2.The two wounds produced by the snake's fangs are visible.</p> <p>3.The patient may show signs of poisoning.</p> <p>4.The patient may show signs of shock.</p>	<p>1.Tie a piece of cloth tightly above the bite to prevent the blood from returning to the heart.</p> <p>2.With a clean razor blade, make four to six cuts 1 cm deep over the area of the bite.</p> <p>3.Squeeze the part hard so that blood flows out of the cuts.</p> <p>4.Apply potassium permanganate crystals in the cuts.</p> <p>5.Apply a piece of clean gauze or cloth on the cuts.</p> <p>6.Rush the patient to the nearest hospital and inform the medical aid.</p>

### **Dog Bite**

In India where rabies is prevalent, if a person is bitten by a stray Dog the injury should be taken seriously. Wounds from dog bite are infected because dirt and germs are introduced into the wound from the teeth of the dog.

<b>Signs and Symptoms</b>	<b>Treatment</b>
<p>1.There is a history of dog bite</p> <p>2.There may be one or more irregular wounds.</p>	<p>1.Clean the wound with soap and water.</p> <p>2.Swab the wound with antiseptic lotion</p> <p>3.Apply mercurochrome to the wound.</p> <p>4.Always inform the medical aid.</p>

## Scorpion sting

The person stung by a scorpion, usually a child, complains of severe pain at the site of the sting and signs of shock. A scorpion sting is poisonous, and if the child is small and physically weak the sting may produce serious results.

<b>Signs of symptoms</b>	<b>Treatment</b>
1.The patient will tell you that he has been stung by a scorpion 2.The wound is red and there may be bleeding. 3.Signs of shock are present particularly in small children	1.Apply a cold compress to the site of the sting. 2.Treat for shock. 3.Give analgesic tablets 4.Refer to the hospital or the medical aid.

## Insect stings

Bee wasp and hornet stings occur frequently, in rural areas, especially if the nests of those insects are disturbed.

<b>Signs of symptoms</b>	<b>Treatment</b>
1.There is a history of being stung by an insect 2.the site of the sting looks red, swollen and is painful.	1.Apply a cold compress to the site. 2.Give analgesic tablets. 3.If the pain and swelling are severe or if there are signs of shock, inform the medical aid

## Drowning

Drowning occurs when the person has inhaled the water into the lungs. The lungs become full of water instead of air. If a person who has drowned is brought, the nurse should proceed the first aid as follows.



**Fig. 11.3 First aid for a drowned victim**

- 1) Turn the patient face down with the head turned to one side and the arms stretched out. If a slope exists, the head must be placed downwards.
- 2) Place your hand around the patient's abdomen and raise the body to encourage the water to run out of the lungs.
- 3) Clear the mouth of weeds or any other material obstructing air entry, and of false teeth if any.
- 4) Loosen the clothing around the neck and waist.
- 5) Apply artificial respiration using the method mentioned in CPR.
- 6) Do not stop until the breathing has been re-established for at least a quarter of an hour.
- 7) After recovery do not let the patient sit up. Transfer him/her lying on a stretcher to the nearest hospital as soon as possible.

## **Poisoning**

Substances, when taken into the body in fairly large quantities, can be dangerous to health or can cause death, are called poisons.

### **Types of poisons:**

#### **Swallowed poisons**

Acids, alkaline, disinfectant, tablets for sleeping, tranquilizers and pain killing drugs. Alcoholic drink taken in large quantities

#### **Inhaled poisons**

Fumes and gases from explosions and fires cause choking, difficulty in breathing and death.

#### **Injected poisons**

Poisons get into the body through injections



## **First Aid in poisoning**

1. Poisoning is a serious matter
2. Patient must be removed to a hospital or a doctor
3. Preserve packets or bottles, which you suspect contained the poison

### **If the victim is unconscious**

1. **Do not induce vomiting**
2. Make the causality lie on his back or on a hard flat bed without any pillow and turn the head to one side.
3. If breathing is very slow or stopped, start artificial respiration and keep it up, till the doctor comes/ respiration gets restored.

### **If the victim is conscious**

1. Aid vomiting by tickling the back of the throat
2. Make him drink tepid water mixed with two tablespoons of common salt for a tumbler of water
3. If it is a **corrosive poison do not induce vomiting**

### **Signs of corrosive poisons**

Lips, mouth, and skin show grey , white or yellow patches.

### **Management**

1. The poison must be diluted by giving large quantities of cold water. This will dilute the irritant and delay absorption.
2. Milk, egg beaten are given for the above purpose

## **Foreign bodies**

### **Eye**

Foreign bodies such as insects and pieces of grit often enter the eye and may be quite difficult to discover. They produce feeling of discomfort and grittiness, which is accompanied by redness, congestion and watering.

These symptoms and signs are similar to those caused by disease. Therefore after a careful search, if the nurse fails to

discover a foreign body she must at once refer the patient to a doctor.

### **Ear**

- 1) If it is an insect , fill the ear with glycerine or cocanut, or mustard oil or warm salt water.
- 2) The insect will float up and can be removed easily.
- 3) If there is nothing floating up, leave it alone. Do not meddle.
- 4) Never pour the water and irrigate the ear since this may cause damage to the ear drum. For blockage due to hardened blocks take to him to the doctor.

### **Nose**

- 1) Children often insert foreign bodies such as buttons, pencil and beads into the nose.
- 2) The child herself calls attention.
- 3) Unless it is obviously easy to remove the foreign body, the nurse should not try to remove.
- 4) The child should be warned not to inhale through her nose because this provokes the danger of drawing the foreign body further upwards.
- 5) Advice mouth breathing until removing the foreign body. Refer the child to the doctor.

### **Throat**

Some small objects like safety pin, irregular objects , fish bone or prawn get lodged or obstruct the throat. The nurse should refer the victim to the doctor

### **Stomach**

Smooth object like buttons, coins, nuts, safety pin etc are swallowed. The nurse should refer the patient to the doctor.

## **Cardiopulmonary emergencies**

### **CARDIAC EMERGENCY (CPR)**

#### **First aid for cardiopulmonary arrest**

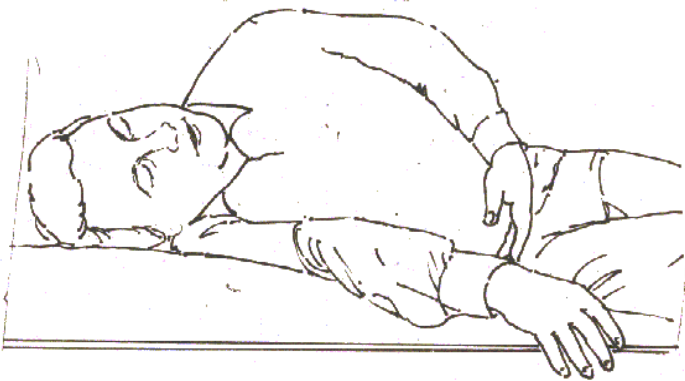
##### **Establish unresponsiveness**

- 1) When you first discover the victim, look at him closely. Shake him gently by the shoulders and shout “ Are you okay?”. This “shaking and shouting” will establish whether or not he is unconscious.
- 2) Observe A.B.C. of resuscitation – A = Airway, B = Breathing, C = Circulation.

##### **Open the airway**

Open the victim’s airway. The most common cause of airway obstruction in an unconscious person is the tongue, which has relaxed and fallen into the airway.

Because the tongue is attached to the lower jaw, moving the lower jaw forward will lift the tongue away from the back of the throat, opening the airway



**Fig 11.4 First Aid for cardiopulmonary arrest**

You can use three methods to open the airway: the preferred head-tilt/chin-lift, the head-tilt/neck-lift, or the jaw thrust without head-tilt.



**Fig 11.5 First Aid for cardiopulmonary arrest**

To use the head-tilt/chin-lift method, place your hands that is closest to the victim's head on his forehead and tilt his head slightly. Place the fingertips of your other hand under his lower jaw on the bony part near the chin. Gently lift the chin up, taking care not to close his mouth.

To use the head-tilt/neck-lift method, place the palm of your hand that is closest to the victim's head on his forehead and your other hand under his neck.

Place the hand lifting his neck close to the back of his head to minimize cervical-spine extension.

Then gently press back on his forehead while lifting up and supporting his neck.

Use the jaw-thrust without head-tilt method if you suspect the victim has a neck or spine injury. Kneel at the victim's head, facing his feet.

Place your thumbs on his mandible near the corners of his mouth, pointing your thumbs toward his feet. Then position

the tips of your index fingers at the angles of his jaw. Push your thumbs down while you lift upward with the tips of your index fingers. This action should open the victim's airway.

Once you have opened the victim's airway see if this action alone has restored his breathing. Put your ear over his mouth and nose while you look forward his chest and abdomen.

Listen for any air movement and look to see if his chest or abdomen is moving up and down. Feel with your chest for any flow of air. If the victim has started to breathe, maintain his airway until help arrives.



**Fig 11.6 First Aid for cardiopulmonary arrest**

### **Restore breathing**

- 1) If the victim hasn't started to breathe, close his nostrils with the thumb and index finger of your hand on his forehead.
- 2) Open your mouth wide and place it over the victim's mouth, sealing it tightly so that no air can escape.
- 3) When you use the jaw-thrust method to open the airway, you must tuck your cheek under his nostrils.
- 4) Deliver four quick breaths

- Don't allow the victim to exhale between these breaths.
- These four breaths maintain positive pressure in the airway. Even if the victim has stopped breathing for only for a short time, some of his lungs' alveoli may have collapsed. Positive pressure helps reinflate them.

When you see the victim's chest rise, then fall (after your fourth breath), you will know that air is entering and escaping his lungs. If the victim wears dentures, keeping them in place will usually make ventilation easier. But if they are slipping, remove them.

### **Restore Circulation**

- 1) Now locate the victim's carotid pulse. To do so, keep your hand on his forehead to maintain the head-tilt position. Use your other hand to find the carotid artery on the side closest to you, in the groove beside the larynx. Use your index and middle fingers to gently palpate the artery for 5 to 10 seconds.
- 2) **If you find a pulse, don't give cardiac compressions but do ventilate the patient at a rate of one breath every seconds (12 breaths a minute).**
- 3) Continue to check his pulse after every 12 breaths. If you find no pulse, prepare to begin cardiac compression. Position yourself close to the victim's side, with your knees apart. This position gives you a broad base of support.
- 4) Use the fingers of your hand that's closest to the victim's feet to lower margin of his rib cage and trace the margin to the notch where the ribs meet the sternum.



**Fig. 11.7 First aid for cardiac arrest**

- 5) Next, place your middle finger on the notch.
- 6) Place your index finger of the same hand next to your middle finger. Then place the heel of your other hand next to your index finger on the long axis of the sternum, as shown.
- 7) This is the correct position for cardiac compression. If your hands are placed incorrectly, you may lacerate the victim's liver or fracture a rib.
- 8) Place the hand you used to locate the notch over the heel of your other hand. Interlock or extend your fingers to keep them off the victim's ribs and to maintain vertical pressure through the heel of the hand touching the sternum.
- 9) Align your shoulders over your hands, keeping your elbows straight. Keeping your fingers off the ribs and your shoulders aligned ensures that you will compress downward, not laterally. Lateral compressions won't deliver sufficient pressure.
- 10) Using the weight of your upper body, compress downward about 1.1/2 to 2 inches (3 to 5 cm), concentrating the pressure through the heels of your hands.

- 11) Don't deliver bouncing compressions because they are less effective and could injure the victim. Then relax the pressure completely to let the victim's heart fill with blood.
- 12) Don't remove your hands from his chest when you relax, or you will lose your hand position.
- 13) If you are the only rescuer, time your compressions at a rate of 80 a minute. Count, "One and two and three and four and five and . ." up to the count of fifteen.
- 14) Then deliver two quick breaths without allowing the victim to exhale between them. (Actually, you will be delivering 60 compressions a minute, with the delay to ventilate the victim).
- 15) Perform CPR for 1 minute, check the victim's pulse, then quickly telephone for help if none has arrived. Return quickly and resume CPR. If there is no phone available, continue CPR.
- 16) If a second rescuer arrives, ask her to call or go for help if you have not been able to do so. Then she can help you resuscitate the victim. (Of course, she must be trained in CPR if she is going to assist you).
- 17) Have the second rescuer get on the opposite side of the victim's airway, across from you. As she opens the victim's airway and tries to locate the carotid pulse, you continue giving compressions.
- 18) If your compressions are strong enough, she should feel a pulse. When the second rescuer signal that she has found the pulse you are generating, stop your compressions for 5 seconds so she can see if the victim's heart is beating on its own.
- 19) If she can't feel a spontaneous pulse, she should deliver one breathe. You can then resume compressions (approximately 60 per minute), while the second rescuer delivers a full breath on the upstroke of every fifth compression.



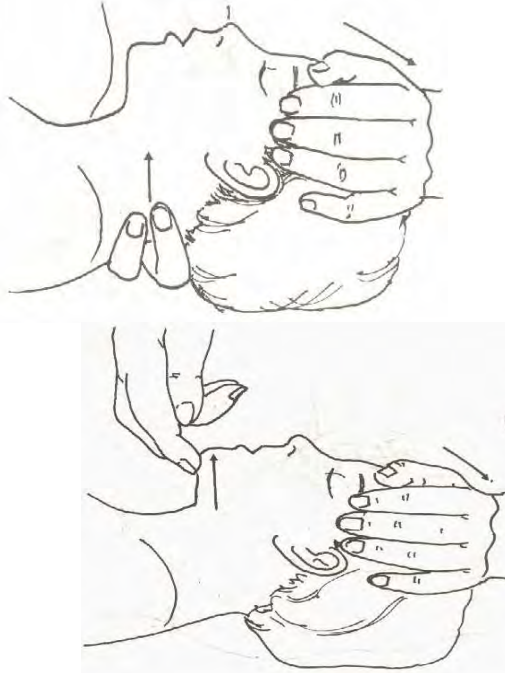
- 20) To assure that you work as a team, count out loud: “One thousand one, one thousand two, one thousand three, one thousand four, one thousand five, one thousand..” and so on. Have the second rescuer check for the victim’s pulse every few minutes.
- 21) When you feel tired, tell the second rescuer you want to switch positions. To alert her, say: “Switch, one thousand, two, one thousand, five, one thousand”. When you finish this count, the second rescuer should be delivering a full breath as you a move toward the victim’s head.
- 22) When you get to his head, open his airway and assess his carotid pulse for 5 seconds. The second rescuer should get into position for cardiac compression.
- 23) If you can’t feel a pulse, deliver one breath and tell the second rescuer to start the compressions. If you do find a pulse but the victim is not breathing, tell the second rescuer not to give any compression.
- 24) Continue giving the victim mouth-mouth ventilation and check his pulse every few minutes, in case his heart stops again.

**Cardiopulmonary resuscitation for small children and infants is similar to that for adults.**

- 1) Generally, a child younger than a year is considered an **infant**, and one between 1 and 8 years old is considered a **small child**.
- 2) Use adult CPR techniques for children older than 8 years. In an emergency, of course, you are not going to delay CPR until you determine the child’s age. Instead, consider his body size relation to the size of your hand.
- 3) For example, if he looks too small to use both hands for cardiac compression, use the heel of one hand. If he is too small for that, use two or three fingers.

## CPR for small children

- 1) Use the head-tilt/neck-lift (as shown) or head-tilt/chin-lift method to open the airway. You may need to use two or three fingers instead of your whole hand to lift the child's neck if it is very small.



**Fig. 11. 8 First aid – Head Tilt and Chin Lift**

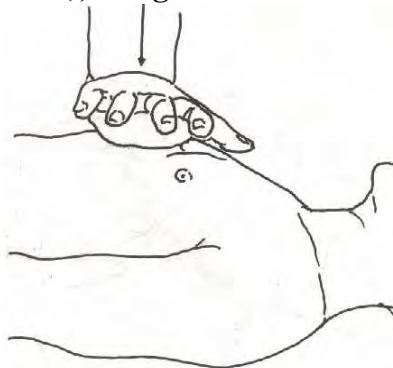
- 2) If you use the head-tilt/chin-lift method, be careful not to close the child's mouth when you lift his chin. Also, be sure your fingers are not pressing on the soft tissue under his chin, which may cause edema and subsequent airway obstruction.
- 3) If the child's face is large enough, maintain a tight seal by pinching his nostrils (as shown) and placing your mouth over his.

- 4) If he has a small face, place your mouth over his mouth and nose. When ventilating, give only enough air to make the child's chest rise.



**Fig 11.9 First Aid for cardiopulmonary arrest for children**

- 5) Try to palpate the child's carotid pulse. If you find a pulse, do not give cardiac compression but do ventilate the child at a rate of one breath every 4 seconds.
- 6) If you can't locate a pulse, find the proper location for compression. **Use the same technique you would for an adult.**
- 7) **Then compress about 1 to 1.1/2 inches (2.5 to 3.8 cm), using the heel of one hand (as shown).**

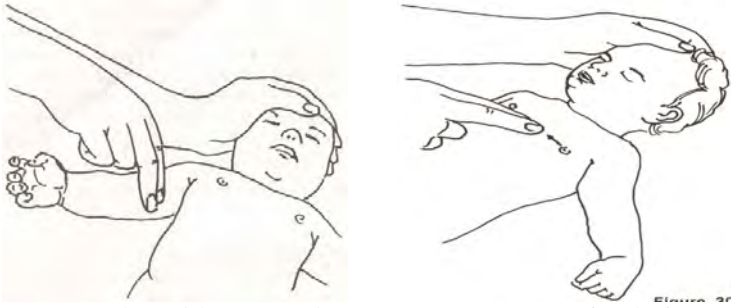


**Fig 11. 10First aid – Cardiac compression for small children**

- 8) Give 80 compressions a minute, with a breath after every fifth compression. Your count should be: “One and two and three and four and five and one..” and so on.
- 9) This rate and ratio are the same if you have a second rescuer helping you, but the second rescuer should ventilate on the upstroke of the fifth compression.

### **CPR for infants**

- 1) When you tilt an infant’s head, you will lift up his back as well. So before opening an infant’s airway, place a rolled towel of your hand closest to his feet beneath his back to support it.
- 2) Then gently tilt his head back. You don’t need to neck.
- 3) Cover both his mouth and nose with your mouth. To ventilate, give only small breaths – just enough to make his chest rise.
- 4) If you are having trouble ventilating the infant, his stomach may be distended, limiting chest expansion.
- 5) Don’t relieve gastric distension unless absolutely necessary, because the infant may aspirate stomach contents.
- 6) But if his abdomen is so tense you can’t ventilate, turn him onto his right side and gently press on his epigastric region.
- 7) Gastric distension is caused by delivering too much air, so give only enough air to make the infant’s chest rise.



**Fig 11.11 First Aid - cardiopulmonary arrest for infant**

- 8) **Because an infant's neck is short and chubby, palpate his brachial rather than carotid pulse.** The brachial pulse is located on the inside of the upper arm, midway between the shoulder and the elbow.
- 9) Don't palpate his apical pulse – what you think is a pulse may be just precordial activity.
- 10) To locate your hand position for cardiac compression, draw an imaginary line between the infant's nipples. (An infant's heart is located higher in the chest than a small child's or adult's).
- 11) **Place two or three fingers in the middle of this line. Deliver about 100 compressions a minute, giving a breath after every five compression.**
- 12) Count to yourself: “One, two, three, four, five” (even though you are alone). Because an infant is so small, one rescuer alone can try to resuscitate him.

### **Unconsciousness**

Any interference with the normal functioning of the brain and the nerves brings about loss of consciousness.

#### Level of Consciousness

- A. Partial ( Stupor)
- B. Complete ( coma)

## **Causes of unconsciousness**

- a. Brain injuries
- b. Convulsions
- c. Heat strokes
- d. Diabetes
- e. Heart attack
- f. Epilepsy
- g. Hemorrhage
- h. Poisons – eg. Carbon mono-oxide poisoning

## **Management**

- 1) See that there is a supply of fresh air and the air passages are free.
- 2) Take the casualty away from harmful gases
- 3) Watch for symptoms of shock
- 4) Remove false teeth
- 5) Loosen tight clothing up to neck, chest and waist.
- 6) If the breathing has stopped or about to stop, turn the casualty into the required position and start artificial respiration.
- 7) If breathing is noisy, turn casualty to 3 quarter turn position and support in this position with pillows.
- 8) If breathing is not noisy, let the casualty lie on his back, raise the shoulder slightly with the pillow and turn the head to one side
- 9) Watch continuously for any changes in the condition
- 10) Do not leave the casualty until the medical comes
- 11) Do not give any form of drinks in this condition
- 12) On return to consciousness, give little water.

## **First aid equipments**

First aid appliances should be kept in a metal or plastic box, which can be opened and closed easily.

**The box should be labeled clearly with Red Cross sign and “First Aid” should be written on it.** The box should be kept away from children.

As and when the items are consumed, they should immediately be replaced.

Small first aid box for pocket use

It should contain

1	First aid dressing	no	2	-	1
2	First aid dressing	no	3	-	1
3	First aid dressing	no	4	-	1
4	Sterilized small dressing (for burnt wound)				
5	Small roll of adhesive plaster			-	1
6	Soframycin skin ointment			-	1
7	Safety pins (6 packets)				
8	Roller bandages 1”			-	1
9	Cotton wool small pocket			-	1
10	Eye pad			-	1
11	Small scissors			-	1
12	Small forceps			-	1

## **Bandages and slings**

### **Applications of bandages**

These are made from flannel, calico, elastic net or special paper, they can be improvised by any of the above material, or from stockings or ties

### **Uses of bandages.**

- 1) Maintain direct pressure over a dressing to control bleeding.
- 2) Retain dressing and slings in position
- 3) Prevent or reduce swelling.
- 4) Provide support for a limb or joint.
- 5) Restrict movement
- 6) Assist in lifting and carrying casualty.

### **Guidelines**

- 1) Bandages should be applied firm enough to keep dressing and splints in position.

- 2) But not so tight as to cause injury to the part or to impede the circulation of the blood.
- 3) A bluish tinge of the finger or nails may be a danger sign that the bandages are too tight.
- 4) Loss of sensation is an other sign.

### **Types of bandages**

- 1) Triangular bandages.
- 2) Roller bandages
- 3) Special-such as, many tail or ‘T’ bandages.

### **Triangular bandage**

The triangular bandage may be used in nursing for slings to support an arm after injury

### **Roller bandages**

Roller bandages are used for the following purposes..

- 1) To cover and to retain dressing and splints in position.
- 2) To exercise pressure on a part in order to prevent or to reduce swelling.
- 3) To provide support for a part , sprained or dislocated joint
- 4) To prevent and control haemorrhage
- 5) To restrict movement.
- 6) To correct deformity.

### **Materials**

- 1) Roller bandages are made from strips of different material of varying lengths and widths, according to the part to which they are applied.
- 2) Materials commonly used are flannel, open wove cotton, fast edge cotton, calico, crepe or elastic net.
- 3) Before use, the bandage should be firmly and evenly rolled, either by hand or by machine.
- 4) The parts of the bandage are referred to as the head and the free end to tail.
- 5) Usually, a single roller bandage is used, but for, some certain parts, a double headed roller bandage is required.



- 6) In this, the free ends of two roller bandages are sew together leaving the heads to close together, on the same side of the bandage.
- 7) Most roller bandages are 6 yards long, except the very narrow ones, which are usually, short.
- 8) The width lay according to the part of the body to be bandaged.
- 9) The usual width of the bandages are, 1 Inch to 4 to 6 inches.

<b>Part bandage</b>	<b>Width</b>
Fingers	1. inch.
Arm	2 to 2 inches.
Leg	3 to 3 inches.
Trunk	4 to 6 inches.
Head	2 inches.

### **Rules for the application of roller bandages**

- 1) Use a tightly rolled bandage or the correct width.
- 2) Support the part to be bandaged through out.
- 3) For the forearm, the hand should be prone.
- 4) Always stand in front of the patient except when applying a cape line bandage.
- 5) Bandage a limb in the position in which it is to remain.
- 6) Hold the bandage with the head uppermost and apply the outer surface of the bandage to the part, never unroll more than a few inches of bandage at a time.
- 7) Bandage from within outwards and from below upwards, maintain even pressure throughout.
- 8) Begin the bandage with a firm oblique turn to fix it and allow each successive turn to cover two thirds of the previous one, with the free edges lying parallel.
- 9) Make any reverse or crossing a line on the outer side of the limb, except, when this brings them over a wound or prominence of bone, in which case, they must be on the front of the limb.

- 10) Pad the axilla or groin when bandaging these parts, so that, two of the surfaces of skin do not touch beneath the bandage.
- 11) Finish off with a straight turn above the part, hold in the end and fasten with a safety pin.

### **Points to be observed**

- 1) The comfort of the patient is the first consideration, except, when arresting haemorrhage or correcting a deformity.
- 2) Neatness and economy must be considered.
- 3) The bandage should be firm and applied with even pressure throughout.
- 4) The extremities must be carefully watched
- 5) for any signs of swelling or blueness due to interference with circulation by a bandage that is too light.

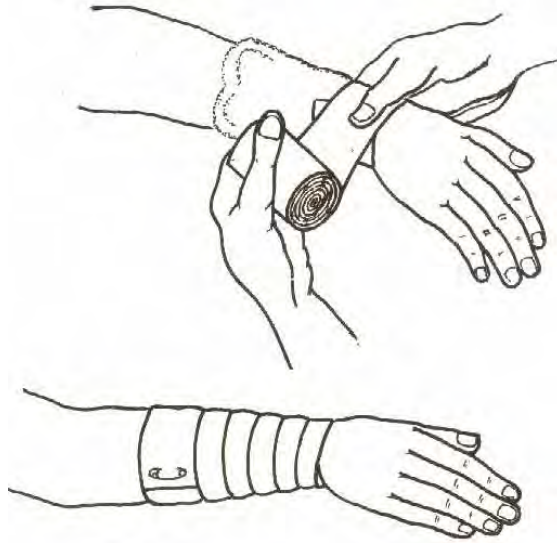
### **Terms used in roller bandaging**

- 1) Simple spiral
- 2) Reverse spiral
- 3) Figure of eight
- 4) Spica

### **Simple spiral**

Is used for parts which are of uniform thickness, such as, a finger or a wrist.

The bandage is applied obliquely round the part, each turn cover two thirds ( $\frac{2}{3}$ ) of the proceeding one, and the edges being kept parallel.

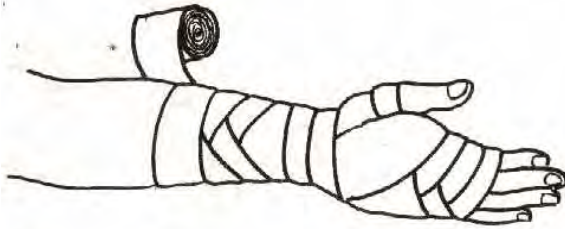


**Fig. 11. 12 Simple spiral bandage**

### **Reverse spiral**

It is used for parts which vary in thickness and upon which the bandage of circular turns cannot be tied properly like leg and forearms. One or two simple spiral turns are usually made to carry the bandages to the point at which the spiral can no longer be employed. And then the lower edge of its last spiral is fixed with the thumb about halfway between the mid line and outer surface of the limb. The bandage is then reversed and brought down and carried round the limb, when another reverse is made immediately above the former one. These reverses are repeated as far as necessary and the bandage completed with one or two.

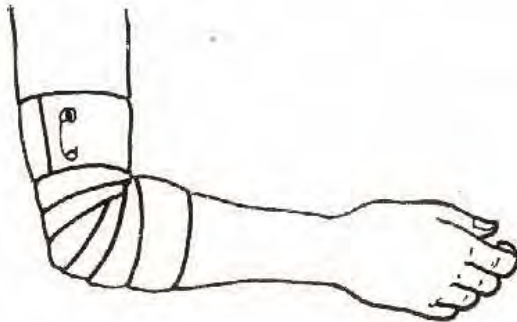
Spiral turns straight round the limb. Care should be taken and that, each reverse occurs immediately above the previous one, so that, the pattern is even. Each turn should cover two thirds of the preceding one, as in the simple spiral.



**Fig. 11. 13 Reverse spiral bandage**

**Figure of Eight**

Is used for bandaging limb and for covering joints. It consists of series of loops, encircling the part in the form of a figure of eight. The upper loops being completely hidden by the successive turns and the lower loops forming the pattern. Each one covers the two thirds of the preceding loop and crosses in the same line.



**Fig.11.14 Figure of eight bandage**

**The Spica**

Is a form of the figure of eight in which one turn is very much larger than the other. It is used for joints at right angles to the body. eg: shoulder, groin and thumb.

**The divergent spica**

Is a form of the figure of eight in which the turn goes alternately above and below a fixed starting turn ending above, and is used for bend joints, as the elbow or heel.

## **Bandages for hand, wrist, forearm, elbow and Arm**

### **Hand bandage**

With the pronated, (the palm held downwards) fix the bandage by a turning round the wrist and carry the roll obliquely over the back of the hand to the side of the little finger. Carry the bandage round the palm, encircling the finger with one horizontal turn, so that the lower boarder of the bandage, just touches the root of the nail of the little finger. Carry the bandage one more round the palm and then return obliquely to the wrist. The figure of eight turn round the wrist and hand are repeated until the hand is covered and the bandage is then finished with a spiral turn round the wrist.

### **Wrist, Forearm, and Upper arm Bandages**

The wrist and forearm are bandaged by use of the simple and reverse spiral until the elbow is reached. The figure of eight turn can be so used, as the limb enlarges as an alternative to the reverse spiral turn, if preferred.

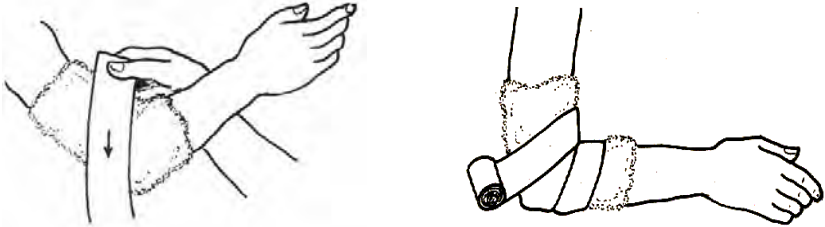


**Fig . 11.15 Bandaging wrist and forearm**

### **To Cover the elbow**

Bend the elbow at right angles, lay the outer side of the bandage on the inner side of the joint and take one straight turn

carrying the bandage over the elbow tip and round the limb of the elbow. The second turn is made to encircle forearm and the third arm. Each of these turns being made to cover the margins of the first turn. Continue the turns alternately, below and above the first turn, allowing each to cover a little more than two thirds of the previous turn, and finishing about the elbow.



**Fig. 11.16 Bandaging the elbow**

### **The upper arm**

The bandages, as is the forearm, by a succession of reverse spirals or figure of eight turns, and the bandages may be carried on from the forearm, or elbow or started independently, or most conveniently.

### **Finger bandages**

With the hand pronated, fix the bandage by two circular turns a round the wrist leaving the end free from tying off. Afterwards, carry the bandage obliquely over the back of hand to the base of the finger to be bandaged. Taking the fingers in order, start from the little finger side.

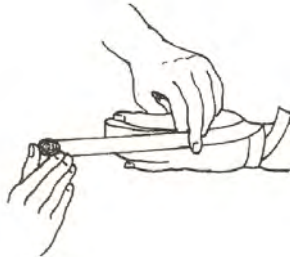
Take on spiral turn to the base of the finger nail and then cover the finger by simple spiral turns. Then carry the bandage a cross the back of the hand to the wrist, and complete it with one straight turn round the wrist. Secure the bandage by a safety pin or by tying the two each of the bandage together. If more than one finger as to be bandaged, take a turn round the wrist between each two fingers and continue as above until the bandage is complete.



**Fig. 11. 17 Bandaging the fingers**

**To cover the finger tip**

Take the bandage straight up to the back of the finger and over the middle of the tip and down the front to the level of the second joint. Holding the turns back and front with the fingers of the other hand, make two more turns over the tip of the finger, one on either side of the first turn. Fix the loop with a straight circular turn as near to the tip as possible and then cover the finger by simple spiral turns as before. Being careful to make them from within outwards. Take a straight turn round the wrist and either finish off as before or continue the next finger.



**Fig. 11.18 Bandage to cover the finger tip**

**Spica of thumb bandage**

With the hand held, so that, the back of the thumb is upper most, take two turns round the wrist and carry the bandage over the back of the thumb. Encircle the thumb with one or two straight turns, so that, the lower border of the bandage is level with the root of the nail. Carry the bandage back. Over the back of the hand, round the wrist and repeat the figure of eight turns round thumb and wrist, until the wall of the thumb is completely covered. Complete the bandages with one straight turn, round the wrist.

### **Spica of shoulder bandage**

Place a small pad of cotton wool in each axilla. Take 3-4 inch bandage and fix it with two spiral turns round the upper part of the arm. Take two or three reverse spiral turns round the upper arm until the bandages reaches the point of the shoulder. Then carry the bandage over the shoulder, across the back and under the opposite armpit. Bring it back across the chest and arm round under the armpit and over the shoulder again covering two thirds of the previous turn. This form a figure of eight round the arm and the body and the turns are repeated until the whole shoulder is covered. The bandage should be secured by a pin immediately over the injured shoulder.

### **Bandages for the foot, ankle and leg**

If the patient is in bed, the heel should be elevated on a support, about 6 inches high. If he is up and about, he should be seated in a chair with the foot supported on a stool or another chair. To avoid stooping, the nurse may, if she prefers, sit opposite to the patient and take his foot on her knee.



**Fig. 11.19 Bandages for the foot, ankle and leg**

### **Foot and ankle bandage**

Take one or two turns round the ankle to fix the bandage and then take it on obliquely across the foot, the root of the little toe. Make one horizontal turn right round the foot at his level and then carry the bandage back over the foot and take a turn



round the ankle just above the heel. Figure of eight turns are then repeated round the foot and ankle, each turn over lapping the preceding turn by two third of its width, until the whole foot is covered.

If the bandage is to be continued up the leg, the reverse spiral or figure of eight turns may be used as for the arm.



**Fig. 11. 20 Foot and ankle bandage**

### **To cover the heel**

The leg should be supported, so that, the heel projects well over the edge of the chair, stool or cushion on which it is placed.

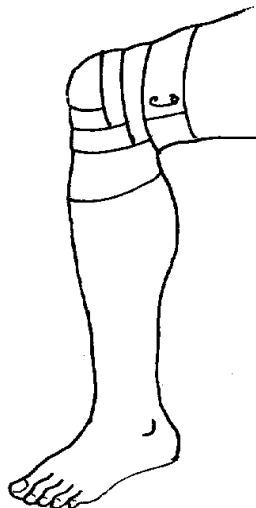
The foot should be kept at right angles to the leg. Commence the bandage by a turn over the tip of the heel. The bandage is then carried round the foot just below the tip of the heel, so that, the margin of the bandage covering the tip of the heel is well covered. It is then brought over the ankle and taken round the leg, just above the tip of the heel, so that, the other margin of the bandage covering the heel tip is now also covered. The turns are repeated. Each turn being made just below and above the preceding one until the heel is well covered and the bandage so extends from halfway along the foot to well above the ankle.



**Fig. 11. 21 To cover the heel**

### **Bandage for the knee**

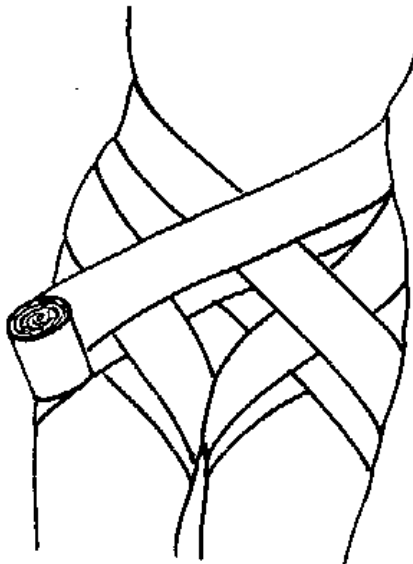
Flex the knee, lay the outer side of the bandage against the knee and take one straight turn over the knee cap. The bandage is thus brought round the knee, just below and the just above. Note that the margins of the bandage covering the kneecap are covered as in the elbow and heel bandages. The turns are repeated below and above the joint until the whole knee is covered and the bandage is then secured by one straight turn round the thigh.



**Fig. 11.22 Bandage for the knee**

## Spica of hip bandage

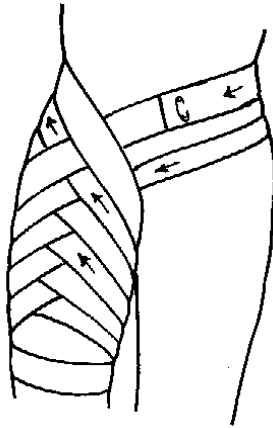
Place the outside of the bandage on the inner side of the thigh about 6 inches below the groin. Carry the bandage horizontally round the limb and make three or four ascending reverse spiral turns round the thigh. Carry the bandages from within outwards over the front of the groin and up round the hip and back, passing over the prominence of the hip bone on the opposite side. Bring the bandage down, over the abdomen to the outer side of the thigh and repeat the figure of eight round the body and the thigh until the hip is covered.



**Fig. 11. 23 Spica of hip bandage**

## Spica of groin bandage

This is applied in the same way as the spica for the hip except that the bandage is started higher up. The reverse spiral and omitted and the crossings are made over the front of the groin instead of on the outer side of the front of the thigh.



**Fig. 11.24 Spica of groin bandage**

### **Double spica of groin bandage**

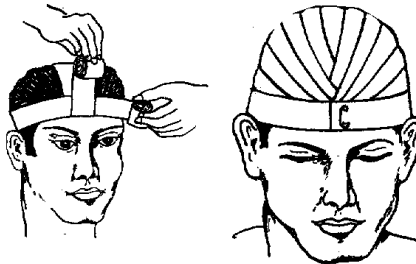
Lay the outer surface of the bandage over the right groin from without inwards and pass the bandage round the thigh, carrying it up over the front of the right groin to the left hip. Round the back and right hip and over the lower part of the abdomen to the outer side of the thigh. Pass the bandage under the thigh, up to the left groin round the back and right hip and down again to the inner side of the right hip and down to the inner side of the right thigh. These turns, which really form of double figure of eight, round the body and right thigh and round the body and left thigh, are repeated until both groins are covered each turn being slightly higher than the covering two thirds of the preceding one.

### **Head and other bandage**

#### **Capeline bandage**

The bandage is, sometimes, used when the whole scalp is to be covered. A double headed roller bandage is used. The patient should be seated and the nurse should stand behind the patient. Place a center of the outer surface of the bandage in the center of the forehead, the lower border of the bandage lying just above the eyebrows. The head of the bandage as brought

over the temples and above the ears to the nape of the neck where the ends are crossed. The upper bandage being carried, round the head and other brought over the center of the top of the scalp to the root of the nose. The bandage which encircles head is now brought over the forehead, covering and fixing the bandage which could cross the scalp. This bandage is then brought back over the scalp. Slightly to one side of the center, thus covering one margin of the original turn. At the back, it is again crossed and fixed by the encircling bandage and is turn back over the scalp to the opposite side of the centerline, now covering the other margin of its original turn. These backward and forward turns are repeated to alternate side of the center, each one being, in turn, fixed by the encircling bandage until the whole scalp is covered. The bandages is completed by a circular turn round the head and pinned in the center of the forehead.



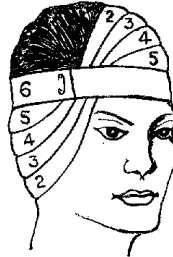
**Fig. 11. 25 Capeline bandage**

### **Ear bandage**

Lay the outer surface of the bandage against forehead and carry the bandage round the head in one circular turn, bandaging away from the injured ear. Towards the sound side, carry the bandage round to the back of the head, low down in the nape of the neck again, repeat these.

Each turn being slightly higher than the previous one as it cover the dressing, but slightly over as it cover the hair. Continue until the whole is covered and complete the bandage

by one straight turn around the forehead, pinning where all the turns cross one another some people prefer to take the bandage around the forehead between each turn covering the dressing, but this makes a heavy bulk around the head which is not really necessary.

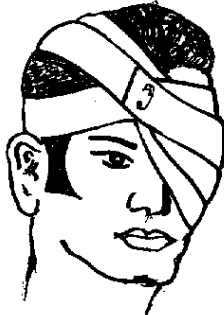


**Fig. 11.26 Ear Bandage**

### **Eye bandage**

Lay the outer surface of the bandage against the forehead and take the circular turn round the head, bandaging away from the injured eye. Carry the bandage on, round side for the second time. Take it obliquely to the back of the head, under the prominence at the back of the skull and from there bring it upwards beneath the ear of the affected side, over the pad of the circular turn and continue.

Over the head to the starting point. Repeat this turn two or three times until the dressing is covered, finishing with a safety pin just above the good eye.



**Fig. 11.27 Eye bandage**

## **Many tail bandages**

Many tail bandages are used for **abdominal wound** **certain chest dressing** and for any part where the use of a roller bandage would entail a great amount of movement and exertion for the patient. It consists of a number of strips or **tails of cotton material**, 4-6 inches wide and of sufficient length to encircle the part and overlap at least 8 inches. Each strip overlies the one above by two thirds of its width and the whole is secured in the center by a piece of the same material. All seams must be sewn so that, there are no hard ridges to hurt the patient. Bandages for the chest are sometimes provided with two tails, stitched to the top of the back piece and slanting slightly outwards, which pass over the shoulder and are pinned to the front the bandage when the other tails are folded over to keep the bandage from slipping down. Similarly, abdominal bandages are sometimes provided with two tails stitched to the bottom of back piece and are called groin straps which are passed between the legs and secured to the front of the bandage to prevent it from slipping up. Smaller many tail bandages may sometimes be used to keep a dressing on a limb.

**The advantage** of the many tail bandage are that, it is easily applied and adjusted and a wound can be inspected without any disturbance to the patient.

**The disadvantages** are that, if it is applied with little support, it tends to slip and become displaced and can easily be undone by the patient.

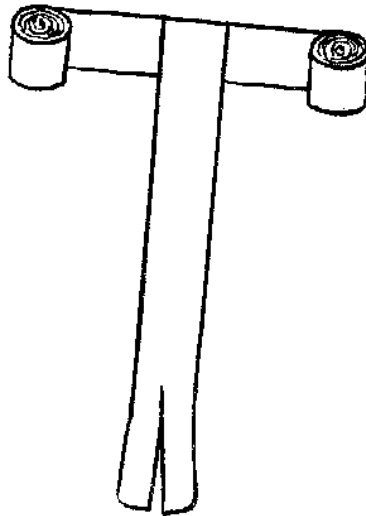
## **The application of abdominal many tail bandage**

For the bandage to be comfortably and efficiently applied, two people are required, although in an emergency one can manage. The patient should be lying quite flat before any attempt is made to apply or adjust a many tail bandage. The bandage is prepared with the tails rolled into the center, from either end, the smooth portion of the back being uppermost and

being placed next to the patient. The bandage is placed in the position, so that, the center band lies under the patients back. The bandage is applied from below upwards. One tail being brought across the body at a time and held in position by a tail from the opposite side. The last tail is brought obliquely downwards and secured with a safety pin.

### **T Bandage**

“T” bandages consist of two strips of flannel, about 4 inches wide, stitched together in the form of a “T”. The horizontal strip is made long enough to pass round the body and the vertical strip is passed up between the legs. It is then pinned to the horizontal strip to keep rectal or perineal dressing in position.



**Fig. 11.28 T bandage**

### **Plaster of paris bandages**

Plaster bandages may be brought ready- made, such as , the “Gypsona” tape bandage or may be prepared by rubbing dry plaster of paris into the meshes of strip of book muslin. Plaster of paris bandages are used.



- a. To make splints to immobilize fractures
- b. To protect the wound or to immobilize a part to relieve a pain and promote healing.
- c. To make plaster beds and jackets.

The bandages are applied wet and as they dry, they form a hard support to the fracture site. It should be protected from bending or cracking until completely dry and set. A plaster tends to shrink as it dries and if it gets too tight, it may impede circulation. **A patient with a plaster applied to a limb should be instructed to report back to the hospital immediately if the extremity becomes blue, cold, or swollen.**

### **Adhesive bandage**

In certain circumstances, the doctor may order an adhesive bandage to be worn. These give fine support and may be used for protection and to promote healing in condition, such as, varicose ulcer. Examples of those are elastoplast and crepe bandages. These are supplied according to similar rules to those relating to roller bandages. But great care must be taken to see that the bandage lies smoothly against the skin and that, there are no folds or wrinkles in the bandage.

### **Tubular gauze bandage**

This is a special form of tubular bandage, which can be applied with an applicator to any part of the body. It is ideal for small dressing on hands and limbs.

### **Bandage for the jaw**

Take a narrow strip of material, about 4 feet long or a narrow fold triangular bandage and place the center of it, under the chin. Carry one end upwards over the top of the head and cross with the other end above the ear. Carry the shorter end low down across the front of the forehead and the larger end in to opposite direction round the back of the head and tie off close, above the other ear.

## SLINGS

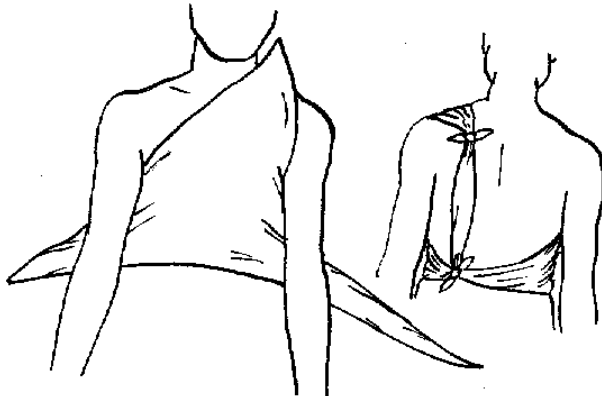
### Use of slings

1. To support injured arms.
2. To prevent pull by upper limb of injuries to chest, shoulder and the neck.

### Types of slings:

#### The arm slings

The arm sling is used in cases of fractured ribs, injuries of upper limbs and in cases of fracture in the fore arm, wrist and hands after the application of splints or plaster casts and bandaging.



**Fig 11.28 The arm slings**

### Applying the sling

1. Face the casualty, put one end of the spread triangular bandage over the uninjured shoulder with the point on the injured side.
2. Pass the end around the neck and bring it over the injured shoulder. The other end will, now, be hanging down over the chest.
3. Place the forearm horizontally across the chest and bring the hanging end up. The forearm is now covered by the bandage.

4. Tie the two ends in such a way that the forearm is horizontally or slightly tilted upwards and the knot is placed in the pit, above the collar bone.
5. Tuck the part of sling which is loose at the elbow, behind the elbow and bring the fold to the front and pin it up to the front the bandage.
6. Place the free base of the bandage in such a way that its margin is just at the base of the nail of the little finger. **The nails of all the finger should be exposed.**
7. Inspect the nails to see, if there is any bluish colour. **A bluish colour shows that there is a dangerous tightening of splint or plasters and therefore, free flow of blood is not possible.**
8. If the casualty is not wearing a coat, place a soft pad under the neck portion of the sling to prevent rubbing of the skin in that place.

### Collar and cuff sling

This sling is used to support the wrist only.

1. The elbow is bent and the forearm is placed across the chest in such a way that the fingers touch the opposite shoulder. In this position, the sling is applied
2. A clove hitch is passed round the wrist and the ends tied in the hollow above the collar bone on the injured side.



**Fig . 11.29 Shoulder sling**

## Triangular sling

A triangular sling is used in treating a fracture of the collar bone. It helps to keep the hand raised high up, giving relief from pain due to the fracture.

1. Place the forearm across the chest with the fingers pointing towards the opposite shoulder and the palm over the breast bone.
2. Place an open bandage over the chest, with one end over the hand and the point beyond the elbow.



**Fig. 11.30 Triangular sling**

3. Tuck the base of the bandage comfortably, under the forearm and hand.
4. Fold the lower end, also round the elbow and take it up and cross the back over the uninjured shoulder and tie it with the other free hand into the hollow, above the collar bone.
5. Tuck the point between forearm and bandage.

6. Tuck the fold, so formed, backwards over the lower half of the arm and fix it with a safety pin.

### **13. First aid in disasters**

Disasters are sudden, catastrophic events that disturb patterns of life in which there is possible loss of life and property in addition to multiple injuries.

The disasters means an adverse or unfortunate event or great and sudden misfortune. The common elements of any disaster are casualties, homeless person disturbance of sanitary facility, some degree of panic and need for emergency medical services.

#### **Types of disaster**

1. **Natural disaster** – Flood or drought, windstorm, (cyclone or hurricane) earthquake or volcanic eruption, epidemic
2. **Man-made unintentional disasters:** Fire, explosions, and accidents of trains, aircraft or ships
3. **Intentional disasters:** Ordinary bombing, atomic bombing, biological warfare and chemical warfare

#### **Responsibilities of Nurses in disaster**

1. During disaster the sick person need ingenuity, and the nurse should have imagination to utilize things that are available at hand.
2. She should give constant observation and treatment to seriously wounded person to arrest the bleeding and should save the life.
3. She should check the infection.
4. She should maintain the sanitation and cleanliness
5. She should arrange the initial examination and health checkup.
6. Arrange for food facilities to the injured.
7. Arrange them for clean drinking water.
8. Arrange for transportation.

9. She should make arrangement to intimate the relative as early as possible.

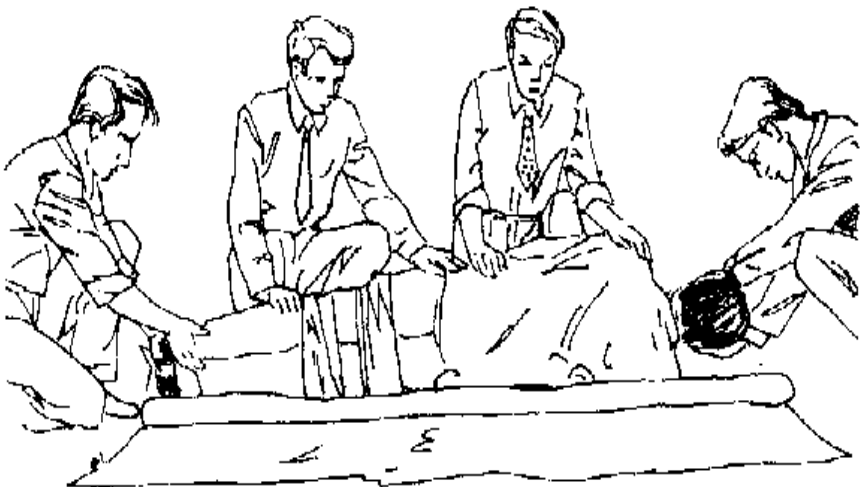
### **Community Emergencies**

- 1) **Fire explosion:** It is the commonest disaster seen in the community.
- 2) **Flood :** This disaster is commonly seen during the rainy season and the people living near seas side or low lying areas
- 3) **Earthquakes :** It occurs without prior significance
- 4) **Famine :** Famine is the disaster caused by the nature.

### **HANDLING AND TRANSPORT**

#### **Leading a stretcher**

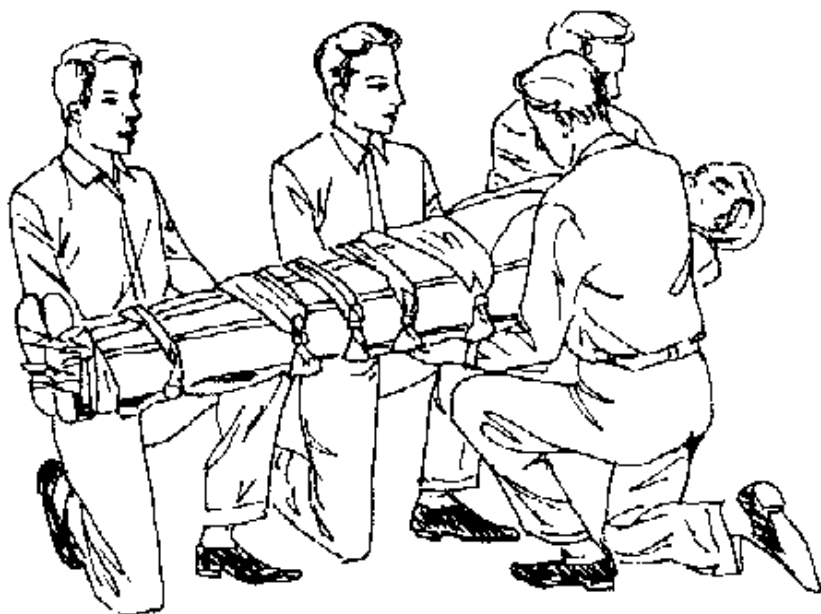
Five people will be required to load a casualty into a stretcher, four to lift the casualty and one to move the stretcher position of the helpers for manual lift.



**Fig. 11.31 Leading to a stretcher**

#### **Manual lift.**

If the casualty has a fractured spine. Do not move him unless absolutely necessary.



**Fig. 11.32 Manual lift for a fractured spine.**

### **Carrying a stretcher.**

Unless casualty is suffering from shock the head should be kept higher than the chest. As a general rule the casualty should be carried feet first.

Loading Ambulance: The trolley bed should be loaded and unloaded carefully.

### **Promoting safety consciousness in community**

#### **Safety at home**

The house should be built as strong and durable. The safety measures have to be followed.

1. Avoid stain of oil, grease etc.
2. Bathroom should not be slippery.
3. Electrical appliances should not be touched with wet hands.
4. Children should not have access to match box.

5. The vessel with water or food materials should be covered properly.
6. Avoid smoking

## **Summary**

- First – aid is the immediate and temporary care given to an injured or sick person until the medical aid is obtained.
- The first-aider is the person on the spot who render the emergency service/care until the medical aid is obtained.
- The objectives of first- aid are to save life and to avoid further injury.
- The first aider should act quickly, find out the injurious or abnormalities, and should not handle unnecessarily and shift the patient to a near by hospital as soon as possible taking all precautions.
- In giving first aid to casualty with wound, the first aider should stop bleeding with clear cloth, and support the injured part if necessary.
- In bleeding, the oozing can usually be controlled by direct pressure on the injured area.
- In heat stroke, the casualty should be shifted to the nearby hospital with adequate support of the injured limb or site
- The casualty, who is unconscious consuming poison should not be induced vomiting, and should be shifted immediately to a nearby hospital.
- Major accidents should be informed to police
- A nurse should have adequate knowledge and skill in Cardio Pulmonary resuscitation of adults, children and infants.



- Various types of bandages and slings are used to stop, bleeding, to cover and support the injured site.
- During disaster, the nurse should collect, organize articles, observe basic needs of the casualties, treat minor injuries and make arrangements to transfer the victim to the nearby hospital.

## QUESTIONS

### Part - A

1. ----- is a life saving skill
2. ----- is a tear or break in the skin following an accident.
3. Reduced movement, swelling, pain and deformity of the shoulder joint indicate -----
4. In giving first aid for ----- poison, do not induce vomiting.
5. The first three key steps in CPR are ----- and -----
6. When resuscitating an infant, palpate his ----- pulse
7. ----- are used for parts which are of uniform thickness.
8. ----- is used for joints at angles to the body.
9. During CPR for small children, we have to compress the chest -----using the heel of one hand
10. The commonest disaster seen in the community is -----
11. The first – aider must always refer the patient to the hospital
  1. If there is severe bleeding
  2. All deep wounds of the chest and abdomen
  3. If the patient is unconscious
  4. All of the above

12. Burns are caused by
  1. Electrocutation
  2. Corrosive chemicals
  3. Explosion of pressure
  4. None of the above
13. Scalds are produced by
  1. Steam
  2. Fire
  3. Corrosive chemicals
  4. All of the above
14. For abdominal wound and for certain chest dressing the following bandages are used.
  1. Triangular bandages
  2. Spica bandages
  3. Many tail bandages
  4. Roller bandages
15. An triangular sling is used in treating & supporting a fracture of
  1. Hip bone
  2. Wrist
  3. Collar bone
  4. Ribs

**Part - B**

16. Define first aid.
17. Who is the first aider?
18. What are the types of disaster?
19. What are the common bites and stings in the community?

**Part - C**

20. What are the basic principles and golden rules of first aid?
21. What are the causes of unconsciousness and write the first aid management for an unconscious patient ?
22. Write the rules for the application of roller bandages.

### **Short notes on**

23. Drowning.
24. Heat stroke
25. Snake bite
26. Dog bite
27. Burns and scalds
28. What are the types of disasters? Write about the nurses' s responsibilities in disasters.

### **Part - D**

29. Write in details about the first aid that you will give during a major road traffic accident?
30. Write about the first aid given for poisoning
31. Write in detail – Cardio pulmonary resuscitation for adults and infants.

### **Practical**

1. Application of simple spiral, reverse spiral figure of light, The spica, The divergent spica bandages. Bandages for hand, wrist, and upper arm. Spica of shoulder bandage, Foot and ankle bandage, bandage for knee, ear bandage, eye bandage, bandage for head, Arm sling Collar and cuff sling triangular sling
2. CPR for adults
3. CPR for Children
4. CPR for infants

# **12. HEALTH MANAGEMENT**

## **(Principals Of Health Education In Nursing)**

### **Definition of health**

The World Health Organisation defines health as "a state of complete, physical, mental, and social wellbeing, and not merely the absence of disease or infirmity".

It may also be defined as "able to live most and serve best". Health in general is a value asset, though often one does not realise the value until it is lost through illness.

Health influences one's way of life. It improves personal efficiency and helps the individual in the attainment of most of his personal goals.

### **Effective Health Management**

In order to attain the highest level of effective health system, awareness on the importance of the health education and sustained practices of the said guidelines is the most important component in the health care delivery system for all.

### **Definition of Health Education**

The World Health Organisation defines health education as the **"sum total of all the experiences, which favourably influence knowledge, skills, attitudes and practices of all individuals towards his personal and community health"**.

Health Education may also be defined as a **process of change within the human organism, which is related to personal, and community health goals.**

According to Alma-Ata declaration (1978), **"Health education is a process aimed at encouraging people to want to be healthy to know how to stay healthy to do what they can individually and collectively to maintain health and seek help when needed"**.

Health education is the act of getting people to do something for themselves to attain better health. The nurse should remember that the practice of health education is not merely a simple speech needed only for ignorant people, but it is applied for all, rich and poor, young and old, educated and illiterate, sick and health individuals at all times, especially when they have "felt needs" for health.

Health education involves teaching about reducing health risk factors, increasing a person's level of wellness and taking specific protective health measures.

### **Aims and Objectives of health education**

1. To help people to develop an awareness of health needs and problems.
2. To acquire knowledge and skills on matters related to health and health resources.
3. To develop desirable attitudes towards personal and community health and to solve their health problems by their own actions and efforts.
4. To participate and co-operate with health workers and use health services for their maximum benefit.
5. To adopt the altered health and function.

### **Principles of health education**

Some basic principles that should be followed while giving health education.

1. Interest - The interest of the individual or the group should be considered. For example a patient may want to know more about his illness rather than facts about environmental hygiene.
2. Acceptable - It should be acceptable to the people as well as the leaders of the community. People's customs,

beliefs, traditional habits and ways of living must be considered. For example vegetarians should not be advised to take meat.

3. Practicable - It should be practicable. Consider the educational level, income of the family, capacity to understand and the mental make up. For example, asking the mother with a poor income to take plenty of milk or meat is meaningless. Similarly asking her to take lettuce a leafy vegetable that is not commonly available or used in this country will not be practicable. Also asking the mother to take plenty of iron, calcium and protein will not mean much to her, instead of which, mentioning foods rich in the above nutrients will be more helpful.
4. Participation - This is usually done by allowing free discussion.
5. Known to unknown - One should start teaching the learners from what they already knew and then explain the new knowledge.
6. Reinforcement - Repetition helps learning, Facts and points should be repeated frequently as it assists better memory and understanding.
7. Motivation - Motivation is another important factor to bear in mind while teaching. The desire to learn, change or modify the behaviour of the learner must be created.

8. Demonstration - This is showing people exactly what to do by practical ways.
9. Learning by doing - Allow the individual to learn to do things by himself. Give sufficient time to practice when possible.
10. Establish good inter-personal relationship. This should start from the very beginning. The nurse should not be over - anxious or disrespectful even when eating with illiterate and poor people. Allow the groups or individuals to express their view and clear their doubts.
11. Adequate planning is essential even if it is a five-minute talk.
12. Health education should be carried out with the co-operation of the other staff in the department and in the community with the help of the local leaders, school teachers, dais etc.

### **Content and scope of health education**

Content of health education varies according to the situation and is vast in practice. The content of health education may be classified as follows:

1. Human - Normal structure and function of the body etc.
2. Nutrition - Nutrition needs at all ages, health and illness prevention of deficiency disease etc. Selection and cooking of food for health.
3. Hygiene - Personal and environmental hygiene and ways of healthfull living. Regular health examinations, early correction of defects, protection of water and safe disposal of refuse.

- |    |                                  |   |  |
|----|----------------------------------|---|--|
| 4. | Family Welfare Service           | - | Family health, family planning, child care, maternal care etc.   |
| 5. | Control of communicable disease  | - | Disease causing organisms, mode of entry, prevention of spread, treatment and control of communicable disease, role of immunization etc. |
| 6. | Mental Health                    | - | Maintenance of mental health, Healthy attitudes  |
| 7. | School health                    | - | Personal hygiene, good food, prevention of communicable diseases etc.  |
| 8. | Prevention of accidents in homes | - | Hospitals, school and industries, Health hazards due to physical, biological and mechanical causes and ways to prevent them.             |
| 9. | Use of health service            | - | Where available, when and how to make use of services.   |

## **Approaches of health education**

### **1. Regulatory approach**

There are occasions when people are indifferent to their own health thus endangering the health of the community, in which case the regulatory or legal approach seeks to protect the health of the public through the enforcement of laws and regulations.

The nurse and other health workers must be aware of all these laws, eg. Primary vaccination against small-pox is compulsory in India.

### **2. Servicing approach**

This is mainly the responsibility of the health department and health workers both in government and non-government health agencies.



The service or administrative approach aims at providing all the health facilities needed by the community so that the people will make use of them in order to improve their own health.

The service approach will be a failure when it is not based on the "felt needs" of the people. Hence all health workers must find out the problems and needs of the people before teaching and providing care to them.

### **3. Educational approach**

The educational approach is considered as one of the important means for bringing about changes in the health practices of people and helping them to recognise their health need.

It involves proper communication and motivation of the community to make the right decision in order to attain health. Though it is a good method, it is a slow perseverance to have permanent and enduring results.

However small it may be, educational approach may be classified as follows:

### **4. Individual approach**

This is usually done by the health worker (nurse) wherever and whenever she comes in contact with individuals who need knowledge, guidance and counselling regarding individual health problems and needs. Personal interviews can be planned or unplanned.

Individual health teaching can be done in the hospitals, homes and any health care institutions. In order to teach individuals, we must develop skills and have sufficient knowledge to gain the confidence of the people (learners).

First of all the nurse should set a good example by practicing principles of healthy living. Example is a good method of teaching.

She should practise good health habits such as regular exercises, rest, sleep, personal cleanliness, wearing clean

uniforms, washing hands after touching infected materials and before eating and so on.

Good food, safe water and good food habits are essential to promote, maintain and prevent deficiency diseases. It is important that she gives major consideration to the selection, cooking and eating of proper foods.

Safe and clean environment is necessary wherever we live and work. Cleanliness is next to godliness and all health workers should maintain cleanliness and have proper disposal of waste and refuse. This will help in the prevention and spreading of diseases to a great extent.

Often in busy hospitals, health centers, clinics etc., one may not find much time of frequency planned health teaching programmes. Therefore the nurse must bear in mind that incidental teaching is an on-going process and she should be on the lookout for health teaching opportunities.

For example while giving patient care she should make health education an essential component. It may be about personal hygiene, balanced food or how to prevent certain diseases etc. Teaching may be given to patient's relatives and friends. Teaching may be given to patient's illness and how they can help the patient during and after the period of illness.

Health teaching is also useful to individual hospital workers (Class IV staff). They should be helped in maintaining a clean and safe environment in order to prevent hospital cross infection and spread of communicable disease.

The nurse should teach and supervise the workers in the collection and disposal of waste, collection of soiled linen, washing of hands of those attending to the toilet of patients, washing bed pans etc.

## **5. Family approach**

The family is an important unit of society, and individual problem affects the whole family. They are often emotionally involved and much worried about the individual who is suffering.

Usually much can be done during home visit. Family members can be taught how to look after the sick, how to prevent home accidents, food budgeting and planning, care of the children, care of the pregnant mothers, family welfare services (family planning), immunization and all about personal and environmental sanitation.

## **6. Group approach**

This is usually organized to teach small groups, which will facilitate discussion, exchange of ideas and clearing of doubts after the teaching is over for a short period.

Better results are achieved when groups of people with similar interest are selected for example, patients with similar problems, interest and needs. Also needs of school children, adolescents, industrial worker, mothers and fathers will be different, and they may be taken separately.

The health worker should plan well ahead of time or organization groups in the wards, clinics and community centers at a convenient place and time suitable to them. Suitable audio visual aids must be selected to have good results.

## **TEACHING OF PATIENTS**

The choice of what to teach the patient is based on:

- 1) What we know about the patient; information gained by study of the chart, doctor's comments, conversation with the patient.
- 2) The patient's physical conditions: even seriously ill patients learn from your attitude. Example Cleanliness, need for emergency, etc.
- 3) The interest of the patient: at first most likely to be interested in his disease - what he needs to know to get well, to live with residual condition to prevent relapse and to help others to avoid it.
- 4) Secondary interests: knowledge of use to his family or general interest.

- 5) Patient's intelligence: some are able to learn on a higher level than others.
- 6) Probable ability to apply teaching.
- 7) Facts for immediate use - not something vague for future.
- 8) Material related to local customs.
- 9) Nurse's knowledge : thorough preparation.
- 10) Consultation with notes, texts and senior staff, so that the nurse thoroughly understands the material herself. She should not try to teach in advance of her own knowledge.

### **How to teach the patient:**

#### **1. By Quoting Example:**

The nurse's personal appearance, the conscience with which she carries out her work, his/her attention to sanitation and health rules and other good health practices will be observed and followed by the patients.

#### **2. By telling:**

The nurse must establish a good relationship for teaching between patient and him/her and must gain the patient's confidence. She/he should use simple language, avoiding foreign or technical words, and teach only one or two facts at a time, choosing the most important. Stress should be laid on positive action, especially on the **DO's** rather than on the **DON'T's**.

#### **3. By showing:**

**"One look is worth a thousand words".**

Demonstrate to the patient by actually doing.

Show the article you are talking about, the kind he would use at home. Let him touch it or hold it.

Explain what you are doing and why.

When possible let the patient demonstrate in return.

Use pictures, flash-cards, books, sample articles or models,

#### 4. By reviewing:

##### "Repetition teaches"

Ask the patient to tell you what you have taught, both at the end of the conversation and the next day.

Make any corrections or additions if necessary.

Allow the patient to tell facts that are right.

#### 5. By approving:

Give praise and recognition for learning of making improvements.

### TEACHING SMALL GROUPS

1. **Plan materials:** Gather illustrative material know subject thoroughly and have objective in teaching, Consult senior nurses, staff and text books.
2. **Plan groups:** Select time in advance, notify all concerned. Select people with common interest. Keep Group small. Sit in circle.
3. **Method:** Gain interest with pictures, models or leading questions. Teach subject in simple language for about 5 minutes. Use visual aids, black board, pictures, sample etc. Look at each person while talking. Permit and encourage questions and comments. Keep to the subject but do not stifle other questions - refer to them another time.

Let one of the groups participates as a module, but avoid possible embarrassment.

Practical demonstrations may be given by each group.

**Role playing:** acting out an imaginary scene, may be used occasionally.

Try to leave behind something definite to do with the group.

Review and sum up the teaching at the end of the class.

4. **Teaching Mass:** refers to educating large groups of people by using the mass media. There is no two-way communication and the results are not very encouraging but useful, especially when health information has to be

given to the community, e.g. drinking of boiled water during floods, family planning services etc.

## **METHODS COMMONLY USED ARE:**

### **1. Group Discussion:**

**(a) Symposium**                      **b) Panel discussion.**

It is a two-way communication. People learn by exchanging their view and experience. Small groups of 8 to 12 are more effective and active, Participation of member is encouraged.

### **2. Lecture method:**

It is one-way method of teaching but it can be made more meaningful by use of audio-visual aids and discussions.

### **3. Questions and answers method (Socratic method):**

This method is suitable both for individuals and groups. Learning takes place through questions and answers.

### **4. Demonstration method:**

The purpose of demonstration is to show how to do something. Demonstration must be done using simple equipment available and familiar to the learner (patient).

### **5. Role play:**

This is based on the assumption that many values in a given situation cannot be expressed in words, and the communication can be made more effective if the situation is dramatized by the group.

### **6. Project method:**

✓ It requires activity and gives a sense of accomplishment. Subjects are organised into units that can be dealt with by a student or learner group.

✓ Project assignment is adaptable to community health in which the learner works together in groups.

### **7. Workshop and conference** - adopted to professional groups, teachers etc. The group works together to explore all aspects of a subject and to reach specific goals.

## **AUDIOVISUAL AIDS**

Audiovisual aids play an important role in health education, They can be classified into three groups - purely auditory aids, purely visual and a combination of both auditory and visual aids.

Media or materials in health education can be used for different purposes and for different groups of people. Learning and understanding seems to result when more senses, such as, touch, sight, and hearing are reached by the media.

If used properly they create interest and motivate people to learn. Learning is made more permanent because these aids supply a concrete basis for learning rather than abstract thinking.

### **Types of Aids**

#### **a. For Mass media**

- 1. Motion picture**
- 2. Film strips**
- 3. Exhibition**
- 4. Radio**
- 5. Television**
- 6. Mass media**

Useful only to influence a large number of people in order to disseminate information and also for propaganda.

#### **b. Other aids**

- 7. Black board**
- 8. Bulletin board**
- 9. Flannel graph or Khadigraph**

The cut out pictures in bright colours should be pasted on to sand paper or on to some rough material and the same are fixed on to flannel boards while teaching.

Practice before you teach for, if done well, it holds the attention of the learners. The theme of story should be selected in advance and the figures kept in order to be used without delay.

#### **10. Flash cards:**

They are pictures arranged in sequence, which illustrate a story. Support the cards on your chest wall and practice in order to make your teaching

effective. Use a pointer so that the picture is not covered by your hand.

### **11. Posters:**

Posters should be colourful to catch the eye and convey the message clearly. Simple language and short sentences should be used. If used in the clinic, outpatients department or health centers, they should be changed frequently. When possible explain the message to the learners and use them to supplement your health teaching.

### **12. Suspense charts:**

Each section of the chart is covered and is exposed one by one to reveal the story or ideas without exposing the whole chart at a time.

### **13. Puppets:**

Puppets are dolls made by hand and a story can be narrated using them. It is a popular teaching aid to health teaching, both children and adults enjoy seeing puppet shows.

## **SELECTION AND USES OF AUDIOVISUAL AIDS**

### **Uses of printed teaching material**

The following criteria are guides for the selection of the books and other printed teaching materials. How each applies in a given instance depends upon the specific teaching objectives, which have been set up to meet particular needs.

### **Criteria for selecting audio visual aids.**

1. The facts should be scientifically accurate.
2. Needed materials should be present
3. All the information should be pertinent.
4. It should cover the entire requirements.
5. All the ideas should be essential, significant and important to clear understanding.



## Summary

- Health is a state of complete physical, mental and social well being, not merely the absence of disease or infirmity.
- Health influences one' s way of life, personal efficiency and helps the individual to attain his personal goals.
- Health education is a process aimed at encouraging people to want to be healthy, to know how to stay healthy, and to maintain health.
- The aim of health education is to help people to develop an awareness of health needs and problems.
- Health education deals with human anatomy and physiology, nutrition, hygiene, and family welfare services.
- Health education is given to the points and groups through lecture, demonstrations, role play and conferences.
- Audio visual aids are classified as auditory aids, visual aids and combination of both auditory and visual aids.
- Motion pictures, film strips, radio, television bulletin boards are the common types of audio visual aids.
- In selecting audio visual aids for health education, the facts should be scientifically accurate, pertinent information and cover entire requirements and should be essential, important and clear to understand.

## QUESTION

### Part- A

#### Fill in the blanks

1. ----- is a method of health education, where the situation is dramatized by the group.
2. \_\_\_\_\_ is the method of health education for small groups

#### Match the following:

Symposium	Dolls are made by hands and story is narrated using Them
Radio	Group discussion
Flash cards	Mass media
Puppets	Illustration of stories

### Part B

1. Define health.
2. Define health education.
3. What are the common methods used for health education?
4. Define audio visual aids.

### Part C

1. What are the aims and objectives of health education?
2. How will you select an audio visual aid for health education?

### Part D

1. Explain the principles of health education.
2. What are the types of audio visual aids?
3. How will you arrange health education.
  - to a patient
  - to a group of patients
  - to the community?

# PRACTICALS

Nursing is an art and science based on scientific knowledge.

To substantiate the theoretical knowledge, this practical session facilitates the application and develop the skills of the students in fulfilling the responsibilities of the successful nurse.

This procedure manual is designed to carry out all the basic activities involved in a hospital, catering to the requirements of the patients and their families. The procedures, guidelines and various other relevant topics should be followed strictly as part of the curriculum.

The list of practical sessions are given below:

1. Admission Procedure
2. Hand washing
3. Feeding
4. Discharge
5. Bed Making
  - 1) Ordinary bed
  - 2) Special beds
6. Personnel hygiene
  - 1) Mouth
  - 2) Back
  - 3) Hair
  - 4) Bed bath
  - 5) Decubitus ulcer
7. Health assessment Techniques
  - 1) Inspection
  - 2) Palpitation
  - 3) Percussion
  - 4) Auscultation
  - 5) Manipulation
  - 6) Reflex testing

8. Height & weight
9. Temperature
  - 1) Mouth
  - 2) Axillae
  - 3) Rectum
10. Pulse
11. Respiration
12. Blood pressure
13. Position
  - 1) Supine
  - 2) Semirecumbent
  - 3) Fowler
  - 4) Cardiac
  - 5) Lateral
  - 6) Sim' s
  - 7) Prone
  - 8) Trendelenburg
  - 9) Reverse trendelenburg
  - 10) Modified supine or dorsal recumbent
  - 11) Lithotomy
  - 12) Genu-pectoral
14. Transportation – Changing & lifting
15. First aid and emergency nursing
  - 1) Drowning
  - 2) Application of bandages
  - 3) Cardio pulmonary resuscitation
16. Administering Thurston' s interest scale
17. Administering Strong' s Vocational blank
18. Administering Rosarsch' s ink blot test for assessment of personality
19. Health education

## **Session 1.**

### **ADMITTING THE PATIENT**

#### **Admission**

It is the preparation of a patient and the admission records to enter the hospital.

#### **Purpose**

1. To establish diagnosis by examinations, observations and tests.
2. To provide treatment and comprehensive care to the patient.
3. To provide necessary treatment and care which cannot be available or possible at home.

#### **Supplies**

In out patient department (OPD)

1. Supplies for taking vital signs.
2. Supplies for conducting physical examination.
3. OPD admission slip.

In ward

1. Patient's case sheet with nurse's notes/ records in it.
2. Supplies for making admission bed.
3. Supplies for giving admission bath.
4. Supplies for conducting physical examination.

#### **Nursing Activity**

##### **In OPD**

1. When the patient comes, receive with courtesy and offer a stool to sit. If very ill, place on the examination table or stretcher.
2. Fill the particulars, name, age, sex, religion, address, husband's or father's name, occupation and date of admission on the admission slip.
3. Check vital signs and observe general condition to determine the patient's condition.
4. Get the patient examined and admission slip completed by the doctor.

5. Direct the patient or relative to the Medical Records Room to get the case sheet prepared.
6. Inform the concerned ward nurse, so that she can complete the preparation to receive the patient in the meantime.
7. As soon as the patient or relative comes with case sheet from Medical Record Department (MRD), attach the admission slip with the case sheet. Let the doctor write orders in the order sheet.
8. Carry out the stated orders and emergency investigations.
9. Take the patient along with case sheet to the ward and endorse to the ward nurse.

### **In Ward**

1. When the patient comes, take the case sheet and receive patient in the admission bed.
2. If the patient is very ill, inform to the doctor incharge immediately.
3. Complete the admission register and other admission records side by side.
4. Make general observation (refer Nursing Activity Point 4 of the procedure “Observing the Patient”) from head to toe, take height, weight and vital signs.
5. Give bath to the patient, if dirty, wash hair. If the patient is well enough, this may be done in the bathroom, if not it is done in the bed. Refer procedures “Bathing a Patient in Bed” and “Attending Hair Care”.
6. Dress the patient in clean hospital clothes, comb the hair and make him or her comfortable.
7. Subsequently learn the patient’ s habits, interests, hobbies and health history.
8. Hand over the patient’ s belongings and valuables to the relative or ward in charge(nurse) for safe custody.
9. Assist the doctor in examining the patient and carry out the orders and investigations.

10. If the patient is admitted for operation or any treatment requiring anaesthesia, take the consent.
11. If the patient wants hospital diet, prepare the diet slip, have it signed by the doctor and send to the dietician.
12. See for the following before the relative leaves for home.
  - a. Any personal supplies which need to be brought from home.
  - b. Any medicines to be brought from the market.
  - c. The relative has got the visitor's card and food pass, if the patient wants home diet.
13. Introduce the patient to the other patients on either side, orientate with bathroom, lavatories, doctor incharge, ward routines and any other necessary things.
14. If the patient is mentally upset due to worries of home, disease or some other reason, give psychological support accordingly.

## **Recording**

### **In OPD – Record**

1. The vital signs, any observations made, any stat orders and emergency investigations carried out.
2. Any instructions given to the patient and /or family.

### **In Ward – Record**

1. The observations made, height, weight , vital signs, socio-economic and cultural data, nursing needs identified, consent, medical orders and investigations carried out.
2. Any instructions given to the patient and /or family.

## **REFERRING THE PATIENT**

### **Referral**

It is the preparation of a patient and the referral records to shift the patient to other department within the hospital or to another hospital.

## **Purpose**

To provide necessary diagnostic tests and procedures, treatments and nursing care which is only available or possible in another department or another hospital.

## **Nursing Activity**

### **Referral To Another Hospital**

1. Inform the patient and relatives first, if the patient is unconscious then relatives only. If this is not possible and the patient has to be shifted immediately. It must proceed and get the referral form filled by the doctor, side by side try to get in touch with the relatives.
2. If the patient has been sent before the arrival of the relatives, the nurse must give complete address to them and hand over the patient's belongings under proper receipt.
3. Otherwise the steps are the same as for the procedure for the procedure for discharge except instead discharge slip, the patient is sent with a referral form.

### **Referral To Another Department With The Hospital**

1. When a patient has to be shifted from medical to surgical department, the patient is discharged and readmitted. The procedure is the same as for discharge and admission.
2. The above the procedure is not usually necessary for a patient who is to be shifted from one medical or surgical ward to another.

## **Session 2**

### **HAND WASHING**

#### **Purpose**

1. To ensure adequate removal of pathogens.
2. To prevent cross- infection of different diseases.

#### **Guidelines**

1. Clean technique is synonym for medical asepsis and is required to be maintained to break the infection chain



- incase of infections that are readily transmissible between the individuals.
2. group the patients with different diseases according to their mode of transmission in order to use proper protective measures and facilitate the plan of nursing care.
  3. Observe the following when washing hands.
    - a. Remove all jewellery and wrist watch.
    - b. Trim your nails.
    - c. Use warm water.
    - d. Rinse the soap well before returning it to the soap dish.
  4. Clean or sterilize (as necessary) the supplies used for one patient before using the same for the next patient.
  5. Never shake linen but dust using a damp duster to remove the dust effectively.
  6. Carry soiled materials, e.g. linen away from your uniform so that it may not become a source of transmission of pathogens.
  7. Never throw soiled linen on the floor to prevent addition of more pathogens to it but dispose of immediately in a covered receptacle.
  8. Discard or return for recleaning any article dropped on the floor.
  9. Provide adequate tissue/gauze supplies and container for disposal to the patients. Ask the patient to cover nose and mouth when coughing, sneezing or laughing to prevent spread of pathogens by air borne droplets.
  10. Be aware of clean (clean utility room counter) and dirty (dirty utility room counter to be recleaned) areas in a unit and never interchange these areas.
  11. Keep supplies as minimum as possible in the patient' s room.
  12. Minimize the number of visitors and do not allow the children under 12 years in the hospital wards.

13. Teach the patients and relatives about the spread and prevention of infection
14. Keep yourself healthy by
  - a) Observing good health habits.
  - b) Maintaining clean/medical aseptic practices eg hand washing and never touching your face, eyes or hair.
  - c) Keeping the supplies away from you when brushing , dusting or scrubbing them.

### **Equipment**

1. Soap and brush
2. Water
3. Towel

### **Nursing Activity**

1. Remove wrist watch and jewellery.
2. Stand near the sink in a comfortable position and be careful about the uniform.
3. Open the tap, check the temperature of water, it should be warm.
4. Wet hands and forearms, holding hands below the elbow level and fingers pointing downward.
5. Apply soap (or any detergent) . Rinse soap and return its place.
6. Rub palms for 10 seconds, backs of hands for 10 seconds and fingers 10 seconds using circular motions and friction ( total 30 seconds of half minute). Interlace the fingers and thumbs to clean the fingers quickly and efficiently. Use brush to dislodge the dirt from under the nail beds.
7. Rinse the hands well, holding hands as above.
8. Apply soap one forearm working from above the hand, towards elbow and rub for 15 seconds using circular motions and friction. Repeat the procedure on the other forearm (total 30 seconds or half minute),

9. Rinse forearms and hands well from below the elbows toward the finger tips.
10. Repeat the procedure to ensure thorough cleanliness( total 60 seconds or one minute)
11. Dry the arms and hands well from elbows to hands and discard the towel.
12. Turn off the tap using your elbow of a paper towel and discard it.
13. If hands touch the sink or other object accidentally, repeat the whole procedure.

### **Session 3**

## **SERVING MEALS AND /OR ASSISTING THE PATIENT TO EAT MEALS**

### **Purpose**

1. To serve meal to the patient.
2. To assist the patient to eat meal.

### **Supplies**

#### **Serving Meal**

1. Diet tray as ordered
2. Napkin/ small towel
3. Mouth care tray and hand washing supplies as appropriate.
4. Over bed table/other appropriate table.

#### **Assisting to Eat Meal**

1. Supplies as above.
2. Special utensils as appropriate.

### **Guidelines**

1. Follow the doctor' s order for the diet management.
2. The following types of diets are served in hospital.
  - a. Full regular, well-balanced diet, may be vegetarian or non-vegetarian.
  - b. Soft full diet easily chewed and digested, e.g. double boiled rice, soft cooked pulses and

vegetables, steamed fish, pouched eggs, custards, slice-bread, ground or chopped.

c. Liquid

1. Full egg flip, thin custard, thin cereal preparation.
2. Clear water, tea, coffee, clear juices and soups, aerated beverages.

d. Therapeutic

1. High/low caloric
  2. High/low protein
  3. Salt low/free
  4. Fat free
  5. High/low residue
  6. Bland (irritants free)
  7. Bull's (glucose drip)
3. While planning the diet, consider the patient's need, appetite, food and eating habits based on the following factors.
1. Socio-economic-cultural
  2. Likes and dislikes
  3. Physiological
  4. Psychological
5. The foods are served at proper temperature (hot foods served hot and cold foods served cold) and time.
6. Note the amount of food served to the patient, the amount consumed, left or vomited if any.
7. Appetite is affected by illness and stress as a result of hospitalization. Small and frequent feeds are preferred.
8. Never hurry in assisting the patient with eating as the patient weakened by sickness, will take a longer time to eat.
9. Assist the dependent to eat and feed if necessary and encourage the patient to feed himself or herself whenever possible.

10. Never force, if patient refuses to eat and consult the dietician for any modification in diet or for any special dietary.
11. The supplies used for feeding should be clean and every care is taken to prevent transmission of diseases through food and drinks.
12. Special containers can be used to assist the patient to eat more independently in case of paralysis , fractured jaw, surgery on mouth and cancer of mouth and tongue.
13. Environment should be well ventilated, adequately lighted, decorated and free from unpleasant sights and odours.
14. Avoid treatments, nursing procedures, rounds and visitors, just before and after meals whenever possible.
15. Prior to meal time, prepare the patient by assisting in voiding: attending mouth care, grooming and hand washing.
16. Give analgesics to relieve pain prior to mealtime.
17. Allow the patient to sit up while eating. If not, in side lying as eating is easier and safer in this position in dorsal recumbent with head slightly raised.
18. Patient with poor vision or eye covered with bandage should be told about the food and location of food on the tray. They should not be served foods which are very hot because of the danger of burns.

### **Nursing Activity**

1. Prepare the patient for mealtime.
2. Take supplies to the bedside.
3. Maintain privacy by using screen.
4. Explain the procedure, if the patient is conscious.
5. Position the patient in a comfortable position and arrange the over bed table/other appropriate table.
6. Place protective sheet and towel/napkin across the patient's chest under the chin.

7. Wash your hands and dry.
8. Serve the meal or assist the patient to eat meal as under.

### **Serving Meal**

- a. Verify the food with the patient's diet card.
- b. Place the diet tray and drinking water within the patient's reach ( on overbed table/other appropriate table)
- c. Remove the diet tray cover and give time to the patient to eat meal.
- d. Remove the tray after the meal and offer a glass of water
- e. Assist the patient in attending mouth care and hand washing.

### **Assisting to Eat Meal**

- a. Follow steps a ,b and c as above.
- b. Prepare the food as necessary depending on the patient's condition, e.g. opening packages, buttering bread, pouring tea, coffee, chopping meat and chapatti into small pieces etc.
- c. Assist if the patient needs to be fed eg.
  - Feed in the order in which the patient likes to eat the meal(234)
  - Feed at comfortable rate eg. Allow time to chew and swallow the food before offering more(235)
- d. Follow steps as above.
9. Remove protective sheet and towel/napkin.
10. Reposition the patient comfortably.
11. Remove supplies and discard wastage. Clean, dry and replace the supplies.
12. Wash your hands.

### **Recording**

Record the following in the nurse's notes.

1. Date and time of serving meal and /or assisting the patient to eat meal.
2. Nature of food given, amount of food and fluids taken and reaction of the patient to the procedure.
3. Any instructions given to the patient and /or relatives with regard to well balanced diet, food hygiene and preservation.

#### **Session 4.**

### **DISCHARGE**

#### **Guidelines**

**The patient are discharged from the hospital in one of the following ways**

1. **Discharge to home.** The discharge to home, to another hospital or to another unit within the hospital is initiated by the doctor who advises the patient that he is well enough to leave the hospital or requires treatment in another unit within the hospital or in an another hospital.
2. **Discharge to another hospital or another unit within the hospital (referral).** When a patient or family is not satisfied with the treatment or care given and wants to leave the hospital against the medical advice, in such case the patient or the relative is asked to sign a statement that he is going or taking the patient on his own will and responsibility.
3. **Discharge against medical advice (AMA).** When a patient escapes from the hospital without the knowledge of the hospital staff and without signing the said statement he is treated as absconded in the records.

## **Nurses Responsibility**

1. Inform the patient and the relatives a day or two before the discharge
2. Get the discharge slip prepared after checking the vital signs and examining the patient.
3. The nurses should see that the patients personnel hygiene is maintained, he is dressed in home clothes and has taken meals.
4. Hand over the patient's belongings and any valuables, which have been kept safely, to the patient or the relative under proper receipt.
5. Complete the unit admission and discharge registers, case sheet and other records.
6. Hand over the case sheet and other records to medical record department under proper receipt.
7. Informing the hospital authorities about the discharge if the patient is medicolegal.
8. Hand over the discharge slip to the patient or relative and explain about
  - a. The treatment and the diet to be taken at home
  - b. Follow-up visits and inform to bring the discharge slip on every visits
  - c. Any special advice pertaining to condition
9. See that the patient receives all the medicines as per discharge slip.
10. Check the hospital things before the patient leaves the ward.
11. Place the patient in the wheel chair or stretcher according to the patient's condition until he leaves the hospital.
12. Immediately after the patient leaves, reorganise the unit.



## **Session 5.**

### **BED MAKING**

#### **Bed Making**

**Bed making is an art. Skillful bed making contributes materially to the patient's comfort. Clean and comfortable bed includes the patient's unit in the hospital.**

#### **Purpose:**

1. To provide clean and comfortable bed to the patient
2. To observe and prevent bed complications
3. To save time, effort and material
4. To provide a neat appearance of the ward/ unit
5. To adapt the needs of the patient

#### **Equipments**

#### **Supplies**

#### **Open (Simple) Bed**

1. Bed
2. Duster
3. Chair and stool
4. Small protective sheet
5. Bed linen, i.e. bed cover, mattress, mattress cover, pillow, pillow cover, foundation or bottom sheet one, top sheet one, draw sheet one, one or more blankets with blanket covers or one counterpane or bedspread in winter.

#### **Closed (Unoccupied) Bed**

- Supplies as above but fresh and clean.

#### **Occupied Bed**

1. Chair
2. Duster
3. Cover sheet
4. Fresh linen as necessary.

#### **Admission Bed**

1. Supplies as in open bed

2. Extra supplies, i.e. long protective sheet one, bath sheets two, supplies for giving bath (refer “Bathing a Patient in Bed”), 2-3 hot water bottles with covers or other means of warming the bed in winter.

### **Surgical (Post-operative, Anaesthetic or Recovery) Bed**

1. Supplies as in open bed except pillow.
2. Extra supplies
  - a. A tray containing, kidney tray, paper bag, safety pins, bowl of gauze pieces, forceps, mouth guard or tongue forceps, airway, small towel, small protective sheet and anaesthetic tray.
  - b. Shock blocks, intravenous stand.
  - c. Sterile drainage bag with rubber tubing and a glass connection if patient comes with urinary catheter.
  - d. 2-3 hot water bottles with covers or other means of warming the bed in winter.

### **Fracture Bed**

1. Supplies as in open bed.
2. Extra supplies, i.e. fracture boards, bed cradle, sand bags, cover sheet, hot water bottles with covers, if required.

### **Plaster Bed**

1. Supplies as in fracture bed.
2. Extra supplies, i.e., protective sheet and draw sheet, sand bags and draw sheet heat cradle or electric heater or hot water bottles with covers if required.

### **Divided (Split, Amputation or Stump) Bed**

1. Supplies as in plaster bed.
2. Extra supplies i.e. extra set of top clothes, a pillow covered with protective cover and cotton cover, tourniquet and shock blocks.

### **Cardiac (Heart) Bed**

1. Supplies as in open bed.
2. Extra supplies, i.e., back rest, pillows 4-5, air cushion with cover, foot rest board, cardiac table.

### **Blanket (Rheumatism or Rental) Bed**

1. Supplies for open bed
2. Extra supplies
  - a. Long protective sheet one, bath sheets two, electric blanket or ordinary woolen blankets-two or more.
  - b. Heat cradle or hot water bottles with covers three and cradle.
  - c. Pillows or sand bags and draw sheet.

### **Burn Bed**

1. Repeat S.No. a,b,c as in open bed.
2. Bed Linen
  - a. Clean linen Bed cover, mattress with protective cover (have long protective sheet if protective mattress cover is not available), pillow with protective cover, blankets with covers or bed spread in winter.
  - b. Sterile linen—Sheets two (bottom and top), draw sheets three, pillow cover one.
3. Bed cradle

N.B: In some well established hospitals, patients with severe trunk burns are placed in circular beds and rotated from prone to supine position 2-3 hourly. The striker's frame may be used if it meets the needs of the patient.

### **Guidelines**

1. The beds are of two types, ordinary and special, which are further classified. These are described below along with indications.

## Ordinary Bed

**a. Open (simple) bed** This is prepared for an ambulatory patient.

- **Indication**

i. Provide a clean smooth comfortable bed to the patient.

**b. Closed (unoccupied) bed** This is an empty bed in which the top covers are arranged in such a way that all linen beneath the counterpane or bedspread is fully protected from dust and dirt until the admission of new patient. On arrival of the patient, this bed is converted into open bed.

- **Indication**

i. Keep the bed ready for receiving the new patient.

**c. Occupied bed** This bed is prepared with a patient lying in the bed (bed- ridden on complete bed rest).

- **Indication**

i. Provide a clean and comfortable bed with the least disturbance to the patient in it.

## Special Bed

**a. Admission bed** This is prepared for the newly admitted patient.

- **Indications**

- i. Provide minimum disturbance to the patient during admission bath and physical examination.
- ii. Protect bed linen during admission bath and leave a fresh bed immediately ready for the use.

**b. Surgical (post-operative, anaesthetic or recovery) bed.**

This is prepared for the patient who has undergone surgery.

- **Indications**

- i. Protect bed linen from vomiting, bleeding, drainage and discharges.
- ii. Provide warmth and comfort to the patient to prevent shock.

**c. Fracture bed** This is a hard firm bed designed for the patient with fracture particularly of spine, pelvis or femur.

- **Indications**

- i. Aid in immobilizing the fracture.
- ii. Prevent unnecessary pain.
- iii. Provide warmth and comfort to the patient.
- iv. Prevent undue sagging of the mattress.

**d. Plaster bed** This is a hard bed designed for the patient with plaster.

- **Indications**

- i. Aid in immobilizing the part until the plaster dries.
- ii. Aid in drying the plaster in correct position and shape.
- iii. Provide warmth to dry the plaster and keep the patient comfortable.

**e. Divided (split, amputation or stump) bed** In this type of bed the top bed clothes are divided or split. This is known as amputation or stump bed when it is used for the patient with amputation of legs.

- **Indications**

- i. Avoid disturbance to the patient when constant observation or repeated applications or treatments are necessary for abdomen or lower limbs.
- ii. Take the weight of the clothes off the side of the amputated limb or stump.
- iii. Keep the stump in good position.
- iv. Watch stump for haemorrhage constantly and apply a tourniquet instantly if necessary.

**f. Cardiac (heart) bed** This is prepared for a patient with heart disease.

- **Indications**

- i. Relieve dyspnoea.
- ii. Assist in recovery of the patient.

- iii. Provide comfort to the patient.
- iv. Prevent complications.

**g. Blanket (rheumatism or renal) bed** This is prepared to provide extra warmth to the patient.

- **Indications**

- i. Provide extra warmth to the body in case of general debility and shock.
- ii. Provide comfort to the aching joints in patients with acute rheumatism.
- iii. Improve perspiration for excretion of waste products in case of nephritis.

**h. Burn bed** This is prepared for a patient with burn.

- **Indications**

- i. Prevent infection to the burn area.
- ii. Help in healing of the burn area.
- iii. Provide comfort to the patient.
- iv. Prevent the patient from sticking to the sheet as a result of exudate's oozing from the burn area.

2. The beds must be versatile and adaptable to different needs of the patients with following arrangements.

**a. Siderails** These are used to

- Prevent the patient from falling out of bed.
- Protect the restless patient.
- Provide the patient support to grasp and hold when moving about.

**b. Handcranks** These are located at the foot of bed and used to:

- Adjust the height of bed.
- Raise or lower the head, foot or knee sections in order to maintain various bed positions for treatment or comfort.

**c. Special attachments** The attachments of various poles, frames and equipment for traction are used to modify the beds to meet various needs of the patient for treatment and comfort.

3. Collect all the supplies which are likely to be required, place on the clean locker or bedside table and bed linen in order, with open side away from you and the door.

4. Use a damp duster for enamel painted iron bed and dry one for the varnished bed. Dust mattress and sheets with dry duster and furniture with damp duster.

5. When stripping the bed, strip in the following manner:

a. Loosen the bedding all around starting from the head end and proceed to the foot end. Lift the mattress while loosening it.

b. Pick up gently (do not pull with force), shake gently and fold the clean linen which can be used again as under mentioned.

- Fold the counterpane or bed spread twice bringing the top end to the bottom end and then pick up from the center.
- Fold the other top clothes in the similar fashion.
- Fold the drawsheets in two.
- Roll the protective sheet to prevent creases on it.
- Fold the other bottom clothes as top clothes.

c. Place the folded clean linen which can be used again over the back of the chair and which cannot be used again, in the dirty linen receptacle and the soiled linen in the soiled linen receptacle and never throw the soiled linen on the floor to prevent spread of micro-organisms.

d. Turn the mattress top to bottom or from side to side. Turn the pillow. Air the cotton mattress and pillow to keep them fresh and soft. Most of the dunlop mattresses are smooth on one side only.

6. When the patient is incontinent or has profuse drainage, use protective sheet under the patient.

7. Two nurses should work together to make the bed for helpless patient opposite one another, at each side of the bed.
8. Modify the bed according to the weather, needs and habits of the patient.
9. When tucking the bed linen under the mattress, pull the sheets with both hands and the palms face down in order to protect your knuckles from bed springs.
10. Never discard woolen blankets in the receptacle along with the soiled clothes. If soiled, treat them separately.
11. Make the bed firm, smooth and free of wrinkles.
12. After completing the bed making, arrange the locker, bed, bedside furniture properly.
13. When making an occupied bed, make every effort to minimize the discomfort to the patient.
14. When the patient is in traction, the bed is made without disturbing the traction weights.
15. Inspect bed and bedding for vermin and treat accordingly, if present.
16. Do not let your uniform touch the bed and bed linen.
17. Observe patient's physical condition to assess patient's ability for self care.
18. Develop relationship ( nurse-patient ) with the patient.
19. The following are the principles of bed making which need to be kept in mind while making bed.
  - a. Barrier nursing to prevent cross infection.
  - b. Clean and comfortable bed to ensure rest and sleep and prevent may bed complications.
  - c. Appropriate body mechanics to maintain body alignment and prevent fatigue.
  - d. Organised functioning to save time, effort and material.
20. Keep in mind the nursing principles while making bed.  
Refer
21. "An Introduction to Nursing".



## **Nursing activity**

1. Collect and take the supplies to the bed side.
2. Clean the top of locker and place the supplies on it.
3. Tidy the shelves and move the locker a little away.
4. Explain the patient that you are going to make his or her bed.
5. Maintain patient's privacy by using screen.
6. Wash your hands.
7. Make the bed as under mentioned.

## **Open Bed**

- a. Assist the patient out of bed as necessary and offer chair to sit.
- b. Remove any equipment attached to the bed linen.
- c. Adjust the bed in flat position to a comfortable height to prevent straining your back.
- d. Strip the bed clothes, fold them one by one and place on the back of a chair, incase to be reused. Remove the mattress cover and bed cover, fold and keep them also.
- e. Dust the bed with damp duster and mattress with dry duster. Turn the mattress.
- f. Spread cover on the bedsprings to protect the under surface of the mattress. Put on the mattress cover, if it is loose the excess can be tucked under the mattress. Pull the mattress to the top.
- g. Place the bottom sheet at the foot of bed, seam side down with the lower hem even with the edge of the mattress and the centerfold on the center of the bed. Then, unfold the upper layer onto the head of bed.
- h. Tuck in excess sheet at the head of the bed
- i. Miter the corner as below at the head end of bed, making smooth and neat corner.

- Pick up the side edge of the sheet, so that the sheet forms a triangle with the head of bed and the side edge perpendicular to the bed.
  - Hold the sheet against the side of mattress using the palm of your hand and tuck the excess sheet under the mattress.
  - Drop the sheet from your top hand to the side of mattress.
- j. Miter the corner as above at the foot end of bed.
- k. Tuck the sheet under the mattress from head to foot of bed on one side.
- l. Place a protective sheet and drawsheet in the middle of the bed with the centerfold on the center of bed and unfold. Then tuck in on one side.
- m. Place the top sheet at the head of bed, seam side up with the top hem even with the head of mattress and the centerfold on the center of bed, then unfold the upper layer on to the foot of the bed.
- n. In winter, place the blanket and bedspread over the top sheet as under.
- Place the blanket over the top sheet, at the head of bed, about 6-8 inches below the top sheet with the centerfold of the blanket on the center of bed. Unfold the blanket on the center of bed. Then unfold the upper layer onto the foot of the bed.
  - Place the bedspread on the blanket.
- o. Make a vertical or horizontal toe pleat as under while tucking the top bedclothes at the foot of the bed.
- **Vertical pleat:** Fold a six inches pleat lengthwise in the top clothes from the center to the foot end, at the center of mattress.

- **Horizontal pleat:** Fold a two inches pleat across the top clothes at the center of foot of the mattress.
- p. Tuck in the excess sheet, blanket and bedspread together at the foot of the bed.
- q. Miter the corner of top clothes at the foot of bed as in step i allowing the top linen to hang over the side of the bed.
- r. Repeat the procedure on the opposite side, if you do not have other nurse to help you on the other side. Pull the linen tight and smooth out any wrinkles.
- s. Fold back the top sheet at the head of the bed to the shoulder height. If blanket and bedspread are used, fold back the top sheet over the edge of blanket and bedspread.
- t. Put a clean pillow cover on pillow and place the pillow at the center of the head of bed, with open end of the cover away from the door of the room.
- u. Fanfold: the top clothes toward the foot of the bed or pie fold them as under for easy entering.
- Fanfold Fold: The half of the top clothes toward the foot of the bed which is further folded into 2-3 accordion pleats so that the top clothes are at the foot end of the bed.
  - Pie fold: Place one finger at the center of the top clothes facing the head of bed. Lift the edge of the top clothes and fold it back toward the center of the bed, making a triangle.

### **Closed Bed**

- a. The procedure is the same as in open bed except for the bedspread.
- Place the bedspread, keeping seam side down with its center fold on the center of the bed.

- Unfold the spread on to the head side of bed, adjust the top edge of spread even with the edge of mattress, tuck in and miter the corners.
  - Unfold the spread onto the foot side of bed, tuck in and miter the corners.
- b. Follow steps s, u, to convert this bed into an open bed, on the arrival of the new patient.

### **Occupied Bed**

- a. Lower the siderails. Strip the bed and replace the top clothes by a cover sheet (top sheet can be used, incase it is not soiled).
- b. Fold top clothes one by one to remove and place on the back of the chair in case to be reused.
- Bedspread Fold it in half, top edge to bottom edge or longitudinally with side edge to side edge. Grasp the center and fold in half, then in half one more time.
  - Blanket Fold it as above.
  - Top sheet Fold it as above.
- c. Move the patient and mattress well up in the bed.
- d. Turn the patient towards you.
- e. Fold or roll the unclean draw sheet, protective sheet, bottom sheet, one by one as close to the patient's back as possible, soiled side inward, on the far side of the bed.
- f. Dust the mattress thoroughly. Place the clean bottom sheet, protective sheet, draw sheet on the far side and fold or roll the excess bottom clothes one by one close to the patient.
- g. Raise the far side rail. Turn the patient away from you. Patient may hold the far side rail for support.
- h. Roll the unclean bottom clothes on the near side towards you and remove.
- i. Dust the mattress and unroll the clean bottom clothes towards you.
- j. Straighten the bottom clothes tight and smooth out wrinkles, tuck these one by one firmly under the mattress and miter the corners.

- k. Replace the cover sheet by top clothes.
- l. Repeat the steps o to t, as in open bed.

N.B: If the patient cannot be turned, the bottom clothes are changed from head to foot. The bed linen is changed after giving bath to the patient.

### **Admission Bed**

- a. Prepare the bed as an Open bed.
- b. Fanfold the top clothes neatly to the foot end of the bed.
- c. Cover the bed with long protective sheet and two bath sheets. Turn down the top bath sheet to the shoulder height and fanfold it lengthwise towards the locker. Place hot water bottles between the blankets to warm the bed in winter.
- d. Adjust the height of bed to the level of stretcher, if necessary.

N.B: After giving bath, turn the patient towards you, roll the bath sheet and protective sheet and keep close to the patient's back. Turn the patient to the other side, remove bath sheet and protective sheet and cover the patient with top clothes.

### **Surgical Bed**

- a. Prepare the bottom of the bed as in open bed.
- b. Place top clothes on the bed but do not tuck in. Fold them using any one of the following methods.
  - Fold the sides to the middle, then top and bottom to the middle, thus making a packet in the center of the bed which can be easily moved for the reception of the patient. Place this packet over the hot water bottles in winter.
  - Turn down the top clothes to the shoulder height and then fanfold toward the locker, having the other side clear for receiving the patient. Place hot water bottles in the middle of the bed under the fanfolded top clothes in winter.

- c. Instead of pillow, place a small protective sheet and an anaesthetic tray on the head end of bed.
- d. Keep the tray (mentioned in supplies) on the locker or table nearby and shock blocks on floor near the foot end of the bed ready incase of necessity.
- e. Adjust the height of the bed to the level of the stretcher.

N.B: When the patient is received in bed, place kidney tray on the bed near the mouth and pin up the paper bag with the bottom sheet on the side.

### **Fracture Bed**

- a. Place the fracture (ply) board directly over the bedsprings.
- b. Make the bed as in open bed and spread cover sheet between the bottom and top clothes. Place hot water bottles in between to warm the bed in winter.
- c. Place the sand bags to support the part in order to maintain the position.
- d. When the patient is received in bed, place the bed cradle over the fractured part between the cover sheet and top clothes to take off the weight of the clothes.

### **Plaster Bed**

1. Prepare the bed as fracture bed.
2. Put on protective sheet and draw sheet where the plaster parts are to be placed to protect the bed linen.
- 3.. Keep the sand bags covered with draw sheet to support the part so that the plaster dries in correct position and shape.
4. When the patient is received in the bed, keep bed cradle over the plastered part between the cover sheet and top clothes to take the weight of the clothes off the plastered part.
5. If possible, the patient may be put in varanda in the sun, and if not, then use heat cradle or electric heater. If this is also not possible or available, use hot water bottles to dry the plaster.

N.B: Any part of the patient, not covered by the plaster, must be kept warm with a blanket and if the feet are exposed, they may be covered with warm woolen socks.

### **Divided Bed**

- 1) Prepare the bottom of bed as in plaster bed.
- 2) Arrange two sets of top clothes in such a fashion that they are divided in the middle so that the gap will come where it is required.
- 3) Place a pillow covered with protective cover and cotton cover under the stump for support. Sand bags covered in a draw sheet are also placed on the sides to support the limb in order to keep the stump in good position.
- 4) Tie the tourniquet to the bed loosely to apply instantly when hemorrhage is detected. Keep shock blocks near the foot end of the bed ready incase of necessity. When the patient is received in bed, cover with cover sheet except at the site where it must be folded back. Place a bed cradle over the stump to relieve the pressure of the top clothes. Use hot water bottles or radiant heat (heat cradle) to supply warmth to the limb.

### **Cardiac Bed**

- 1) Prepare the bed as open bed.
- 2) Place back rest at the patient's back making it comfortable with pillows and adjust according to the need of the patient/
- 3) Keep air cushion under the buttocks, a pillow under the knees and support the feet with foot rest board.
- 4) Place the cardiac table in front of the patient with a pillow on it so that he or she can lean forward to rest his or her head and arms on it when gets tired in upright position.

N.B: In acute heart disease, the patient is best nursed in flat position and in a chronic heart disease if there is difficulty in breathing the patient must be nursed in an upright position.

### **Blanket Bed**

- a. Prepare the bottom of bed as open bed.
- b. Place long protective sheet and bath sheet over the bottom sheet and then arrange a small protective sheet and drawsheet in the usual manner.
- c. Arrange the electric blanket as per direction on the product, allow it to warm. If electric blanket is not available, arrange two or more ordinary woolen blankets on bath sheet and then arrange the top clothes.
- d. Arrange pillows or sand bags covered with drawsheet after receiving the patient in bed (dressed in woolen clothes) to support the limbs steadily in case of arthritis for providing a comfortable position.
- e. Place bed cradle to take the weight of the top clothes off the painful joints.
- f. Provides extra warmth by using hot water bottles or radiant heat (heat cradle) to warm the patient, if necessary.

### **Burn Bed**

- a. Repeat steps a to f as in open bed. Cover the mattress completely with long protective sheet, if mattress is without protective cover and then place sterile bottom sheet.
- b. Place three sterile draw sheets (top, middle and bottom) over the sterile bottom sheet and nicely tuck them under the mattress. These are helpful to permit changing by the nurse with minimal discomfort to the patient. In well established institutions microdon (3 M.co.) sheeting is used over the sterile bottom sheet. This prevents the patient from sticking to the sheet as a result of the exudate's oozing from the burn area.
- c. Place the bed cradle over the burn area after receiving the patient in bed. Place a sterile sheet atop and then cover with top clothes as in plaster bed. This prevents the patient from sticking



to the sheets and helps to take the weight of top clothes off the burn area.

8. Discard dirty linen in the dirty linen receptacle.
9. Replace the locker. Dust the chair and stool and replace them also. Wash the duster, dry and replace it.
10. Wash your hands.

## **Skin Care**

The purposes of bathing or skin care

1. To keep the patient clean and comfortable and refreshed.
2. To give a sense of well-being.
3. To promote rest and sleep
4. To keep the skin dry, active and healthy

## **Session 6**

### **Personal Hygiene**

#### **BED BATH**

##### **Definition**

Bathing the patient while he is in bed.

##### **Purpose**

1. To cleanse the skin and thus increase elimination through it.
2. To stimulate circulation through slightly active or entirely passive exercise
3. To refresh the patient by relieving fatigue and discomfort.

##### **General Instructions**

1. The temperature of the water should be 105° - 110°F (40° - 44°C)
2. The water should be changed when it is cool or soapy.
3. Be sure to remove all the soap as it is irritating to the skin
4. Do not expose the patient unnecessarily
5. Observe the patient's skin while bathing. Particularly if it is the first bath after admission. It offers an opportunity for the nurse to observe any rashes or pressure sores.

## **Equipment**

1. Mackintosh (long) and two bed sheets
2. Soap in a soap tray
3. Two sponging pads
4. Towel - one
5. Linen to change (Gown)
6. Two jugs containing hot and cold water
7. Basin
8. Bucket
9. Screen
10. Urinal and bed pan

## **Procedure:**

- 1) Close the window or door and screen the bed to prevent draught and to avoid exposure.
- 2) To collect the equipment next to the patients bed.
- 3) And arrange the items conveniently at the bedside.
- 4) Explain the procedure to the patient and get his cooperation
- 5) Protect the bed with mackintosh and sheet
- 6) Remove the patients linen and cover the patient
- 7) Take water in the basin and feel with the back of your hand. The temperature should be comfortably hot.
- 8) With wet sponge pad, moisten the patient' s face first.
- 9) Apply soap. Carefully wash patient' s face, ears, and front of the neck. Dry with the towel.
- 10) Wash the left hand first and the right hand. Support patient' s arm by holding the wrist. Wash well between fingers if desired. The patient may place hands in basin.
- 11) Remove the sheet up to the waist, ask the patients to keep the arms above his head. It will be easy to clean the axillae in this position. Clean chest and abdomen.

- 12) Change water and turn the patient to the side and sponge his back. Give long firm strokes from back of neck to the buttocks. Watch for any redness over the pressure areas.
- 13) Do the left leg first and then the right. Have the patient's knee flexed so to facilitate washing. Give the bedpan and ask the patient to clean the genitals. If the patient is unable to do help to do it for him. Patient should be given privacy during this.
- 14) The back care is done by applying alcohol, massage back, use long firm strokes starting from back of the neck out over the shoulders and down to the buttocks. Use also rotatory motion to increase the blood circulation. Extra attention to be given to the pressure areas
- 15) Apply powder if indicated. This depends upon the condition of the skin. If the skin is wrinkled the application of powder is not advisable.
- 16) If the patient is having dribbling of urine, zinc cream is applied.
- 17) Roll up the mackintosh and sheet when the patient is on the side. Then remove it from the other side. Put the soiled linen in the receptacle.
- 18) Dress up the patient and remove the top sheet.
- 19) The bed is tidied.
- 20) The patient is given a warm drink
- 21) Remove the articles from the bedside.
- 22) Clean and replace in respective places.
- 23) Send soiled linen for wash

### **Types of Therapeutic baths**

- 1) Hot water tub bath: Immersion in hot water helps relieve muscle soreness and spasm. Water temperature should be 45° to 46° C.

- 2) Warm water tub bath: Bathing in warm water relieves muscle tension. Water temperature should be 43° C.
- 3) Cool water bath: Bathing in tepid water helps to lower body temperature when the body temperature is over 40° C (104° F).  
Water temperature should be 37 °C.
- 4) Sitz Bath:  
**Hot sitz bath** : Cleanses and reduces inflammation of the perineal and anal areas of a patient who has undergone rectal or perineal surgery or in hemorrhoids or fissures. Water temperature should be 43° C to 45° C.  
**Cold sitz bath:** Cold sitz bath is more effective in relieving pain in the post partum period.
- 5) Back rub or back massage promotes relaxation, relieves, muscular tension and stimulates skin circulation. An effective back rub takes 3-5 minutes.

### **Definition of Decubitus ulcer**

A decubitus ulcer is a pressure sore resulting from prolonged confinement in bed. Areas which are likely to be affected.

#### **A. Equipment**

A bowl of warm water

Sponge cloth

Soap

Towel

Dusting powder

Spirit

#### **B. Procedure**

Explain procedure to patient - Arrange articles at the bedside.

Screen the bed

Wet the part

With soapy hand massage the area in circular movements, so that the tissues under the skin gets increased circulation

Remove soap by washing

Dry the areas

Apply spirit over the area and massage well. Spirit helps to harden the skin.

Apply lightly dusting powder to keep the part thoroughly dry. Do this treatment to all pressure points.

If patient is incontinent, apply zinc cream instead of spirit and powder. This protects the skin from moisture. Leave patient comfortable after the procedure.

### **Treatment of decubitus ulcer**

1. Clean ulcers with septic precautions - Use antiseptics such as usual or hydrogen peroxide.
2. Apply medication ordered by the doctor. Eg. Antibiotic ointment, shark liver oil, zinc oxide, or any other topical applications.
3. Cover with sterile dressings and bandage
4. Surgical fermentation, ultraviolet rays or heat lamp are helpful in healing
5. Provide good nutrition
6. Prevent secondary infections.

### **6B. CARE OF THE FEET AND NAILS**

#### **Purposes of care of the nails**

1. To keep nails harmless
2. To prevent accumulation of dirt under the nails and reduce occurrence of infection

#### **Characteristics of a healthy nail:**

A normal healthy nail is transparent, smooth and convex with pink nail beds and translucent white tips.

## Care of nail and foot

- 1) Inspect the feet daily including the tops and soles of the feet and the area between the toes.
- 2) Wash and soak the feet daily using luke warm water (37--- C).
- 3) If the feet perspire, apply a bland foot powder.
- 4) If dryness is noted along the feet, apply soft oil and rub gently into the skin.
- 5) File the toe nails straight across and square.
- 6) Avoid wearing elastic stockings.
- 7) Wear clean socks daily.
- 8) Do not walk barefoot.
- 9) Wear properly fitted shoes.
- 10) Exercise regularly to improve circulation to the lower extremities.
- 11) Immediately wash minor cuts and dry them thoroughly. Mild antiseptics may be applied to the skin,

## Risk factors for foot and nail ailments

- 1) Patients with peripheral vascular disease eg. Diabetes mellitus.
- 2) Patients with neuropathy (degeneration of peripheral nerves characterized by loss of sensation)
- 3) Poor illfitting foot wear
- 4) Poor knowledge of foot and nail care

## Common foot and nail problems

- 1) **Callus:** is a thickened portion of epidermis caused by local friction or pressure.
- 2) **Corns:** is caused by friction and pressure from shoes. It is seen mainly on toes, over bony prominence.

- 3) **Plantar warts** are fungating lesions, appearing on sole of foot and is caused by Papilloma virus.
- 4) **Athlete's foot (Tinea pedis)** is the fungal infection of foot mainly induced by wearing of constricting footwear.
- 5) **Ingrown nails:** Toenails or finger nails grow inward into soft tissue around nail resulting from improper nail trimming.
- 6) **Paronychia** is the inflammation of tissue surrounding nails following an injury. It is common among diabetic patients.
- 7) **Foot odor** or result of excessive perspiration promoting micro organism growth.

### **Equipment :**

A tray containing

1. A pair of scissors or a nail clipper
2. Wet swabs in a small bowl
3. A jug with water for washing hands
  1. A kidney tray with dettol 1 in 40 solution
  2. Soft nail brush
  3. A paper bag
  4. A towel.

### **Procedure**

1. Assemble articles at the bed side of the patient.
2. Explain the procedure to the patient and get his co- operation.
3. Place towel under the hands.
4. Wash hands of patient with soap and water. Use brush if the nails are very dirty. Soak nails in water to cut them easily.
5. Cut finger nails to the shape of the nails. Cut toe nails straight across to prevent in- growing toe nails. Take care not to injure the flesh.

6. Receive soiled wipers in the paper bag.
7. Wash hands and dry.
8. Clear and sterilize nail clipper/scissors and replace in their proper place.
9. Dispose off soiled wipers with the paper bag.

## **6C - MOUTH**

### **ORAL HYGIENE**

#### **Purposes of Oral Hygiene:**

1. Oral Hygiene helps maintain the healthy state of the mouth , teeth, gums and lips.
2. Brushing cleanses the teeth of food articles, plaque and bacteria.
3. Brushing massages the gums.
4. Brushing relieves discomfort resulting from unpleasant odours and tastes.
5. Flossing helps remove plaque and tartar from between teeth to reduce the gum inflammation and infection.
6. Oral hygiene gives a sense of well being.
7. Proper Oral hygiene stimulated appetite.
8. To improve taste

#### **Equipments:**

A tray containing

1. Cotton swab or clean linen pieces in a bowl
2. Forceps ( artery and dissecting forceps)
3. Gallicups 2 nos. ( one for Glycering borax another for salt solution)
4. Feeding cup with salt solution
5. Kidney trays 2
6. Swabs sticks
7. Rubber sheet



8. Towel
9. Wash towel

### **Procedure**

1. Place all the articles at conveniently on the bedside table.
2. Explain the procedure to the patient
3. Put the rubber sheet (mackintosh) with towel and kidney 2 tray under the chin
4. Have the patient rinsed his mouth with salt solution form the feeding cup
5. Turn the patient' s head to one side
6. Take the artery forceps, wrap a piece of linen around the tip of the forceps
7. Dip it inside the saline water and clean the teeth with up and down movements.
8. Pay special attention to inside the mouth, gums, inside the cheeks, tongue and the roof of the mouth
9. Change linen pieces as often as necessary.
10. Discard used cotton in the other kidney tray.
11. Allow the patient to gargle as much as necessary
12. Dip the swap stick in glycerin borax, swab gums, root and sides of the mouth.

### **After care of Equipments**

1. Clean kidney trays and feeding cups with soap and water.
2. Boil forceps, and gallicups after cleaning
3. Place all articles in their places after cleaning and boiling.

### **Care of Dentures**

If the patient has dentures, care should be taken to keep the dentures clean. If the patient is unable to do so, the nurse has to remove the dentures by grasping it with gauze pieces, place them in a tumbler or cup containing water. Dentures are washed carefully by using brush, toothpaste and cool water. Water, which is too hot, may injure the composition of dentures. If the patient is

to do by himself, he may be assisted. Remove dentures of patients who are unconscious, mentally ill and who have vomiting or cough spasm

## **6D Care of Back**

A decubitus ulcer is a pressure sore resulting from prolonged confinement in bed.

When a patient lies in supine position, the following areas are vulnerable to pressure sores.

- Back of head
- Shoulder blades
- Elbows
- Base of the spine
- Buttocks
- Heels

When a patient is in lateral position the following areas will be affected.

- Edge of ear
- Shoulders
- Knees
- Ankles

All or any of the protuberant parts of a bedridden patient may become liable to pressure sores.

### **Causes of decubitus ulcer**

Local or external causes

- (a) Pressure : When any body prominence presses upon the bed, the tissues lying between them get reduced blood supply - If this condition prolongs, the superficial tissues die, skin breaks down and formation of an ulcer takes place.

### **The following conditions cause prolonged pressure**

1. Leaving a patient in one position for a long time.
2. Leaving a patient on a bedpan for a long while.
3. Hard and lumpy mattress
4. Pressure exerted by splints and plaster casts.

### **Friction :**

5. Friction from bedclothes or any other cause irritates the skin leading to inflammation and sore, eg.
6. If you lie on a bed sheet, which has a rough seam in the middle of it, for a while, you will notice the impression of the seam on your back.
7. You will also experience burning sensation and the part will be red in odour.

### **The following factors cause friction in a patient :**

1. Careless pulling of patient and his linen
  2. Giving and removing bed pan carelessly
  3. Leaving bread crumbs, orange seeds and food particles on the bed
  4. Creases in the bottom sheet
  5. General restlessness of patient
  6. Rubbing two skin surfaces together
- c. **Moisture:** Moisture makes the skin sodden, unhealthy and easily breakable.

### **The following reasons result in moisture over the pressure areas:**

- Incontinence of faeces and urine  
Severe perspiration  
Leaving a patient in wet linen
- d. **Heat :** Leaving a patient in one position for a long time, the part gets heated.
  - e. Lack of cleanliness and irritating substances on the skin.  
e.g. perspiration, faeces, urine and vaginal discharge.
2. **Predisposing factor for decubitus ulcer**
- a. Unconscious, helpless or acutely ill patients  
These patients are unable to appreciate the weight of pressure and change their positions
  - b. Paralysed patients (Paraplegic and quadriplegic patients). They have lost motor and sensory functions.
  - c. Patients with incontinence (spinal injuries)

- d. Old people
- e. Very emaciated and malnourished people
- f. Patients with dehydration or oedema
- g. Very fat people
- h. Patients with disease affecting circulation e.g. heart diseases and anemias
- i. Patients with debilitating diseases such as cancer and tuberculosis
- j. Patients with metabolic disorders. Eg. Diabetes

### **Prevention of decubitus ulcers**

1. Prevent Pressure: a. Establish a turning schedule for bedridden patients; turn hourly. b. Have a firm cot and foam mattress for bed-ridden patients - use extra pillows, pads and air rings to reduce pressure.
2. Prevent friction : a. When changing position of your patient lift him and do not drag him on bed. b. Keep sheets without wrinkles and seams. c. Keep bed clean and free from crumbs. d. If patient is restless, protect pressure points with soft pads.
3. Prevent moisture : a. Keep dressings and bed dry and clean. b. Clean and dry incontinent patients promptly.
4. Prevent predisposing causes: a. Improve patient's health by means of good food, ventilation, sunlight and exercises. b. Encourage circulation through massage. c. Have patient to ambulate early.
5. Observe early signs and symptoms of decubitus ulcers : a. Redness b. Dark discoloration. c. Bruising, d. Tenderness of the area. e. Burning sensation.
6. Give good care to pressure points : Careful cleaning and massage should be carried out 3 or 4 times a day for all bedridden patients. For some patients, it is necessary to give care as often as every two hours.

## **A. Equipment**

A bowl of warm water  
Sponge cloth  
Soap  
Towel  
Dusting powder  
Spirit

## **B. Procedure**

Explain procedure to patient - Arrange articles at the bedside.

Screen the bed

Wet the part

With soapy hand massage the area in circular movements, so that the tissues under the skin gets increased circulation

Remove soap by washing

Dry the areas

Apply spirit over the area and massage well. Spirit helps to harden the skin.

Apply lightly dusting powder to keep the part thoroughly dry. Do this treatment to all pressure points.

If patient is incontinent, apply zinc cream instead of spirit and powder. This protects the skin from moisture. Leave patient comfortable after the procedure.

## **Treatment of decubitus ulcer**

1. Clean ulcers with septic precautions - Use antiseptics such as usual or hydrogen peroxide.
2. Apply medication ordered by the doctor. Eg. Antibiotic ointment, shark liver oil, zinc oxide, or any other topical applications.
3. Cover with sterile dressings and bandage
4. Surgical fermentation, ultraviolet rays or heat lamp are helpful in healing
5. Provide good nutrition
6. Prevent secondary infections.

## **6 E Care of Hair**

### **Purposes**

1. To maintain cleanliness
2. To prevent matting
3. To promote comfort
4. To remove dirt and dandruff by combing and brushing
5. To give exercise to scalp
6. To get an opportunity to examine the scalp and hair of patients who are acutely ill
7. To soothe the patient and to help induce sleep.

### **Equipment**

A tray containing the following articles to be taken to the bedside.

1. Brush and comb
2. A little oil in a small bottle
3. Kidney tray with 1 in 40 dettol solution
4. Cotton swabs (wet)
5. Ribbon
6. Towel

### **Procedure**

- 1) Arrange articles at the right side of the patient
- 2) Explain the procedure to the patient and get her co-operation
- 3) Get the patient to sit up if her condition permits
- 4) Place a towel around the shoulders to prevent soiling her bed clothes.
- 5) Smear your finger with oil and apply on the scalp and
- 6) hair
- 7) Massage scalp in a circular movement to promote good Circulation

- 8) Brush and comb hair free from tangles. Take a few Strands of hair at a time. Hold it with your left hand tightly at the root of the hair to prevent pulling of hair and comb it from top to downwards. Wipe the comb with a wet swab and examine for pediculi. Dispose off soiled swabs in a paper bag.
- 9) Braid the hair and tie with ribbon.
- 10) Keep patient comfortable and clean and put away the equipment.

## **ATTENDING HAIR CARE - WASHING**

### **Purpose**

1. To keep the hair clean and healthy.
2. To prevent itching , infection infestation.
3. To provide a sense of well being.
4. To destroy pediculi.

### **Supplies**

1. Combing – hair oil, comb and paper bag.
2. Washing
  - a. A tray containing
    - Hot and cold water in jugs.
    - A basin and a mug.
    - Protective sheets- two, one large and one small.
    - A piece of bandage.
    - Soap/shampoo.
    - Little cotton in bowl.
    - Wash cloth.
    - Bath towel.
    - Hot water bottle with cover.
  - b. Bucket – one

N.B. Make a trough of large protective sheet with a piece of bandage rolled in it.

3. Treating pediculosis

- a. Pediculosis capitis (Head louse)
    - A gown for the nurse.
    - A tray containing
      - i. Fine tooth comb
      - ii. Parasiticide
      - iii. Antiseptic lotion in a kidney tray and paper bag.
      - iv. Supplies for washing hair in bed (as above) incase patient is bedridden.
  - b. Pediculosis corporis or vestimenti(Body louse) – Refer Antiseptic Bath in procedure “Applying Hot Applications”.
  - c. Pediculosis pubis (Crab louse)
    - A tray containing
      - i. Protective sheet and towel.
      - ii. Bowl of warm water.
      - iii. Razor and blade.
      - iv. Soap and brush.
      - v. Antiseptic lotion in a kidney tray and paper bag.
2. Forceps to pick up lice from eye brows and eyelashes.

## Guidelines

1. **Combing** Hair are combed and arranged in the style the patient prefers at least twice a day.
2. When washing the hair, follow as under
  - a. The patients are given hair wash at least once a week and bedridden patients are given hair wash in bed.
  - b. Avoid hair wash for the patient who has just taken meals atleast for an hour.
  - c. Avoid exposure and chilling by



- Keeping the patient covered with top clothes.
  - Closing the windows and doors of the room.
  - Keeping the room warm.
  - Finishing the hair wash quickly.
- d. If the patient is very sick, note pulse before and after the hair wash.
- e. Do not let the patient exert and try to avoid exertion to the patient as far as possible.
3. When treating pediculosis , nurse must have following information.
- a. The pediculi are small, grey coloured, blood sucking parasites which live for several days in the hair. The female lays about 50 eggs/nits which are grey or white in colour, cling to hair and hatch in about one week.
- b. The symptoms of pediculi are
- Itching
    1. Scalp, neck and behind ears in head louse.
    2. All over the body in body louse.
    3. On and around the part affected in crab louse.
  - Rash
    1. Neck and behind ears in head louse
    2. All over the body in body louse.
    3. On and around the part affected in crab louse.
  - Sores
    1. Scalp in head louse.
    2. Body in body louse.
    3. On the part affected in crab louse.

- Restlessness and irritability
- c. The common parasiticides used are
  - Mediker
  - Cyban

### **Nursing Activity**

1. Wash your hands and put on gown.
2. Take supplies to the bedside.
3. Maintain privacy by using screen.
4. Explain the procedure to the patient.
5. Give hair care.
  - a. Combing
    - Loosen the hair.
    - Apply oil to hair if necessary.
    - Comb and arrange the hair in the style the patient prefers.
    - If hair are braided, secure the end of braid.
    - Replace the supplies.

### **Washing**

- Position the patient bringing head on the edge of bed and shoulders raised on a pillow so that head is slightly down.
- Place the protective sheet and bath towel under the head.
- Place the trough in the patient's neck and direct it into the bucket.
- Place cotton in patient's ears and wash cloth over eyes.
- Loosen the hair and remove hair pins
- Mix hot and cold water and check the temperature of water at the back of hand.
- Wet the hair, apply soap and shampoo and work up the lather.

- Start cleaning at the hairline and work towards the back of the head and then to the front of head symmetrically. Massage the scalp first and then the hair with the finger tips. Add water as necessary to work up the lather.
- Rinse thoroughly. Squeeze off water from the hair.
- Wrap bath towel around the hair.
- Remove the trough and slip the pillow under the head by raising head and shoulder. Place patients head on protective sheet over the pillow and rub the head gently with towel. Spread the hair out on bath towel with hot water bottle underneath to dry in winter.
- When it is dry, apply oil, comb it arrange in the style the patient prefers.
- Remove , clean ,dry, and replace the supplies.

### c. Treating pediculosis

- Pediculosis capitis (head louse)
  - i. put on gown and follow first five steps a of washing.
  - ii. Wet the hair , pour medicament on hair, massage the scalp first and dippen the hair with finger tips working from the hairline towards the back and then the front of the head symmetrically. Add water as necessary to work up the lather. Leave the hair in lather for five minutes and rinse.

- iii. Follow after first six, i.e seven to nine.
  - iv. Repeat the treatment within few days.
  - v. Remove the supplies, wash and boil the supplies . soak gown , clothes and linen in carbolic solution 1:20 for four hours before sending to laundry.
  - vi. Soak comb and protective sheet in above solution for hours, then wash and dry.
- Pediculosis corporis/ vestimenti (Body louse)
    1. Give a disinfectant bath.
    2. Apply antiseptic ointment to heal any injuries produced by scratching.
    3. Follow steps iv and v as above.
  - Pediculosis pubes (crab louse)
    1. The hair of affected areas (pubes or axillae) shaved and burnt.
    2. Apply disinfectant into the areas and after some hours patient given bath.
    3. In case eyebrows and eyelashes are affected, pick up lice with forceps and apply two percent of yellow oxide of mercury.
    4. Follow step iii as above.
    5. Wash your hands thoroughly.

## **Recording**

### **Record in the nurse's notes as under.**

1. **Combing** any dandruff, pediculosis or anyother abnormal condition regarding hair or scalp.

2. **Washing** Above plus the time of giving hair wash, soap, shampoo used, patients reaction.
3. **Treating pediculosis** The time, parasiticide used and the effect of treatment.

## Session 7

### Techniques in Physical Assessment.

Techniques in physical assessment are

1. **Inspection** – It means looking with eyes. It reveals any rash scar, colour, size shape, contour and symmetry of the body parts
2. **Palpation** - It means feeling using sense of touch. It reveals any swelling, coldness, hotness, stiffness, hardness, smoothness, roughness, pain, vibration, firmness and flaccidity
3. **Percussion** – It means striking or tapping with fingers. it elicits sounds which indicate whether the underlined tissues are solid or filled with fluid. The sounds may vary
  - a) **Resonant**: A loud sound over the normal lung tissue
  - b) **Tympanic**: A drum like sound over the air filled tissues such as gastric air bubble.
  - c) **Dull**: a medium pitched sound with medium duration without resonance heard over the solid tissues, such as heart, liver.
  - d) **Flat**: A pitched sound with short duration without resonance heard over the complete solid tissues, such as hard.
4. **Auscultation** – It means listen with stethoscope or placing the ear against the body. It reveals sounds produced within the body and the blood vessels such as heart beat, bowel sounds.

5. **Manipulation:** It means moving with the body parts. It reveals rigidity, difficulty or discomfort in moving the body parts.
6. **Reflex Testing:**
  - a) Means automatic response to a given stimulus. It reveals reflex is present, or not present, strength and movements of hands and legs.
  - b) Different positions are used for various types of examination.

**Olfaction** – It means sense of smell (odour). It reveals the nature of disease condition of the patient.

## **Session 8**

### **Height & weight**

#### **Taking Height & weight.**

It is a measurement from head to toe that indicates the state of growth and health. It is measured in feet, inches or centimeters.

#### **Purpose**

1. To measure accurate height of the patients

#### **Equipments**

1. Measuring scale attached to the wall
2. A straight object
3. Paper and pencil
4. Newspaper

#### **Guidelines**

1. Have the patient's shoes/ slippers removed while taking height to avoid any variations in the reading
2. If thick object is placed on the top of the head, at right angled to the scale indicating the reading, note the bottom reading of the object.

## **Procedure**

1. Gather the equipments
2. Explain the purpose and the procedure to the patient
3. Wash your hands
4. Tell the patient to remove the slippers or shoes
5. Assist the patient to stand on a lean newspaper kept on the floor.
6. Tell the patient to stand with the buttocks and the back of head against the scale on wall, feet flat, heels together and eyes looking straight ahead.
7. Place the straight object on the top of the head at right angles to the scale on wall, touching the scale calibration. Note the reading where the said object touches the scale
8. Tell the patient to put on slippers.
9. Place the patient in a comfortable position.
10. Replace the equipments.
11. Wash your hands.

## **Recording**

1. Record the date and time of the procedure and the height in the nurse's note's or graphic sheet.

## **Taking weight**

It is the quantitative expression of a body that indicated the state of growth and health. It is measured in kilograms, pounds or grams.

## **Purposes**

1. To obtain accurate weight of the patient.
2. To aid in accurate diagnosis of the patient.
3. To evaluate patient's response to treatment.

## **Equipments**

1. Weighing scale
2. Newspaper

## **Guidelines**

1. Weigh on weighing scale when the patient is ambulatory
2. Daily weigh the patient at the same time with the same scale and with same clothing
3. Weigh before meals and after voiding
4. Weigh on admission to provide a base line information to subsequent daily weight recording and assess any significant increase or decrease in the patients weight.
5. The weighing scale must be accurate, hence the balance the stock, be prepared before weighing the patient

## **Procedure**

1. Gather the equipments
2. Explain the purpose and procedure to the patient
3. Wash your hands
4. Assist the patient to void or empty the urinary drainage gap.
5. Check the commonly used flat weighing machine's reading is set at zero level.
6. Tell the patient to remove the slippers or shoes and extra clothes.
7. Assist the patient to step on the center of the scale platform.
8. Assist the patient to step off the scale platform.
9. Assist the patient to return to the bed
10. Wash your hands

## **Recording of weight**

Record the weight in the graphic sheet or nurse's notes.

## **Session 8**

### **Temperature**

#### **SITES FOR ASSESSING TEMPERATURE**

- i) Oral



- ii) rectal
- iii) auxiliary
- iv) tympanic route

### **Types of thermometers**

- i) Mercury – in – glass thermometers
- ii) electronic
- iii) Disposable

### **Purpose of taking Temperature (Oral)**

- 1. To aid in diagnosis of the patient' s condition
- 2. To find out the progress of the patient

### **Taking temperature by Mouth**

#### **General instructions**

- 1. Oral temperature should not be taken immediately after the patient has had a hot or a cold drink of food.
- 2. Oral temperature should not be taken for the following patients
  - 1. Children below the age of five years
  - 2. patients receiving oxygen
  - 3. Patient with their nasal obstruction, dyspnoea or sore mouth
  - 4. Patient who are delirious, unconscious and not cooperating, hysterical, restless or mentally ill
  - 5. Patients with oral surgeries

### **Procedure ( Recording temperature – oral)**

#### **Equipment**

#### **Tray containing**

- 1. 3 or 4 test tubes or bottles with antiseptic lotions (Avalon 2%) and a little cotton and underneath
- 2. A glass tumbler with clean water and little cotton underneath
- 3. A bowl containing a bit soapy white wipers
- 4. A small piece of clean cloth
- 5. A kidney tray

6. A paper bag
7. watch with second hand
8. red lead pen

### **Procedure**

1. Explain the procedure and take the patients cooperation
2. Let the patient be sitting or lying down
3. Remove thermometer from the lotion, wash with clean water and dry with clean piece of cloth from the bulb upwards) to prevent bacteria from setting down on the lower part which goes into the mouth of the patient.
4. Shake down the mercury by a quick sudden movement of the wrist and bring down the mercury level at 95° –F clean the bulb of the thermometer under the tongue and tell the patient not to bite the thermometer but to hold it with his lips.
5. Leave the thermometer in the mouth for 2 minutes ( during this time take his pulse and respiration.
6. Remove the thermometer , note the temperature , clean with the soapy wiper from above downwards towards the bulb (to prevent bacteria from spreading all over the thermometer.
7. Collect the dirty soapy water in the kinder tray and place the dirty wiper in the paper bag
8. Replace thermometer in the test tube or bottle with the lotion
9. Record the temperature in the chart

### **After care of the equipment**

1. Clean all the articles used.
2. Wash the thermometer with soap and cold water
3. Keep the thermometer in the antiseptic lotion for 2 to 5 minutes
4. Reset the tray and keep it ready for the next use.

## **Nursing care of individual with altered body temperature**

### **Hyperthermia – Assessment**

- i) obtain all vital signs
- ii) observe skin colour
- iii) observe for shivering and diaphoresis

**Non – pharmacological therapy** are methods that increase heat loss by evaporation, convection conduction or radiation.

1. Tepid sponge baths
2. Bathing with alcohol – water solution
3. Cooling fans
4. Allow rest period
5. Limit physical activity
6. Reduce external covering on patient's body to promote heat loss through radiation and conduction.
7. Provide fluids (at least 3 litres per day) to replace fluids loss.
8. Encourage oral hygiene because oral mucous membranes dry easily from dehydration.
9. Provide measures to stimulate appetite and offer well balanced meals.
10. Provide supplemental oxygen therapy as ordered to improve oxygen delivery to body cells.
11. Control environmental temperature without inducing shivering. Eg. Cooling fans

### **Heat stroke**

The best treatment for heat stroke is prevention. The nurse teaches the patient:

1. To avoid strenuous work in hot weather.
2. To drink fluids such as clear fruit juices before, during and after exercising .
3. To wear loose – fitting, light colored cotton clothing.

4. To avoid exercising in areas with poor ventilation.
5. To wear protective hats over the head when outdoors.

### **First aid for heat stroke**

1. Move the patient to cooler environment.
2. reduce clothing covering the body
3. place wet towel over the skin
4. using cooling fans to increase heat loss
5. summon emergency medical treatment (intravenous fluids)

### **Hypothermia**

Prevention is the key for patient's at risk for hypothermia and frostbite.

1. Educate patient's who are at risk for hypothermic (Eg. the very young, the very old, persons debilitated by trauma, stroke, diabetes, drug or alcohol intoxication, sepsis, mentally ill, alcohol intoxication malnutrition).

#### **2. Treatment**

- a) Prevent a further decrease in body temperature.
- b) Remove wet clothes, provide dry ones and wrap the client in blanket.
- c) If the patient is conscious offer warm liquids such as milk or soups
- d) Place the patient in a warm room
- e) When the patient reaches emergency treatment, patient's are closely monitored for cardiac irregularities and electrolyte imbalances.

### **Session 9**

#### **Pulse**

#### **Purposes of Monitoring Pulse**

1. To test the health and efficiency of heart

2. To test the elasticity and the health of arteries.
3. To get an approximately idea of how much blood is being pumped into the artery system.
4. To estimate the change in the needs of the body circulation.
5. To understand the general condition of the body, recovery, or death.
6. To give emergency treatment if necessary.

### **General Instructions**

1. The pulse may be felt over any large artery that is close to the surface of the body and has a bony structure or other solid surface beneath. Common arteries used for counting the pulse are
  1. Radial
  2. Facial
  3. Temporal
  4. Dorsalis Pedis
  5. Carotid
  6. Femoral
  7. Tibial
  8. Popliteal

## **Session 10**

### **Respiration**

#### **What to Note when taking respiration:**

- 1) rate and depth
- 2) Movement and expansion of chest and abdomen.
- 3) Rhythm.
- 4) Whether quiet or noisy.

- 5) Comfort of the patient, whether breathing is done unconsciously or with effort.

### **Procedure :**

1. Keep the patient in a relaxed and comfortable position.
2. Try to count the respirations without the patient knowing that you are watching him or he may change the rate of respiration.
3. Keep the fingers on the patient's wrist, as if for counting pulse and watch the rise and fall of the chest and abdomen or if the patient is sitting watch the movements of the shoulders.
4. Chart the rate and record any abnormalities.

### **Frequency of Monitoring Respiration:**

1. Twice a day for all patients.
2. Every four hours for post operative patients.
3. Every 30 minutes for immediate post operative patients.
4. Every 15 minutes for critically ill patients.

### **Equipments**

1. Watch
2. Chart and Pen

### **Procedure**

1. Keep the patient in a comfortable position
2. Hold the wrist firmly, place first three fingers over the artery, press it to make the pulsation distinct.
3. Count the pulse for one minute
4. Note rhythm , volume and any other abnormalities

Record your observation

## **Session 12**

### **Monitoring BP**

#### **Purposes:**

1. To aid in the diagnosis of the patient' s condition
2. To guide in his treatment.
3. To evaluate the patient' s progress.

#### **Equipments**

1. Sphygmomanometer.
2. Stethoscope.
3. Pen.

#### **Guidelines**

1. The sphygmomanometer generally used in clinical setting are mercury type, aneroid type. The mercury type sphygmomanometer is more reliable than the aneroid type sphygmomanometer. The aneroid type gives blood pressure reading on dial indicator.
2. systolic pressure is increased in pressure induced by systolic contraction and diastolic pressure is decrease in pressure induced by diastolic relaxation of the left ventricle of heart.
3. Never take blood pressure when the patient is excited, exhausted and just after exercise, smoking or meals.
4. Allow the patient to rest for five minutes before taking blood pressure.
5. Do not use the extremity that is injured, diseased, paralysed, receiving intravenous infusion or when a female patient is with radical mastectomy on the same side.
6. When the arm cannot be used to measure the blood pressure, the thigh can be used being a good alternative site.

7. Always take the blood pressure reading on the same side and in the same position to maintain consistency.
8. Place the site (arm or leg) about the level of heart while taking blood pressure.
9. The apparatus should be in working order. The cuff should be of appropriate size (12-14 cm for arm and 18-20 cm for thigh) and deflated before wrapping around the patient's site.
10. While taking blood pressure, certain sounds are heard in sequence. These are called as Korotkoff sounds and are described as under mentioned.
  - a. Tapping: The faint clear sounds that gradually become louder, the first tapping sound may be followed by an absence of sound (auscultatory gap) and indicates systolic pressure reading.
  - b. Murmuring The low swishing sounds that increase with cuff deflation.
  - c. Knocking The crisp, clear sounds that occur with each heart beat.
  - d. Muffling Abrupt change of sound indicates first diastolic pressure reading.
  - e. No sounds The sound disappears and indicates second diastolic pressure reading.
11. When deflating the cuff to take the readings, deflate the cuff to 0. Do not stop in between and start inflating again as this gives a false reading.
12. Note the variations in blood pressure.

### **Procedure**

- 1) Explain the procedure to patient. See patient is relaxed and is in a comfortable position. Support the arm.
- 2) Expose the arm and keep it extended.
- 3) Apply the end of the cuff with the rubber bag over the brachial artery two inches above the elbow.



- 4) Apply the end of the cuff smoothly and snugly around the upper arm. Tuck the end neatly.
- 5) Place the sphygmomanometer in position.
- 6) Stay with the patient until the procedure is over.
- 7) Remove the cuff from the patient's arm, roll neatly and replace in the box. See patient is comfortable.
- 8) The reading is recorded in the chart.
- 9) Systolic pressure is always written over the diastolic pressure Eg.120/80.

## **Session 13**

### **Position**

#### **Purpose of good body mechanics and posture**

1. To provide maximum comfort and relaxation
2. To aid in normal body functions
3. To prevent contractures and neuromuscular deformities and complications
4. To conserve maximum possible energy by preventing unnecessary strain

#### **Standing position**

In correct standing position the head is held erect, back is kept straight as much as possible, chest is put forward, shoulders are kept back, elbows are slightly flexed, wrists are extended, fingers are slightly flexed, abdomen is drawn inward and kept flat, knees are slightly flexed, and feet are pointing ahead and parallel to each other about 3 inches apart.

Knowledge of correct standing position is necessary because all other positions are modifications of standing position. When a nurse helps the patient to sit or lie down in bed, she follows the principles of correct standing position and keeps the patient's body in good alignment.

#### **SITTING POSITION**

In sitting position the weight of the body is borne by ischial tuberosities, the buttocks and the thighs. Elbows are flexed and supported, hips are flexed at right angles to the trunk, knees

are flexed at right angles to the thighs, and angles are flexed to right angles are flexed to right angles to the legs and are flat on floor. Back is held erect and the back and buttocks are supported by the back of the chair.

### **Positions used for patients :**

1. Dorsal positions: Patient is flat on the bed with legs extended and arms at the sides of the body. This is not a comfortable position, as the curves of the body are not supported.
2. Dorsal recumbent position: This is called back lying position. This is a modification of standing position, the only difference being, the patient is in horizontal position instead of vertical. Patient lies flat on his back with a pillow under his head. A small pad is placed in the hollow of the back, and the knees are slightly flexed. A soft pillow is arranged under the knees. A footboard is provided to prevent foot drop. Arms are kept at the sides of the body. Most of the patients are nursed in this position.
3. Lateral position : Patient lies on his side with spine straight. The knees are flexed, the upper knee is more flexed than the lower one. Pillows may be provided for the head, in between the legs, and to support back and abdomen. The lower arm is kept about the head and the upper arm is placed on a pillow in front. The arms and legs do not bear the weight of the body. This position is used for general comfort, rest and relaxation. During back care patient is placed in lateral positions. Left lateral position is used for vaginal, perineal and rectal examinations, and thesis post operative patients are kept in lateral position in order to maintain a clear airway.
4. Jack knife position : Patient lies on his back with his shoulders slightly elevated. The hips and knees are flexed and brought up to the abdomen and chest. This position is useful to perform a lumbar puncture.

5. Knee chest position : The patient knees on the bed and then lowers his head, shoulders and chest and rests them on the bed. Head is turned to one side, and kept on a pillow. The thighs are kept vertical. Arms are crossed above the head. This position is useful for performing vaginal and rectal examinations and for correcting displaced uterus or other organs.
6. Lithotomy position : The patient is kept on his back. Head and shoulders rest on a small soft pillow. Knees are flexed well and buttocks are brought over to the edge of the bed. It used for a long period the legs are supported by stirrups attached to the table. The position is used for examination or operations on rectum and genital organs.
7. Prone position : Patient lies flat on his abdomen with head kept on a pillow and turned to one side. Pillows are kept under the waist and under the lower legs. The arms are flexed at the elbow and kept above the head. This position is used when there is bedsore or burns or an injury at the back and as a change of position for patients with fractured spine.
8. Sims position or semi prone position : This is a modified left lateral position. The patient lies on the left side. Head shoulders and chest are turned forward so that her chest rests on the pillow. The right knees is well flexed and rests on the bed in front. The left knee is slightly flexed and is positioned behind the right knee. This position is useful for performing vaginal examinations and for rest and relaxation.
9. Fowler's positions : Patient is in a partially sitting position. The back of the bed is elevated to 45 degrees with the aid of a backrest and pillows or by adjustment of the cot. Patient's back, shoulder and head are supported well. The knees are flexed and supported with a pillow or by cot

adjustment. A footrest is provided to prevent foot drop. Patients are not kept in this position for long since there is always the danger of thrombus formation. This position is used for patients with dyspnoea (difficulty in breathing), distended abdomen, abdominal surgery, cardiothoracic disorders and ascites. The position is also useful while passing Ryle's tube and while performing tapping of ascites fluid.

10. Trendelenburg position : The patient lies on his back with the foot of the bed elevated on wooden blocks. Patient's head and trunk are lower than the legs.
11. Reverse Trendelenburg position : The head and shoulders are at a higher level than the hips, legs and feet. This position is used for reducing intracranial pressure and for other treatment measures.

## **Session 14**

### **Moving and lifting patient**

As nurses, you may be required to move and lift patients. An important point you have to bear in mind while moving patients is that you must observe correct body mechanics for your patients as well as for yourself. While lifting heavy objects, it is wise to stand with your feet wide apart and firmly on the floor. The weight should be lifted close to the body. Flex your knees so that your strong muscles of the legs bear the weight of the object.

#### **1. Purposes**

- a. To perform the task efficiently
- b. To avoid the patient from unnecessary effort
- c. To prevent nurses from strain and back injuries
- d. To promote circulation and muscular tone

#### **2. Procedures**

- a. **Moving upward or downward** : Two nurses are required to do this. One nurse places her one hand

under the patient's shoulder and the other hand under the lumbar region. The other nurse stands on the other side of the bed and does the same as the first nurse. The patient, if he is able, is asked to flex the knee and push against the matters with heels. Both nurses together bring the patient up.

- b. Moving from one side of bed to another :** Move pillows towards the side of the bed. Place your one arm under the shoulders and the other under the lumbar region. Move upper part of the body to the side of the bed. Then keep one arm under the lumbar region and the other under the thighs and move the middle part of the body of the side of the bed. Lastly place one arm under the things and the other under the ankles and move the lower part of the body to the side of the bed. See whether the whole body is straight and in good alignment.
- c. Turning on side :** Before turning move the patient a little away from the center. If he is to be turned on the left side, you stand at his left. Keep his right arm crossed on the chest and right leg crossed over the left leg. Flex the right knee slightly keep one hand on the patient's right shoulder and the other on his right hip and gently roll him to left lateral position.
- d. Moving patients from stretcher to bed :** Keep the head of the stretcher at right angles to the foot of the bed. Three nurses are needed. All stand on the same side of the stretcher one nurse places her arms under the patient's head and shoulders, another keeps her arms under the hips, the third has her arms under the things and legs. All together lift the patient, turn and place him on the bed. The lifters observe body mechanics for themselves. They keep their backs

straight, flex their knees and place their one foot forward while transferring the patient.

## **Session 15**

### **First Aid**

#### **A. DROWNING**

##### **Procedure**

- (i) Turn the patient face down with the head turned to one side and the arms stretched out. If a slope exists, the head must be placed downwards.
- (ii) Place your hand around the patient's abdomen and raise the body to encourage the water to run out of the lungs.
- (iii) Clear the mouth of weeds or any other material obstructing air entry, and of false teeth. If any.
- (iv) Loosen the clothing around the neck and waist.
- (v) Apply artificial respiration using the method shown in fig. Do not stop until the breathing has been re-established for at least a quarter of an hour.
- (vi) After recovery do not let the patient sit up. Transfer him/her lying on a stretcher to the nearest Hospital as soon as possible.

#### **B. CARDIAC EMERGENCY (CPR)**

##### **First aid for cardiopulmonary arrest**

##### **Establish unresponsiveness**

1. When you first discover the victim, look at him closely. Shake him gently by the shoulders and shout "Are you okay?". This "shaking and shouting" will establish whether or not he is unconscious.
2. Observe A.B.C. of resuscitation – A = Airway, B = Breathing, C = Circulation.

##### **Open the airway**

1. Open the victim's airway. The most common cause of airway obstruction in an unconscious person is the tongue, which has relaxed and fallen into the airway.

- a) Because the tongue is attached to the lower jaw, moving the lower jaw forward will lift the tongue away from the back of the throat, opening the airway
- b) You can use three methods to open the airway: the preferred head-tilt/chin-lift, the head-tilt/neck-lift, or the jaw thrust without head-tilt.

2. To use the head-tilt/chin-lift method, place your hands that's closest to the victim's head on his forehead and tilt his head slightly. Place the fingertips of your other hand under his lower jaw on the bony part near the chin. Gently lift the chin up, taking care not to close his mouth.

3. To use the head-tilt/neck-lift method, place the palm of your hand that's closest to the victim's head on his forehead and your other hand under his neck. Place the hand lifting his neck close to the back of his head to minimize cervical-spine extension. Then gently press back on his forehead while lifting up and supporting his neck.

4. Use the jaw-thrust without head-tilt method if you suspect the victim has a neck or spine injury. Kneel at the victim's head, facing his feet. Place your thumbs on his mandible near the corners of his mouth, pointing your thumbs toward his feet. Then position the tips of your index fingers at the angles of his jaw. Push your thumbs down while you lift upward with the tips of your index fingers. This action should open the victim's airway.

5. Once you have opened the victim's airway see if this action alone has restored his breathing. Put your ear over his mouth and nose while you look forward his chest and abdomen. Listen for any air movement and look to see if his chest or abdomen is moving up and down. Feel with your chest for any flow of air. If the victim has started to breathe, maintain his airway until help arrives.

## **Restore breathing**

1. If the victim hasn't started to breathe, close his nostrils with the thumb and index finger of your hand on his forehead.
2. Open your mouth wide and place it over the victim's mouth, sealing it tightly so no air can escape.
3. When you use the jaw-thrust method to open the airway, you must tuck your cheek under his nostrils.
4. Deliver four quick breaths

a) Don't allow the victim to exhale between these breaths.

b) These four breaths maintain positive pressure in the airway. Even if the victim has stopped breathing for only for a short time, some of his lungs' alveoli may have collapsed. Positive pressure helps reinflate them.

When you see the victim's chest rise, then fall (after your fourth breath), you will know that air is entering and escaping his lungs. If the victim wears dentures, keeping them in place will usually make ventilation easier. But if they are slipping, remove them.

## **Restore Circulation**

1. Now locate the victim's carotid pulse. To do so, keep your hand on his forehead to maintain the head-tilt position. Use your other hand to find the carotid artery on the side closest to you, in the groove beside the larynx. Use your index and middle fingers to gently palpate the artery for 5 to 10 seconds. If you find a pulse, don't give cardiac compressions but do ventilate the patient at a rate of one breath every seconds (12 breaths a minute). Continue to check his pulse after every 12 breaths. If you find no pulse, prepare to begin cardiac compression. Position yourself close to the victim's side, with your knees apart. This position gives you a broad base of support.
2. Use the fingers of your hand that's closest to the victim's feet to lower margin of his rib cage and trace the margin to the notch where the ribs meet the sternum.



3. Next, place your middle finger on the notch.
4. Place your index finger of the same hand next to your middle finger. Then place the heel of your other hand next to your index finger on the long axis of the sternum, as shown. This is the correct position for cardiac compression. If your hands are placed incorrectly, you may lacerate the victim's liver or fracture a rib.
5. Place the hand you used to locate the notch over the heel of your other hand. Interlock or extend your fingers to keep them off the victim's ribs and to maintain vertical pressure through the heel of the hand touching the sternum. Align your shoulders over your hands, keeping your elbows straight. Keeping your fingers off the ribs and your shoulders aligned ensures that you will compress downward, not laterally. Lateral compressions won't deliver sufficient pressure.  
Using the weight of your upper body, compress downward about 1.1/2 to 2 inches (3 to 5 cm), concentrating the pressure through the heels of your hands. Don't deliver bouncing compressions because they are less effective and could injure the victim. Then relax the pressure completely to let the victim's heart fill with blood. Don't remove your hands from his chest when you relax, or you will lose your hand position.
6. if you are the only rescuer, time your compressions at a rate of 80 a minute. Count, "One and two and three and four and five and .." up to the count of fifteen. Then deliver two quick breaths without allowing the victim to exhale between them. (Actually, you will be delivering 60 compressions a minute, with the delay to ventilate the victim). Perform CPR for 1 minute, check the victim's pulse, then quickly telephone for help if none has arrived. Return quickly and resume CPR. If there is no phone available, continue CPR.
7. if a second rescuer arrives, ask her to call or go for help if you have not been able to do so. Then she can help you resuscitate the victim. (Of course, she must be trained in CPR if she is going to assist you).

8. Have the second rescuer get on the opposite side of the victim's airway, across from you. As she opens the victim's airway and tries to locate the carotid pulse, you continue giving compressions. If your compressions are strong enough, she should feel a pulse. When the second rescuer signals that she has found the pulse you are generating, stop your compressions for 5 seconds so she can see if the victim's heart is beating on its own.
  9. If she can't discern a spontaneous pulse, she should deliver one breath. You can then resume compressions (approximately 60 a minute), while the second rescuer delivers a full breath on the upstroke of every fifth compressions. To assure that you work as a team, count out loud: "One, one thousand, two, one thousand, three, one thousand, four, one thousand, five, one thousand.." and so on. Have the second rescuer check for the victim's pulse every few minutes.
  10. When you feel tired, tell the second rescuer you want to switch positions. To alert her, say: "Switch, one thousand, two, one thousand, five, one thousand". When you finish this count, the second rescuer should be delivering a full breath as you move toward the victim's head.
  11. When you get to his head, open his airway and assess his carotid pulse for 5 seconds. The second rescuer should get into position for cardiac compression.
  12. If you can't feel a pulse, deliver one breath and tell the second rescuer to start the compressions. If you do find a pulse but the victim is not breathing, tell the second rescuer not to give any compressions. Continue giving the victim mouth-mouth ventilation and check his pulse every few minutes, in case his heart stops again.
- Cardiopulmonary resuscitation for small children and infants is similar to that for adults. Generally, a child younger than a year is considered an infant, and one between 1 and 8 years old is considered a small child. Use adult CPR techniques for children older than 8 years. In an emergency, of course, you are not going to delay CPR until you determine the child's age. Instead, consider his body size

relation to the size of your hand. For example, if he looks too small to use both hands for cardiac compression, use the heel of one hand. If he is too small for that, use two or three fingers.

### **C. CPR for small children**

1. Use the head-tilt/neck-lift (as shown) or head-tilt/chin-lift method to open the airway. You may need to use two or three fingers instead of your whole hand to lift the child's neck if it is very small.
2. If you use the head-tilt/chin-lift method, be careful not to close the child's mouth when you lift his chin. Also, be sure your fingers are not pressing on the soft tissue under his chin, which may cause edema and subsequent airway obstruction.
3. If the child's face is large enough, maintain a tight seal by pinching his nostrils (as shown) and placing your mouth over his. If he has a small face, place your mouth over his mouth and nose. When ventilating, give only enough air to make the child's chest rise.
4. Try to palpate the child's carotid pulse. If you find a pulse, do not give cardiac compression but do ventilate the child at a rate of one breath every 4 seconds. If you can't locate a pulse, find the proper location for compression. Use the same technique you would for an adult. Then compress about 1 to 1.1/2 inches (2.5 to 3.8 cm), using the heel of one hand (as shown).

Give 80 compressions a minute, with a breath after every fifth compression. Your count should be: "One and two and three and four and five and one.?" and so on. This rate and ratio are the same if you have a second rescuer helping you, but the second rescuer should ventilate on the upstroke of the fifth compression.

### **D. CPR for infants**

1. When you tilt an infant's head, you will lift up his back as well. So before opening an infant's airway, place a rolled towel of your hand closest to his feet beneath his back to support it. Then gently tilt his head back. You don't need to neck.

2. Cover both his mouth and nose with your mouth. To ventilate, give only small breaths – just enough to make his chest rise.

3. If you are having trouble ventilating the infant, his stomach may be distended, limiting chest expansion. Don't relieve gastric distension unless absolutely necessary, because the infant may aspirate stomach contents. But if his abdomen is so tense you can't ventilate, turn him onto his right side and gently press on his epigastric region. Gastric distension is caused by delivering too much air, so give only enough air to make the infant's chest rise.

4. Because an infant's neck is short and chubby, palpate his brachial rather than carotid pulse. The brachial pulse is located on the inside of the upper arm, midway between the shoulder and the elbow. Don't palpate his apical pulse – what you think is a pulse may be just precordial activity.

5. To locate your hand position for cardiac compression, draw an imaginary line between the infant's nipples. (An infant's heart is located higher in the chest than a small child's or adult's). Place two or three fingers in the middle of this line. Deliver about 100 compressions a minute, giving a breath after every five compressions. Count to yourself: "One, two, three, four, five" (even though you are alone). Because an infant is so small, one rescuer alone can try to resuscitate him.

## **E. First aid Box**

First aid appliances should be kept in a metal or plastic box, which can be opened and closed easily. The box should be labeled clearly and Red Cross sign and "First Aid" should be written on it. The box should be kept away from children. As and when the items are consumed, they should immediately be replaced.

Small first aid box for pocket use

It should contain

1	First aid dressing	no	2	-	1
2	First aid dressing	no	3	-	1
3	First aid dressing	no	4	-	1
4	Sterilized small dressing (for burnt wound)				
5	Small roll of adhesive plaster			-	1
6	Soframycin skin ointment			-	1
7	Safety pins (6 packets)				
8	Roller bandages 1”			-	1
9	Cotton wool small pocket			-	1
10	Eye pad			-	1
11	Small scissors			-	1
12	Small forceps			-	1

## F. BANDAGES AND SLINES

Types of bandages

1. Triangular.
2. Roller.
3. Special-such as, many tail or ‘T’ bandages.

### Triangular bandage

The triangular bandage may be used in nursing and for slings, to support an arm after injury

### Roller bandages

Uses

Roller bandages are uses for the following purposes.

1. To cover and to retain dressing and splints in position.
2. To exercise pressure on a part in order to prevent or to reduce swelling.
3. To provide support for a part, as a sprained or dislocated joint
- 4 To prevent and control haemorrhage and to drive

Blood from the bandaged, in cases of extreme collapse due to haemorrhage.

- 5 To restrict movement.
- 6 To correct deformity.

## **Materials**

Roller bandages are made from strips of different material of varying lengths and widths, according to the part to which they are applied. Materials commonly used include, flannel, open wove cotton, fast edge cotton, calico, crepe or elastic net.

Before use, the bandage should be firmly and evenly rolled, either by hand or by machine. If two people are available, it may be found helpful to run the bandage over the back of a chair.

The parts of the bandage are referred to as the head and the free end to tail. Usually, a single roller bandage is used, but for, some certain parts, a double headed roller bandage is required. In this, the free ends of two roller bandages are sew together leaving the heads to close together, on the same side of the bandage.

Most roller bandages are 6 yards long, except the very narrow ones, which are, usually, short. The width lay according to the part of the body to be bandaged. The usual width of the bandages are, 1 Inch to 4 to 6 inches.

Part bandage	Width
Fingers	1. inch.
Arm	2 to 2 inches.
Leg	3 to 3 inches.
Trunk	4 to 6 inches.
Head	2 inches.

## **Rules for the application of roller bandages**

1. Use a tightly rolled bandage or the correct width.
2. Support the part to be bandaged through out, for the forearm, the forearm, the hand should be prone.

3. Always stand in front of the patient, except, when applying a cape line bandage.
4. Bandage a limb in the position in which it is to remain.
5. Hold the bandage with the head uppermost and apply the outer surface of the bandage to the part, never unroll more than a few inches of bandage at a time.
6. Bandage from within outwards and from below upwards, maintaining even pressure throughout.
7. Begin the bandage with a firm oblique turn to fix it and allow each successive turn to cover two thirds of the previous one, with the free edges lying parallel.
8. Make any reverse or crossing a line on the outer side of the limb, except, when this brings them over a wound or prominence of bone, in which case, they must be on the front of the limb.
9. Pad the axilla or groin when bandaging these parts, so that, two of the surfaces of skin do not touch beneath the bandage.
10. Finish off with a straight turn above the part, hold in the end and fasten with a safety pin.

### **Points to be observed**

1. The comfort of the patient is the first consideration, except, when arresting haemorrhage or correcting a deformity.
2. Neatness and economy must be considered, but, the bandages.
3. The bandage should be firm and applied with even pressure Throughout, but the extremities must be carefully watched For any signs of swelling or blueness due to interference With circulation by a bandage that is too light.

### **Turns used in roller bandaging**

1. Simple spiral
2. Reverse spiral

3. Figure of eight

4. Spica

### **Simple spiral**

Is used for parts which are of uniform thickness, such as, a finger, A wrist. The bandage is applied obliquely round the part, each turn cover two thirds ( $2/3$ ) of the proceeding one, and the edges being kept parallel.

### **Reverse spiral**

It is used for parts which vary in thickness and upon which the bandage of circular turns cannot be tied properly like leg and forearms. One or two simple spiral turns are usually made to carry the bandages to the point at which the spiral can no longer be employed, and then the lower edge of its last spiral is fixed with the thumb about halfway between the mid line and outer surface of the limb. The bandage is then reversed and brought down and carried round the limb, when another reverse is made immediately above the former one. These reverses are repeated as far as necessary and the bandage completed with one or two. Spiral turns straight round the limb. Care should be taken and that, each reverse occurs immediately above the previous and that, each reverse occurs immediately above the previous one, so that, the pattern is even. Each turn should cover two thirds of the preceding one, as in the simple spiral.

### **Figure of Eight**

Is used for bandaging limb and for covering joints. It consists of series of loops, encircling the part in the form of a figure of eight. The upper loops being completely hidden by the successive turns end the lower loops forming the pattern. Each one cover the two thirds of the preceding loop and crossing in the same line.

### **The Spica**

Is a form of the figure of eight in which one turn is very much larger than the other above the elbow. It is used for joints at right angles to the body. Eg: Shoulder, Groin and Thumb.



## **The Divergent Spica**

Is a form of the figure of eight in which the turns go alternately above and below a fixed starting turn ending above, and is used for bend joints, as the elbow or head.

Bandages for hand, wrist, forearm, elbow and Arm

### **Hand Bandage**

With the pronated, that is, the palm held down wards fix the bandage by a turning round the wrist and carry the roll obliquely over the back of the hand to the side of the little finger. Carry the bandage round the palm, encircling the finger with one horizontal turn, so that the lower border of the bandage, just touches the root of the nail of the little finger. Carry the bandage one more round the palm and then return obliquely to the wrist. The figure of eight turn round the wrist and hand are repeated until the hand is covered and the bandage is then finished with a spiral turn round the wrist.

### **Wrist, Forearm, and Upper arm Bandages**

The wrist and forearm are bandaged by use of the simple and reverse spiral until the elbow is reached. The figure of eight turn can be so used, as the limb enlarges as an alternative to the reverse spiral turn, if preferred.

### **To Cover the elbow**

Bend the elbow at right angles, lay the outer side of the bandage on the inner side of the joint and take one straight turn carrying the bandage over the elbow tip and round the limb of the elbow. The second turn is made to encircle forearm and the third arm. Each of these turns being made to cover the margins of the first turn. Continue the turns alternately, below and above the first turn, allowing each to cover a little more than two thirds of the previous turn, and finishing above the elbow.

### **The Upper Arm**

The bandages, as is the forearm, by a succession of reverse spirals or figure of eight turns, and the bandages may

carried on from the forearm, or elbow or started in dependently, as most conveniently.

### **Finger Bandages**

With the hand pronated, fix the bandage by two circular turns a round the wrist leaving the end free from tying off. Afterwards, carry the bandage obliquely over the back of hand to the base of the finger to be bandaged. Taking the fingers in order, start from the little finger side. Take on spiral turn to the base of the finger nail and then cover the finger by simple spiral turns. Then carry the bandage a cross the back of the hand to the wrist, and complete it with one straight turn round the wrist. Secure the bandage by a safety pin or by tying the two ends of the bandage together. If more than one finger is to be bandaged, take a turn round the wrist between each two fingers and continue as above until the bandage is complete.

### **To cover the finger tip**

A recurrent bandage is used. Commence as before, but take the bandage straight up to the back of the finger and over the middle of the tip and down the front to the level of the second joint. Holding the turns back and front with the fingers of the other hand, make two more turns over the tip of the finger, one on either side of the first turn. Fix the loop with a straight circular turn as near to the tip as possible and then cover the finger by simple spiral turns as before. Being careful to make them from within outwards. Take a straight turn round the wrist and either finish off as before or continue the next finger.

### **Spica of Thumb Bandage**

With the hand held, so that, the back of the thumb is upper most, take two turns round the wrist and carry the bandage over the back of the thumb. Encircle the thumb with one or two straight turns, so that, the lower border of the bandage is level with the root of the nail. Carry the bandage back. Over the back of the hand, round the wrist and repeat the

figure of eight turns round thumb and wrist, until the wall of the thumb. Is completely covered. Complete the bandages with one straight turn, round the wrist.

### **Spica of shoulder bandage**

Place a small pad of cotton wool in each axilla. Take 3-4 inch bandage and fix it with two spiral turns round the upper part of the arm. Take two or three reverse spiral turns round the upper arm until the bandages reaches the point of the shoulder. Then carry the bandage over the shoulder, across the back and under the opposite armpit.

Bring it back across the chest and arm round under the armpit and over the shoulder again covering two thirds of the previous turn. This form a figure of eight round the arm and the body and the turns are repeated until the whole shoulder is covered. The bandage should be secured by a pin immediately over the injured shoulder.

### **Bandages for the foot, ankle and leg**

If the patient is in bed, the heel should be elevated on a support, about 6 inches high. If he is up and about, he should be seated in a chair with the foot supported on a stool or another chair.

To avoid stooping, the nurse may, if she prefers, sit opposite to the patient and take his foot on her knee.

### **Foot and ankle bandage**

Take one or two turns round the ankle to fix the bandage and then take it on obliquely across the foot the root of the little toe. Make one horizontal turn right round the foot at his level and then carry the bandage back over the foot and take a turn round the ankle just above the heel.

Figure of eight turns are then repeated round the foot and ankle, each turn over lapping the preceding turn by two third of its width, until the whole foot is covered.

If the bandage is to be continued up the leg, the reverse spiral or figure of eight turns may be used as for the arm.

### **To cover the heel**

The leg should be supported, so that, the heel projects well over the edge of the chair, stool or cushion on which it is placed.

The foot should be kept at right angles to the leg. Commence the bandage by a turn over the tip of the heel. The bandage is then carried round the foot just below the tip of the heel, so that, the margin of the bandage covering the tip of the heel is well covered. It is then brought over the ankle and taken round the leg, just about the tip of the heel, so that, the other margin of the bandage covering the heel tip is now also covered. The turns are repeated. Each turn being made just below and above the preceding one until the heel is well covered and the bandage so extends from halfway along the foot to well above the ankle.

### **Bandage for the knee**

Flex the knee, lay the outer side of the bandage against the knee and take one straight turn over the knee cap. The bandage is thus brought round the knee, just below and the just above. Note that the margins of the bandage covering the knee cap are covered as in the elbow and heel bandages. The turns are repeated below and above the joint until the whole knee is covered and the bandage is then secured by one straight turn round the thigh.

### **Spica of hip bandage**

Place the outside of the bandage on the inner side of the thigh about 6 inches below the groin. Carry the bandage horizontally round the limb and make three or four ascending reverse spiral turns round the thigh. Carry the bandages from within outwards over the front of the groin and up round the hip and back, passing over the prominence of the hip bone on the opposite side. Bring the bandage down, over the abdomen to the outer side of the thigh and repeat the figure of eight round the body and the thigh until the hip is covered.

## **Spica of groin bandage**

- 1) This is applied in the same way as the spica for the hip except that the bandage is started higher up.
- 2) The reverse spiral and omitted and the crossings are made over the front of the groin instead of on the outer side of the front of the thigh.

## **Double spica of groin bandage**

Lay the outer surface of the bandage over the right groin from without inwards and pass the bandage round the thigh, carrying it up over the front of the right groin to the left hip. Round the back and right hip and over the lower part of the abdomen to the outer side of the thigh. Pass the bandage under the thigh, up to the left groin round the back and right hip and down again to the inner side of the right hip and down to the inner side of the right thigh. These turns, which really form of double figure of eight, round the body and right thigh and round the body and left thigh, are repeated until both groins are covered each turn being slightly higher than the covering two thirds of the preceding one.

## **Head and other bandage**

### **Capeline bandage**

The bandage is, sometimes, used when the whole scalp is to be covered. A double headed roller bandage is used. The patient should be seated and the nurse should stand behind the patient. Place a center of the outer surface of the bandage in the center of the forehead, the lower border of the bandage lying just above the eyebrows. The head of the bandage is brought over the temples and above the ears to the nape of the neck where the ends are crossed. The upper bandage being carried, round the head and other brought over the center of the top of the scalp to the root of the nose. The bandage which encircles head is now brought over the forehead, covering and fixing the bandage which could cross the scalp. This bandage is then

brought back over the scalp. Slightly to one side of the center, thus covering one margin of the original turn. At the back, it is again crossed and fixed by the encircling bandage and is turn back over the scalp to the opposite side of the center line, now covering the other margin of its original turn. These backward and forward turns are repeated to alternate side of the center, each one being, in turn, fixed by the encircling bandage until the whole scalp is covered. The bandages is completed by a circular turn round the head and pinned in the center of the forehead.

### **Ear bandage**

Lay the outer surface of the bandage against forehead and carry the bandage round the head in one circular turn, bandaging away from the injured ear. Towards the sound side, carry the bandage round to the back of the head, low down in the nape of the neck again, repeat these.

Each turn being slightly higher than the previous one as it cover the dressing, but slightly over as it cover the hair. Continue until the whole is covered and complete the bandage by one straight turn around the forehead, pinning where all the turns cross one another some people prefer to take the bandage around the forehead between each turn covering the dressing, but this makes a heavy bulk around the head which is not really necessary.

### **Eye bandage**

Lay the outer surface of the bandage against the forehead and take the circular turn round the head, bandaging away from the injured eye. Carry the bandage on, round side for the second time. Take it obliquely to the back of the head, under the prominence at the back of the skull and from there bring it upwards beneath the ear of the affected side, over the pad of the circular turn and continue.

Over the head to the starting point. Repeat this turn two or three times until the dressing is covered , finishing with a

safety pin just above the good eye. The pattern resembles that of the ear bandage, but there are fewer turns. The bandage should be light in weight and should not obstruct the view of the good eye. the knee, special care in bandaging is necessary to produce stump upon such an artificial limb can be worn on. To do this as soon as the dressing has been removed , a 6 inch crepe bandage should be applied firmly from below upward. The pressure around the stumps is gradually eased as the bandage is carried upwards as high as possible. The object being to produce a conical stump owing to stretching. The bandage may require re-application several times daily and the patient should never be allowed to go about on crutches when such a bandage is worn.

### **Special bandages**

#### **Many tail bandages**

Many tail bandages are used for abdominal wound certain chest dressing and for any part where the use of a roller bandage would entail a great amount of movement and exertion for the patient. It consists of a number of strips or tails of cotton material, 4-6 inches wide and of sufficient length to encircle the part and overlap atleast 8 inches . Each strip overlies the one above by two thirds of its width and the whole is secured in the center by a piece of the same material. All seams must be sewen, so that, there are no hard ridges to hurt the patient. Bandages for the chest are sometimes provided with two tails, stitched to the top of the back piece and slanting slightly outwards, which pass over the shoulder and are pinned to the front the bandage when the other tails are folded over to keep the bandage from slipping down. Similarly, abdominal bandages are sometimes provided with two tails stitched to the bottom of back piece and are called groin straps which are passed between the legs and secured to the front of the bandage to prevent it from slipping up. Smaller many tail bandages may sometimes be used to keep a dressing on a limb. The advantage

of the many tail bandage are that , it is easily applied and adjusted and a wound can be inspected without any disturbance to the patient. The disadvantages are that, it is given little. If any support it tends to slip and become displaced and can easily be undone by the patient.

### **The application of abdominal many tail bandage**

- 1) The bandage is to be comfortably and efficiently applied. Two people are required, although in an emergency one can manage.
- 2) The patient should be lying quite flat before any attempt is made to apply or adjust a many tail bandage.
- 3) The bandage is prepared with the tails rolled into the center, from either end, the smooth portion of the back being uppermost and being placed next to the patient.
- 4) The bandage is placed in the position, so that, the center band lies under the patients back.
- 5) The bandage is applied from below upwards. One tail being brought across the body at a time and held in position by a tail from the opposite side.
- 6) The last tail is brought obliquely downwards and secured with a safety pin.
- 7) “T” bandages consist of two strips of flannel, about 4 inches wide, stitched together in the form of a “T”.
- 8) The horizontal strip is made long enough to pass round the body and the vertical strip is passed up between the legs.
- 9) It is then pinned to the horizontal strip to keep rectal and perineal dressing in position.

### **Plaster Of Paris Bandages**

- 1) Plaster bandages may be brought ready- made, such as, the “Gypsona” tape bandage or may be prepared by rubbing dry plaster of Paris into the meshes of strip of book muslin.
- 2) Plaster of Paris bandages are used,



- a. To make splints to immobilize fractures
  - b. To protect the wound or to immobilize a part to relieve a pain and promote healing.
  - c. To make plaster beds and jackets.
- 3) The bandages are applied wet and as they dry, they form a hard
  - 4) Protected from bending or cracking until completely dry and set.
  - 5) A plaster tends to shrink as it dries and if it gets too light, it may impede circulation.
  - 6) A patient with a plaster applied to a limb should be instructed to report back to the hospital immediately if the extremity becomes blue, cold, or swollen.

### **Adhesive bandage**

- 1) In certain circumstances, the doctor may order an adhesive bandage to be worn.
- 2) These give fine support and may be used for protection and to promote healing in condition.
- 3) Such as, varicose ulcer. Examples of those are elastoplast and viscoplast bandages.
- 4) These are supplied according to similar rules to those relating to roller bandages.
- 5) But great care must be taken to see that the bandage lies smoothly against the skin and that , there are no folds or wrinkles in the bandage.

### **Tubular gauze bandage**

This is a special form of tubular bandage, which can be applied with an applicator to any part of the body. It is ideal for small dressing on hands and limbs.

### **Bandage for the jaw**

Take a narrow strip of material, about 4 feet long or a narrow fold triangular bandage and place the center of it , under

the chin. Carry one end upwards over the top of the head and cross with the other end above the ear. Carry the shorter end low down across the front of the forehead and the larger end in to opposite direction round the back of the head and tie off close, above the other ear.

## **G. SLINGS**

### **Use of slings**

1. To support injured arms.
2. To prevent pull by upper limb of injuries to chest, shoulder and the neck.

### **Different types of slings.**

#### **The arm slings**

The arm sling is used in cases of fractured ribs, injuries of upper limbs and in cases of fracture in the fore arm, wrist and hands after the application of splints or plaster casts and bandaging.

#### **Applying the sling**

1. Face the casualty, put one end of the spread triangular bandage over the uninjured shoulder with the point on the injured side.
2. Pass the end around the neck and bring it over the injured shoulder. The other end will, now, be hanging down over the chest.
3. Place the forearm horizontally across the chest and bring the hanging end up. The forearm is now covered by the bandage.
4. Tie the two ends in such a way that the forearm is horizontally or slightly tilted upwards and the knot is placed in the pit, above the collar bone.
5. Tuck the part of sling which is loose at the elbow, behind the elbow and bring the fold to the front and pin it up to the front the bandage.

6. Place the free base of the bandage in such a way that its margin is just at the base of the nail of the little finger. The nails of all the finger should be exposed.
7. Inspect the nails to see, if there is any bluish colour. A bluish colour shows that there is a dangerous tightening of splint or plasters and therefore, free flow of blood is not possible.
8. If the casualty is not wearing a coat, place a soft pad under the neck portion of the sling to prevent rubbing of the skin in that place.

### **Collar and cuff sling**

This sling is used to support the wrist only.

1. The elbow is bent and the forearm is placed across the chest in such a way that the fingers touch the opposite shoulder. In this position, the sling is applied
2. A clove hitch is passed round the wrist and the ends tied in the hollow above the collar bone on the injured side.

### **Triangular sling**

A triangular sling is used in treating a fracture of the collar bone. It helps to keep the hand raised high up, giving relief from pain due to the fracture.

1. Place the forearm across the chest with the fingers pointing towards the opposite shoulder and the palm over the breast bone.
2. Place an open bandage over the chest, with one end over the hand and the point beyond the elbow.
3. Tuck the base of the bandage comfortably, under the forearm and hand.
4. Fold the lower end, also round the elbow and take it up and cross the back over the uninjured shoulder and tie it with the other free hand into the hollow, above the collar bone.
5. Tuck the point between forearm and bandage.
6. Tuck the fold, so formed, backwards over the lower half of the arm and fix it with a safety pin.

## **Improvised slings**

Slings may be improvised

1. By turning the free end of a coat and pinning it to the sleeve.
2. By passing the hand inside the buttoned coat or shirt.
3. By using mufflers, ties, soft cloth etc.,

## **Session 19**

### **Health Education**

- i. Plan for health education
- ii. Individual and group teaching
- iii. Uses of different audio visual aids.

## **TEACHING OF PATIENTS**

The choice of what to teach the patient is based on:

1. What we know about the patient; information gained by study of the chart, doctor's comments, conversation with the patient.
2. The patient's physical conditions: even if the patient physical condition is seriously ill, the patients learn from your positive attitude example: Cleanliness, need for exactness, etc.
3. The interest of the patient: at first most likely to be interested in his disease - what he needs to know to get well, to live with residual condition to prevent relapse and to help others.
4. Secondary interests: knowledge of use to his family or general interest.
5. Patient's intelligence: some are able to learn on a higher level than others.
6. Ability to amplify teaching.
7. Facts for immediate use - not something vague for future.
8. Material related to local customs.

9. Nurse's knowledge : thoroughful preparation.
10. Cosultation with notes, texts and senior staff, so that the nurse thoroughly understands the material herself. She should not try to teach in advance of her own knowledge.

### **How to teach the patient:**

1. By Quoting Example:
2. By telling:
3. By showing:
4. By reviewing:
5. By approving:

### **TEACHING SMALL GROUPS**

1. Plan materials
2. Plan groups
3. Method
4. Teaching Mass

### **METHODS COMMONLY USED ARE:**

1. Group Discussion (a) Symposium      b) Panel discussion.
2. Lecture method:
3. Questions and answers method (Socratic method):
4. Demonstration method:
5. Role play:
6. Project method:
7. Workshop and conference

## AUDIOVISUAL AIDS

### Types of Aids

#### a. For Mass media

1. Motion picture
2. film strips
3. exhibition
4. Radio
5. Television
6. Mass meeting

Useful only to influence a large number of people in order to disseminate information and also for propaganda.

#### b. Other aids

- 1) Black board
- 2) Bulletin board
- 3) Flannel graph or Khadigraph

11. **Flash cards:**
12. **Posters:**
13. **Suspense charts:**
14. **Puppets:**

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