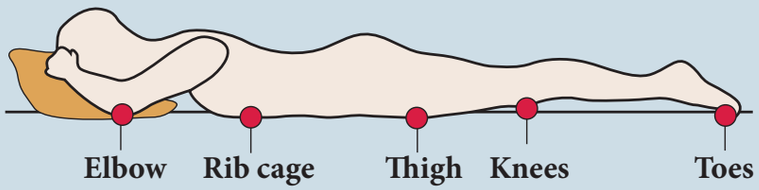
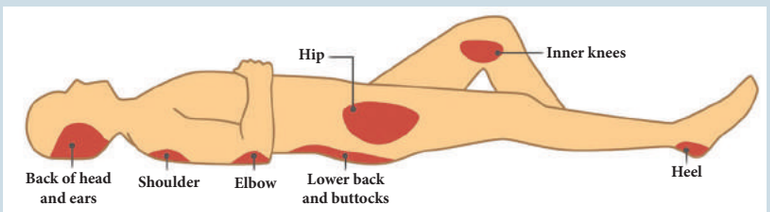
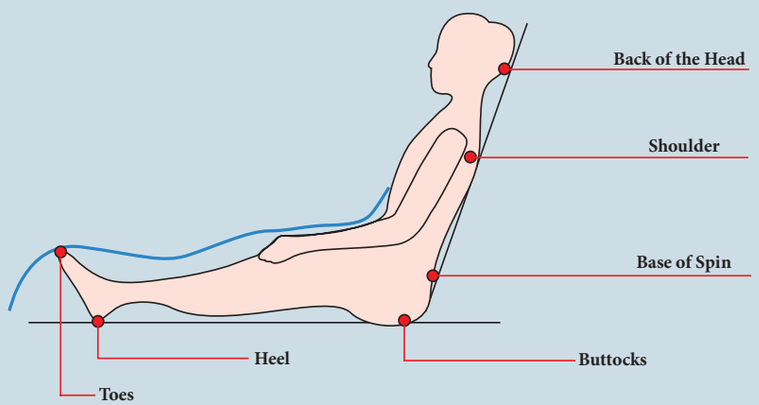
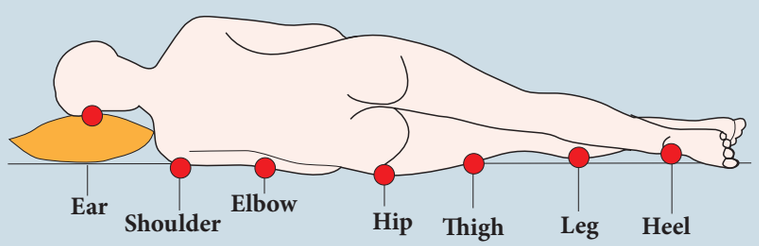
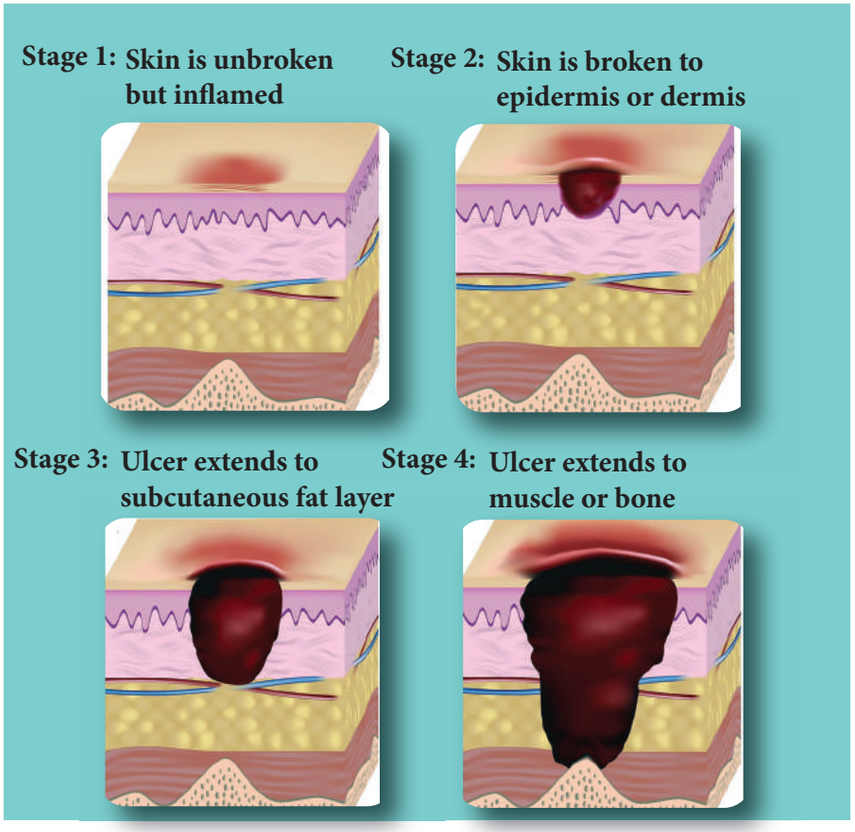
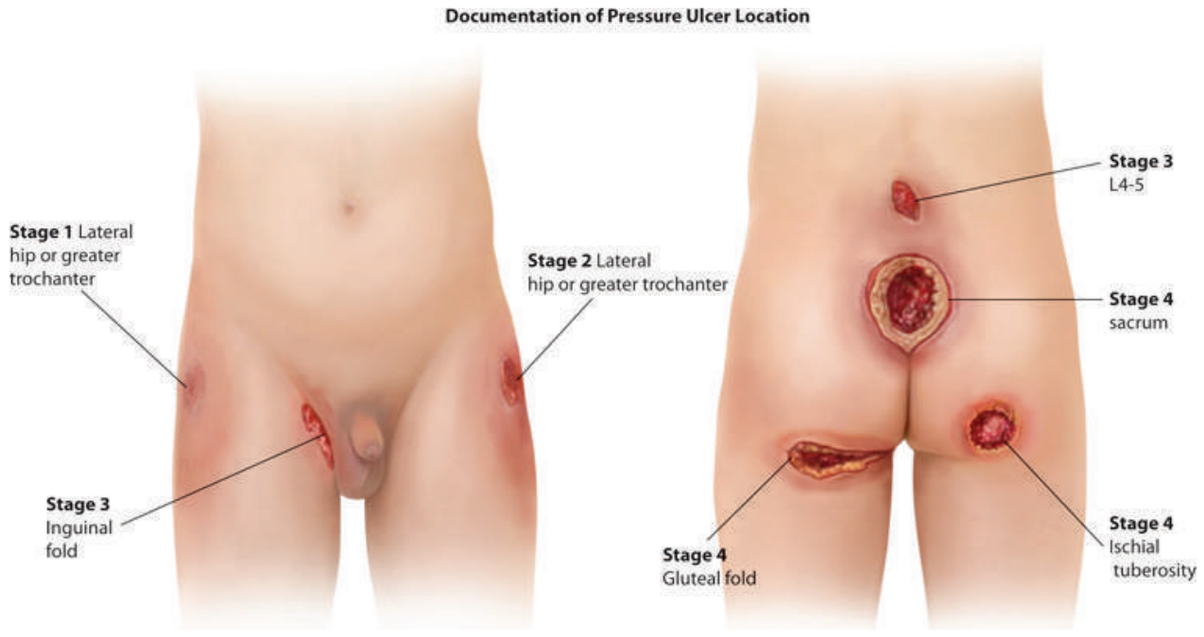
5.4.5 Positions and their pressure points

Position	Pressure points
Prone position.	
Supine position.	
Fowler's position.	
Lateral position.	

5.4.6 Care of pressure points and prevention of decubitus ulcer

Definition of Decubitus Ulcer: A decubitus ulcer is a pressure sore resulting from prolonged confinement in bed. It is also known as *pressure sores or bed sores.*





5.4.7 Pre - disposing factor for decubitus ulcer

1) ***Unconscious, helpless or acutely ill patients:*** These patients are unable to appreciate the weight of pressure and change their position.
2) ***Paralysed patients (Paraplegic and quadriplegic patients):*** They have lost motor and sensory functions of the limbs.
3) ***Patients with incontinence. (Spinal injuries)***: Void on the bed as the urinary sphincters loses its control.
4) Aged persons.
5) Very emaciated and malnourished people.
6) Patients with dehydration or oedema.
7) Very fat people.
8) Patients with disease affecting circulation. eg. Heart diseases and anaemia.
9) Patients with debilitating diseases such as cancer and tuberculosis.
10) Patients with metabolic disorders. eg. Diabetes.

5.4.7.1. Causes, condition and prevention of decubitis ulcer

Causes	*Conditions*	*Prevention*
(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 tissue necroses, skin breaks down and formation of an ulcer takes place.	***The following condition causes 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.	1) Establish a turning schedule for bedridden patients; turn every second hourly. 2) Have a firm cot and foam mattress for bed-ridden patientsuse extra pillows, pads and air rings to reduce pressure.
(***b) Friction:*** 1) Friction from bedclothes or any other cause irritates the skin leading to inflammation. 2) 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. 3) You will also experience burning sensation and the part will be red colour.	***The following factors which cause friction in a patient:*** 1) Careless pulling of patient and his linen. 2) Giving and removing bed pan carelessly. 3) Leaving broad 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.	1) When changing position of your patient lift him and do not drag him on to the bed. 2) Keep sheets without wrinkles and seams. 3) Keep bed clean and free from crumbs. 4) If patient is restless, protect pressure points with soft pads.

Causes	*Conditions*	*Prevention*
(c) Moisture: Moisture makes the skin swollen, unhealthy and easily breakable.	***The following reasons result in moisture over the pressure areas:*** 1) Incontinence of faeces and urine. 2) Severe perspiration. 3) Leaving a patient in wet linen 4) ***Heat:*** Leaving a patient in one position for a long time, the part gets heated. 5) Lack of cleanliness and irritating substances on the skin. Eg.Perspiration, faeces, urine and vaginal discharge.	1) Keep dressings and bed dry and clean. 2) Clean and dry the incontinent patients promptly. 3) If necessary, can use diapers.

5.4.7.2. Preventive measures:

1) Improve patient's health by means of good food, ventilation, sunlight and exercises.
2) Encourage circulation through massage.
3) Have patient to ambulate early.
4) ***Observe early signs and symptoms of decubitus ulcers:*** a) Redness. b) Dark discoloration. c) Bruising. d) Tenderness of the area. e) Burning sensation.
5) 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 when the position of the patient is changed.

5.4.7.3. Treatment of decubitus ulcer.

1) Clean ulcers with aseptic precautions Use antiseptics such as 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 formentation, ultraviolet rays (or) heat lamp are helpful in healing.
5) Provide good nutrition.
6) Prevent secondary infections.

5.4.7.4. Sponging or Bed Bath

Definition: Bathing the patient while he is in the 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.

5.4.7.5. Type of Therapeutic Baths.

Type of Therapeutic Baths	Related images
1) **Hot water tub bath:** Immersion in hot water helps relieve muscle soreness and spasm. Water temperature should be 45 °C 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.Water temperature should be 37 °C.	
4) **Sitz Bath:** The patient sits in basin of warm water, his buttocks fully immersed. Cleanses and reduces inflammation of the perineal and anal areas of a patient who has undergone rectal or perineal surgery or has haemorrhoids or fissures. Water temperature should be 43 to 45 °C.	
5) **Cold sitz bath:** Cold sitz bath is more effective in relieving pain in the postoperative period.	
6) **Back rub or back massage** promotes relaxation, relieves, muscular tension and stimulates skin circulation. An effective back rub takes 35 minutes.	

Highlights.

Massage therapy has been used in China for more than 3,000 years. During massage therapy, a therapist will manipulate the muscles and other soft tissues to enhance their function, promote relaxation, or both.

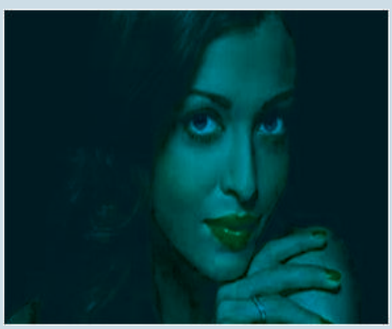
STUDENT'S ACTIVITY

Can demonstrate the different position and identify the pressure points.

Fact

Perspiration contains **lysozyme** that breaks the bonds within the cell walls of bacteria.

Quote



Beauty is in the eye of the beholder.
– Shakespeare

5.5 CARE OF HAIR

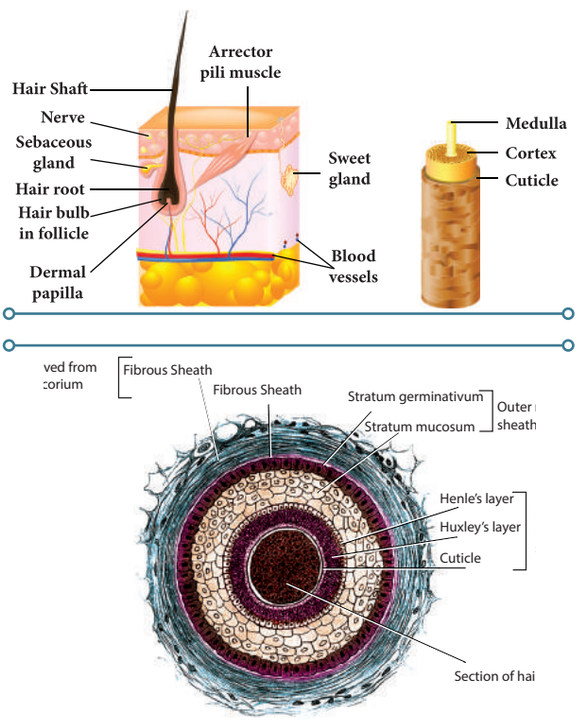
5.5.1 Introduction

Hair grows everywhere on the external body except for mucus membranes and glabrous skin (having a surface devoid of hair), such as that found on the palms of the hands, soles of the feet, and lips. It is important for nurses to help patients to maintain a scalp which is free of hair problems which will promote the wellbeing of the patient.

5.5.2 Anatomy of the hair

Hair is a protein filament that grows from follicles found in the dermis, the innermost layer of the skin. Hair is one of the defining characteristics of mammals. Attitudes towards different hair, such as hairstyles and hair removal, vary widely across different cultures and historical periods, but it is often used to indicate a person's personal beliefs or social position, such as their age, sex, or religion.

HAIR ANATOMY



Cross sectional view of the hair follicle.

5.5.3 Hair care

Care of the hair is a part of daily hygiene. **A *person's appearance*** and a feeling of well-being depends on the way the hair looks and feels. Hair growth, distribution and pattern can be indicators of general health status.

5.5.4 Factors that affect the character of hair.

1. Hormonal changes.
2. Emotional and physical stress.
3. Ageing.
4. Infection.
5. Certain diseases like cancer.
6. Certain drugs like chemotherapy.

5.5.5 Common hair and scalp problems:

Hair and scalp problems	Images
***Dandruff*:** Dandruff is the scaling of scalp accompanied by itching. In severe cases, dandruff is found on eyebrows.	
Pediculosis (lice): Tiny grayish-white parasite insects infest human beings.	
Pediculosis capitis (head lice): Parasite is found on scalp attached to hair strands.	

Hair and scalp problems	Images
Pediculosis corporis (body lice): Parasites cling to clothing and sucks blood.	
Pediculosis pubis (crab lice): Parasites are found in pubic hair.	
Hair loss (alopecia)	

5.5.6 Proper hair care:

1. Frequent combing helps keep hair clean and distributes oil evenly along hair shafts.
2. Short-tooth combs are adequate for short hairs.
3. Large-tooth combs are preferable for curly hair.
4. Avoid using combs with sharp and irregular teeth.
5. ***Protect Your Hair:*** Always protect your hair from sun, wind and rain. Exposure to excessive sun, heat, dirt, pollution, etc. adds to our already existent hair problems. These can lead to dirt accumulation, drying out of hair and scalp, and increased susceptibility to infections on the scalp.
6. Use the same shampoo and conditioner.
7. Avoid tight hair ties as it can damage the hair.
8. ***Dry Hair Cautiously:*** When drying hair, pat dry. Do not ever rub. You will dry your hair faster but the amount of hair that breaks and falls away also doubles up.
9. Healthy Eating: Health on the inside reflects on your hair too. For a healthier person, the hair looks better. If you want to have really good and healthy hair, eat a healthy balanced diet.

10. Don't use too many products, especially perfumed products as it can damage the hair and cause hair loss.

Highlights.

The body doesn't produce more hair and nail tissue, but both of these do 'grow,' even after few days after death.

STUDENT'S ACTIVITY

Can you examine the hair and try a new hair style for your friend.?

Fact

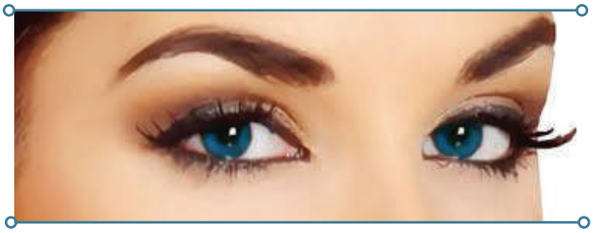
Bananas are great for healthy hair. Being rich in potassium, they help in improving the elasticity and natural health of your hair.

5.6 CARE OF EYES

5.6.1 Introduction

Beautiful eyes come in many different colors on many different skin tones. But no matter what gorgeous combination these shades happen to be, stunning eyes are guaranteed to make people stop right in their tracks and take a closer look at what's in front of them. After all, as they say, eyes are the window to the soul. And you can tell so much about a person just by looking into their eyes.

Beautiful eyes



5.6.2 Anatomy of the eyes (Refer Lesson 2)

Introduction:

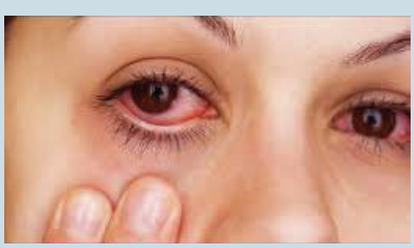
Normally no special care is required for the eyes because they are continuously cleansed by tears, and the eyelids and the lashes prevent the entrance of foreign particles. A person needs only to remove any dried secretions that has been collected on the inner canthus or the eyelashes.

5.6.3 Common problems of the eye

Eyes are said to be the window to the soul, and it is imperative that we look after them properly. Unfortunately, we don't seem to always remember to do this, and thus, many people report a range of different eye problems.

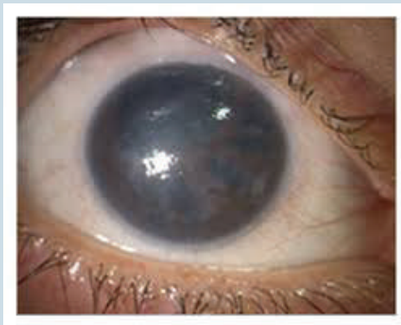
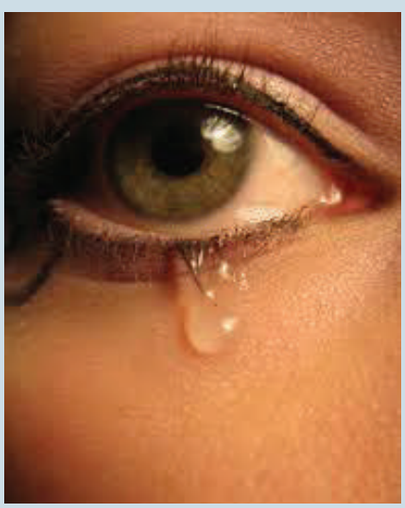
5.6.4 Care of patient

1. Unconscious patients are at risk for eye injury because the blink reflex may be absent. In these clients, excessive drainage frequently collects along eyelid margins.
2. Special attentions are also needed for patients who have had eye surgery or an eye infection that can result in increased discharge or drainage.
3. The nurse often assists patients in the care of eyeglasses, contact lenses, or artificial eyes.

Problems of the Eye	Images	Causes and treatment
1. ***Blepharitis:*** Blepharitis is an inflammation of the eye lids. Usually, the skin near or around the eyes start to flake, the whites of the eyes turn red, vision becomes distorted, and people find their eyes to be itchy.		There are four main causes of blepharitis, which are: • Dust mites. • Dry Eye Syndrome. (DES). • Eczema. • Bacteria. • Treatment involves keeping the eyes and eyelids clean, and avoiding further contamination. Drops are usually prescribed.
2. ***Cataracts:*** It happens when a small mass forms in front of the eye, ranging from opaque to transparent. The eye still functions properly, but blindness is induced because the mass gets in the way.		• It effectively stops light from getting to the retina, leading to impaired vision. • A surgical procedure is required to remove cataracts.
3. **Eye Allergies:** Eye allergies are actually the world's first most common problem with the eyes. There are		• With allergies, the eyes become very itchy and red. The only cure is to prevent contact with the allergen.

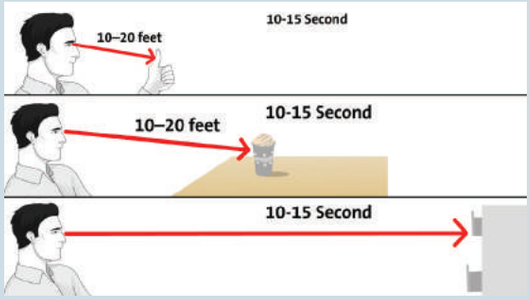
Problems of the Eye	Images	Causes and treatment
endless causes of allergies, ranging from airborne toxins to direct sunlight, from perfumes to dust, and so on. A common cause of allergies are the foods we eat.		If that is impossible, there are drops that can be instilled to clean the eye. These are particularly useful for people who do not know the source of their allergy, or who suffer from seasonal rather than perennial allergies.
4. **Dry Eye Syndrome:** Dry Eye Syndrome, or DES, happens when there is a malfunction in the tears. There are 3 possible symptoms with DES: • Insufficient tear production. • Poor quality tears. • Tears that evaporate too quickly.	 	DES is incredibly common and usually causes severe irritation. In rare cases, it can lead to loss of vision. There are several ways to deal with DES, including: • Eye exercises, such as no longer staring at screens and blinking. • Different types of eye drops. • Different types of eye gels. • Punctal plugs.

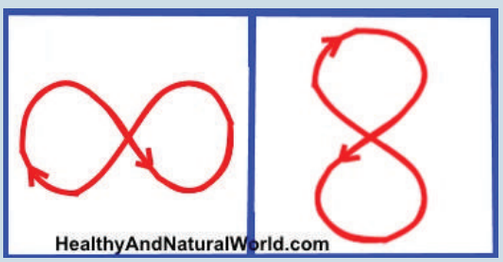
Problems of the Eye	Images	Causes and treatment
5. ***Conjunctivitis:*** ink eye, or conjunctivitis, is a very common eye problem. It happens on the eyes' top layer and leads to itching and redness. A range of things can cause pink eye, including allergies, dirty hands, bacteria, infections, and more. Often, it also appears on the lining of the eyelid.		• Pink eye is particularly common in children and it is incredibly contagious. Proper hygiene, therefore, is the best way to prevent it. • Most cases usually clears up in a few days. • Will not permanently harm the vision if detected and treated promptly.
6. ***Stye:*** A stye or sty is a bump that appears on the eyelid. The stye usually develops as an infection in the pore of the eyelashes, appearing as a red bump at the eyelid's base.		• It is a viral infection. • Harmless and doesn't pose any real threat. • Medication can treat it. • In extreme cases, surgery may be required. • Styes are particularly common during the summer season. It is important to not press on the stye as this can make the pain worse. • Pain can be relieved through warm compresses and wearing glasses instead of contact lenses. • Proper hygiene is the best way to prevent styes.

Problems of the Eye	Images	Causes and treatment
7. ***Glaucoma*:** Glaucoma refers to a range of different diseases. With glaucoma, damage has occurred on any part of the optic nerve because pressure in the eye fluid has increased. Should the pressure suddenly increase, there is danger. With the eye, that pressure is first felt in and around the optic nerve. This is known as "***Primary open angle glaucoma***".		• The condition is usually asymptomatic for a long time. • Usually, a glaucoma is not dangerous and can be treated quite easily. Sometimes, a medical emergency that, if left untreated, can lead to permanent vision loss. ***Other causes of glaucoma include:*** • An inflammatory disorder that affects the eye, • A blocked blood vessel, • An eye injury, • Glaucoma is generally treated though surgery and/or prescription eye drops.
8. ***Tearing:*** Having too many tears can come from being sensitive to light, wind or temperature changes. Protecting your eyes by shielding them or wearingsunglasses can sometimes solve the problem.		• Tearing may also mean that there is a more serious problem, such as an eye infection or a block tear duct. • Avoid allergens. • Prescribed eye drops.

Problems of the Eye	Images	Causes and treatment
Strabismus (squint): The medical term for misaligned eyes is ***strabismus***. If strabismus (squint) develops in an adult, perhaps after a trauma to the head or after a stroke, the person is likely to experience double vision.		• Double vision occurs because the two eyes are looking at different images. • There are six different muscles that are attached to each eye to help it turn and rotate. • The eyes may not appear straight because one or more muscles are pulling too hard or other muscles are too weak. • There are different treatments for strabismus depending on the specific cause. • Some cases are managed with eye muscle surgery, some simply need glasses.

5.6.5 Exercises for the eyes.

Eye exercise	Demonstration
1. **Strengthen your eyes' near and far focusing:** This exercise will strengthen the muscles in your eyes and help you maintain your current vision level. Then, focus on an object that is 20–10 feet in front of you without moving your head. Focus on the object for 15–10 seconds. After 15–10 seconds, refocus on your thumb. Practice this five times.	

Eye exercise	Demonstration
2. **Practice zooming with your eyes:** This is a good eye focusing exercise, as you have to constantly adjust how well you can focus on an object from certain distances. Focus on your thumb. Then, bring the thumb closer to you, focusing until your thumb is about 3 inches in front of your face. Move your thumb away again until your arm is fully outstretched. Repeat this exercise three more times, once a week.	
3. **Make a figure eight with your eyes:** This is a great exercise to practice controlling the physical movement of your eyes. Imagine a giant figure eight on the floor, about 10 feet in front of you. Trace the figure eight with your eyes, slowly. Trace it one way for a few minutes and then trace it the other way for a few minutes.	
4. **End your exercises with palming:** Always finish up either with palming to relax your eyes after your intense exercise session. You can also end your eye workout by simply closing your eyes and keeping them shut in a dark, quiet room for several minutes. Let them cool down and rest.	

Highlights.

Eyes heal quickly. With proper care, it takes only about 48 hours to repair a minor corneal scratch.

STUDENT'S ACTIVITY

Demonstrate and practice the eye exercises.

Fact

Your eyeballs stay the same size from birth to death, while your nose and ears continue to grow.

5.7 CARE OF NOSE

5.7.1 Introduction

The visible part of the human nose is the protruding part of the face that bears the nostrils. The shape of the nose is determined by the ethmoid bone and the nasal septum, which consists mostly of cartilage and which separates the nostrils. When you inhale through your two nostrils, air travels up your nasal passages, moves into the nasal cavity, passes through the trachea and ends in the lungs. The nose warms, moistens and filters the air before it enters the lungs with the help of the olfactory epithelium — a tissue covered in mucus that lines the nasal cavity. The epithelium is also responsible for your ability to smell odours. It contains ***millions of olfactory receptors*** that bind with specific odour molecules to help you identify certain smells.

The anterior nasal spine is the thin projection of bone at the midline on the lower nasal margin, holding the cartilaginous center of the nose. Adult humans have nasal hairs in the anterior nasal passage

5.7.2 Functions of the nose.

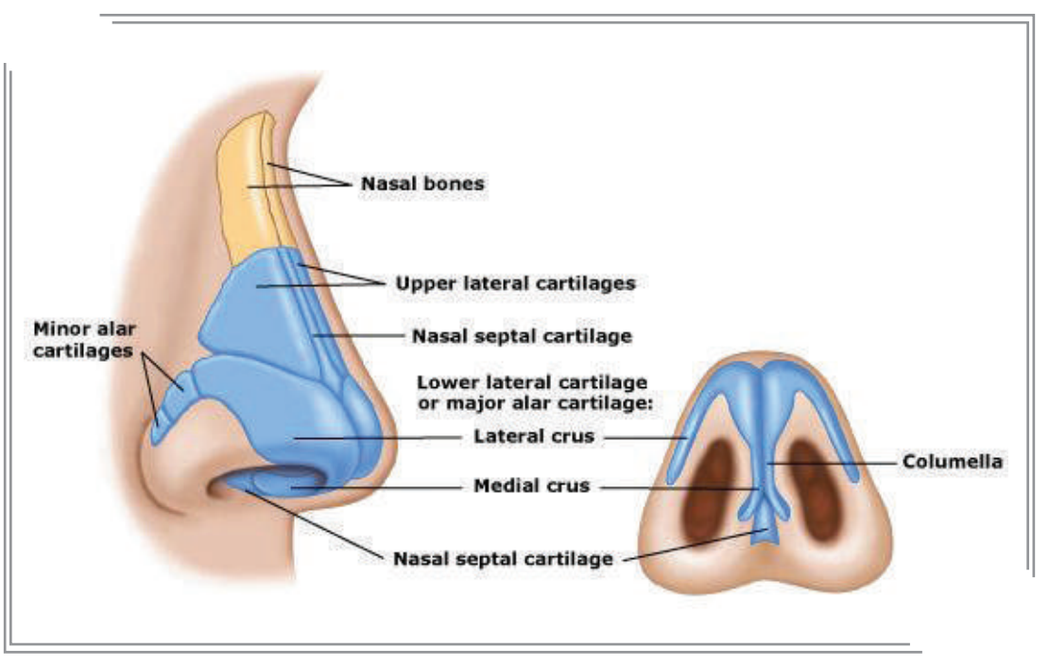
1) The nose helps us to smell.
2) It also controls the temperature and humidity of inhaled air.
3) It also prevents entrance of foreign particles into the respiratory system.

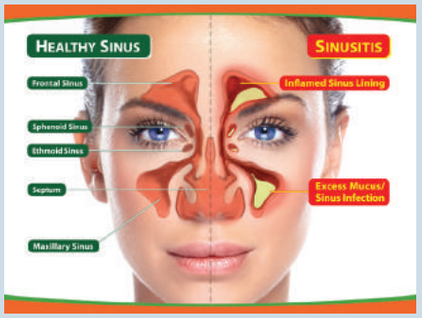
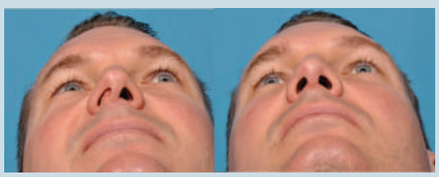
5.7.3 Common problems in the nose.

That first whiff of autumn in the air, the smell of your baby's head. The aroma of freshly brewed coffee, and the scent of your favorite cologne. All of these emotion-evoking, sensory delights are brought to you courtesy of your remarkable, impressive nose.

ENT physicians, or otolaryngologists, are specially trained in rhinology disorders of the nose and sinus. Let's look at three of the most common disorders that is diagnosed and treated.

Anatomy of the nose.



Problems of the nose	Images	Symptoms and treatment
1) ***Sinusitis:*** Sinusitis is an inflammation and infection in the sinuses, the air-filled cavities within the face that branch off from the nasal cavity. The physician may use X-rays or a CT scan to diagnose the sinus disease.		• Acute infection can be treated with antibiotics, • Decongestants, nasal steroid sprays, antihistamines and irrigations. • But if your infection does not respond to medication, an Endoscopic Sinus Surgery (ESS) will be performed.
2) ***Deviated Septum:*** The ideal nasal septum is exactly midline, separating the left and right sides of the nose into passageways of equal size. However, 80 percent of all nasal septums are slightly off-center. When the septum is severely shifted away from the midline, the condition is called a "deviated septum." A deviated septum may cause: • Blockage of one or both nostrils that causes difficulty breathing through the nose. • Nasal congestion, sometimes one-sided. • Frequent nosebleeds. • Repeated sinu		• Septoplasty is a surgical procedure performed entirely through the nostrils to correct a deviated septum. • While it's usually done to improve nasal breathing, it's sometimes combined with sinus surgery.

Problems of the nose	Images	Symptoms and treatment
A deviated septum may cause: • Blockage of one or both nostrils that causes difficulty breathing through the nose. • Nasal congestion, sometimes one-sided. • Frequent nosebleeds. • Repeated sinus infections. • Facial pain, headaches, postnasal drip. • Noisy breathing during sleep in infants and young children.		
3) ***Nasal Polyps:*** Nasal polyps are soft, non-cancerous growths on the lining of the nose or sinus caused by inflammation often due to allergies. Although small nasal polyps may not cause symptoms, larger growths or multiple polyps can cause frequent infections and breathing problems.		Medications are sometimes sufficient to shrink or eliminate the polyps, but surgical removal is often required along with medications to prevent more from developing.

5.7.3 Nasal Hygiene

Hygiene care of the nose is simple.

Nasal problems	Nasal hygiene
1. The accumulation of encrusted secretions within the nose can impair olfactory sensation and breathing.	• The use of saline water is a safe and effective way to relieve cold symptoms or sinusitis. Clearing nasal passages diminishes nasal congestion and helps to prevent the presence of viruses and bacteria.

Nasal problems	Nasal hygiene
2. Irritation of nasal mucosa can cause swelling leading to obstruction.	• The nose is in constant contact with allergens (mites, pollen, and mould). Some people develop allergic reactions accompanied by nasal congestion and sneezing. In addition to reduce the symptoms, the use of saline water eliminates allergens found in the mucous membrane.

5.7.4 Other methods of maintaining nasal hygiene are as follows.

1. Use petroleum jelly or vaseline. It canbe applied gently to each nostril 3-2 times a day to promote moisturization of the nose. Triple antibiotic ointment such as Neosporin or Bacitracin can also be used.
2. Some nasal saline sprays have additives such as aloe vera and these are helpful.
3. Consider using a humidifier at home. If your nose feels dry and there is frequent nose bleeds, buy a humidifier for your home
4. Avoid excessive manual manipulation of your nose and nostrils. Frequent rubbing of your nostrils and the passing of tissues or fingers in your nostrils may aggravate nasal irritation from dryness and nose bleeds.

5.7.5 Patients who need special care.

1. Patients with nasogastric tube feeding.
2. Patients with the endotracheal tubes.
3. Unconscious patients.

Highlights.

To prevent reintroducing bacteria back into your nose, keep your irrigation equipment clean and dry between uses. Throw away and replace reusable irrigation equipment **every 3 weeks**.

Fact

In women, nose grows until the age of 15 to 17 and for men, it is 17 to 19.

5.8 CARE OF THE EARS

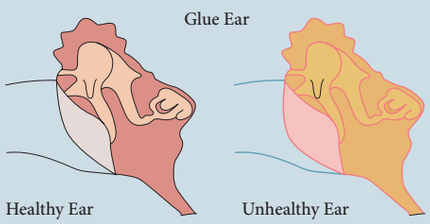
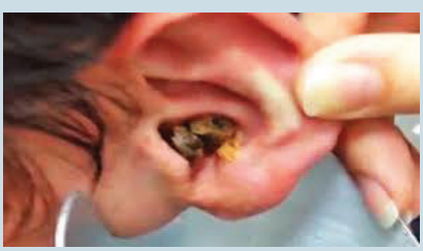
5.8.1 Introduction

Hygiene of the ears has implications for hearing acuit ywhen wax or foreign substances collect in the external ear canal, and they interfere with sound conduction. Older adults are particularly susceptible to this problem.

The nurse should be sensitive to any behavioral cues that might indicate a hearing impairment. When caring for patients with the hearing aid, the nurse instructs the patients on proper cleansing and maintenance as well as communication techniques, that promotes hearing.

- Anatomy of the ears: (Refer Lesson 2)

5.8.2 Common ear problems

Ear problems	Image	Symtoms and treatment
1. ***Otitis media:*** inflammation of the middle ear which causes a build-up of fluid, with or without an infection. If there is an infection, it is often viral. Many children will have several bouts of otitis media before they are 7 years old.		• Symptoms include crying, ear pulling, mild fever and irritability. • Antibiotic ear drops.
2. ***Glue ear:*** a type of chronic otitis media. A long-term build-up of thick or sticky fluid in the middle ear behind the eardrum causes hearing loss.		• This can make socialising and learning difficult, especially if hearing loss is not recognised in early childhood.
3. ***Ear wax:*** protects the ear and is normal. However, a build-up of wax may be a problem in some adults, and may require wax-softening ear drops.		• Impacted ear wax rarely causes an ear discharge or pain, but it may cause hearing impairment. • Sometimes the ears may also need to be syringed • and cleaned by a doctor.

Ear problems	Image	Symtoms and treatment
1. ***Swimmer's ear:*** develops when humidity, heat and moisture cause the skin layer inside the ear to swell. The addition of further water, for example, through swimming, makes the skin lining the ear canal even softer and liable to infection.		• Attempts to remove the water with cotton buds or other objects may make the condition worse, causing pain and itching. • Ear drops as prescribed.

5.8.3 Preventing ear problems

Self-management of ear problems, particularly earache and ear discharge, is not recommended. However, the following tips may help prevent ear problems.

- Do not use cotton buds or other devices for cleaning your ears. Repeated attempts to remove earwax with a cotton bud or similar object may result in the wax becoming more deeply impacted.
- If the patient has swimmer's ear, he should use earplugs to help prevent water entering your ears.
- If the patient is working in a noisy environment, including a home environment, ***use ear protectors.***
- Blow the nose correctly. Do not squeeze the nose when blowing and do not sniff.
- It is important that any hearing loss should be checked.

Highlights.

Cerumen is the proper name for ear wax, a substance that the human body naturally produces. Ear wax contains long-chain fatty acids, both unsaturated and saturated, as well as cholesterol, squalene, and alcohols.

Fact

Hearing impairment in a child is sometimes suspected if the child is inattentive at school, does not respond to instructions, seems to be disobedient or wants the television to be loud.

5.9 CARE OF THE NAIL AND FEET

5.9.1 Characteristics of a healthy nail

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

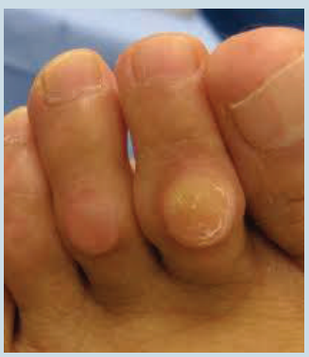
5.9.2 Purposes of care of the nails

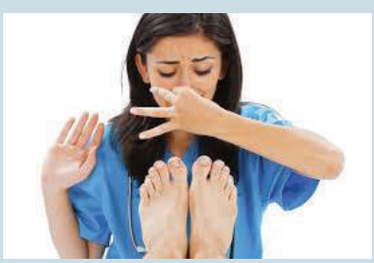
1) To keep nails harmless.
2) To prevent accumulation of dirt under the nails and reduce occurrence of infection.

5.9.3 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 ill fitting foot wear.
4) Poor knowledge of foot and nail care.

5.9.4 Common foot and nail problems

Foot and nail problems	Images
1. ***Callus:*** It is a thickened portion of epidermis caused by local friction or pressure.	
2. ***Corns:*** It is caused by friction and pressure from shoes. It is seen mainly on toes, over bonyprominence.	

Foot and nail problems	Images
3. **Plantar warts:** They are fungating lesions, appearing on sole of foot and are 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 commonamong diabetic patients.	 
7. **Foot odour** or result of excessive perspiration promoting micro organism growth.	 

5.9.5 Feet and nails.

The feet and nails require special attention to prevent infection, odours, and an injury to tissue. People are unaware of foot or nail problems until pain or discomfort occurs. Problems may result from poor care of the feet and nails such as biting nails or trimming them improperly, exposure to chemicals and wearing poorly fitted shoes.

5.9.6 Care of feet and nails.

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.
12) Cut the nails trimly and keep it clean and tidy.

Nail cutting

Highlights

Walking is the best exercise for your feet, and it's also a great way to get overall exercise for your body: it boosts circulation and helps to burn calories. Standing still is a way more tiring than walking, because only a few muscles are used when you are still standing, whereas walking distributes the weight and effort over more muscles.

STUDENT'S ACTIVITY

Practice nail care.

Fact

One quarter of your body's bones are in the feet. A normal foot has **33 joints, 26 bones, 19 muscles, and 107 ligaments.**

ICT Corner

Endocrine system

Explore position and functions of Endocrine system

Step 1: Use the URL to land in the Endocrine system page.

Step 2: Click on the gland to find out the position and functions of the gland.

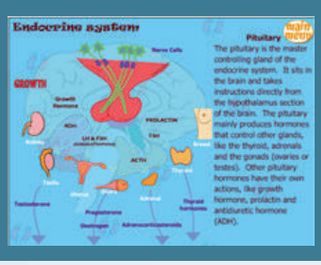
Step 3: Click on the Hormone name to get additional details about it.

Step 4: Click the main menu on the top right corner to search back and go through the next gland.

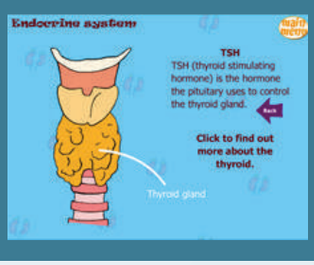
Step 1

Step 2

Step 3



Step 4



ENDOCRINE SYSTEM'S URL:

http://www.e-learningforkids.org/health/lesson/endocrine-system/

*Pictures are indicative

B190_11_NUR_EM

EVALUATION

RZMYID

I. Choose the correct answer: (1 mark.)

1. The nurse needs to maintain the oral hygiene of the patient in order to:
   a. Make the patient feel happy.
   b. Promote the patient appetite.
   c. Help the patientcommunicate well.

2. Which is the best brush recommended by most dental professionals for removing plaque and debris from your teeth?
   a. A soft-bristled brush is best.
   b. A medium-bristled brush is best.
   c. A hard-bristled brush is best.

3. How frequently should a tooth brush be changed?
   a. Once in 2 months.
   b. Once in 3 months.
   c. Once in 4 months.

4. Dental caries is commonly seen in which group of people?
   a. Over 35years.
   b. Younger people.
   c. Infants.

5. Jyothi, a housewife has complaints of cracking of the lips especially at the ankle of the mouth. Which one of the oral problems describes it best?
   a. Halitosis.
   b. Stomatitis.
   c. Cheilosis.

6. From the above scenario, what can be the cause for Jyothi's oral problem?
   a. Diabetes.
   b. Riboflavin deficiency.
   c. Tobacco chewing.

7. Which area of the body is pediculosis pubis isfound in?
   a. Head.
   b. Pubic.
   c. Body.

8. Dry Eye Syndrome is caused due to one of the following?
   a. Poor hygiene.
   b. Insufficient tear production.
   c. Sleeping insufficiently.

9. Otitis media is the:
   a. Infection of the ear lobe.
   b. Inflammation of the middle ear.
   c. Infection of the inner ear.

10. Athlete' s foot is caused by one of the following:
   a. Fungal infection.
   b. Inflammation of the surrounding tissue.
   c. Excessive perspiration.

II. Write short answers: (3 marks.)

1. List three factors influencing personal hygienic practices.
2. What are the purposes of oral hygiene?
3. What is Psoriasis?

4. List the pressure points for a patient in Fowler's position.
5. List 3 types of bath.
6. What are the factors that affect hair growth?
7. What is blepharitis?
8. Which of the patients will need special care of the nose?
9. What are the bones of the inner ear?
10. List the risk factors for foot and nail diseases.

III. Write short notes: (5 marks.)

1. What foods and drinks should be taken to maintain proper oral hygiene?
2. What are the things to avoid in the use of dentures?
3. List four areas liable for pressure ulcer.
4. Write a few methods to maintain proper nasal hygiene.
5. Write briefly on how we can hear.
6. How can you help the patient prevent any ear problem?

IV. Write an essay for the following: (10 marks.)

1. Explain the care of the dentures.
2. Explain any five oral problems.
3. Explain the functions of the skin.
4. Explain the causes, condition and prevention of decubitis ulcer.
5. Explain in detail on the exercises for the eyes.
6. Discuss the care of the nail and feet.

A-Z GLOSSARY

Integumentary system – (புறத்தோல் மண்டலம்)
- It comprises of the skin and its appendages acting to protect the body from various kinds of damage, such as loss of water or abrasion from outside. The integumentary system includes hair, scales, feathers, hooves, and nails.

Saliva – (உமிழ்நீர்)
- It is a watery substance formed in the mouths of animals, secreted by the salivary glands.

Flossing – (கொப்பளித்தல்)
- It is one way to clean between your teeth. It involves wrapping a piece of soft string around your fingers and navigating it up and down between.

Decubitus ulcers – (படுக்கைபுண்)
- It is a pressure sore resulting from prolonged confinement in bed. It is also known as pressure sores or bed sores.

Immunity – (நோய் எதிர்ப்பு சக்தி)	- Lack of susceptibility, especially to something unwelcome or harmful.
Aesthetics – (அழகுணர்ச்சி)	- The branch of philosophy which deals with questions of beauty and artistic taste.
Antihistamines – (ஒவ்வாமை எதிர்மருந்து)	- Used chiefly in the treatment of allergic disorders and colds.
Light therapy – (ஒளி சிகிச்சை)	- Or phototherapy (classically referred to as heliotherapy) consists of exposure to daylight or to specific wavelengths of light using polychromatic polarised light, lasers, light-emitting diodes, fluorescent lamps, dichroic lamps or very bright, full-spectrum light. The light is administered for a prescribed amount of time and, in some cases, at a specific time of day.
Antiviral pills – (வைரஸ் எதிர்மருந்து)	- Class of medication used specifically for treating viral infections
Freezing – (உறைதல்)	- Extremely cold.
Acutely ill patients – (தீவிர நோயாளி)	- In a way that progresses rapidly but lasts for a short period.
Paralysed patients (Paraplegic and quadriplegic patients) – (பக்கவாத நோயாளி)	- They have lost motor and sensory functions over the limbs.
Incontinence – (அடக்கிக்கொள்ளமுடியாத நிலை)	- Lack of voluntary control over urination or defecation.
Oedema – (வீக்கம்)	- a condition characterized by an excess of watery fluid collecting in the cavities or tissues of the body.
Debilitating diseases – (பலவீனமாக்கும் நோய்கள்)	- To make weak or feeble.
Chemotherapy – (கீமோதெரபி)	- The treatment of disease by the use of chemical substances, especially the treatment of cancer.
Airborne toxins – (வாயுநச்சுகள்)	- Airborne aerosol (liquid particles suspended in air) dust, fumes, gases, mist, or vapors containing toxic substances

Allergies /allegens – (ஒவ்வாமைகள்)	- A damaging immune response by the body to a substance, especially a particular food, pollen, fur, or dust, to which it has become hypersensitive.
Nasal mucosa – (மூக்கின் உட்சவ்வு)	- The lining of the nasal cavities and paranasal sinuses, made of pseudostratified ciliated epithelium with goblet cells.
Nasogastric tube feeding – (மூக்கு இரைப்பை குழாய் வழியாக உணவூட்டல்)	- To give feeding a thin tube is inserted through nostril to stomach

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1. Potter & Perry (2009) *Fundamentals of Nursing,* 7th Edition, Elsevier publication, St.Louis Missouri.
2. Patricia, P. (2009) *Fundamentals of Nursing,* 7th Edition, Mosby Company, St.Louis Missouri.
3. Virginia, H. (1997) *Basic Principles of Nursing Care,* 2nd Edition, 0965836002.

INTERNET LINKS

- www.webhealthcentre.com/HealthyLiving/personal_hygiene_index.aspx
- www.personalhygiene.in
- https://www.everydayhealth.com/.../guide-to-good-hygiene.aspx
- https://www.betterhealth.vic.gov.au/.../personal-hygiene
- https://www.wikihow.com/Exercise-Your-**Eyes**

Unit 6

HEALTH ASSESSMENT AND PHYSICAL EXAMINATION

LEARNING OBJECTIVES

At the end of this chapter students will be able to:

1. Define physical examination
2. List out the purposes of physical examination
3. Enumerate the methods of physical examination
4. State the principles of physical examination
5. Demonstrate the procedure of taking temperature
6. Discuss the assessment of pulse
7. Explain the purposes of blood pressure recording
8. Brief the pain assessment procedure
9. Demonstrate the urine testing procedure

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6.1 INTRODUCTION

A complete health assessment also includes gathering information about a person's medical history and lifestyle, doing laboratory tests, and screening for disease. A physical examination is an evaluation of the body and its functions using inspection, palpation (feeling with the hands), percussion (tapping with the fingers) auscultation (listening).

6.2 DEFINITION

Health assessment involves collecting, validating and analyzing data about thepatient health. It includes gathering both subjective and objective data.

6.3 PURPOSES OF PHYSICAL EXAMINATION

- To gather the information for each health history component.
- To supplement confirm or repute data obtained in the nursing history.
- To confirm and identify nursing diagnoses.
- To make clinical judgment about a clients.
- Changing health status and management.
- To evaluate the physiological outcome.

"From the bitterness of disease, man learns the sweetness of health."

- To initialize a nurse- patient relationship
- To plan intervention accordingly.
- To plan health education according to the information gathered.

"Don't be afraid of the information you are going to start seeing. You will have better insight and probably learn more about your patients, thus building a far better relationship with your patient than you may have thought possible."

6.4 METHODS OF PHYSICAL EXAMINATION

Describe how to perform inspection, palpation, percussion, and auscultation, and which areas of the body are assessed with each technique.

Techniques in physical assessment are:

6.4.1 Inspection

It means looking with eyes. It reveals any rash, scar, colour, size, shape, contour and symmetry of the body parts.

Inspection

6.4.2 Palpation

It means feeling using sense of touch. It reveals any swelling, coldness, hotness, stiffness, hardness, smoothness, roughness, pain, vibration, firmness and flaccidity.

Palpation

6.4.3 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 with varied conclusion.

Percussion

The sounds may vary.

- **Resonant:** A loud sound over the normal lung tissue.
- **Tympanic:** A drum like sound over the air-filled tissues such as gastric air bubble.
- **Dull:** A medium pitched sound with medium duration without resonance, heard over the solid tissue, such as heart, liver.
- **Flat:** A pitched sound with short duration without resonance, heard over the complete solid tissue, such as bones.

When performing physical examination, a nurse must consider all system which the person made up of.

6.4.4 Auscultation

The action of listening to sounds from the heart, lungs, or other organs, typically with a stethoscope, as a part of medical diagnosis.It means listen with stethoscope or placing the ear against the body, it reveals sounds produced within the body and the vessels such as heart beat, bowel sounds.

Auscultation

6.4.5 Reflex testing

Reflex tests measure the presence and strength of a number of reflexes. In so doing, they help to assess the integrity of the nerve circuits It reveals reflex is present, or not present, strength and movements of hands and legs.

6.4.6 Olfaction

It means sense of smell (odour) it reveals the nature of disease condition of the patient.

6.5 PRINCIPLES OF PHYSICAL EXAMINATION

It is the systematic collection of objective information that is directly observed or is elicited through examination technique Which involves the use of one's senses to obtain information about the structure and function of an area being observed or manipulated.

The General Appearance: Whether he/she is obese, malnourished, acutely ill or chronically ill. Whether he is weak and

unable to walk or walk with aid whether he is in pain.

Level of consciousness: Is a measurement of a person's arousability and responsiveness to stimulate from the environment. Whether fully conscious, drowsy or comatosed.

Skin: The client's skin is uniform in color, unblemished and no presence of any foul odour. He has a good skin turgor and skin's temperature is within normal limit.

Hair: The hair is thick, silky hair is evenly distributed and has a variable amount of body hair There are also no signs of infection and infestation observed.

Nails: The client has a light brown nail and has the shape of convex curve. It is smooth and is intact with the epidermis. When nails pressed between the fingers (Blanch Test), the nails return to usual color in less than 4 seconds.

Head: The head of the client is rounded; normocephalic and symmetrical.

Skull: There are no nodules or masses and depressions when palpated.

Face: The face of the client appeared smooth and has uniform consistency and with no presence of nodules or masses.

Eyes: The Bulbar conjunctiva appeared transparent with few capillaries evident. The sclera appeared white. The palpebral conjunctiva appeared shiny, smooth and pink.

There is no edema or tearing of the lacrimal gland.

Mouth: The lips of the client are uniformly pink; moist, symmetric and have a smooth texture. The client was able to purse his lips when asked to whistle.

Teeth and Gums: There are no discoloration of the enamels, no retraction of gums, pinkish in color of gums. The buccal mucosa of the client appeared as uniformly pink; moist, soft, glistening and with elastic texture. The tongue of the client is centrally positioned. It is pink in color, moist and slightly rough. There is a presence of thin whitish coating. The smooth palates are light pink and smooth while the hard palate has a more irregular texture. The uvala of the client is positioned in the midline of the soft palate.

Nose: The nose appeared symmetric, straight and uniform in color. There was no presence of discharge or flaring. When lightly palpated, there were no tenderness and lesions.

Ears: The Auricles are symmetrical and has the same color with his facial skin. The auricles are aligned with the outer canthus of eye. When palpating for the texture, the auricles are mobile, firm and not tender. The pinna recoils when folded.

Neck: The neck muscles are equal in size. The client showed coordinated, smooth head movement with no discomfort. The lymph nodes of the client are not palpable. The trachea is placed in the midline of the neck.

Chest: The chest wall is intact with no tenderness and masses. There's a full and

symmetric expansion and the thumbs separate 2–3 cm during deep inspiration when assessing for the respiratory excursion. The client manifested quiet, rhythmic and effortless respirations.

Breast: Whether there are any abnormalities in the shape and size. Whether there are any lumps or discharge from the nipples.

Abdomen: The abdomen of the client has an unblemished skin and is uniform in color. The abdomen has a symmetric contour. There were symmetric movements caused associated with client's respiration.

Upper Extremities: The extremities are symmetrical in size and length.

Muscles: The muscles are not palpable with the absence of tremors. They are normally firm and showed smooth, coordinated movements.

Bones: There were no presence of bone deformities, tenderness and swelling.

Joints: There were no swelling, tenderness and joints move smoothly. Whether the nails are broken or brittle. Whether there is clubbing of fingertips, tremors of hands, swelling of extremities, pain in the joints or any other abnormality, all range of motions present

6.6 PHYSIOLOGICAL ASSESSMENT

The most frequently measurement obtained by health care providers are those of temperature, pulse, blood pressure and respiration as the indicators of health status, these measures indicate the effectiveness of circulatory, respiratory, neural and endocrine body functions.

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 response to intervening changes. One vital sign can influence characteristics of other 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 signs and recognizes the relationship of vital sign changes to other physiological assessment findings.

Vital Sign Ranges			
Age-Appropriate Vital Signs			
	Heart Rate	Respirations	Blood Pressure
Newborn	80–180	30–60	60–80/30–60
Toddler	80–110	24–32	90–100/50–65
School Age	60–110	18–26	95–110/55–70
Adolescent	50–90	16–20	110–120/60–80
Adult	60–100	12–20	110–140/60–90

GUIDELINES FOR ASSESSING VITAL SIGNS

- The nurse caring for the patient is responsible for assessing vital signs.
- The nurse should obtain the vital signs, interpret their significance and make decisions about interventions.
- Equipment used to measure vital signs must work properly to ensure accurate finding.
- Equipment should be selected based on the client's condition and characteristics.
- The nurse controls or minimizes environmental factors that may affect vital signs.
- The nurse uses an organized, systematic approach when taking vital signs. Each procedure requires a step – by – step approach to ensure accuracy.
- The manner of approach to the patient can alter the vital signs. The nurse should approach the patient in a calm caring manner while taking vital signs.
- Based on patient's condition, the nurse collaborates with the physician to decide the frequency of vital signs assessment.
- The nurse analyzes the results of vital signs measurement. The nurse is often in the best position to assess all clinical finding about a patient.
- Vital signs are documented and communicated to the nurse assuming care of the patient and well as patient.

6.6.1 Temperature

Normal body temperature varies by person, age, activity, and time of day. The average normal body temperature isgenerallyaccepted as 98.6°F (37°C).

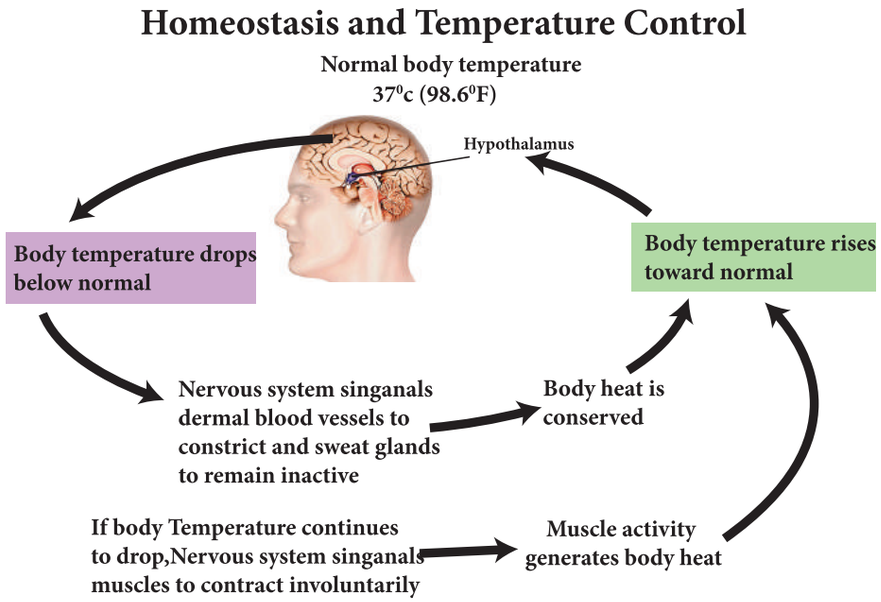
Physiology of body temperature

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.

Body temperature undergoes minor changes throughout the day. It is the lowest in the morning, between 4 and 6 a.m. and highest in the evening, around 6 to 8 p.m.

Body temperature is the balance between heat loss and heat production.

Range of Normal Temperature				
°F	0–2 Years	3–10 Years	11–65 Years	>65 Years
Oral	–	95.9–99.5	97.6–99.6	96.5–98.5
Rectal	97.9–100.4	97.9–100.4	98.6–100.6	97.1–99.2
Axillary	94.5–99.1	96.6–98.0	95.3–98.4	96.0–97.4
Ear	97.5–100.4	97.0–100.0	96.6–99.7	96.4–99.5
Groin	97.5–100.0	97.5–100.0	98.2–100.2	96.6–98.8



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

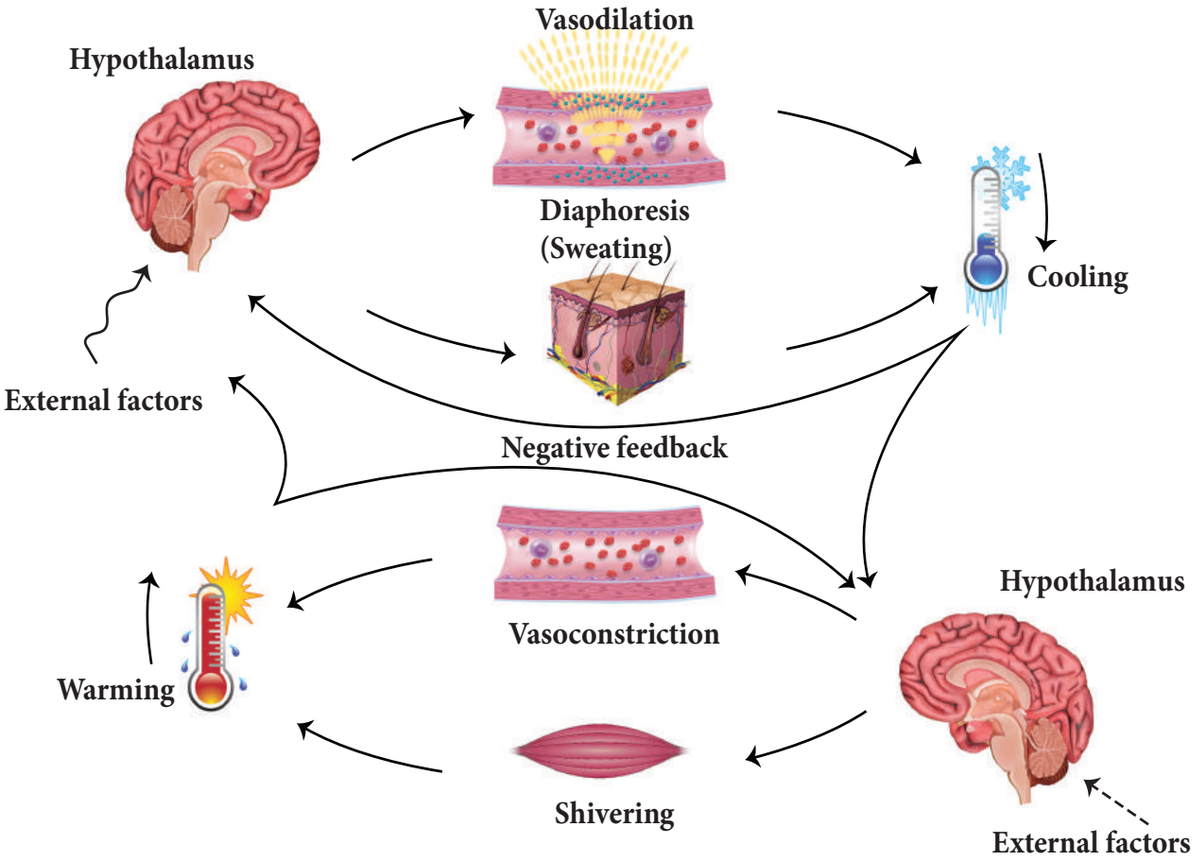
TEMPERATURE REGULATION

The hypothalamus located between the cerebral hemispheres, controls the body temperature. The hypothalamus sense main changes in body temperature. The anterior hypothalamus controls the heat production. When the nerve cells in the anterior hypothalamus became heated beyond the set point, impulses are sent out to reduce body temperature. Mechanisms of heat loss include sweating, vasodilatation (widing) of blood vessels and inhibition of heat production. If the posterior hypothalamus senses the body temperature is lower than the set point, heat conservation mechanisms are instituted. Vasoconstriction (narrowing of blood vessels) reduces blood flow to the skin and extremities. Heat production is stimulated through voluntary muscle contraction and muscle shivering.

Factors affecting body temperature

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

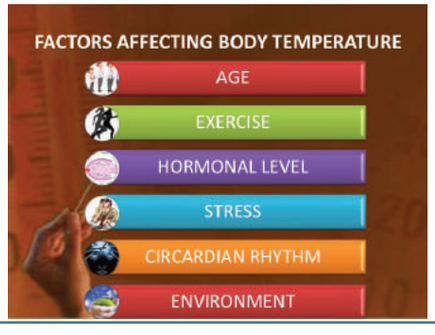
- **Age:** For new born, the temperature – control mechanism are immature. An infant's temperature may respond drastically to changes in the environment. Temperature regulation is unstable until children reach puberty. Older adults are sensitive to temperature extreme because of deterioration in control mechanisms, reduced sweat gland activity, reduced amounts of subcutaneous fat and reduced metabolism.
- **Exercise:** Muscle activity causes increase metabolism by increasing carbohydrate and fat breakdown. Any



form of exercise can increase heat production and thus body temperature.

- **Hormone level:** women generally experience greater fluctuations in body temperature than men. Hormonal variations during menstrual cycle cause body temperature fluctuation.

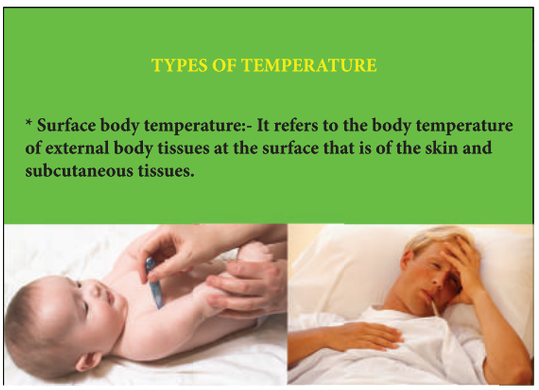
Temperature changes occur in women during menopause.



- **Circadian rhythm:** Body temperature normally changes 0.5° o 1°C during 24 hour period. The temperature is usually lowest between 1.00 AM and 4.00 AM.
- **Stress:** Physical and emotional stress increases body temperature through hormonal and neural stimulation. These physiological changes increase metabolism, which increase heat production.
- **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 eat loss.

Sites for assessing temperature

1. Oral
2. Rectal
3. Auxiliary
4. Tympanic route



Types of thermometers

- Mercury – in glass thermometers
- Electronic thermometer

Electronic thermometer

Do you know who invented the first medical thermometer?

Sir Thomas Clifford Allbutt, English physician, the inventor of the short clinical thermometer.

Rectal Thermometer

Purpose of taking temperature

To aid in diagnosis the patient's condition
To find out the progress of the patient

RECORDING ORAL TEMPERATURE

Contraindications

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

Recording oral Temperature

Equipment

Tray containing

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

- A kidney tray
- A paper bag
- Watch with second hand
- Red lead pen

CONVERSION OF BODY TEMPERATURE

Celsius To Fahrenheit	Fahrenheit To Celsius
$F = \frac{9}{5}C + 32$	$C = \frac{5}{9}(F - 32)$

Procedure

Explain the procedure take the patients cooperation

- Let the patient to sit or lie down.
- Remove thermometer from the lotion, was 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.
- Shake down the mercury by a quick sudden movement of the wrist and bring down the mercury level to 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 lip.
- Leave the thermometer in the mouth for 2 minutes (during this time take his pulse and respiration).
- Remove the thermometer and note the temperature clean the with soapy wiper from above downwards towards the bulb to prevent bacteria from spreading all over the thermometer.
- Collect the dirty soapy water in the kidney tray and place the dirty wiper in the paper bag.
- Replace the thermometer in the test tube or bottle with the lotion.
- Record the temperature in the chart.

After care of the equipment

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

Nursing care of individual with altered body temperature

Hyperthermia

- Tepid sponge bates.
- Bathing with alcohol – water solution
- Cooling fans.
- Allow rest period.
- Limit physical activity.
- Reduce external covering on patient's body to promote heat.
- Loss through reduction and conduction.
- Provide fluids (at least 3 liters per day) to replace fluids loss.
- Encourage oral hygiene because oral mucous membranes dry easily from dehydration.
- Provide measures to simulate appétit and offer well balanced metals.
- Provide supplemental oxygen therapy as ordered to improve oxygen to body cells.
- Control environmental temperature to reduce shivering. E.g. cooling fans.

Heat Stroke

The nurse teaches the patient:

- To avoid strenuous work in hot weather.

Altered Body Temperature
Hypothermia: Heat loss during prolonged exposure to cold overwhelms the body ability to produce heat causing hypothermia.
Heat stroke: prolonged exposure to the sun or high environmental temperature can affect the body's heat loss mechanisms.
Frost bite: occurs when tissues freeze. This condition happens when you are exposed to temperatures below the freezing point in skin.
False crisis: A sudden fall in temperature not accompanied by an improvement in the general condition is called false crisis.
Lysis: The temperature falls in a zigzag manner for two of three days of a week before reaching normalduring time, the other symptoms also gradually disappear.
Continuous fever: Constant fever or Continuous fever is one in which the temperature varies not more than two degrees from morning to evening and it does not reach normal for weeks.
Remittent fever: Remittent fever is a fever characterized by variations of more than two degrees from morning to evening but does not reach normal level.
Low pyrexia: In low pyrexia the fever does not rise above 99 to 100°F or 37.2 to 37.8°C
High pyrexia: The temperature remains between 103 to 105°F or 39.4 to 40.6°C

- To drink fluids such as clear fruit juices before, during and after exercise
- To wear loose cotton cloth.
- To avoid exercising in areas with poor ventilation.
- To wear protective hats over the head when going outdoors.

Hypothermia

Educate patient to prevention to handle hypothermia

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

6.6.2 Pulse

The rhythmic dilation of an artery that results from beating of the heart. Pulse is often measured by feeling the arteries of the wrist or neck.

The pulse is regulated by the autonomic nervous system through the cardiac sinoatrial node. Parasympathetic stimulation of the SA node via vagus

Your adult heart beats about 100,000 times each day. Do the math, and that's at least one beat every second, or 60 to 100 times a minute, according to the American Heart Association.

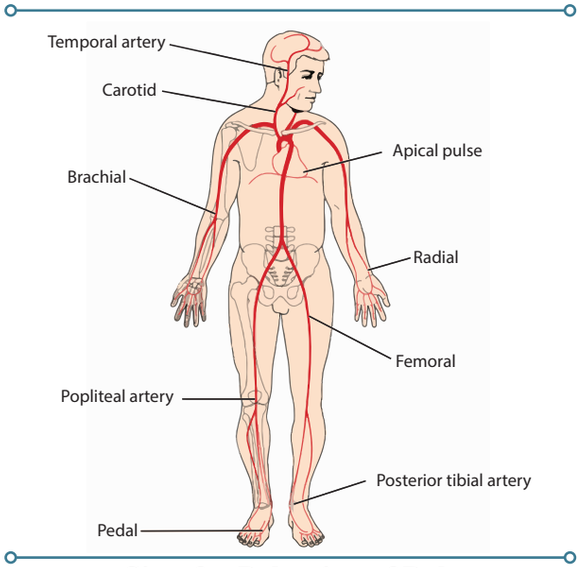
nerve decrease heart rate and sympathetic stimulation of the SA node increases the heart and force of contraction.

ASSESSMENT OF PULSE

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

SITES FOR PALPATION OF PULSE

Site	Location
Temporal	Over temporal bone of head. Above and lateral to eye.
Carotid	Along medical edge of sterno-cleido mastoid muscle in neck.
Apical	Fourth and fifth intercostal space at left mid clavicle line.
Radial	Radial or thumb side of forearm at wrist.
Ulnar	Ulnar side of fore arm at wrist.



Sites for Palpation of Pulse

Character of the pulse

Assessment of radical pulse includes measurement of the rate, rhythm, strength and equality.

Rate

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

Rhythm

Normally a regular interval occurs between each pulse and heartbeat.

Strength

The strength or amplitude of a pulse reflects the volume of blood ejected against the arterial wall with each arterial contraction.

Factors influencing pulse rate

- **Fitness level:** Sort term exercise increases pulse rate. An athlete, who participates in long – term exercise will have lower pulse rate at rest.
- **Temperature:** Fever and heat increase pulse rate Hypothermia decreases pulse rate.
- **Emotion:** Pain and anxiety increase pulse rate.
- **Medication:** Epinephrine increase pulse rate. Digoxin decrease pulse rate.
- **Hemorrhage:** Blood loss increases pulse rate.
- **Body position:** In standing or sitting positions, pulse rate increases. In lying down position, the pulse rate decreases.
- **Pulmonary condition:** Caused poor oxygenation and decreases in pulse rate.

Purpose of Recording pulse

- To test the health and efficiency of heart.
- To test the elasticity and the health of arteries.

HEART RATE
(NORMAL ECG)

HEART RATE = 300÷ (NUMBER OF LARGE SQUARES IN ONE R-R INTERVAL)
300÷4=75BPM

HEART RATE = 75 BPM

Normal Heart Rate = 70 to 80 BPM (Beats per minute) in Adult

Factors ThatCan Influence Heart Rate

- Activity level
- Fitness level
- Air temperature
- Body position
- Emotions & stress levels
- Body size
- Medications
- Food and drink
- Illness

- To get an approximately idea of how much blood is being pumped into artery system.
- To estimate the changes in the needs of body circulation.
- To understand the general condition of body, recovery, or death.
- To give emergency treatment if necessary.

STUDENT'S ACTIVITY

Mrs. king, an 87-year-old woman has been admitted with syncope. She lost her consciousness. What will be your assessment?

GENERAL INSTRUCTIONS

Procedure

- Watch to count the pulse
- Chart and pen for documentation
- keep the patient in a comfortable position

- Hold the wrist firmly, place first three fingers over the artery, and press it to make the pulsation distinct.
- Count the pulse for one minute.
- Note rhythm, volume and any other abnormalities.
- Record your observation.

Palpation of Pulse

Common Abnormalities in Pulse Rate	
Rate	Number of beats per minutes
Tachycardia	Pulse rate too high
Bradycardia	Pulse rate too low
Rhythm	Regularity of pulse
Arrhythmias	Irregular or abnormal rhythm
Volume	Strength or intensity of pulse
Abnormal	Thready pulse, weak, strong and bounding

6.6.3 Respiration

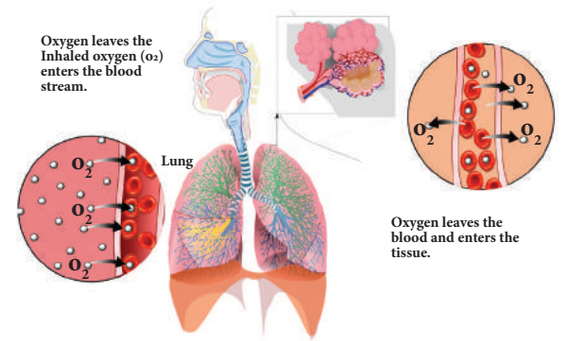
It is defined as the movement of oxygen from the outside environment to the cells within tissues, and the transport of carbon dioxide in the opposite direction.

Respiration involves: ventilation, diffusion and Perfusion

- **Ventilation** the movement of gases in and out of the lungs. The rate, depth and rhythm of ventilator movements indicate the quality and efficiency of ventilation.
- **Diffusion** is the movement of oxygen and CO_2 between the alveoli and the red blood cells.
- **Perfusion** is the distribution of red blood cells to and from the pulmonary capillaries.

DO YOU KNOW?

The average time an adult can hold her or his breath is between 30 to 60 seconds.

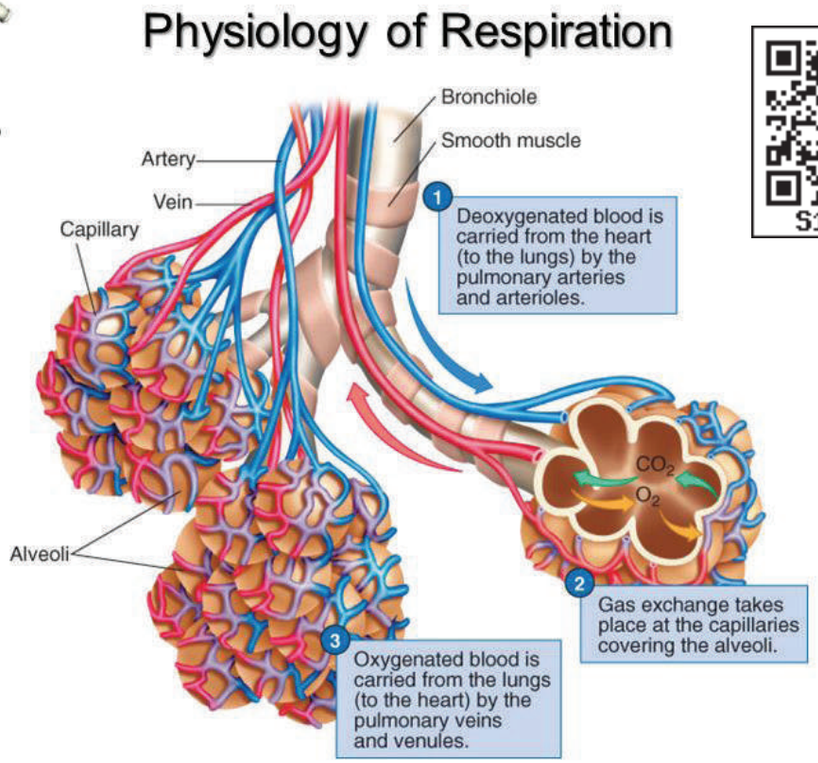


DO YOU KNOW?

The lungs are the only organ that can float on water.

Physiology of Respiration

The rate and depth of breathing can change in response to body demands. These changes are brought about by the the inhibition or stimulation of the respiratory muscles by respiratory centers in the medulla and pons.



S11H8X

The most important factor in the control of ventilation is the level of CO_2 in the blood. An elevation of CO_2 in arterial blood causes the respiratory control system in the brain to increase the rate and depth of breathing.

Normal Respiratory Rate	
Age	**Respiration Rate**
< 1 Year	30–40
1–2 Years	25–35
2–5 Years	25–30
5–12 Years	20–25
> 12 Years	12–20

Assessment of respiration depends on

Look for chest and abdomen movement.

Listen and feel for airflow at the mouth and nose.

Factors which regulate respiration:

- Respiratory center in the medulla.
- Nerve fibers of the autonomic nervous system.
- Chemical composition of blood.

Procedure:

- Keep the patient in a relaxed and comfortable position.
- Try to count the respirations without the patient knowing that you are watching him or he may change the rate of respiration.
- 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.
- Chart the rate and record any abnormalities.

Assessment of Respiration

STUDENT'S ACTIVITY

A 68-year-old man was diagnosed with chest infection 10 years ago. He has a 40-year smoking history (is still smoking) and has been hospitalized twice due to chest infections during the last 12 months. He has trouble getting his breath. How do you assess the patient's condition?

ALTERATION IN BREATHING PATTERNS

Bradypnea: The respiratory rate is abnormally slow (less than 12 breaths per minute) Occurs in coma due to cerebral hemorrhage or large doses of sedatives,

Tachypnea: The respiratory rate is abnormally rapid (greater than 20 breaths per minute)

Apnea: Respirations cease for several seconds.

Hyper ventilation: Rate and depth of respirations increase.

Hypoventilation: Rate is abnormally low and depth is shallow. Shallow respiration occurs in diseases of the lung such as pneumonia and pleurisy.

Sighing or air hunger: Indicates a need for more oxygen. Occurs in serve hemorrhage diabetic coma or due to simulation of respiratory center by excess of acid.

Wheezing: Sound made during expiration may be due to obstruction in the lower respiratory tract as in the case of asthma.

Stertorous breathing: Noisy snoring inspiration occurs in unconscious patients which may be due to the tongue slipping back. Peculiar hissing respiration occurs in uremic coma.

Orthopnea: Inability to breath easily unless in an upright position.

Dyspnea: Difficult breathing. If it is during inspiration it is due to laryngeal obstruction; if it is during expiration it is due to Asthma.

Cheyne stokes or periodic breathing: Alternative periods of hyperpnoea, occurring in a rhythmical cycle It is important to note this phenomenon as this is a serious sign.

Asphyxia: Occurs due to lack of oxygen supplied to the cells. This is found in drowning patients of persons who have inhaled poisonous gases.

6.6.4 Blood Pressure

Blood pressure (BP) is the lateral force on the walls of artery by pulsing blood under pressure from the heart. The hearts 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.

E.g. 120/80 mmHg. 120 is systolic pressure and 80 is diastolic pressure. The difference between systolic and diastolic pressure is pulse pressure.

Physiology of BP

BP reflects inter relationship of cardiac output, peripheral vascular resistance. Cardiac output is the volume of blood pumped by the heart (stroke volume) in one minute.

- Cardiac output = heart rate × stroke volume
- The BP depends on the cardiac output and peripheral vascular resistance (R).
- BP = cardiac output × R

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.

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. E.g. rapid uncontrolled intravenous fluid. When circulating volume falls, blood pressure falls. E.g. hemorrhage, dehydration.

Elasticity: normally the arterial walls are elastic and easily distensible. In 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.

Under normal conditions autonomic reflexes stabilize an individual's blood pressure from the lying to sitting/standing positions.

Factors influencing variations in BP

- **Age:** Normal BP levels vary throughout life big 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 races are more prone for high BP genetically and environmentally.
- **Medication:** some medications can affect BP directly or indirectly.
- **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.

Purposes of Monitoring BP

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 hemorrhage.
   - 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, and same posture daily.

Equipments

1. Sphygmomanometer
2. Stethoscope
3. Pen

Sphygmomanometer

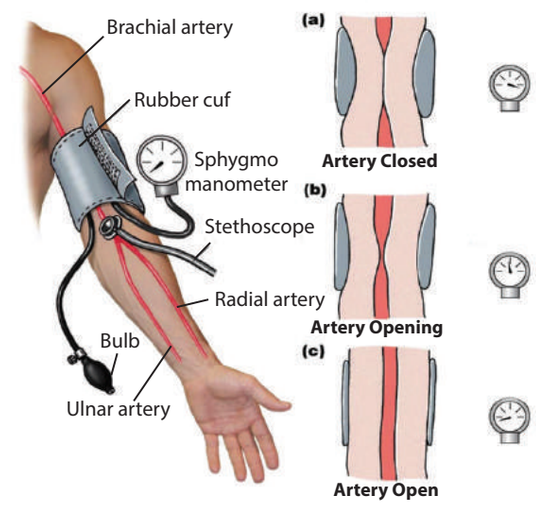
Do you know who invented the BP apparatus?
The sphygmomanometer was invented by Samuel Siegfried Karl Ritter Von Basch in 1881.

Guidelines for taking BP

- 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 sphygmomanometer gives blood pressure reading on dial indicator.
- 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.
- Never take blood pressure when the patient is excited, exhausted and just after exercise, smoking or meals.
- Allow the patients to rest for five minutes before taking blood pressure.

- Do not use the extremity that is injured, diseased, paralyzed, receiving intravenous infusion or when a female patient is with radical mastectomy on the same side.
- When the arm cannot be used to measure the blood pressure, the thigh can be used being a good alternative site.
- Always take the blood pressure reading on the same side and in the same position to maintain consistency.
- Place the site (arm or leg) about the level of heart while taking blood pressure.
- 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.
- 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 (auscultator gap) and indicates systolic pressure reading.



Systolic Pressure is the top number. It represents the pressure as your heart contracts to pump blood to the body.

Diastolic Pressure is the bottom number. It represents the pressure between beats, when your heart relaxes.

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.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.

Note the variations in blood pressure.

Procedure:

- Explain the procedure to patient. See patient is relaxed and is in a

STUDENT'S ACTIVITY

When you are working the day shift at medical ward. Sally Sims, a 72-year-old female was admitted to your unit with hypertension. What is your plan of assessment?

comfortable position. Support the arm.

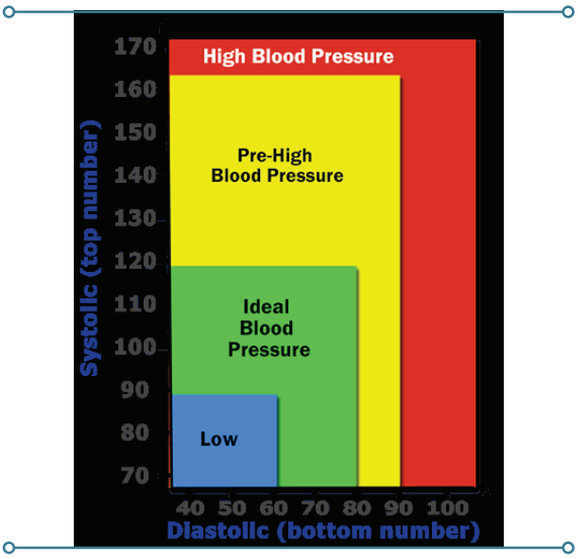
- Expose the arm and keep it extended.
- Apply the end of the cuff with the rubber bag over the brachial artery two inches above the elbow.
- Apply the end of the cuff smoothly and snugly around the upper arm. Tuck the end neatly.
- Place the sphygmomanometer in position.
- Stay with the patient until the procedure is over.
- Remove the cuff from the patient's arm, roll neatly and replace in the box. See patient is comfortable.
- The reading is recorded in the chart.
- Systolic pressure is always written over the diastolic pressure E.g. 80/120mmHg.

Recording of Blood Pressure

Variation in BP

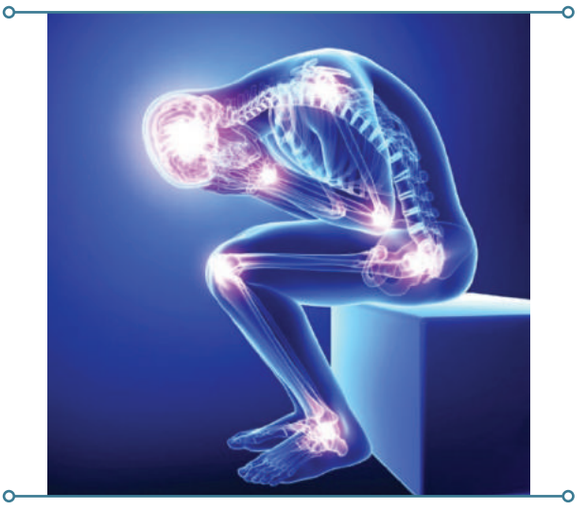
Hypertension: Elevated or high blood pressure is known as hyper tension. Hyper tension is a major factor causing deaths from strokes and myocardial infarction (Heart arrest)

Hypotension: When the systolic pressure falls to 90 mm Hg or below, that condition is known as hypotension.



6.6.5 Pain

It is a distressing feeling often caused by intense or damaging stimuli. Because it is a complex, subjective phenomenon, defining pain has been a challenge.



STUDENT'S ACTIVITY

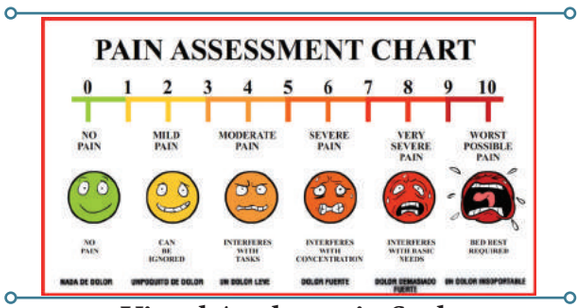
A 42-year-old woman has complained the severe pain in the lower quadrant of the abdomen for 6 hours. She has had nausea and vomiting for two days. She was pale and painful. How do you assess the patient's condition?

Characteristics of pain:

1. **Severity:** Ranges from no pain to excruciating pain
2. **Timing:** duration and onset of pain
3. **Location:** body area involved.
4. **Quality:** what the patient feels the pain is
5. **Personal meaning:** how affects the persons daily life.

Pain Assessment:

A pain scale measures a patient's pain intensity or other features. Pain scales are based on trust, cartoons (behavioral), or imaginary data. Self-report is considered primary and should be obtained if possible.



Visual Analog pain Scale

6.6.6 Testing and Examination Urine

The physical **characteristics of urine** include observations and measurements of color, turbidity, odor, specific gravity, pH and volume. Visual observation of a urine sample can give important clues as to evidence of pathology. The color of normalurine is usually light yellow to amber.

Urine Testing:

The nurse often collects urine specimens for laboratory testing. The type of test determines the method of collection Specimen collection: The nurse collects random. Clean voided or mid stream, sterile, and timed specimens.

Specific gravity: The specific gravity is the weight or degree of concentration of a substance compared with an equal volume of water

Urine culture: A urine culture requires a sterile or clean voided sample of urine. It takes approximately 24 to 48 hours

Characteristics of Normal Urine

	CHARACTERISTIC	DESCRIPTION
	AMOUNT	 1-2 liters, depending on intake
	COLOR	 Straw/amber (darker, more concentrated)
	SPECIFIC GRAVITY	1.010-1.025 MEASURE OF DISSOLVED MATERIAL IN URINE. LOWER VALUE = MORE DILUTED URINE
pH	pH	DIET HAS BIGGEST EFFECT ON URINE pH 4.6 6 8.0
	COMPOSITION (MAKEUP)	95%  5%  & 
	NITROGENOUS WASTES	UREA – AMINO ACID METABOLISM CREATINE – FROM MUSCLE METABOLISM URIC ACID – FROM NUCLEIC ACID METABOLISM

before the laboratory can report findings of bacterial growth.

Urine test for sugar

Purposes of Sugar test: Testing the urine for the persons and the amount of sugar provides the doctors with information about the amount of insulin needed by the patient.

Preparation of the patient:

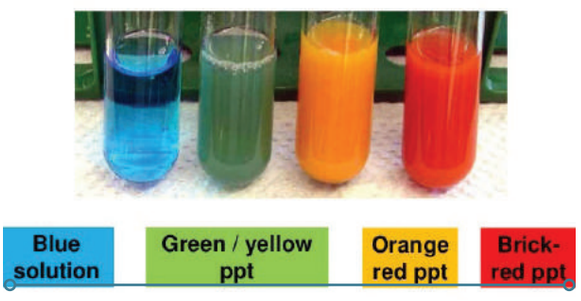
1. On the previous day explain the procedure to the patient.
2. Explain the patient when the urine to collect how to collect and the amount to be collected.
3. Provide an appropriate container and demonstrate to him how to use it
4. Instruct him not to contaminate the out side of the bottle.
5. Ask the patient to wash the internal genitalia with soap and water and rinse it with water.
6. If the patient is unable to do himself the nurse assists him.

Preparation of articles

Correct collection and preparation of urinary specimens for diagnostic testing contributes to accurate test results. Bedside tests for urine glucose and acetone must be done precisely according to the direction to obtain accurate results. Timing of reading is crucial and the result may be incorrect if the reading is taken too early or too late.

Patient condition:

Presence of sugar in the urine is glycosuria
Presence of ketone in the urine is ketonuria.



Sample of the Label

Name of the Patient:_____
Ward/Bed No. _____
Age: _____ Sex: _____
OP/IP. _____
Name of Specimen: _____
Nature of Test to be Done: _____
Date of Collection: _____

ABNORMALITY OF STOOL

Blood in stool different forms are,

Haematochezia: Passage of bright red blood per rectum mixed with 'or' without stool, ex:haemorrhoids, anal fissure & fistula, trauma, ischemic colitis, diverticulitis, polyps, malignancy etc.

Melena: Characteristics are black tarry (sticky) stool (use to production of acid haematin). Offensive (acid haematin is altered by bacteria). Semisolid in consistency. Redcoloured fluid comes out from the Usually associated with vertigo, dizziness 'or' syncopal attack during defecation.

Occult Blood Causes are: Intake of NSAID, hookworm infestation & colorectal cancer etc.

SPUTUM

Sputum is the mucous secretion from the lungs, bronchi and trachea. It is important to differentiait from saliva, the clear liquid secreted by the salivary glands in the mouth, sometimes referred to "spit". 30 ounces of mucus produced/day.

Healthy Individuals do not produce sputum. Clients need to cough to bring sputum up from the lungs, bronchi, and trachea into the mouth in order to expectorate at into a collecting container. Document amount of sputum collected, color, odour consistency (thick, tenacious, watery) and presence of haemoptysis'.

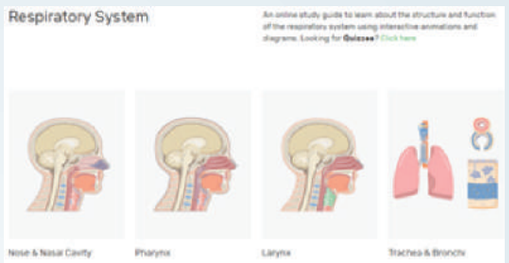
CONCLUSION

Health assessment includes physical assessment, mental status examination, laboratory investigation. Techniques of physical assessment are inspection palpation, percussion, manipulation, auscultation and observation. Vital signs are measurements of the body's most basic functions. The four main vital signs routinely monitored by medical professionals and health care providers include the following: Body temperature, Pulse rate, Respiration rate Blood Pressure, Vital signs are useful in detecting or monitoring medical problems. Vital signs can be measured in a medical setting, at home, at the site of a medical emergency, or elsewhere.

ICT Corner

Respiratory System

Through this activity you will explore the structure and function of the Respiratory system



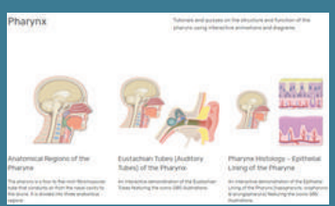
Step 1: Use the URL to reach the 'Respiratory System' page. Surf the grid and select 'Nasal cavity' and explore the nasal cavity structures and functions.

Step 2: Then reach the 'Respiratory System' page by clicking back button on the top of the window or use the 'Backspace' key. Select 'Pharynx' from the grid and explore the anatomical regions of pharynx.

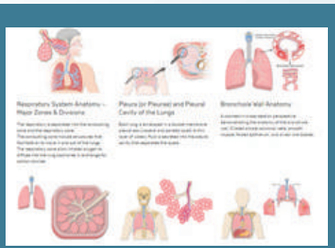
Step 3: Follow the above steps and explore each and every parts and their functions of respiratory system.

Step 4: Use the reference given below the page to acquire additional details about Respiratory System.

Step 1



Step 2



Step 3

Step 4

RESPIRATORY SYSTEM'S URL:

https://www.getbodysmart.com/respiratory-system

Schematics of Gas exchange:

https://www.wisc-online.com/learn/general-education/anatomy-and-physiology2/ap2404/respiratory-system-gas-exchange

*Pictures are indicative

B190_11_NUR_EM

ICT Corner

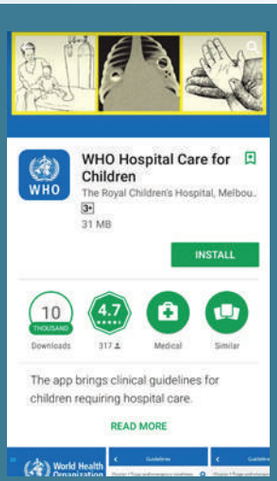
Hospital Care for Children

Through this activity you will be understand the procedures of First Aid.

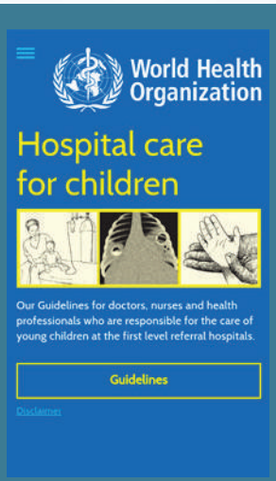
Step – 1 This is an Android app activity. Open the Browser and type the URL given (or) Scan the QR Code. (Or) search for "WHO Hospital Care for Children" in google play store.

Step -2 (i) Install the app and open the app, (ii) click on the Menu "GUIDELINES",

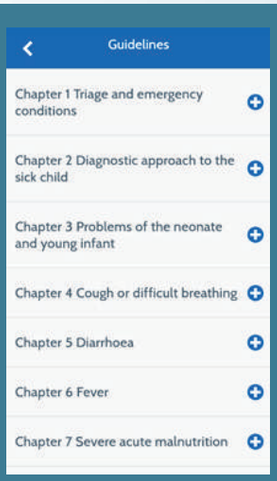
Step - 3 In the opened page "Guidelines" click the menu "Browse by Chapter " and then select any "Chapter"



Step 1



Step 2



Step 3

WHO HOSPITAL CARE FOR CHILDREN (ANDROID APP)

https://play.google.com/store/apps/details?id=au.org.rch.hospitalCareForChildren

*Pictures are indicative

B190_11_NUR_EM

EVALUATION

S16QLN

I. Choose the correct answers (1 mark)

1. You can count respirations while,
   a. Taking Temperature
   b. Recording Blood pressure
   c. Reflex testing
   d. None of the Above
2. The taking vital signs includes,
   a. Temperature
   b. Pulse
   c. Respiration
   d. All of the above
3. The most accurate temperature is obtained when taken,
   a. By oral b. At Axilla
   c. At Groin d. At rectum
4. Which one is normal blood pressure?
   a. 170/80 mmHg
   b. 150/90mmH
   c. 120/80 mmHg
   d. 100/110 mmHg
5. When counting the pulse rate, you may use the pulse at what points?
   a. Carotid artery
   b. Radial artery
   c. Apical area of heart
   d. None of the above
6. Bradycardia is a pulse rate below
   a. Below 60 bpm
   b. Below 100 bpm
   c. Above 120 bpm
   d. Above 100 bpm
7. An irregular pattern of heartbeats is called a
   a. Sinus tachycardia
   b. Sinus bradycardia
   c. Arrhythmias
   d. Atrial fibrillation
8. When a person has a normal body temperature it is called,
   a. Afebrile
   b. Pyrexia
   c. Hyperpyrexia
   d. None of the above
9. When one is exposed to extreme heat for long periods of time, it may result in
   a. Heat stroke b. Frost bite
   c. Hypothermia d. Pyrexia
10. An instrument placed against a patient's chest to hear both lung and heart sounds.
    a. Sphygmomanometer b. Otoscope
    c. Telescope d. Stethoscope

II. Write short answers (3 marks)

1. Define Respiration.
2. What is mean by Reflex testing?
3. List down the four principles physical examination.
4. Define Frost bite.
5. Which are the routes of recording temperature?
6. Mention two purposes Blood pressure recording.
7. What is mean by Resonant?
8. List out the characteristics of pain.
9. Difine Tachycardia.
10. Mention three purposes of urine testing.

III. Write short notes (5 marks)

1. Explain the factors affecting blood pressure.
2. Discuss the different techniques of health assessment.
3. Describe the abnormalities of pulse.
4. Write brief note on urine testing
5. Explain the abnormal breath sound.

IV. Write an essay for the following questions (10 marks)

1. Explain about Head -Foot Assessment.
2. Discuss about alteration in body temperature.

A-Z GLOSSARY

Olfaction – (நுகர்தல்) - Sense of smell

Reflex testing – (அனிச்சை செயல் பரிசோதனை) - Measure the presence strength of reflexes

Hypothermia – (உடல் வெப்பம் குறைதல்) - Heat loss during prolonged exposure to cold.

Resonant – (ஒத்ததிர்வு) - A loud sound over the normal lung tissue.

Tympanic – (டிம்பேனிக்)- A drum like sound over the air-filled tissues such as gastric air bubble

Frost bite – (பனிகடுப்பு) - This condition happens when you are exposed to temperatures below the freezing point in skin.

Lysis – (லைசிஸ்) - The temperature falls in a zigzag manner for two of three days of a week before reaching normalduring time, the other symptoms also gradually disappear

Tachycardia – (டேக்கிகார்டியா) - Pulse rate too high (PR more than 100/min)

Bradycardia – (பிரடிகார்டியா) - Pulse rate too low (PR less than 50/min)

Apnea – (ஏப்னியா) - Respirations cease for several seconds.

Tachypnea – (டேக்கிபினியா) - The respiratory rate is abnormally rapid (RR more than 32/min)

Bradypnea – (பிரடிபீனியா) - The respiratory is abnormally slow (RR less than 12/min)

Wheezing – (வீசிங்) - Sound made during expiration

Murmur – (மர்மர்) - The low swishing sounds that increase with cuff deflation.

SUGGESTED PRACTICAL'S

Demonstration of various technique of physical examination.

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WEB LINKS

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https://www.nurseteachings.com

Unit 7

FIRST AID

S1T5DV

LEARNING OBJECTIVES

At the end of this chapter students will be able to:

1. Define First Aid
2. List out the principles of First Aid
3. Discuss the first aid measure in shock
4. Explain the immediate management of drowning
5. Describe the plan of action for wound and fracture hemorrhage
6. Apply the skill various extreme heat abnormalities
7. Discuss the immediate management of poisoning
8. Demonstrate the skill in CPR techniqe.

Safety brings first aid to the uninjured
– F.S Hughes

7.1 INTRODUCTION

Not a day goes by that there is not some potential for injury, illness, or sudden health emergency to occur in the places where we live, work, learn, and play. While many of these situations require no more than a Band-Aid, others are more serious and may even be life-threatening. Knowing what to do when an accident happens or when someone becomes suddenly ill can help ensure that minor injuries don't develop into major medical conditions. More importantly, it can save a life.

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.

7.2 DEFINITIONS

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

First Aid: It 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 lifesaving 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.

7.3 RULES AND PRINCIPLES OF FIRST AID

Golden Rules of First Aid

- Do first things first, quickly, quietly and without panic.
- Reassure the causality and his relatives sympathetically.
- Is there any failure of breathing? If yes start artificial respiration.
- Is there any failure of circulation? If yes start external cardiac massage.
- Is there seIf the cause of the accident is still there, remove it or the casualty from danger.
- Be calm, Methodical and quick but gentle in handling the casualty. (4)
- As far as possible keep the casualty where he is until everything is ready for transporting him.
- Look for the following and treat this first (a) Failure of Breathing. (b) Bleeding. (c) Unconsciousness
- Reassurethe casualty and others present to reduce shock.
- See that the casualty is in best position to aid recovery.
- Clear the croud tactfully. The casualty needs fresh air. Any other first aider present mayhelp you. Get help also to call the police, direct traffic etc as needed.
- Diagnose injuries and give firstaid that is essential. Make use of available first aid equipment's. If there is none, improvise the material at hand.
- Arrange for medical aid as soon as possible, for careful transport, and for informing relatives.
- Stay with the casualty, continuing to observe and give care until handing over to the doctor.
- Do not attempt too much: do the minimum first aid so that the conditions does not become worse and life can be saved.
- Do not remove clothing unnecessarily, as this may add to shock.
- Do not give anything by mouth to a casualty who is unconscious, who may have an internal injury or who may soon be given an anaesthesia.

7.4 FIRE

Rapid clear thinking at the fire is vital. Fire spreads very quickly, so warn any people

at risk, and alert the emergency services immediately.

If arriving at a fire or burns incident. STOP, OBSERVE and DO NOT RUSH IN. There may be flammable or explosive substances such as toxic fumes or a risk of electrocution.

During fire DO NOT use lifts in any circumstances.

Leaving A burning building

- Activate fire alarm you see
- Close each door behind you as you go
- Do not run, but walk quickly and calmly.

Fire on Cloth

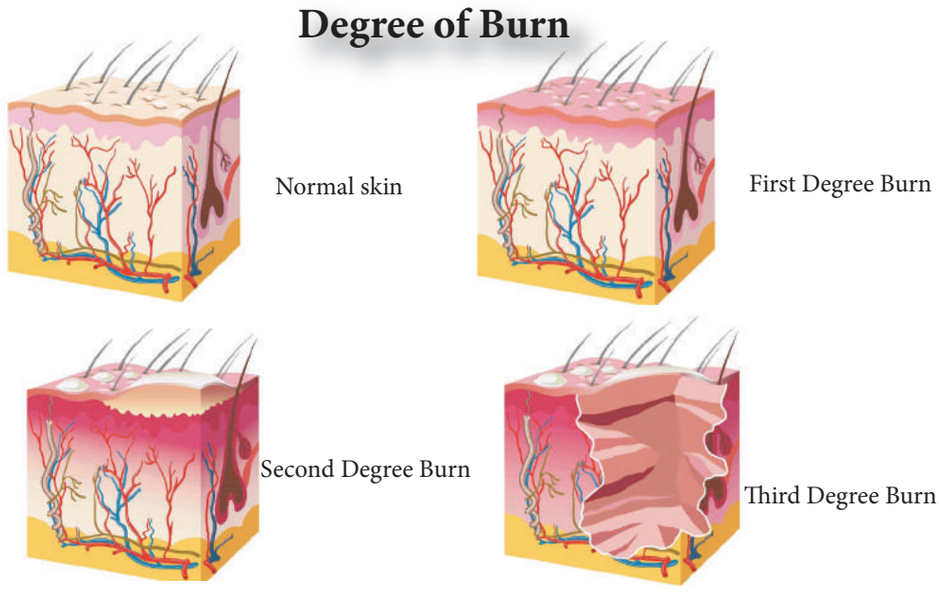
a. STOP the casualty panicking or running around or outside, any movement or breeze will fan the flames.
b. DROP the casualty to the ground.
c. If possible WRAP the casualty tightly in a coat, curtain, blanket, rug or heavy fabric
d. ROLL the casualty along the ground until the flames have been smothered.
e. If the water or another non- flammable liquid readily available, lay the casualty down with burning side upper most, and extinguish the flames by dousing him in plenty of the liquid.

7.5 BURNS AND SCALDS

Burns result from dry heat, extreme cold, corrosive substances, friction or radiation including sun rays.

Scalds are caused by wet heat from hot liquids and vapours.

Degrees of burns



Types of burns

TYPES OF BURNS

- Thermal
  exposure to flame or a hot object
- Chemical
  exposure to acid, alkali or organic substances
- Electrical
  result from the conversion of electrical energy into heat. Extent of injury depends on the type of current, the pathway of flow, local tissue resistance, and duration of contact
- Radiation
  result from radiant energy being transferred to the body resulting in production of cellular toxins

Do you Know the facts in Burns?

- DO NOT break blister or otherwise interfere with the injured area
- DO NOT apply adhesive dressings or adhesive tape to the skin. The burn may be more extensive than the first
- DO NOT apply lotions and ointments to the injury; they can further damage the tissue and increase the infection.

Minor burns and scalds

Small and superficial burns are often caused by domestic accidents. Most can be treated by a First Aider and will heal naturally.

Treatment includes

- Flood the injured part with cold water for at least 10 minutes
- Gently remove any jewellery, watches, belts or constricting clothing
- Cover the area with a sterile dressing or some other clean material like plastic bag or kitchen film

Major burns and scalds

The longer the burning continues, the more the injury will be.

Treatment includes

- Lay the casualty down and protect the burned area from the ground
- Douse the burn with plenty of cold water for at least 10 minutes

- Watch for signs of difficulty in breathing and shock
- Gently remove any jewellery, watches, belts or constricting clothing
- Cover the area with a sterile dressing or some other clean material like plastic bag or kitchen film
- Monitor and record for breathing and pulse rates
- Reassure the casualty and treat for shock

7.6 FRACTURE

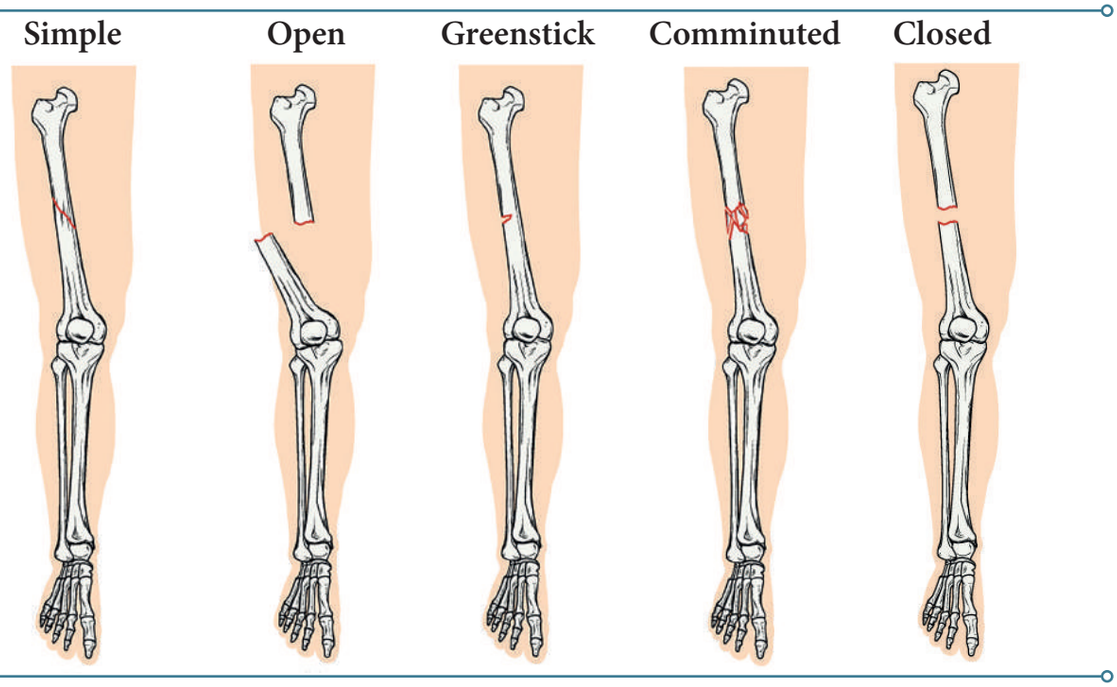
A break is a break or crack in a bone.

Causes

Direct force- A bone may break at the point where a heavy blow is received.

Indirect force; - may be produced by a twist or a wrench a trip or stumble can break a leg bone.

Types of fracture	
Simple fracture	This is the clean break or crack in the bone
Comminuted fracture	This type of fracture produces multiple fragments
Greenstick fracture	A split in a young immature bone is common in children
Open fracture	In a open fracture the overlying skin is broken



Closed fracture	The surrounding skin is unbroken but internal injury to surrounding tissue.

Signs and symptoms

- Difficulty in moving a limb normally.
- Pain at or near the site of injury, made worse by movement.
- Tenderness over a bone if gently touch is a sign of fracture.
- Distortion, swelling and brushing at the site of the fracture.
- Coarse grating of the bone end may be heard or felt.
- A shortening, bending, or twisting of the affected limb.

To Remember

- DO NOT move the casualty until the injured part is secured and supported unless he/she is in danger
- DO NOT let the casualty eat or drink
- DO NOT try to replace a disclosed bone into its socket

TREATMENT

For open fracture

a. Cover the wound with clean pad or sterile dressing, apply pressure to control the bleeding.
b. Without touching an open wound with your fingers, carefully place some clean padding over and around the dressing.
c. Secure the dressing and padding. Bandage firmly, but not tightly that the circulation is impeded.
d. Immobilize the injured part as for a closed fracture

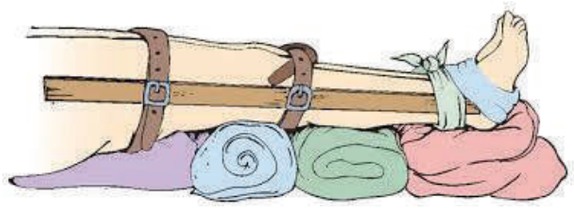
For the closed fracture

a. Tell the casualty to keep still, steady and support the injured part with your hands until it is immobilized.
b. For firmer support, secure the injured part to a sound part of the body. And bandage from the uninjured side.

STUDENT'S ACTIVITY

On a walk through your neighborhood with friends, you find a man lying on the ground under a ladder. He is in obvious pain and his arm is clearly broken, with a piece of bone protruding from the skin. How to handle the situation?

c. Check the circulation beyond any bandages every minute.



7.7 SHOCK

Shock is a syndrome that results from a decrease in effective circulating blood volume in the body as a result of injury or illness. It can vary from faintness to complete collapse.

Shock can lead to;-

- Early loss of consciousness that mainly involves the nervous system and that may be fatal.
- Progressive loss of blood from active circulation, which may lead to falling heart output and insufficient oxygen to cells that are vital for survival.
- Sustained lowered blood pressure which may lead to liver and kidney failure.

STUDENT'S ACTIVITY

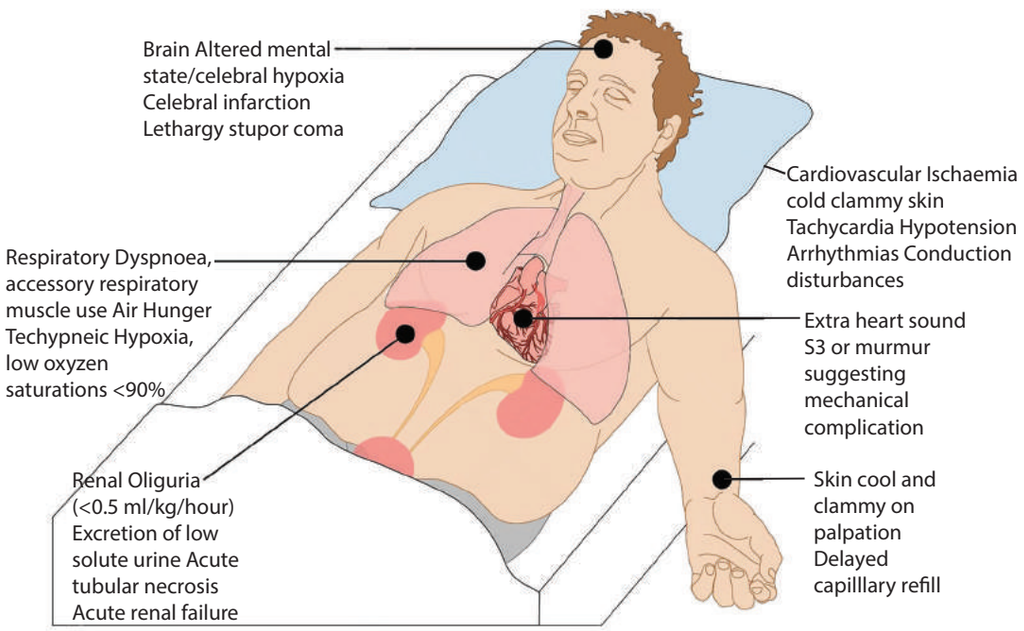
What you will do with the victim has shallow and rapid breathing, fainting with feeble pulse and fall of blood pressure.

Causes of shock; -

- Severe or extensive injuries
- Severe pain
- Loss of blood
- Severe burns
- Electric shock
- Exposure to extreme heat and cold
- Allergic reaction
- Bites or stings
- Gas poisoning
- Emotional illness.

Symptoms;-

- Casualty is anxious and restless
- Weakness and fainting
- Giddiness & disorientation
- Shallow, rapid or gasping breathing
- Skin become pale, cold and clammy



Signs:-

- Pulse rate increased
- Blood pressure falls
- Pupils are dilated
- Lustreless eyes
- Shaking and trembling of arms and legs
- Unconsciousness may develop.

Types of Shock	
Neurogenic	Spinal or head injury resulting in loss of nerve control
Haemorrhagic	Loss of blood due to wound and internal bleeding.
Respiratory	There is an insufficient amount in the blood due to inadequate breathing
Cardiac	Cardiac muscle not pumping effectively due to heart attack
Metabolic	Loss of body fluids with a change in biochemical equlibrium
Septic	Severe infection can cause septic shock
Anaphylactic	Severe allergic reaction of the body to sensitization by a foreign protein

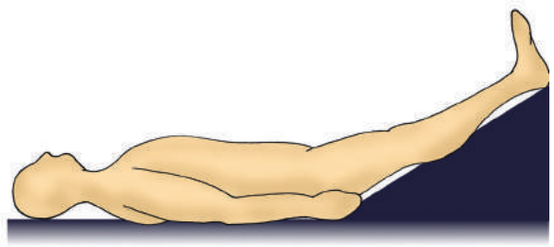
Management

a. Immediately reassure and comfort the casualty.

b. Body positioning for shock.

- DO NOT let the casualty smoke, eat drink, or move unnecessarily. If he complaints of thirst moisten her lips with little water.
- DO NOT leave the casualty unattended.
- DONOT try to warm casualty with a hot water bottle or any other direct source of heat.

c. Normally the lower extremities should be elevated. By gravity this reduce the blood in the extremities and may improve the blood supply to the heart.



d. If there are indications of the head injuries, the head could be raised slightly to reduce pressure on the brain.

e. If there are breathing difficulties, the victim may be more comfortable with head and shoulders raised

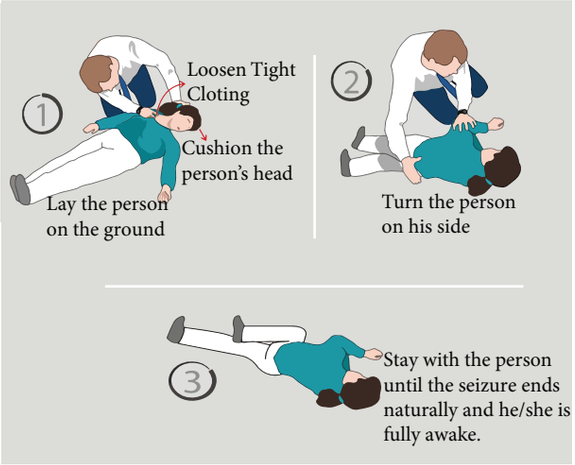
f. Loosen the tight clothing to help the circulation and assist breathing.

g. Treats the cause of shock, stop bleeding, immobilize fracture.

h. f breathing and heart beat stop then;-

i. Establish the airway

- Begin resuscitation immediately.
- Keep patient in recovery position.



- Transport the client to the hospital immediately.

7.8 DROWNING

Drowning causes asphyxia by water entering the lungs or by causing the throat to go into spasm so constricting the air passages.

Effects of drowning; -

Drowning is a major source of accidental death and can be a result of cold, fatigue, injury, disorientation, intoxication etc.,

The drowning victim struggles to inhale air as long as possible, but eventually he goes beneath the water where he /she must exhale air and inhale water and it also leads to.,

- Airway obstruction
- Asphyxia
- Congestion of lungs
- Hypothermia

Signs and symptoms; -

- Uncontrollable gasping on entering the water, with the consequent risk of water inhalation.
- A sudden rise in blood pressure which can precipitate a heart attack.
- Sudden inability to swim
- Hypothermia.

Management: -

1. ***Reaching the victim:***
   a. Pull the patient from the water using rope, branch, fishing pole, stick, towel, shirt.
   b. Lie down flat on your stomach and extend your hand or leg.
   c. Throw him an object that will float with line i.e tyre, foam, cushion logs boards.
   d. Make sure that your own position in safe.
   e. Use boat and life jacket if available.
   f. Tow the victim to the shore.

2. ***stabilization of the victim in the water:***
   a. Keeping the victims head and body aligned., place one of your hands in the middle of his

/her. Your arm directly your hands in the his /her back. Your arm directly over the victim's head.

b. Place your other hand under the victim's upper arm, near the shoulder.

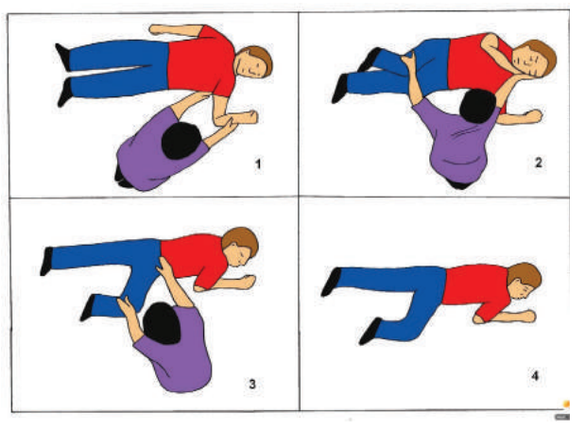
c. Slowly and carefully rotate the victim over in the water by lifting the shoulder up and rotating it over.

d. Support the victim in the neutral position in water start mouth to – mouth ventilation.

3. ***Resuscitation:***
   a. Quickly remove any obstruction such as sea-weed, mud from the nose and mouth.
   b. If with in your depth use one arm to support the casualty body and use the other hand to support the haed and seal the nose while you perform mouth to mouth ventilation.
   c. Turn the victim face down with head to one side and arms stretched beyond his head.
   d. Use postural drainage to clear water aspiration.
   e. Check breathing and heart beat and continue resuscitation.
   f. As soon as breathing begins keep casualty in recovery position.
   g. Remove wet clothing keep the body warm cover with blankets.
   h. Shift him to hospital in recovery position.

STUDENT'S ACTIVITY

While swimming in a country pond, one Scout jumps from a rock ledge and does not come back up to the surface. The other Scouts notice he is gone, jump in, and pull him out. He is not breathing and has a gash on his forehead that is bleeding profusely. What you will do with this condition?



Recovery Position

7.9 WOUNDS

Any abnormal break in the skin or the body surface is known as a wound. Open wounds allow blood and other fluids to be lost from the body and germs to enter.

Types of wound	
Incised wound	A clean cut from a sharp edge

Types of Wound

Laceration	Crushing or ripping forces result in rough tears or laceration
Abrasion	This is a superficial wound in which the top layers of skin are scraped off.
Contusion	A blunt blow or punch can rupture capillaries beneath the skin
Puncture wound	Standing on a nail or being stabbed
Gunshot wound	A bullet or other missile may drive into or through thebody.

Treatment

a. Make the patient sit or lie down.
b. Handle the injured part gently.
c. Wash the wound with clean water and soap. Always clean away from the wound.
d. Remove as much dirt or foreign matter as possible.
e. Wash the wound with antiseptic lotion.
f. Stop any bleeding by using direct pressure or by applying a tourniquet.
g. Apply antiseptic solutions (dettol) and dust wound with sulphonamide power.
h. If the wound is gaping, apply strips of adhesive plaster to bring the edges together.
i. Apply a clean dressing and bandage.
j. If necessary treat for shock.
k. Give pain reliever, if policy permits.
l. Support the arm in sling when necessary.

STUDENT'S ACTIVITY

A boy zigzagging on a bicycle is hit by a car. He receives a cut on his left forearm that severs an artery. He also sustains a simple fracture of his right leg.

How do act for it?

7.10 HAEMORRHAGE

Haemorrage or bleeding is a flow of blood from an artery, vein or capillary. Accompanies an accident in which a wound, a fracture or damage to organs occurs.

S1YDRL

There are three different types of hemorrhage or bleeding,

Arterial bleeding

- Blood is bright red in color
- It spurts at each contraction
- Flow is pulsatile

***Falling teaches us to walk** safely.*

Venous Bleeding

- Blood is dark red in color
- It does not spurts
- Steady flow.

Capillary Bleeding.

- It does not spurt
- Slow but even flow

MANAGEMENT

1. **Apply direct pressure to the bleeding wound:**
   - Apply firm pressure over the wound. Use a sterile or clean bulky pad and apply it firmly with hand pressure. Apply a bandage to keep the dressing in place.

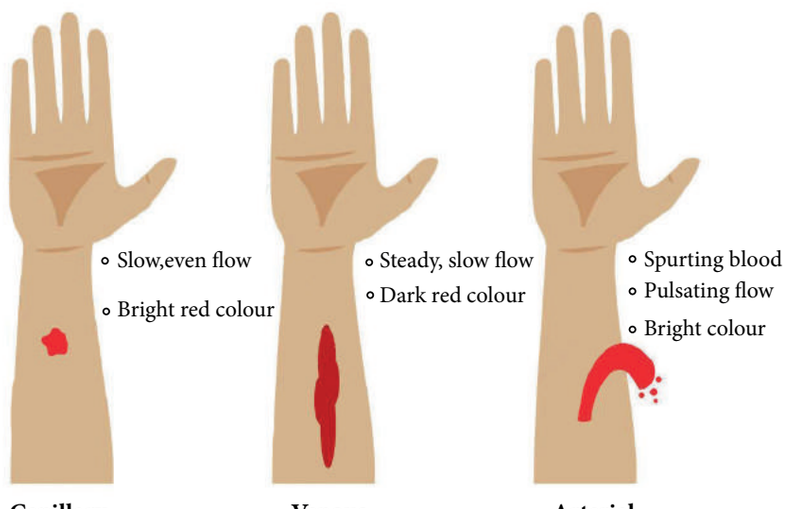
Caution.....?

DO NOT apply a tourniquet it can worsen the bleeding and may result in tissue damage

DO NOT give the casualty anything to eat or drink

DO NOT touch or attempt to remove embedded foreign body

Hemorrhage Classification



- If bleeding is severe, DO NOT waste time looking for suitable padding, but be prepared to use the patient's hand or your hand to hold the wound together if the patient is unable to do this unaided.

2. Raise the injured area

- If the wound is on a limb, raise it in a supported position to reduce blood flow to the injured area.
- If an arm is injured, you could apply an arm sling or elevation sling.

Try to avoid any direct contact with the patient's blood or other body fluids. Use disposable gloves if possible. If gloves are not available, place your hands inside a plastic bag.

- If there has been any contact with blood or any other body fluids, wash your hands or any blood splashed on the skin thoroughly with soap and water as soon as possible after the incident.
- If you are concerned about a possible risk of infection, obtain advice from your doctor as soon as possible.

3. If a foreign body is embedded in the wound:

- DO NOT remove it but apply padding on either side of the object and build it up to avoid pressure on the foreign body.
- Hold the padding firmly in place with a roller bandage or folded triangular bandage applied in a criss-cross method to avoid pressure on the object.

4. Keep the patient at total rest:

- Even if the injury involves the arm or upper part of the body, the patient should rest in a position of greatest comfort for at least 10 minutes to help control the bleeding.

5. **Seek medical assistance:**
   - If the wound appears to be minor and the patient is able to travel by car, arrange an urgent appointment with a local doctor to assess and treat the injury.
   - If the injury is severe or the patient is very unwell – call 108 for an ambulance as soon as possible.
   - While waiting for an ambulance to arrive, observe the patient closely for any change in condition.
6. **If blood leaks through the pressure pad and bandage:**
   - Apply a second pad over the first. Use a tea towel or similar bulky fabric and apply maximum pressure to the area.
   - For major uncontrolled bleeding quickly remove the blood-soaked pad and bandage then replace with a fresh bulky pad and bandage. The continuing bleeding may be due to the pad slipping out of position when the first bandage was applied.

NOSE BLEED

A blow to the nose, flying at high altitude, or scuba diving may all cause a bleeding nose. For a child, always check whether there is a foreign body present – e.g. a bead or coin. If this has occurred, seek prompt medical advice and DO NOT try to remove the object yourself because this may cause further damage.

Management

1. Sit the casualty down with her head held well forward.
2. Ask the patient to breath through her mouth and to punch her nose just below the bridge. Help her if necessary.

> ***Caution.....?***
> DO NOT let her head back, blood may run down her throat and induce vomiting

3. Tell her not to speak, swallow, cough, spit or shift.
4. Give her clean cloth or tissue to mop her dribble.
5. After ten minutes, tell the casualty to release the pressure. If her nose is still bleeding reapply the pressure for the further periods of ten minutes.
6. Once the bleeding is under control and with the casualty still leaning forward

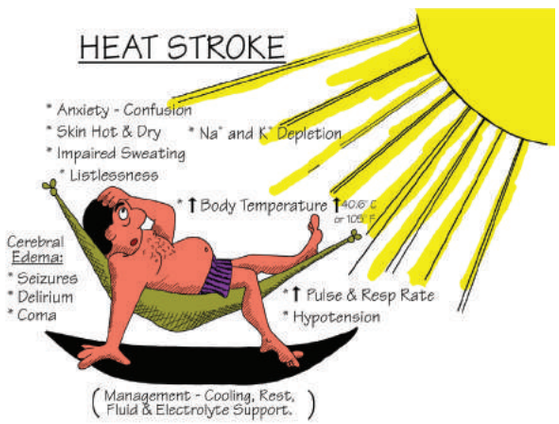
gently clean around her nose and mouth with luke warm water.

7. Advise the casualty to rest quietly for a few hours and to avoid exertion and in particular not to blow her nose as this will disturb any clot.

EFFECTS OF EXTREME HEAT

7.11 HEAT STROKE

- It occurs when body can no longer controls its temperature by sweating and can quite suddenly.
- It is caused by very high environment temperature or illness like malaria.
- Exposure to heat and humidity for long time
- Prolonged confinement in hot atmosphere.
- Consumption of alcohol



Heat Stroke

The signs and symptoms of heat stroke are as follows:

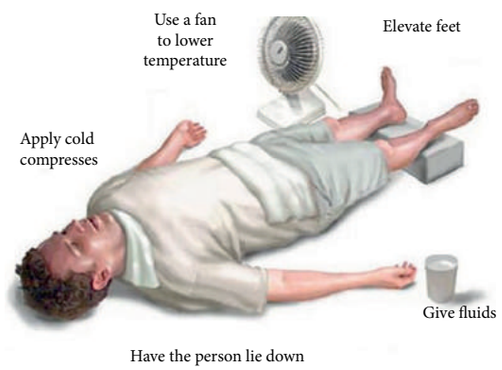
Body is very hot with temperature (up to 40°C)
No sweating
Full bounding pulse
Headache
Dizziness
Nausea and vomiting
Muscular Cramps
Dry flushed, hot skin

STUDENT'S ACTIVITY

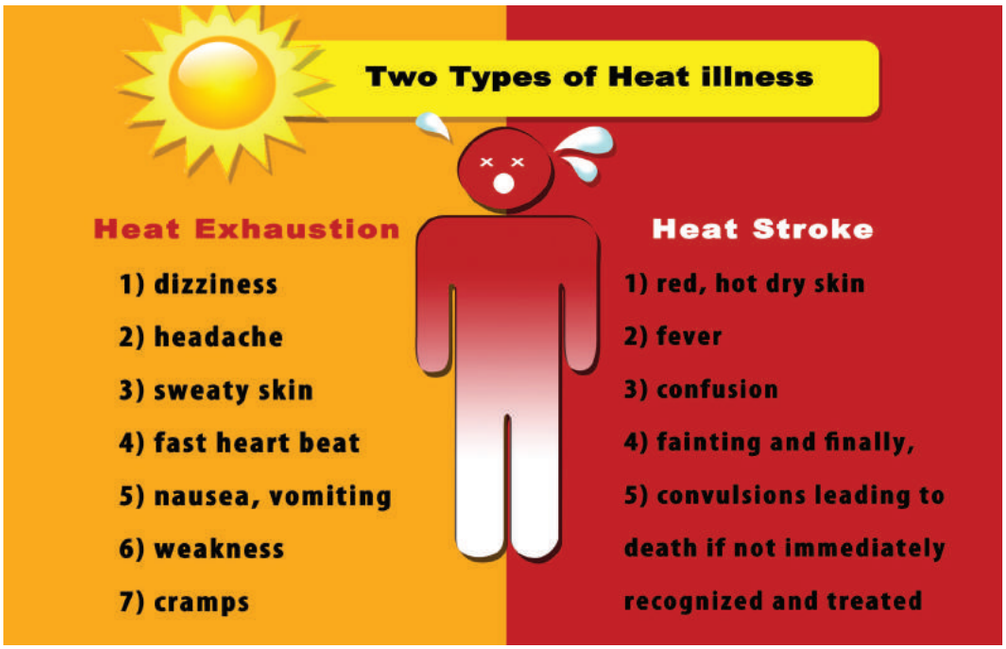
You come across a man who looks very pale and weak and is breathing rapidly. His skin is extremely warm to the touch, he seems confused and irritable, and his speech is not clear. You notice his water bottle is empty. How to handle the situation?

Management

- Move the casuality to cold place and remove the clothing.
- If the casualty is conscious, then place him in half sitting position with head and shoulders supported.



- If the casualty is unconscious, then place in recovery position.
- Wrap the casualty in a wet sheet and keep it wet. Fan should be on.pour water all over the body. Cold sponging should be started
- Replace the body fluids. Give cold water to drink
- Apply ice cap with ice pieces over the head and neck.
- Cold water enema can be given



- If required, shift him to hospital.

7.12 HEAT EXHAUSTION

- It occurs after heavy and prolonged sweating with failure to replace salt and water on a hot day.
- It occurs in hot and humid environment

Signs and symptoms

- Exhaustion and restlessness
- Headache
- Tiredness,nausea,dizziness
- Pallor
- Skin may remain cold and clammy.

STUDENT'S ACTIVITY

On an extremely hot day, several Scouts are sitting on a fence in front of their high school, watching a parade. One of the Scouts falls to the ground. His face is hot, dry, and flushed, and his pulse is exceptionally rapid. His left ear is torn and bleeding profusely. **How to handle the situation?**

- Muscle cramps in lower limbs
- Pulse is rapid and weak
- Fainting.

Management

- Remove casualty to cooler place in fresh air
- Lay him down and loosen all clothing's
- Give him plenty of cold water with little salt in it (1 teaspoonful to ½ litre of water)
- If he /she is unconscious, then keep him in recovery position and shift to hospital immediately

7.13 HEAT CRAMPS

- Heat cramps, a type of heat illness, are muscle spasms that result from loss of large amount of salt and water through exercise.

- Heat cramps are associated with cramping in the abdomen, arms and calves. This can be caused by inadequate consumption of fluids or electrolytes.

Treating Heat Cramps

Identify when you have a heat cramp.

Heat cramps are painful muscle spasms that result from dehydration, typically due to exercising or working in hot environments.Heat cramps are not simply caused by heat or being in a hot environment, as the name might suggest. Intense sweating from the exertion results in a loss of both fluid and the electrolytes (salt) needed for proper muscle function.

Stop exercising. Heat cramps are not something you "push through" during exercise. That are body's way of telling that it needs a break. The first step to treat a heat cramp is to cease the exercise routine or activity that led to the cramp.

Rest in a cool environment

Heat cramps are most commonly associated with overexerting yourself in the summer heat. If this is the case, get out of the sun as well. Find a cooler spot in the shade or indoors and give yourself time to rest and cool down.

- You can help your body cool down by applying a wet towel to the back of your neck.

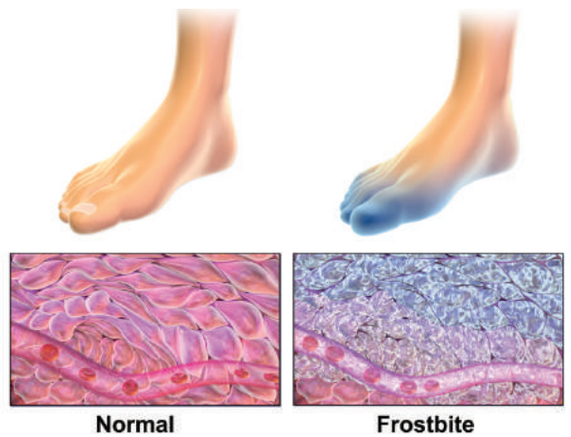
Drink plenty of fluids

The cramp is a response to dehydration and loss of electrolytes, so you should also drink lots of fluids while you rest, preferably a sports drink (Gatorade, etc.) or an electrolyte beverage such as Pedialyte. Sports drinks with 25 – 200 mg of sodium are best.

- Clear juice is also an option that will provide both the fluids and electrolytes you need.
- If all you have available is water, then dissolve a quarter or half teaspoon of regular table salt into one quart of water.It might not taste as good as a sports drink, but it will do the trick.
- Perform gentle stretches to the affected muscle group.
- Help make the cramp go away more quickly by gently stretching the muscle group. Use range-of-motions stretches rather than intense stretches. This will help reduce the spasming and pain in the muscles.

7.14 FROST BITE

This condition usually occurs in freezing and often dry and windy conditions.Frost bite occurs when the ears, nose, chin, hands and feet are exposed to prolonged or intense cold. Frostbite is often accompanied by hypothermia.



DO NOT put affected part by direct heat, it is danger of it refreezing.
DO NOT warm the part very fast.

Signs and symptoms

- At first, "pins-and-needles"
- Paleness followed by numbness
- A hardening and stiffening of the skin.
- A color change to the skin of the affected area. First white, then mottled and blue, eventually black on recovery red, hot painful and blistered.

Management: -

a. Very gently remove gloves rings and other constriction, such as boots

b. Warm the affected part with your hands in your lap or in the casualty armpit. Avoid rubbing because it can damage skin and tissue.

c. Warm the affected part with your hands in your lap or in the casualty armpit. Avoid rubbing because it can damage skin and tissue.

d. Move the casualty into warm before you thaw the affected part, carry her if possible when the feet is affected.

e. Place the affected part in warm water

f. Dry carefully, and apply a high dressing of fluffed-up, dry gauze bandage.

g. Raise and support the limb to reduce swelling.

STUDENT'S ACTIVITY

On at extreme cold, an adult starts experiencing paleness, followed by numbness. Hardening and stiffening of the skin. He then started to see color changes in skin, what could be your plan of action?

7.15 BITES & STINGS

Snake bite

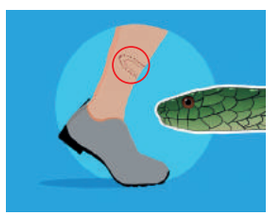
Bites from sharp pointed teeth cause deep puncture wounds that can carry germs far into the tissues. Snake bite results in punctured wounds caused by the fangs of a snake.

Signs and symptoms

- A pair of puncture marks.
- Severe pain at the site of the bite
- Redness and swelling around the bite
- Nausea and vomiting
- Labored breathing in extreme cases
- Disturbed vision.
- Increased salivation and sweating.

Examples of Snakebites

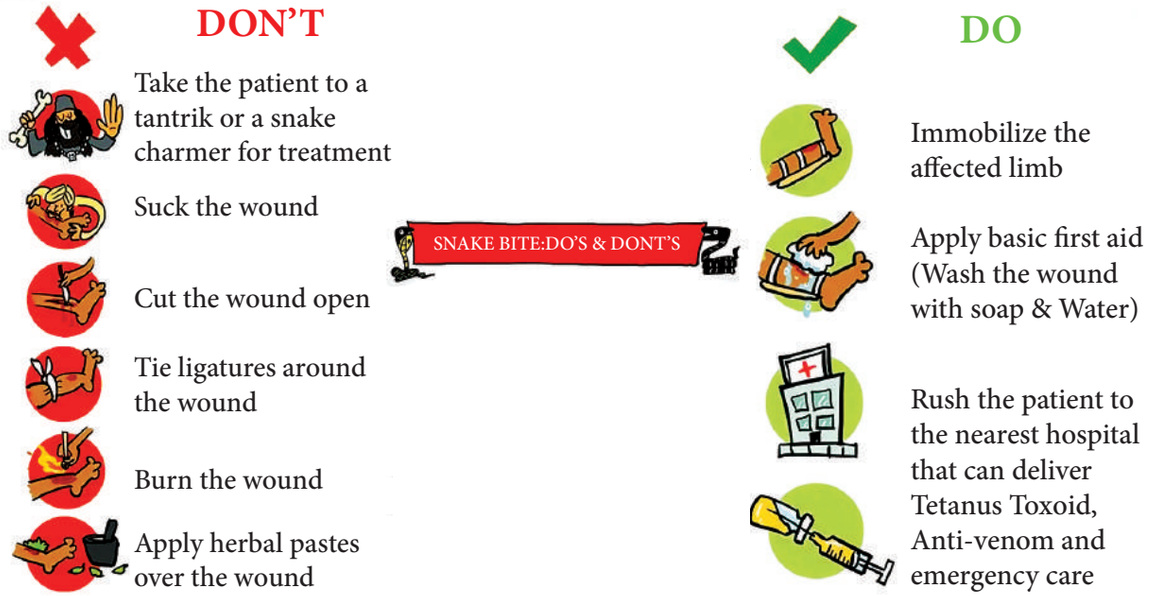
Venomous Snake



Nonvenomous Snake

Treatment

- Reassure the casualty.
- Lay the casualty down. Tell her to keep calm and still.



STUDENT'S ACTIVITY

On casualty if you receive the person with a pair of punch marks and severe pain at the site of the bite. He shows redness and swelling around the bite. What do you think is going on?

- Wash the wound well and pat dry with clean swabs.
- Lightly compress the limb above the wound with a roller bandage.
- Immobilize the injury.

SCORPION STING

Stings are usually being painful rather than dangerous. Some people are allergic to stings and can rapidly develop the serious condition of anaphylactic.

Symptoms and signs

- Itching swelling
- Burning pain
- Increased sensation or numbness
- Lacrimation
- Salivation
- Nausea and vomiting
- Profuse sweating

Treatment

If the sting is on the extremity apply a tourniquet proximal to the site of the sting and release it every 5 to 10 minutes.

Apply ice pack on the region to slow down the absorption of poison.

Shift the patient to hospital

7.16 POISONING

A poison is a substance which if taken into the body in sufficient quantity, may cause temporary or permanent damage. Poison may be swallowed, inhaled, absorbed through the skin.

First aid for poisoning

a. To maintain the airway
b. Patients must be send to a hospital or a doctor
c. Preserve packets or bottles, which was suspected to contain the position.

> ***Caution.....?***
> DO NOT induce vomiting, if it is often ineffective and it may cause the casualty further harm.

If the victim is unconscious

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

FOOD POISONING

This may be caused by eating food that is contaminated by bacteria or toxin produced by the bacteria that were already in food.

Signs and symptoms

Nausea and vomiting
Cramping abdominal pain
Diarrhea
Headache or fever
Features of shock
Collapse

Treatment

Help the casualty to lie and rest.

Give the casualty plenty of water to drink and bowl to use if she vomits

7.17 FOREIGN BODIES

Any object, large or small, that finds its way into the body either through a wound in the skin or via one of the body's orifices such as the ear, nose, eye, vagina or rectum is called as foreign body

EAR; -

If any object become lodged in the ear, it can create temporary deafness by blocking the ear canal

Treatment

1. Reassure the casualty and sit her down
2. Gently flood the ear with tepid water so that the insect floats out.
3. The insect will float up and can be removed easily.
4. If there is nothing floating up, leave it alone. Do not meddle.

DO NOT attempt to remove the object you may cause serious injury and push the foreign body even further.

5. Never pour the water and irrigate the ear since this may cause damage to the ear drum, for blockage due hardened blocks take to him to the doctor.

EYE

A speck of dust, loose eye lash or even a contact lens can literally float on the white of the eye and is usually easily removed, however anything that sticks to the eye, penetrates the eye ball, or rest on the colored part of the eye.

Foreign body in Eye

Treatment

1. Advice the casualty not to rub the eye.
2. Sit her down facing the light
3. Gently separate the eyelids with your finger and thumb
4. Examine every part of the eye

NOSE

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

Foreign body in Nose

THROAT

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

Foreign body in Throat

DO NOT give the casualty anything to eat or drink

7.18 ACCIDENTS

Road accident range from a fall from a bicycle to a major incident with many casualties. Often the accident site will present serious risk to safety largely because of passing traffic. It is essential to make the area safe to protect yourself and other road users

Check the casualty

a. Quickly assess the casualty shift them only if they are in danger, then dolifesaving treatment.

b. Deal with the life saving condition first.

c. Search the area thoroughly, so that you do not overlook a casualty

For an unconscious casualty

a. Assume there is neck injury until proved otherwise.

b. Support the head and neck with your hands, so that the casualty can breathe freely.

c. Apply a collar if possible.

d. Treat any life-threatening injuries.

e. Monitor and record breathing, pulse and level of response every ten minutes.

For a casualty trapped under a vehicle

a. Mark the exact position of the vehicle and the casualty first.

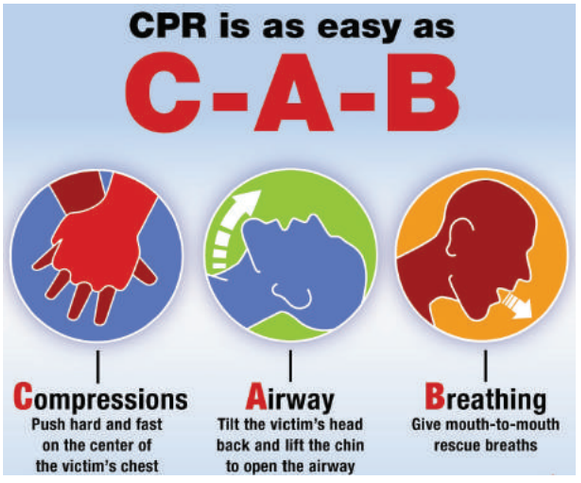
b. The police will need this information.

c. Try to find help to lift or move the vehicle and only if it is absolutely necessary, drag the casualty clear.

7.19 CARDIO - PULMONARY RESUSCITATION (CPR)

Checking the response

- On discovering a collapsed casualty, you should first establish the whether he /she is conscious
- A fully unconscious casualty client will not response at all
- The casualty response to pain try gently pinching the skin.
- Observe **A.B.C** of resuscitation
  A = Airway,
  B = Breathing,
  C = Circulation.



Open the airway

- Open the victim's airway
- There are tree methods to open the airway: the preferred head – tilt/ chin – lift, the head – tilt/chin – lift, or the jaw thrust without head – tilt.
- 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 his mouth.

- To use the head – tilt/chin – lift method, place the palm of your hand that is closest to the victim's head on 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.

Air way

- 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.
- 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 airway until help arrives.

Giving mouth to mouth respiration

a. With the casualty lying flat on his back remove any obvious obstruction., including broken or displaced dentures from the mouth.

b. Open the airway by tilting the head and using two fingers to lift the chin.

c. Close the casualtynose by pinching it with your index finger and thumb. Take full breath, and place your lips around his mouth making a good seal.

d. Blow into the casualty mouth until you see the chest rise. take about two second for full inflation.

Mouth -To – mouth Respiration

e. Remove your lips and allow the chest to fall fully, which takes four seconds. Repeat this once and then assess for the sign of circulation.

f. When you see the victim's chest rise, then fall, you will know that air is entering and escaping his lungs.

Giving chest compression

a. Check the victim's carotid pulse for ten seconds.

b. Kneel bedside the casualty. locate one 4th and 5th intercoastal space

c. Place the heel of your hand on the breast bone That is the where you should apply pressure.

d. Place heel of your first hand on top of the other hand, and interlock your fingers.

e. Leaning well over the casualty with your arms straight, press vertically down and depress the breastbone approximately–5-4 cm. Release the pressure without removing hands.

f. Compress the chest 15 minutes aiming for a rate of 100 compression per minute. Then give two breaths of artificial ventilation.

g. If you are only rescuer, time your compressions at a rate of 100 a minute. Count, "one two and three and four and five and ...." Up to the count of fifteen.

h. Then deliver two quick breaths without allowing the victim to exhale between them.

i. 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.

Cardiopulmonary resuscitation for small children

a. Use adult CPR techniques for children older than 8 years. In 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.

Cardiopulmonary Resuscitation

b. For example, if 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, three fingers.

c. 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.

d. Try to palpate the child's carotid pulse. If you find a pulse. Do not give cardiac compression but do ventilate the child a rate of one breath every 4 seconds.

e. If you can't locate a pulse, find the proper location for compression. Use the same technique you would for an adult.

f. Then compress about 1 to 1. ½ inches (2.5 to 3.8 cm), using the heel of one hand (as shown).

7.20 BANDAGES AND SLINGS

Bandages have a number of purposesthey are used to hold dressing in position over wounds, to control bleeding, to support and immobilize injuries, and reduce the swelling.

General Rules for bandaging

a. Reassure the casualty and explain clearly what you are going to do.

b. Bandages should be applied firm enough to keep dressing and splints in position.

c. But no so tight as to cause injury to the part or to impede the circulation of the blood.

d. A bluish tinge of the finger or nails may be a danger sign that the bandages are too tight.

e. Loss off sensation is another sign.

Types of bandages

1. Triangular bandages.
2. Roller bandages
3. Tubular bandages

Triangular bandage

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

Triangular Bandages

STUDENT'S ACTIVITY

A driver is speeding along a country road when one of his tires blows out. The car crashes into a pole. The driver receives a simple fracture of the right forearm and a gash on his right shoulder, causing arterial bleeding. **Tell the response!**

Roller bandages

Roller bandages are used for the following purpose.

a. To cover and to retain dressing and splints in position.

b. To exercise pressure on a part in order to prevent or to reduce swelling.

c. To provide support for a part, sprained or dislocated

d. To prevent and control hemorrhage.

e. To restrict movement.

f. To correct deformity.

Applying Roller Bandage

1. Use a tightly rolled bandage or the correct width.
2. Support the part to be bandaged throughout.
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 a crossing a line on the outer side of the limb, expect, 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 two 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.

Terms used in roller bandaging

1. Simple spiral
2. Reverse spiral
3. Figure of eight
4. Spica

Roller Bandages

Simple spiral

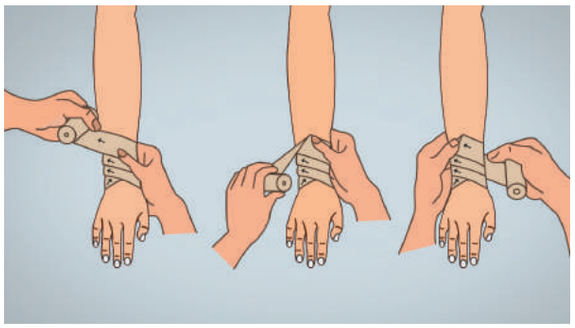
It is used for parts which are of uniform thickness, such as a finger or a wrist.

The bandage is applied obliquely round the part, each turn cover two thirds (2 / 3) of the proceeding one, and the edge being kept parallel.

Simple spiral

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. The bandage is then reversed and brought down and carried round the former one. These reverses are repeated as far as necessary and the bandage completed with one or two.



Reverse spiral

Figure of Eight

Is used for bandaging limb and for covering joints. In consists of series of

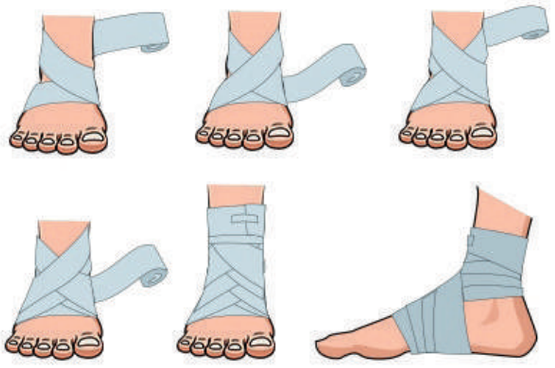
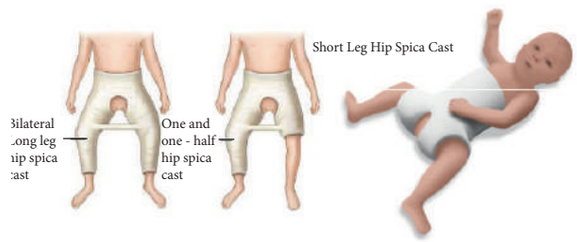


Figure of Eight

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 covers the two thirds of the preceding loop and crossing in the same line.

Spica

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



Spica

Wrist, forearmd upper arm bandages

The wrist and forearm are bandages by use of the simple and reverse spiral until the elbow is reached.

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 te patient and take his foot on her knee.

Foot and ankle bandage

Head and other bandage

Cape line 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 bandage is completed by a circular turn round the head and pinned in the center of the forehead.

Cape line 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.

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.

Eye 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.

1. 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.
2. 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.

Collar and cuff sling

Triangular sling

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

1. Place the forearm across the chest with the figures 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.

Triangular sling

7.21 FIRST AID KIT

The box should be labeled clearly with Red Crossing and "First Aid" should be written on it. The box should be kept away from children

a. It should contain
b. Triangular bandages
c. Rollar type bandages
d. First aid dressing
e. First aid dressing
f. Sterilized small dress
g. adhesive plaster

h. Safety pins (6 packets)
i. Roller bandages
j. Cotton wool small pocket
k. Eye pad
l. Small scissors
m. Small forceps

CONCLUSION

First – aid is the immediate and temporary care given to an injured or sick person until the medical aid is obtained. The objectives of first – aid are to save life and to avoid further injury.

ICT Corner

Body Fluids and Circulation

Through this activity you will be able to understand the 'Phases of Cardiac Cycle'.

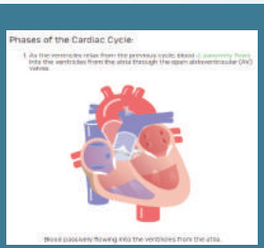
Step 1: Type the following URL in the browser. 'Circulatory System page will open. Select 'Phases of Cardiac Cycle' from the grid.

Step 2: From the given Phases of Cardiac Cycle, Play one after another using 'Play' button and observe the valve movements and blood circulation in the heart.

Step 3: The last animation shows the entire functions and flows of the Cardiac cycle. Use Play, Forward and Backward buttons and observe the nuances of Heart function.

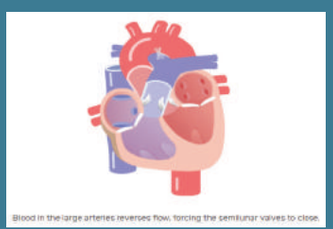
Step 4: Use the links below the Phases to get more details about the locations, size , chambers and pericardium structures.

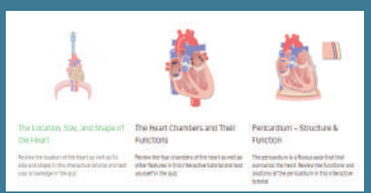
Step 1



Step 2

Step 3





Step 4

PHASES OF THE CARDIAC CYCLE'S URL:

https://www.getbodysmart.com/circulatory-system

*Pictures are indicative

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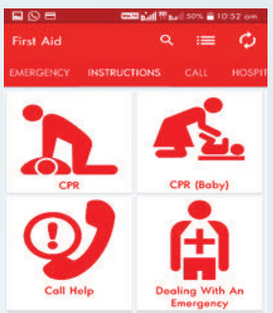
ICT Corner

First Aid

Through this activity you will be understand the procedures of First Aid.



Step 1: Open the browser and paste the link given below (or) by typing the URL given. You can download and install the ''First Aid" app.

Step 2: Open the App, you can see many options like Emergency, Instructions, Call etc. Among these options, select 'Emergency' and you can see many types of illnesses and select 'Burns'.

Step 3: You can see the First Aid steps to be followed in case of burns.

Step 4: Click on 'Instructions' in main page and select CPR. You can see the first aid steps for CPR.

Step 1

Step 2

Step 3

Step 4

FIRST AID LEARNING APP'S URL:

https://play.google.com/store/apps/details?id=org.indianredcross.firstaid&hl=en

*Pictures are indicative

B190_11_NUR_EM

EVALUATION

S231FI

I. Choose the correct answers (1 mark)

1. How should you open the airway of an unconscious casualty?
   b. Head tilt and chin lift.
   c. Head tilt and jaw thrust.
   d. Head tilt and jaw thrust.
   e. None of the above
2. Which is the correct ratio of chest compressions to rescue breaths for use in CPR of an adult casualty?
   c. 2 compressions: 30 rescue breaths.
   d. 5 compressions: 1 rescue breath.
   e. 5 compressions: 2 rescue breaths.
   f. 30 compressions: 2 rescue breaths.
3. What is an open fracture?
   d. A fracture in which the bone ends can move around.
   e. A fracture in which the bone is exposed as the skin is broken.
   f. fracture which causes complications such as a punctured lung.
   g. A fracture in which the bone has bent and split.
4. Which medical condition will develop from severe blood loss?
   e. Shock.
   f. Hypoglycemia.
   g. Anaphylaxis.
   h. Hypothermia.
5. What names are given to the three different depths of burns?
   f. Small, medium and large.
   g. First, second and third degree.
   h. Minor, medium and severe.
   i. Superficial, partial thickness, full thickness.
6. What steps would you take to control bleeding from a nosebleed?
   g. Sit casualty down, lean forward and pinch soft part of nose.
   h. Sit casualty down, lean backward and pinch soft part of nose.
   i. Lie casualty down and pinch soft part of nose.
   j. Lie casualty down and pinch top of nose.
7. The recognition of shock includes
   h. Slow, deep breathes
   i. Slow, strong pulse
   j. Pale, clammy skin
   k. Flushed, dry skin
8. Some people are very allergic to insect bites and stings. This condition is called:
   i. Septic shock
   j. Cardiac arrest
   k. Toxic shock syndrome
   l. Anaphylactic shock
9. In general a splint should be….
   j. Loose, so that the victim can still move the injured limb.
   k. Snug, but not so tight that it slows circulation.
   l. Tied with cravats over the injured area.
   m. None of the above.

10. Which should be part of your care for a severely bleeding open wound?

k. Allow the wound to bleed in order to minimize infection.

l. Apply direct pressure and elevate the injured area. (If no broken bones)

m. Use a tourniquet to stop all blood flow.

n. Both b and c

II. Write short Answer (3 marks)

1. Write four symptoms of heat stroke.
2. List down the management of drowning.
3. Define poisoning.
4. Write four equipment's in first Aid kit.
5. List down the types of wound.
6. Define heat exhaustion.
7. Mention three types of fracture
8. Define Burns.
9. Write four symptoms of snake bite
10. List down the symptoms of shock.

III. Write short Notes (5 marks)

1. Explain about the management of hemorrhage.
2. write the rules and principles of First Aid.
3. Discuss the management of foreign body in Eye.
4. Explain the immediate management insect sting.
5. list down the purposes of bandages.

IV. Write an essay for the following questions (10 marks)

1. Define Shock? Describe the causes symptoms and management of shock.
2. Discuss the Cardio-pulmonary Resuscitation.
3. Define fracture. Explain about the management of fracture.

A-Z GLOSSARY

Burns and scalds – (தீக்காயம்மற்றும்வெந்தபுண்) - Burns result from dry heat, extreme cold, corrosive substances, friction or radiation including sun rays

Fracture – (எலும்புமுறிவு) - Break or crack in the bone

Shock – (அதிர்ச்சி)	-	Is a syndrome that results from a decrease in effective circulating blood volume in the body
Drowning – (மூழ்குதல்)	-	Drowning is the process of experiencing respiratory impairment from submersion/immersion in water.
Wound – (காயம்)	-	An injury to living tissue caused by a cut, blow, or other impact, typically one in which the skin is cut or broken.
Hemorrhage – (இரத்தஒழுக்கு)	-	An escape of blood from a ruptured blood vessel.
Heat stroke – (வெப்பத்தாக்கு)	-	A condition marked by fever and often by unconsciousness, caused by failure of the body's temperature-regulating mechanism when exposed to excessively high temperatures.
Heat Exhaustion – (வெப்பசோர்வு)	-	Fatigue and collapse resulting from prolonged exposure to excessive or unaccustomed heat.
Heat cramps – (வெப்பதசைபிடிப்பு)	-	Brief muscle cramps that occur during or after exercise or work in a hot environment.
Frost bite – (பனிகடுப்பு)	-	Injury to body tissues caused by exposure to extreme cold
Poisoning – (விஷம் அருந்துதல்)	-	Administer poison to (a person or animal), either deliberately or accidentally.

BIBLIOGRAPHY

1. St Johns Ambulance "First Aid Manual" St Johns Ambulance, Dorling Kindersley publishers London; 1997
2. TNAI "Fundamentals of nursing", A Procedural Manual New Delhi; 2005
3. Potter PA, Perry AG, "Fundamentals of Nursing" 7th edition, Elsevier Publications, St Louis Missouri 2009.
4. Sister Nancy, Fundamental Of Nursing; Principle &Practice of Nursing 12th edition. Volume. I
5. L.C Gupta Abhitabh Gupta. "Manual of First Aid" First edition Jaypee Publications 2007.
6. In the case of burns, it says if there is no running water then improvise. If the only source of water was a lake, which would be the priority

WEB LINKS

https://first-aid-product.com
www.emssafetyservices.com
https://www.redcross.org

Unit 8

HOSPITAL HOUSE KEEPING

S289T9

LEARNING OBJECTIVES

At the end of this chapter students will be able to

- Gain knowledge about hospital house keeping.
- Gain knowledge on how to care for hospital equipments like
  - Care of rubber goods
  - Care of enamel ware.
  - Care of glass ware etc.,
- Students will gain knowledge on how to maintain a healthy hospital environment like
  - Care of patients unit.
  - Care of flooring and walls.
  - Care of sanitary annex etc.,

8.1 INTRODUCTION:

> Sanitation is more important than Political Freedom"
>
> -Mahathma Gandhi

House keeping services in a hospital are entrusted with maintaining a hygienic and clean hospital environment conducive to patient care.

House keeping services has a direct effect on the health, comfort and morale of the patient, staff and visitors, Hence it is also an important public relations variable.

Good housekeeping is one of the basic essentials of nursing.

A well managed housekeeping department can reduce the cost of hospital operation considerably.

Hospital housekeeping is an activity upon which all health – providing services (Dietary, Laundry, Laboratory) of the hospital depend on.

8.2 PRINCIPLE OF GOOD HOUSE KEEPING:

- Damp dusting is better than dry dusting as dust easily flies out into the environment.
- Dusting is done after sweeping.
- Soap and water (or) Disinfectant solutions are used for cleaning.
- Dusting should be done frequently. Use brush on grooved surfaces.
- Blood, Body discharged coagulate by heat. So it should be removed with cold water.
- Bacteria grows in dark. So provide maximum exposure to sunlight.
- Articles should be stored and arranged in proper and clean place, so that it can be conveniently located.

8.3 CLEANLINESS AND ORDERLINESS:

Cleanliness and orderliness go hand in hand. Nurses are held responsible for the cleanliness of the wards.

About 6,000 children die, each day from water & sanitation related illness (2016)

PURPOSE OF CLEANING:

- To avoid dirt accumulation
- To get rid of breeding places of micro-organisms and insects.
- To keep the articles in such a condition that they are ready for use at anytime.
- To maintain the aesthetic sense.

8.4 CARE OF RUBBER GOODS:

Common rubber goods used in hospitals are

- Air cushions
- Mackintoshes
- Hot water bags
- Rubber tubes
- Catheter
- Gloves
- Rubber beds etc

Care of rubber goods in hospitals:

- Rubber goods should be washed with a mild soap, rinse and dried in the utility room.
- Mackintoshes needs to be spread on a flat surface, wet with cold water, apply soap and water to remove blood and body discharges.
- Disinfection with Disinfectant 1:40 solution is done and dried by hanging them on cylindrical pole
- Both surfaces are dried and powdered
- Store them rolled in a dark cool place
- Rubber tubes (catheters) after cleaning with soap and water under running water, boil it for 5 mts and dry it by hanging and then, stored in air tight containers.
- Reboil/autoclave them before use. Check for kink in tubes before use.

8.5 CARE OF ENAMEL WARE:

Measuring Cup

Feeding Cup

Common Enamel wares used in hospitals are

- Kidney trays
- Bed pan
- Urinals
- Sputum mugs
- Feeding cups and
- Trays

Care of Enamel ware in hospitals:

Bed Pan

- The contents of the bedpans should be emptied into a lavatory
- Rinse with cold water under gushing into the bed pan.
- Wash with soap & water using a brush
- Disinfect with disinfectant 1:40.
- Place the bed pan in direct sunlight and keep them dry

Kidney tray

- Used Kidney trays should be emptied into a lavatory
- Rinse the kidney tray with cold water
- Wash with soap & water using a brush
- Disinfect with disinfectant 1:40.
- Place in direct sunlight and keep them dry

Urinal

- Same procedure as of bedpans

8.6 CARE OF INSTRUMENTS:

- Operation theatre instruments should be immersed in water and washed with soap & water. Rinse them and dry it.

- After which Instruments are cleaned with %2 sodium carbonate and hot water

8.7 CARE OF GLASS WARE :

The commonly used glassware in hospitals

- Ounce glasses
- Drainage bottles
- Suction bottles

Care of glassware in Hospital:

- Hard glassware in resistant to heat and mechanical shocks.
- Avoid cleaning glassware with abrasive material.
- After use of glassware wash with cold water and soap
- Glassware used for parenteral therapy should be rinsed with freely distilled water
- Send glassware for autoclaving by padding it adequately to prevent damage
- Glassware will be sterilized by the hot air oven.

8.8 CARE OF LINEN :

Care of linen is important and expensive item in the hospital

The commonly used linen in the hospitals are as follows:

- Clothing's used by health team member
- Operation theatres
- Bed linen
- Trolleys
- Mattresses
- Pillows
- Blankets
- Sheets
- Towels
- Patient
- Gown
- Curtains

8.8.1 Care of linen in hospitals:

- Soiled linen with urine, motion or body discharges should be rinsed with cold water.
- Torn linen should be mended if possible.
- Soiled linen should not be placed on the floor.
- Damp linen should be dried immediately.
- Send linens for ironing.
- Ironing of linen gives a neat appearance clean and neat linen installs psychological confidence in the patients.

8.8.2 Care of mattress and pillows:

- Mattress should be brushed at regular and frequent intervals.
- Examine the mattress for stains and tears which needs to be mended.
- Disinfected mattress and pillow with Lysol 1:40 solution and exposed them in direct sunlight.
- Staining with body fluids can be prevented and protected using mackintoshes.

8.9 CARE OF PATIENTS UNIT:

The patients unit maintenance include

- Flooring
- Walls
  - Cement walls
  - Painted walls
- Sanitary annex
  - Bath room
  - Lavatories
  - Hand washing sink

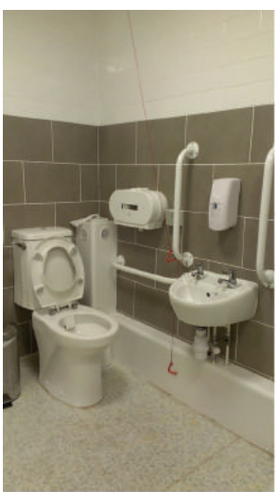
8.9.1 Care of the floor:

- Dusting of floor is done with a soft broom or vacuum cleaner
- The floors are washed with hot water and weak solution of sodium bicarbonate
- Floors are mopped with disinfectant solutions

8.9.2 Care of walls:

- Cement and tiled walls can be cleaned in the same way as the floors

8.9.3 Care of the sanitary annex:



The sanitary annex attached to the wards consist of the following:

- Bathing rooms
- Lavatories
- Hand wash sinks
- Soiled utility rooms (washing and storing place of soiled linen bedpans, urinals etc.)

Bathing rooms

- The floor should be scrubbed and washed daily to prevent slipping
- Use toilet sanitizers and toilet freshener's to give a pleasant feeling to the patient

Lavatories

- Lavatory pans should be cleaned with toilet cleaners. Brush and acid are used to remove stains.
- The patients and relatives should be taught about proper use of lavatories

Hand washing sinks

- The sinks are cleaned with soap and water.
- Stains are removed using mild acids.
- Blocks of drains needs immediate attention
- Awareness about healthy practices to patients and their relatives is needed to avoid blocks due to food waste

Fact:
"You can't Flush diapers, sanitary napkins and tampons in the lavatories or else you'll make the toilet Gush."

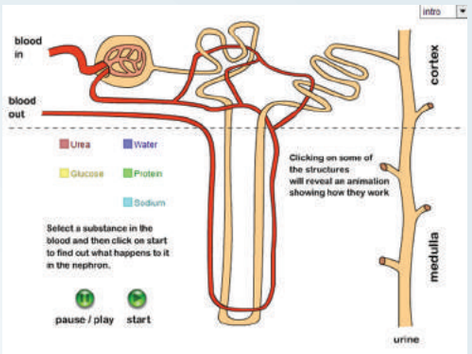
CONCLUSION

Hospital housekeeping, care of equipments used in hospital settings, care of patients unit such as floor, walls, sanitary annex are essential for nurses as nurse administrators/ward incharges in a hospital settings.

ICT Corner

Excretory System

Through this activity you will be understand the functions of nephrons.



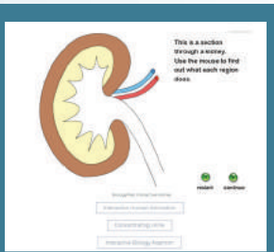
Step 1: Use the URL to land in 'Biomed heads-Kidney' page. Press the 'Continue' button near the kidney diagram to download an interactive flash file.

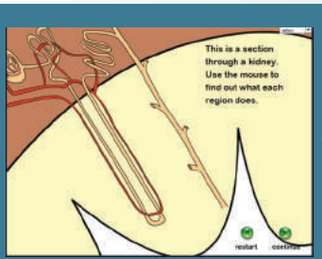
Step 2: Open the downloaded flash file and then click the 'Continue' button to start the interactive activity.

Step 3: By selecting the molecules given in the list, we could understand how the nephrons process these molecules in accordance with their properties.

Step 4: Use the drop-down menu on the top right corner of the window to understand the parts of the nephrons and their functions.

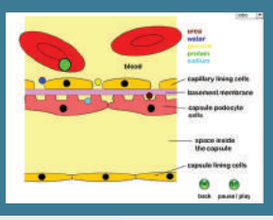
Step 1

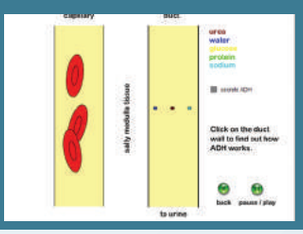




Step 2

Step 3





Step 4

BIOMED HEADS-KIDNEY FUNCTION'S URL:

http://www.biomedheads.com/kidney--nephrons.html

B190_11_NUR_EM

*Pictures are indicative

EVALUATION

S2BWH6

I. Choose the correct answers (1 mark)

1. Air cushions comes under
   a. Enamel wares
   b. Sanitary annex
   c. Rubber goods
   d. Linen
2. Dusting can be done best by
   a. Wet duster
   b. Dry duster
   c. All of the above
   d. None of the above.
3. Mosaic floors should be cleaned with
   a. Alkaline solution
   b. Acidic solution
   c. Water
   d. Sodium bicarbonate.
4. Exposure to sunlight destroys
   a. Bacteria
   b. Virus
   c. Fungi
   d. Spirochete
5. Rubber goods should never be dried by
   a. Artificial heat
   b. Natural heat
   c. Air
   d. Dusting.
6. Dusting is done by
   a. Before sweeping
   b. After sweeping
   c. During sweeping
   d. After mopping.

II. Write short answers (3 marks)

1. What does hospital housekeeping mean?
2. Name some common rubber goods used in hospital.
3. Name some common enamel wares used in hospital.
4. Name the commonly used linen used for patient care.

III. Write short notes (5 marks)

1. What are the principles of good house keeping?
2. Care of rubber goods in hospitals.
3. Care of enamel ware in hospitals.
4. Care of linen in hospitals.
5. Care of sanitary annex in hospitals.

IV. Write an essay for the following questions (10 marks)

1. Hospital housekeeping
   - Care of linen
   - Care of patients unit
   - Care of sanitary annex

A-Z GLOSSARY

Mackintosh	– (இரப்பர்விரிப்பு)	-	Rubber sheets used on beds.
High Dusting	– (ஒட்டடைஅடித்தல்)	-	Dusting of roofs for cob webs and insects.
Aesthetic Sense	– (புத்துணர்ச்சி)	-	Concerned with beauty.

REFERENCE BOOKS:

Ward Management – Mrs. Dorothy Finkbiner.

INTERNET LINKS

- https://libraryzafax.github.io/16-prof-weston-weissnat-1/
- www.bengalasonline.com/hospital/housekeeping/hospital-housekeeping...
- breakfastcass.com/hospital/housekeeping/hospital-housekeeping

Unit 9

DOCUMENTATION

LEARNING OBJECTIVES

At the end of this chapter the students will be able to:

1. Define the Records and reports
2. List Purpose of Documentation
3. Understand the Methods of Documentation
4. Identify the General guide lines for documentation
5. Explain the Characteristic of Good Recording
6. Mention the Principles In Maintaining Records
7. List the type of records
8. Assist in Arrangement of records
9. List the Types of reports
10. Describe the Nurses responsibility in record keeping.

S2H5UH

9.1 INTRODUCTION

Mr. Arul is admitted in the Medical ward with fever. His temperature was 102 Degree F^0 (Farenheat). Sister Lucy gave Tablet. Paracetemol at 8am and went. At 08.10 am, Sister Mary came and checked the temperature, it was 102 Degree F. So, Sister Mary also gave one more Tablet Paracetemol.

Mr. Arul did not tell Sister Mary that he took one tablet already. Patient had 2 tablets instead of one tablet. It comes under Negligence and Malpractice, which is one of the legal issue. This is due to the poor communication between the sisters. Even if not able to communicate they should have entered in the patient chart. Patient chart is a ideal way of communicating the information to the next person. Since Sister Lucy did not record or enter in the chart, Mr. Arul had two tablets. This incident tells about the importance of recording and reporting. This chapter is going to discuss about the importance of documentation which includes recording and reporting.

Nursing practice needs accurate record keeping and careful documentation. The Nursing and Midwifery Council (NMC 2002) stated that 'good record keeping helps to protect the welfare of patients. Records and reports reveal the essential aspects of service in logical order, so that the new staff may be able to maintain continuity of service to individuals, families and communities.

9.2 DEFINITIONS

9.2.1 Records

- Records contain a written evidence of the activities of an organization in the form of letters, circulars, reports, contracts, invoices, vouchers, minutes of meeting, books of account etc.

[S.L.Geol, 2001]

- A record is a permanent written communication that documents information relevant to a client's health care management, e.g. a client chart is a continuing account of client's health care status and need.

(Potter and Perry)

- It is a written communication that permanently documents information relevant to a client's health care management. It is a continuing account of the client's health care needs.

[Sr. Mary lucita]

9.2.2 Report

It is a summary of activities or observations seen, performed or heard.

(Potter and Perry)

9.2.3 Reporting

It is a process takes place when two or more people share information about client care, either face to face or by telephone.

9.2.4 Documentation

It is a permanent record of client information and care. It is otherwise called as Charting.

9.3 PURPOSE OF DOCUMENTATION

- It is a guide for reimbursement of costs of care
- Is a legal record that can be used as evidence of events that occurred or treatments given
- Contains observations by the nurses about the patient's condition, care, and treatment delivered
- To have clear Communication between health care workers.
- Aids in diagnosis of patients condition
- Written nursing care plan or interdisciplinary care plan is a framework for documentation
- Implementation of each interventions has to be documented on flow sheet or in nursing notes
- Evaluation statements are written in nurse's notes which indicate the progress of patient.

9.4 METHODS OF DOCUMENTATION (CHARTING)

1. Source-oriented (narrative) charting
2. Problem-oriented medical record (POMR) charting
3. Focus charting
4. Charting by exception
5. Computer-assisted charting
6. Case management system charting.

9.4.1 Source-Oriented or Narrative Charting

1. Organized according to source of information (from records, relatives, patient, family, and health care workers etc.

2. Separate forms for nurses, physicians, dietitians, and other health care professionals to document assessment findings and plan the patient's care
3. Narrative charting requires documentation of patient care in chronological order
    - Physician's order sheet
    - Medical history
    - Nurses notes
    - Special records and reports (Referrals, X-Ray Reports, laboratory findings, report of surgery, anesthesia record, flow sheets, vital Signs, intake and output chart, Medications chart and etc)

9.4.2 Problem-Oriented Medical Record Charting (POMR)

- Focuses on patient status rather than on medical or nursing care
- The record integrates all data about the problem, gathered by the members of the health team.

9.4.2.1 Five basic parts in POMR

1. Database. – (it includes patients age, sex, address, habitat, chief complaints etc)
2. Problem list - (needs and problems Ex. Headache, vomiting, fever and etc which patient has)
3. Initial list of orders or care plans- (the first orders written by the physician and nurses initial assessment, planning etc.)
4. Progress notes - (patient status in the hospital has been written by the doctors and nurses)
5. Discharge summary - (Discharge notes by the doctors)

9.4.2.2 In POMR there are few styles of charting

(i) SOAPIER format

- S - SUBJECTIVE. = What patient tells you.(I have leg pain)
- 0 - OBJECTIVE. = What you observe, see (observe the leg and Facial Expressions)
- A - ASSESSMENT. = What you think is going on based on your data (assess the leg for any injury, wound, Swelling and tenderness
- P - PLAN. = What you are going to do. (plan for any nursing intervention to reduce pain, informing physician, giving Medications and comfort position)
- I - INTERVENTION = Specific Interventions implemented like hot or cold fomentation, administration of Medications etc.
- E - EVALUATION = Patient Response to Interventions. (patient may say, I am feeling better, my leg pain is reduced or, patient can say it is the same)
- R - REVISION = Changes in treatment. (If the pain is not reduced look for the Cause of pain and change the medication as per the order)

(ii) PIE Charting

It is Similar to SOAP charting, both are problem-oriented

- PIE comes from the Nursing Process; SOAP comes from a Medical Model.
- P-Problem Identification
- I-Intervention
- E-Evaluation

Ex:

- P - Risk for trauma related to dizziness.
- I - Instructed to call for assistance when getting Out of Bed. Put the Call light in Reach.
- E - Consistently call for assistance before getting Out of Bed because the patient continues to experience dizziness.

It follows the nursing process and uses nursing diagnoses while placing the plan of care within the nurses' progress notes.

9.4.3 Focus Charting

Focused only on nursing diagnosis, patient problem, signs, symptom, or event and writing the interventions it has three components (DAR)

- DATA – subjective or objective that supports the focus (concern)
- ACTION – nursing intervention
- RESPONSE – Patient response to intervention

Ex:

- D – complaining of pain at incision site, pain score: 7/10
- A – Repositioned for comfort. -------Analgesics 50mg IM given.
- R – States a Decrease in Pain, "Feels Much Better."

9.4.4 Charting by Exception

A longhand note is written only when the standardized statement on the form is not met

Ex.

Mr. Sunil, 70 yrs is going to the doctors room and finding out what doctors are doing with his chart and report. Usually this type of behaviour is not mentioned in the chart. But out of interest we can go for mentioning in separate chart to highlight his anxiety behaviour

- Highlights abnormal data of patient
- Decreases narrative charting time
- Eliminates duplication of charting.

9.4.5 Computer-Assisted Charting

- It is an Electronic Health Record (EHR). Computerized record of patient's history and care across all facilities and admissions.
- It initiates Computerized Pprovider Order Entry (CPOE) which saves time.
- Provides efficient work flow.
- Documentation done as interventions are performed using bedside computers.
- Some produce flow sheets with nursing interventions and expected outcomes.
- Others use a POMR format to produce a prioritized problem list.

Advantages

- Date and time of the notation automatically recorded.
- Notes always legible and easy to read.
- Quick communication among departments about patient needs.
- Many providers have access to patient's information at one time.
- Can reduce documentation time.

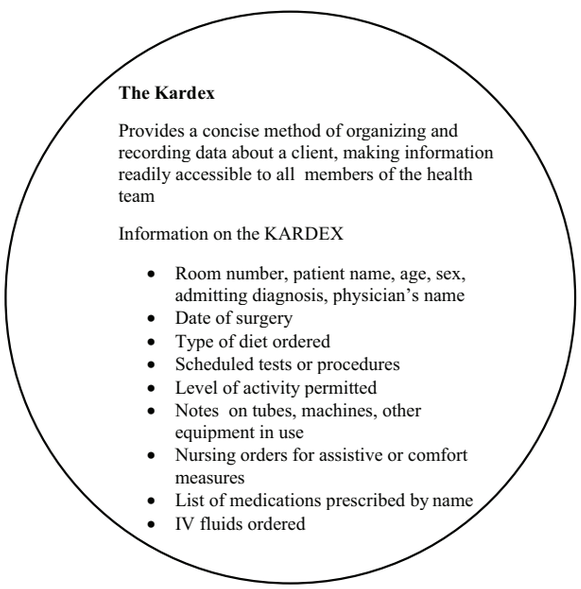
- Electronic records can be retrieved very quickly.
- Reimbursement for services rendered is faster and complete.
- Can provide a complete record of the patient's medical history.
- Can reduce errors.

9.4.6 Case Management System Charting

- A method of organizing patient care through an episode of illness so clinical outcomes are achieved within an expected time frame and at a predictable cost.
- A clinical pathway or interdisciplinary care plan takes the place of the nursing care plan.

Ex:
Patient with Appendicitis we can write only about the care given to him.
The information can be charted in the Kardex format

Kardex format



It also includes

- Personal data
- Basic needs
- Allergies
- Daily nursing procedures
- Medications and intravenous (IV) therapy
- blood transfusions
- Treatments like oxygen therapy, steam inhalation, suctioning, change of dressings, mechanical ventilation etc.
- Entries usually written in pencil. This implies the kardex is for planning and communication purpose only.

9.5 GENERAL GUIDELINES FOR DOCUMENTATION

- Ensure that you have the correct patient record or chart.
- Document as soon as the patient encounter is concluded to ensure accurate recall of data.
- Date and time of each entry.
- Sign each entry with your full legal name and with your professional credentials.
- Do not leave space in between entries.
- If an error is made while documenting, use a single line to cross out the error, then date, time and sign the correction.
- Never change another person's entry even if it is incorrect.
- Use quotation marks to indicate direct patient t responses.
- Document in chronological order.
- Use permanent ink.

- Document all telephone calls that you received that are related to patient case.

9.6 CHARACTERISTICS OF GOOD RECORDING

9.6.1 Brevity

- Start each entry with a capital letter
- Articles (a, an, the) may be omitted
- The word "patient" to be omitted when starting of sentence

Ex:

1. Mr. Arul Vomited at 5 am. Tab. Antiemetic 1 given orally as per the order.

   (start entry with capital letter)

a. Mr. Arul slept well no vomiting. (The word "patient" to be omitted when starting of sentence)

b. Mr. Arul transferred to W/I (W/I – means with instructions. It is accepted within that organization).

- Abbreviations, acronyms, symbols acceptable as per the hospital policy to save time and space

9.6.2. Accuracy in Charting

- Be specific and definite in using words or phrases that convey the meaning you wish expressed

Ex:

X - Ate 50% of the food served.

✓ - Ate with poor appetite.

✓- Refused medications.

X - Uncooperative.

✓- Seen crying.

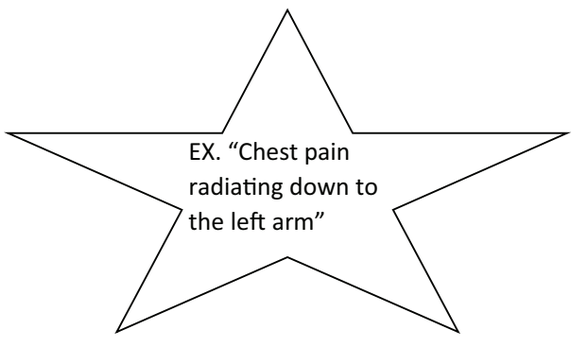
X - Depressed.

KEY;

X = In correct

✓= Correct

- Words that have ambiguous meanings and slang should not be used in charting
- Chart objective facts, not your interpretations or opinions
- Place complaint of the patient in quotation marks to indicate that it is his statement.



- Objective data to be charted as follows:

Ex:

Skin cold and clammy. Diaphoretic. Prefers to sit up. Vital signs taken are as follows: Temp-37.6^{0}C, Pulse Rate-110/min., Respiration Rate -26/min. Blood Pressure-140/90 mmHg

- Describe behaviors rather than feelings to allow other health team members to determine the actual problems of the client.
- Refusal of medications and treatments must be documented.

Appropriateness

Only information that pertains to the patients health problems and care are recorded. Any other personal information that is conveyed to the nurse is appropriate for the record. The following information should be charted:

- Physician's visits.
- Times the patient leaves and returns to the unit, mode of transportation and destination.
- Medications should be charted immediately after administration.
- Treatments should be charted immediately after being done.

9.6.3 Use of standard terminology

Ex:

All due Medicines are given to Mr.Govind at 8pm by *G.Stella* (Mrs. G.STELLA,RN) Registered Nurse

Bed bath given to Mrs. Sivagami at 6 am by *R.Grace* (MISS.R.GRACE,SN) Student Nurse

- Use only those abbreviations and symbols approved by the institution;
- spell correctly;
- Use proper grammar.
- Put signature.
- Affix signature, place at the end of charting, at the right hand margin of the nurse's notes.
- Sign each entry with your full name and status, e.g. SN for Student Nurse, RN for registered nurse.
- In case of error.
  - Correct errors by drawing a single horizontal line through the error

✓ GIVE
✓ ~~GIVEN~~

  - Write the word error above the line, then sign your signature
  - No ink eradication, erasures or use of occlusive materials

9.6.4 Confidentiality.

- Only the health personnel who participate in the care of the patient are allowed to read the chart.

9.6.5 Legal Awareness

- Chart only what you personally have done, observe, heard, smelled, or felt.
- Do not discard any of the client record.

9.6.6 Legibility

- If writing is not legible, misperceptions can occur
- Record information about the patient's needs and problems and also specify the nursing care given for those needs and problems
- Writing must be clear and easily read by others
- If writing is not legible, then print.
- A horizontal line drawn to fill up a partial line. This is to prevent other persons from adding information in the nurse's notes.

Ex:

Mr. khan needs are attended and referred accordingly _____ Ms. Sujatha., RN, RM

9.7 PRINCIPLES IN MAINTAINING RECORDS

The Data Protection Act 1998 defines a health record as "consisting of information about the

S2R1WJ

physical or mentalhealth or condition of an identifiable individual made by or on behalf of a health professional in connection with the care of that individual".

There are other eight principles:

- Principle of Accountability
- Principle of Transparency
- Principle of Integrity
- Principle of Protection
- Principle of Compliance
- Principle of Availability
- Principle of Retention
- Principle of Disposition.

The principles of good record keeping apply to all types of records, regardless of how they are held. These records can include:

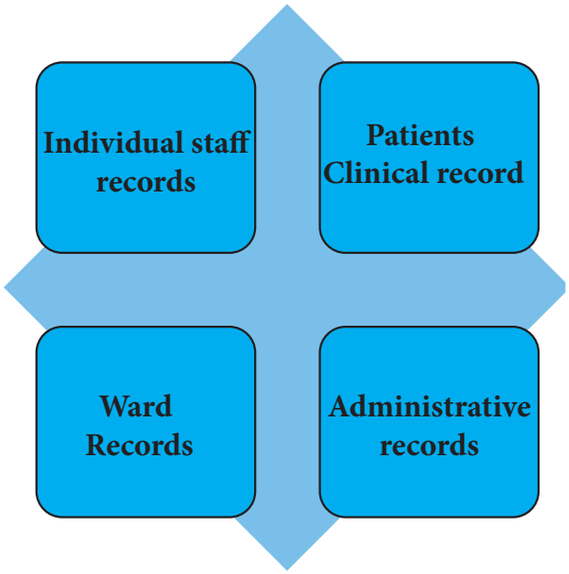
- Handwritten clinical notes
- Emails
- Letters to and from other health professionals
- Laboratory reports
- x-ray sheets
- Printouts from monitoring equipment

Generally

ARMA is the world's leading membership organization serving the professionals who manage and govern information assets. **ARMA** is the strongest community of professionals in the information management industry,

Accepted **Recordkeeping Principles** (The **Principles**), were created by ARMA International as a common set of **principles** that describe the conditions under which business **records** and related information should be maintained.

- Incident reports and statements
- Photographs
- Videos



- Tape-recordings of telephone conversations.

9.8 LIST OF RECORDS

1) Patients Clinical Records
   - It is the record of events of the patient illness, progress in his or her recovery and the type of care given by the hospital personnel.

2) Individual staff records.
   - A separate set of record is needed for staff, giving details of their sickness and absences, carrier development activities and a personnel note.

3) Ward Records.

These records are maintained in the each ward, following are some records

- Census records.
- Change in medical staff and non nursing personnel for the ward.
- Inventory and stock records

- Leave records of staff
- Admission records
- Transfer records
- Discharge records
- Medicine records etc.

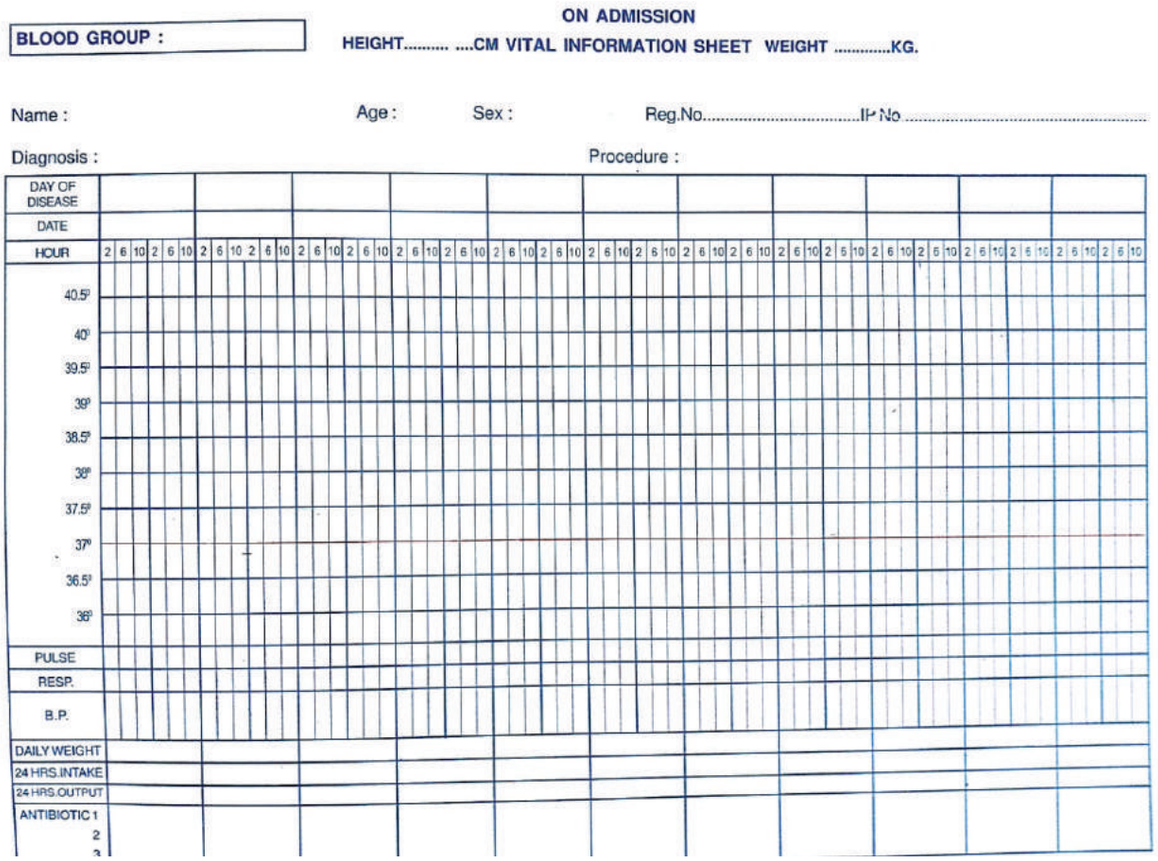
4) Administrative records

These records are maintained purely for administrative purpose of the hospital or unit

- Research or statistics data records
- Audit and nursing audit records
- Quality of care records
- Personnel performance. records
- Other administrative records
- Legal documents: for the patients with poisoning, assault, rape, burns etc.

Examples of other important records maintained by the nurses

Vital Signs Chart



Intake Output Chart

BH/NUR/FM/009

INTAKE OUTPUT CHART

Patient Name :_____ Age :_____ Sex :_____ DOA :_____ Wt :_____ Date :_____

DOB :_____AHID No.:_____Marital Status_____

INTAKE									OUTPUT						REMARKS	SIGN
ORAL			TV			RYLES TUBE										
TIME	TYPE	AMT	TIME	TYPE	AMT	TIME	TYPE	AMT	Time	Urine	Stool	Emesis	Aspirate	Drain		
Total Intake									Total Output							

Drug Chart

BH / NUR / FM / 014

DRUG CHART

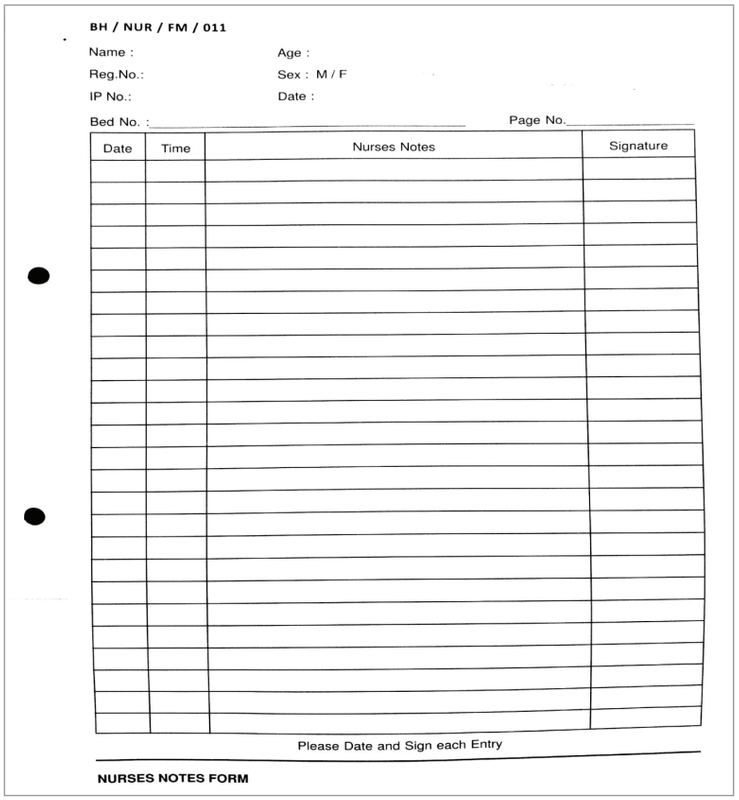
Diagnosis : Consultant :

Name :..... Age..... Sex:..... Bed No..... Reg.No..... IP No.....

NAME OF DRUG	Dose	Freq	Route	
Name & Signature				

Allergic to..... Adverse Reaction, if any :.....

Nurses Chart



BH / NUR / FM / 011

Name : Age :

Reg.No.: Sex : M / F

IP No.: Date :

Bed No. : Page No.

Date	Time	Nurses Notes	Signature

Please Date and Sign each Entry

NURSES NOTES FORM

9.9 ARRANGEMENT OF RECORDS

Different systems may be adopted depending on the purpose of the records and on the merits of a system. The records could be arranged:

- Alphabetically
- Numerically
- Geographically and
- With Index card

- Alphabetical Type
  It can be done in 2 orders
  - Dictionary order (aa,ab,ac,ad,ae,af-……az and ba,bb,bc,bd,be,bf, ……bz)
  - Encyclopaedic order
- Numerically
  It can be done in two ways
  - Serial number
  - Digit filing
- Geographically
  Information is arranged alphabetically by geographical area or the place name.
- With Index cards
  - An index card consists of heavy paper cut to a standard size, used for recording and storing small amounts of discrete data. It was invented by Carl Linnaeus, around 1760.
  - Eg: - forms, case records and registers.

9.10 REPORTS

Introduction

Reports are information about a patient either written or oral. It takes place when two or more people share information about patient care, either face to face or by telephone.

- Reports can be compiled daily, weekly, monthly, quarterly and annually.
- Report summarizes the services of the nurse and/ or the agency.
- Reports may be in the form of an analysis of some aspect of service.
- These are based on records and registers and so it is relevant for the nurses to maintain the records regarding their daily case load, service load and their activities. So, the data can be obtained continuously and for a long period.

9.10.1 Definition

Reports may refer to specific periods, events, occurrence, or subject and may be communicated or presented in oral or written form. [Sr. Mary lucita]

Reports are oral or written exchanges of information shared between care givers of workers in a number of ways. A report summarises the service of the personnel and of the agency [Jean b. 2002]

9.10.2 Purposes

- To show the kind and quantity of service rendered over a specific period.
- To show the progress in reaching goals.
- As an aid in studying health conditions.
- As an aid in planning.
- To interpret the services to the public and to other interested agencies.
- Report is an essential tool for communication

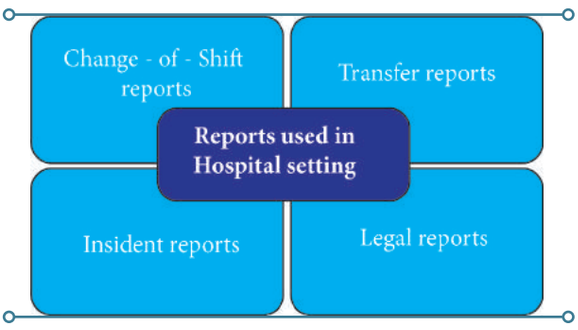
9.10.3 Classification of reports based on types

- Oral reports
- Written reports

9.10.4 Criteria for a good report

- Made promptly.
- Clear, concise, and complete.
- If it is written all pertinent, identifying data are included-the date and time, the people concerned, the situation, the signature of the person who write the report.
- It is clearly stated and well organized
- Important points are emphasized.
- In case of oral reports they are clearly expressed and presented in an interesting manner.

9.10.4.1 Reports Used In Hospital Setting



- Change – of – shift reports: Regarding the continuation of care to the next shift staffs.
  - Intra shift -Verbal reports during your shift to other team members
  - Inter shift – verbal reports given to next shift members while you complete your shift and go home
- Transfer reports: While transferring the patient from one ward to another ward (i.e) postoperative to general ward
- Incident reports: (i.e) any accidental fall of patient in ward.
- Legal reports : medical legal cases like poisoning, road traffic accident, raped victimand physical abuse

- Telephone reports: sometimes lab investigation reports collected through phones or doctors order in case of emergency.

9.10.5 Other types of reporting

- Reporting to physician- Informing doctors about the significant changes in Physical assessment, abnormal laboratory findings, test results
- Report to nursing administrators- Written or Verbal reporting from each shift about the data on critically ill clients ,Unusual occurrences at any time and Problems with patient, families or other disciplines
    - Written policies and procedures are the backbone of the quality system
    - Complete quality assurance records make quality management possible
    - Keeping records, facilitates reporting requirements

9.11 NURSES RESPONSIBILITY FOR RECORD KEEPING AND REPORTING

Ex:

- Keep under safe custody of nurses.
- No individual sheet should be separated.
- Not accessible to patients and visitors.
- Strangers are not permitted to read records.
- Records are not handed over to the legal advisors without written permission of the administration.
- Handed carefully, not destroyed.
- Identified with bio-data of the patients such as name , age, admission number, diagnosis, etc. (Legal Issues?)

Conclusion; Records and reports reveals the essential aspects of service in such logical order so that the new staff may be able to maintain continuity of service to individuals, families and communities.

9.12 EXAMPLES OF DOCUMENTATION

9.12.1 Critical Lab Values Documentation

- The lab will call the nurse (as well as the physician) responsible for taking care of the patient with the critical lab value
- The telephonic critical lab value result, upon receipt, will be read back to the technologist/technician and to be documented as having been read back. If that does not happen, the technologist/technician will request the nurse receiving the critical result to read it back.

Procedure

- Verify the result by verbally reading the result back to the technologist/ technician
- Notify the nurse assigned to the patient of the critical result if she/he was not the one to receive the telephonic notification.
- Document the received phone call about, critical value, the critical result, and what you did about the result on the Critical Lab Values Intervention also to be documented.

Ex:

Mrs. Papu results are received by Sister Luzy. The lab technician Mrs. Rose called over the telephone and said Mrs. Papu blood urea is 30mgm and blood creatinine is 1.5 mgm.Sister Luzy read back to Mrs. Rose and confirmed the blood results. Then she entered in the chart as follows

Name of the patient Mrs. PAPU Age 51 yrs

I.P NO; Ward no; B1 Bed No; 116

Referring consultant Dr. Raghu Patient Diagnosis; CKD

Investigation Chart				
Name of the investigation	**Value of patient**	**Normal value**	**Reference Range**	**Remarks**
Blood Urea	30mgn	40-20mgm	increased	At 10.00am report Collected and Entered by- Sister.Lucy Informed to Dr. Raghu at 10.05 am
Creatinine	1.5mg	1-0.8mgm	increased	

9.12.2 Discharge Documentation

- The physician writes the discharge instructions
- The nurse is responsible for reviewing all instructions with the patient and obtaining the patient signature

Ex:

Mr. A. Sundar 70 yrs got discharged at 11 am today (date …….) from Medical ward as per the Dr. Nirmal order. Patient was given instructions to come for check up after 3 weeks. Discharge medications given to the patient with instructions. Patient went home at 11.30 am by walk with discharge summary. The patient chart was send to Medical records.

- The nurse should make sure the patient understands the complete list of medications the patient has to take after the discharge. (compared to any medications the patient was taking on admission), as part of the medication reconciliation process
- Original form goes to medical records and a copy is given to the patient upon discharge

9.12.3 Blood Administration Documentation

- Blood Transfusions are documented as:
  - Blood Administration Verification (completed just prior to starting infusion)
  - (name of recipient, age,sex,ward and IP number,blood group, what type of blood product, whether it is negative for HIV and Hepatitis)

  - Blood Product Infusion (start time and initial rate)
  - Infusion Changes (any rate changes during infusion)
  - Blood Product Completion (completed at end of infusion)

- Blood Vital Signs (baseline vitals taken at start, then q15min x 2 after initiation, then hourly)

Nurses notes:

Mrs. Suja 45 yrs female (IP.No 45612) with O+ve blood group, receiving the O+ve whole blood 500ml and it is HIV & HBSAG negative, it is cross matched and ready for infusion.

DATE……..at 09.00am blood was started with 125 ml/hour for 4 hours.

Patient was monitored closely. Transfusion chart maintained

Vital signs are stable initially, every 15 minutes and every hourly.

Patient did not have any allergic reactions. So blood transfusion came to an end at 1pm. patient was stable after the blood transfusion.

By NURSE- Mrs.Gayatri. RN.RM

9.12.4 Documentation of Wounds

- Wounds are documented as
  - size of the wound, site of the wound, stage of wound, in initial, weekly, and change of status wound .
  - Wound Care / Dressing Change Assessment: for daily documentation of dressing changes (focused on assessment specifically for dressing changes)

Ex Nurses notes:

29.11.2017 Mrs. Kanmani, 30 years, female, in ward 2 admitted with left hand forearm wound in III stage with 3cm depth and 2cm wide. Patient complaints of pain in the site of the wound. Dressing changed.

30.11.2017 Wound is the same. Still subcutaneous fat is visible but, no drain of pus or blood from the wound. Dressing changed.

1.12.2017 Wound is healing. No drain from the wound. Patient feels that, the pain is better. Dressing changed. wound is with 2.6 cm depth and1.8cm wide.

STUDENT'S ACTIVITY

1. Practice charting the vital signs in copy of vital signs chart
2. Practice writing nurses notes in nurses record
3. Practice recording intake and output details of your own.
4. Write practicing Transfer documentation (transferring notes from one unit to other unit.

CONCLUSION

Documentation is the process of communicating in written form about essential facts for the maintenance of history of events over a period of time. An effective health record shows the extent of health problems and other factors that affect the ability of the individual. Reports can be compiled daily, weekly, monthly, quarterly and annually. Registers provide indication of total volume of services and type of cases seen. Reports summarize the services of the nurses and/or the agencies. Thus the reports and records reveal the essential aspects of service in a logical order so that the new staff may be able to maintain continuity of service to individuals, families and community.

A-Z GLOSSARY

Records (பதிவுகள்)
- It is a written communication that permanently documents information relevant to a client's health care management. It is a continuing account of the client's health care needs
- information or knowledge preserved in writing or the like

Report (அறிக்கை)
- it is a summary of activities or observations seen, performed or heard.
- list, or aggregate of actions orachievements

Reporting (அறிக்கையிடுதல்)
- it is a process takes place when two or more people share information about client care, either face to face or by telephone.

Documentation (ஆவணபதிவு)
- it is a permanent record of client information and care. It is otherwise called as Charting
- it is the written comments, graphic illustrations, flow charts, manuals etc.

EVALUATION

S2ZHY7

I. Choose the correct answers (1 mark)

1. Which of the following documentation used by the head nurse to communicate information about patient has sudden hemorrhage to another head nurse in the next shift?
   a. Kardex record
   b. Assignment record
   c. Shift report
   d. Incident report
2. Which of the following is a important characteristics of maintain a record?
   a. Accuracy
   b. Consequences
   c. Neatness
   d. Stability
3. An incident report is to be completed because the client climbed over the side rails and fell in to the floor. The correct reporting of an incident involves which of the following?
   a. The witnessing nurse completes the report.
   b. Details of the incident are subjectively described.
   c. An explanation of the possible cause for the incident is entered.
   d. A notation is included in the medical record that an incident report was prepared.
4. The nurse is preparing the information that will be provided to the staff on the next shift. Which of the following should the nurse include in the inter-shift report to nursing Colleagues?
   a. Audit of client care procedures
   b. The client's diagnostic-related group

c. All routine care procedures required by the client

d. Instructions given to the client in a teaching plan

5. Nurse has made an error and is documenting such on the client's record and notes. The action that the nurse should take is to

a. Draw a straight line through the error and initial it.

b. Erase the error and write over the material in the same spot.

c. Use a dark color marker to cover the error and continue immediately after that point.

d. Footnote the error at the bottom of the page.

II. Write short answers (3 marks)

1. Define records
2. Define reports
3. Four ways of arranging records
4. Name the record keeping systems
5. List the common problems occurring during reporting

III. Write short notes (5 marks)

1. Write the principles in maintaining records
2. Explain the types of registers
3. Mention the characteristics of good record.
4. Role of nurse in maintaining records

IV. Write an essay for the following questions (10 marks)

1. Write the purpose of keeping records
2. Explain the types of records
3. Elaborate on classification of reports.

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5. Annamma Jacob Clinical Nursing Procedure. The art of nursing practice; first edition 2007 jaypee brother medical publisher, New Delhi.

WEBSITE RESOURCES

www.google.com

www.rcn.org.uk/firststeps6701

http://www.arma.org/principles

http://www.arma.org/principles

http://www.arma.org/gprinciples

CASE STUDY

CASE STUDY: 1

1. Mr. John, 44 years old male came with the complaints of epigastric pain since two hours from today morning. The pain is of sharp, which radiates to the back. He also felt nauseated and vomited twice. On examination, she looked dull with considerable pain. His vital signs temperature was 98° F, with mild elevation in the pulse rate 88/min, his respiratory rate was 18/min and his BP was 120/80 mmHg. The patient had tenderness in the epigastric region with mild rebound tenderness.
   - Maintain vital signs for this patient and record the above findings.
   - Describe the physical examination method.

CASE STUDY: 2

1. Mr. Somu 65 years old male, who is a chronic smoker and alcoholic came with the complaints of pain in the chest for last few weeks he is experiencing occasional tightness across his chest and sometimes it also radiates to his left arm. He looks distressed with tachypnoeic (44 breaths/min) and profuse sweating. He also has the evidence of peripheral cyanosis.
   - Identify the condition and discuss the emergency management for Mr.Somu.
   - Prepare a tray for oxygen administration and list the principles of oxygen administration

CASE STUDY: 3

1. Mrs. Janaki 50 years old female who had been subjected to abdominal surgery is nill per oral in the immediate post operative period. The IV fluids D5 and RL on flow with 100cc /hr. As you entered the room and noticed that IV fluids has stopped running. The patient has poor skin turgor and is hypotensive. The patient tells you that the IV line is irritating and painful.
   - What is your initial assessment for this patient?
   - How do you calculate I/O chart?

CASE STUDY: 4

1. Mrs. Rose is a 91 year old resident of a long term care facility centre who tells the nurse, "I have an ache in my right foot". I must have stepped on something or twisted my ankle or maybe I got hit by a bug when I was outside yesterday. The nurse noticed that her right ankle is reddened, slightly swollen and warm. But her temperature is within normal limits. He has a strong pedal pulse.
   - Explain the first aid for the above condition.
   - Describe your observation.

HISTORY COLLECTION FORMAT

PATIENT PROFILE

- Name:
- Age:
- Sex:
- Place of Domicile:
- Education:
- Occupation:
- Income,:
- Marital status:
- Religion:
- language,
- I.P No, ward:
- Date of admission:
- Date of discharge, and diagnosis:
- Surgery: Name:
- Date, POD:
- Care started:
- Care ended:

CHIEF COMPLAINTS:

- According to the patient
- Complaints number of days it presents

IV) PAST HISTORY

B. PAST MEDICAL/SURGICAL/ NEUROLOGICAL HISTORY

- History of similar illness/episode in the past [date and duration]
- Any other complaints in the past [date and duration]
- Details of treatment undergone
- History of remission/Chronic illness
- Head injury/ headache/accidents/ seizure
- Infections
- Metabolic disorders/Hypertension
- Any other illness

VII) HISTORY OF PRESENTING ILLNESS

Present medical history

- Details of each complaints
- Major chief complaint [Onset, Incident, Frequency, Course/duration, Precipitating factors, perpetuating factors
- Treatment undergoing
- Any associated medical complaints

Present surgical history

- Pre Operative diagnosis and treatment
- Surgical plan
- Date of surgery
- Post operative day
- Surgical notes

III) Family history

- Genogram [3 generation]
- Description of significant family members

1. Composition Of The Family (Responsibility/role function Relationship with patient/Health Status)
   S.No family
   Member
   Age
   Gender
   Relationship
   Educational Qualification
   Occupation income
   Health
   Status
2. Attitude of the family towards illness of the patient.
3. Type of family(joint/nuclear/ extended)
4. Medical/Hereditary/Communicable diseases
5. Pedigree chart

II) SOCIO ECONOMIC HISTORY

- Bread Winner Of The Family, Monthly Income
- Environmental Sanitation, drainage open/closed (Electricity, Drinking Water, Ventilation and Sewage Disposal)
- Type Of Home

IV) Marital history

- Age of marriage
- Type of marriage (Consanguineous/ Non-Consanguineous)
- Number of children
- Others

V) Personal history

- Life style (smoking, alcohol and others), hobbies and nature of habits.)
- Diet
- Sleep pattern
- Menstrual history
- Elimination pattern
- Allergic history diet/drug

PHYSICAL AND SYSTEM WISE EXAMINATION

Major findings in physical and system wise examination.

VIII) DIAGNOSTIC EVALUATION:

S.No date name of
The test
Patient
Value
Normal
Value

IX) DRUG CHART:

S.No name dose freq/route action
side
Effect
Inferences
Nurses
Responsibility

X) INDENTIFICATION OF NEEDS AND PROBLEMS OF THE PATIENT

XI) NURSING DIAGNOSIS: {PRIORITIZE PROBLEM}

NURSING:
ASSESMENT:
SUBJECTIVE:
DATA:
OBJECTIVE:
DATA:
CLINICAL:
DATA:

XII) NURSING CARE PLAN

NURSING

DIAGNOSIS:
GOAL PLANNING/
INTERVENTION:
SHORT TERM:
LONG TERM:

XIII) HEALTH EDUCATION:

- PERSONAL HYGIENE
- DIET
- EXERCISE
- MEDICATION
- FOLLOW UP

XIV) RECORDING AND REPORTING

RATIONALE
IMPLEMENTATION:

NURSES RECORD

DATE VITAL
SIGNS
DIET INTAKE/OUTPUT
MEDICATION NURSES

NOTES
T P R BP
EVALUATION
SIGN
NAME
AGE
SEX
I.P NO
DIAGNOSIS
DATE OF ADMISSON
TIME PLANNING
DATE PLANNING
IMPLEMENTATION

8:00 AM -8:30 AM Maintaing rapport with patient
8:30 AM -9:00 AM Checking vital signs
10:00 AM -11:00 AM Bed making
11:00 AM -12:00PM History collection
12:00PM-1:00PM Prioritizing the patient need

PRIORITIZING THE CARE:

NURSING - THEORY (VOCATIONAL)

MODEL QUESTION PAPER – XI STD

Part-III – VOCATIONAL SUBJECTS

(Health Area)

Time: 2hrs-30 minutes Maximum Marks : 90

Instructions:-

i. Check the question paper for fairness of printing. If there is any lack of fairness, inform the Hall supervisor immediately.

ii. Use Blue of Black Ink to write and underline and pencil to draw diagrams.

I - MULTIPLE CHOICE QUESTION (15X1=15)

1. The founder of modern nursing is
   a. Fabiola
   b. Paula
   c. Phoeba
   d. Nightingale.
2. How many bones are present in the cranial cavity?
   a. 206
   b. 22
   c. 8
   d. 14
3. Which is the largest and important organ of the abdomen?
   a. spleen
   b. Intestine
   c. Pancreas
   d. Liver
4. A study of human behavior is called as
   a. Sociology
   b. Psychology
   c. Behaviorism
   d. Behavior Theory
5. How will you position the patient for child birth?
   a. Supine.
   b. Lithotomy.
   c. Lateral.
   d. Sims.
6. How frequently should a tooth brush be changed?
   a. Once in 2 months.
   b. Once in 3 months.
   c. Once in 4 months.
   d. Once in 6 months.

7. Jyothi, a housewife has complaints of cracking of the lips especially at the ankle of the mouth. Which one of the oral problems describes it best?

a. Halitosis.

b. Stomatitis.

c. Cheilosis.

d. Sclerosis

8. An irregular pattern of heartbeats is called a

a. Sinus tachycardia

b, Sinus bradycardia

c. Arrhythmias

d. Atrial fibrillation.

9. The taking vital signs includes,

a. Temperature

b. Pulse

c. Respiration

d. All of the above

10. Hot air oven works at ---------- ----- for one hour.

a.160^{0}C

b. 161^{0}C

c. 121^{0}C

d. 120^{0}C

11. Fumigation/Gas sterilization is done at ---------- humidity

a.180^{0}C

b. 80^{0}C

c. 18^{0}C

d. 118^{0}C

12 Which is the correct ratio of chest compressions to rescue breaths for use in CPR of an adult casualty?

a. 2 compressions: 30 rescue breaths.

b. 5 compressions: 1 rescue breath.

c. 5 compressions: 2 rescue breaths.

d. 30 compressions: 2 rescue breaths.

13. Mosaic floors should be cleaned with-------

a. Alkaline solution

b. Acidic solution

c. Water

d. Sodium bicarbonate.

14. An incident report is to be completed because the client climbed over the side rails and fell on to the floor. The correct reporting of an incident involves which of the following?

a. The witnessing nurse completes the report.

b. Details of the incident are subjectively described.

c. An explanation of the possible cause for the incident is entered.

d. A notation is included in the medical record that an incident report was prepared.

15. Which of the following documentation used by the head nurse to communicate information about patient has sudden hemorrhage to another head nurse in the next shift?

a. Kardex record

b. Assignment record

c. Shift report

d. Incident report

II - ANSWER ANY 10 QUESTIONS IN BRIEF (10x3 =30)

16. Define-Nurse
17. Explain about arachnoid mater
18. What is meant by joint?
19. What are the functions of skin?
20. Define emotion.
21. What is body mechanics?
22. What are the purposes of oral hygiene?
23. Define Tachycardia
24. Define Frost bite.
25. What is fumigation?
26. Define heat exhaustion.
27. What is meant hospital housekeeping?
28. List the common problems occurring during reporting.

III - WRITE SHORT NOTES ON ANY 5 QUESTIONS ONLY (5x5=25)

29. What are the functions of a hospital?
30. Write an essay about pituitary gland?
31. Enlist the benefits of exercise.
32. List four areas liable for pressure ulcer.
33. What are the classification of wastes seen in hospital?
34. How will you take care of glass materials at home?
35. Write briefly about the care of rubber goods in the hospitals.

IV - ANSWER IN DETAIL (10x2=20)

36. Mr. Raju 58 years of age , a road laying worker, fainted suddenly due to the effect of hot sun. What is your intial assessment of his condition? Write a first aid measure for his recovery.

OR

Write in detail on skeletal system of man with a neat labelled diagram.

37. Explain in detail the care that should be taken of the nail and feet.

OR

Write in detail on Autoclaving (steam under pressure) with a neat labelled diagram.

Unit 1

BED MAKING

1.1 INTRODUCTION:

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

Unoccupied Bed

Types of Beds

Ordinary Beds

- Open bed
- Unoccupied bed
- Occupied bed

Special Beds

- Admission bed
- Post operative bed
- Fracture bed
- Plaster bed
- Amputation or stump bed
- Cardiac bed
- Rheumatism or renal bed
- Burns bed

Occupied Bed

Purposes

1. To receive the patient comfortably
2. To give the unit or ward a neat appearance
3. To provide a safe bed to the patient.

Guidelines:

1. Work systematically
2. Plan the work
3. Collect equipment in the order that they are to be used.
4. Arrange the environment conveniently
5. Accomplish a task with each movement
6. Avoid torn linen
7. Prevent bed linen away from your contact
8. Fold linen and prevent touching the floor
9. Avoid placing dirty linen on the floor
10. Shake gently, do not flap
11. Face direction of work
12. Work from head to foot, from near to far and from clean to unclean
13. Make the bed smooth, unwrinkled and flat.
14. Tuck linen for enough under the mattress and keep it fixed, tight and smooth.
15. Do not alter the shape of the mattress
16. Maintain body mechanics
17. Ensure your own personal safety.

1.2 OCCUPIED BED

Introduction

Occupied bed is prepared for bed ridden patient, lying in the bed. It is used to provide a clean and comfortable bed with the least disturbance of the patient in it.

Articles required

1. Carbolization articles
   Dettol solution 1:40
   Duster
   Kidney tray
2. Pillow
3. Pillow case
4. Blanket
5. Top sheet
6. Draw sheet
7. Draw mackintosh
8. Bottom sheet
9. Long mackintosh
10. Air cushion
11. Bed cradle / back rest
12. Foot rest
13. Additional pillows

Procedure

1. Untuck sheet, all around, roll it on the right side.
2. Turn covered patient to the left side and support with pillows
3. Carbolize right side.
4. Roll top sheet lengthwise and place on the right side
5. Roll draw mackintosh and place on the right side.
6. Gently turn the patient to the right side and support with pillows.
7. Second nurse removes soiled sheets and carbolize.

8. The patient lies in the supine position
9. Both nurses, should tighten the tuck, the sheets on their respective sides and make corners [fan fold draw sheet on the left side]
10. Lift patient's legs [second nurse]
11. Place the foot sheet [first nurse] at the foot end
12. Spread the sheet to opposite side
13. Tuck top layer and make mitten corner at foot end [right side]
14. First nurse lifts patients leg and cover him
15. Pull other end of the top sheet over patient leg and cover him
16. If patient can be lifted but not turn do bed from head end to the foot end.

1.3 UNOCCUPIED BED

Articles required

1. Carbolization articles

   Dettol solution 1:40

   Duster

   Kidney tray
2. Pillow
3. Pillow case
4. Blanket
5. Top sheet
6. Draw sheet
7. Draw mackintosh
8. Bottom sheet
9. Long mackintosh

Procedure

1. Wash hands thoroughly
2. Arrange thoroughly in order to use on a stool at the foot end of bed
3. Carbolize the mattress and cot
4. Turn the mattress and pull the cover on
5. Place bottom sheet with the increase in the middle and rest in upper right quadrant of mattress
6. Unfold and spread straight.
7. Tuck 12-18 inches under the mattress on right head end with hands straight and palms down
8. Make a mittening
9. Tuck at foot end
10. Pull tight and tuck the sheet along the right side
11. Place draw mackintosh 15 inch. From the top and tuck it along the right side.
12. Place draw sheet over the mackintosh about 3.5 inches. Above the mackintosh and tuck it along the right side.
13. Go to opposite side left and tuck in each linen as done on the right side but fan fold and tuck the draw sheet on the left side.
14. Come to the right side and place the top sheet with the increase in the middle and rest of the sheet in right lower quadrant.
15. Unfold the top layers and tuck at the foot end and make mitten corner on the right side.
16. Spread the other end over the mattress about 15 inches from the head end.

17. Tuck along the right side.
18. Go to the left side and tuck as done on the right side
19. If a blanket is used then spread and tuck it like a foot sheet
20. Place the pillow with the cover at the head end [open end away from the entrance]
21. Cover bed with counter pan
22. Straighten the unit, in order
23. Clean and replace the articles
24. Wash hands

Metering

- 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

Unit 2

PERSONAL HYGIENE

S395ZU

2.1 INTRODUCTION

The word hygiene refers to "the science of health and its maintenance, the prevention of disease, and sanitary practices". Personal Hygiene is the activity of self-care, including bathing and grooming. Care of the skin, hair, nails, mouth, teeth, eyes, ears, nasal cavities and perineal and genital areas.

Factors influencing personal hygiene practices

1. Development level
2. Cultural back ground
3. Socio economic status
4. Religion
5. Health status

2.2 MOUTH CARE

The mouth cavity is lined with mucus membrane continuous with the skin. The mucus membrane is an epithelial tissue that lines and protects organs, secretes mucus to keep passage ways of digestive system moist and lubricated and absorbs nutrition.

Purposes of Mouth Care

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

Articles Required:

A tray containing

1) Cotton swab or clean rag pieces in bowl
2) Forceps (artery and dissecting forceps)
3) Gallicups 2 nos. (one for Glycerine 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 bed side table.
2. Explain the procedure to the patient.
3. Put the rubber sheet (mackintosh) with towel and kidney tray under the chin.
4. Have the patient rinsed his mouth with salt solution from the feeding cup.
5. Turn the patient's head to one side.
6. Take the artery forceps, wrap a piece of rag pieces/cotton ballaround the tip of the forceps.
7. Dip inside the saline water and clean the teeth with up and down movements.
8. Pay special attention to inside the mouth.
9. Change rag pieces or cotton balls as often if necessary.
10. Discard used cotton in the other kidney tray.
11. Allow the patient to gargle as much as necessary.

Care of Dentures

If the patient has dentures, care should 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 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, cough or spasm.

12. Dip the swab stick in glycerin borax, swab gums, root and sides of the mouth.

After care 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.

2.3 EYE CARE:

A common problem of the eyes are secretions that dry on the lashes as crusts. If new borns, the eyes are treated soon after the baby is born to prevent opthalmia neonatorum. Eyes are cleaned from the inner to the canthus.

Articles Required:

1. Mackintosh and towel.
2. Sterile bowl with sterile cotton swabs.
3. Sterile normal saline or any other ordered solution.
4. Kidney tray and paper bag.
5. Clean face towel.

Procedure:

1. Wash hands.
2. Pour sterile saline into the bowl and wet the cotton swabs.
3. Stand infront of the patient clean the eyes with the sterile swabs. Discard the swabs into the paper bag continue cleaning till all discharges are removed from the eyes.
4. For crusted secretion, place a wet warm gauze piece or cotton swab over the closed eye. Leave it in place until the crust becomes soft.

5. When the eyes are clean, stop the procedure. Wipe the face with the face towel.

After care of the patient and articles:

1. Take all articles to the utility room. Clean them. Boil the bowl. Send the towels to laundry. Replace the articles to proper places.
2. Wash hands thoroughly.
3. Record the treatment with date and time. Record the observations made on the nurse's record.

2.4. BED BATH

Definition:

Bathing a bedridden patient 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° - 100° 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 in the first bath after admission. It offers an opportunity for the nurse to observe any rashes or pressure sores.

Articles Required:

1. Mackintosh (long) and two bed sheets
2. Soap in a soap dish
3. Two spong towels
4. Bath 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 bed side.
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 towel, 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. The patient may place hands in basin.

11. Remove the sheet up to the waist, ask the patients and 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 bed pan 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. This back care is done 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 rotation 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 wrinked the application of oils/ creams is advisable.
16. If the patients is having dribbling of urine, zinc cream is applied.
17. Role 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 (bucket for soiled linen).
18. Dress up the patient and remove the top sheet.
19. The bed is kept tidy and dry.
20. The patient is given a warm drink.
21. Remove the articles from the bed side.
22. Clean and replace in respective places.
23. Send soiled linen for wash.

2.5 BACK CARE

Purpose

1. To cleanse the skin and back
2. To stimulate circulation
3. To refresh the patient by relieving fatigue and discomfort
4. To prevent bed sore

Articles Required:

1. Basin of warm water
2. Soap wash cloth and towel
3. Back rub lotion or spirit
4. Talcum powder

Procedure:

Bring the tray to the bedside, and screen the bed. Explain to the patient, get him into position, and protect the bed with the towel, wash the part, then leaving it wet, soap the palm of the hand well and massage with circular movements. So that the tissues under the skin are moved and the circulation is stimulated.

Then rinse the soap off the skin with the wash cloth, and dry well with the towel. Back rub lotion or spirit is then rubbed into harden the patients skin. Talcum powder is applied to leave the skin dry and smooth.

It is usual to treat first the back and hips and then if necessary the elbows, knees and ankles. Leave the bed tidy and the patient comfortable.

If the patient is incontinent, it is better to use ointment such as zinc, castor oil instead of spirit and powder, to protect the skin from moisture.

2.6 HAIR WASH

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

Articles Required:

1. Jugs with hot and cold water
2. Two buckets
3. A basin and mug
4. A blanket to cover the patient
5. Two towels
6. Shampoo, crushed soap nut or soap
7. Wash cloth to cover the eyes
8. A little cotton to put into the ears
9. Kidney tray and paper bag
10. Comb and oil
11. Hot water bag in cold season to dry the hair

Procedure:

1. Explain the procedure to the patient, and screen the bed
2. Bring the articles to the bed side
3. Move the patient near the edge of the bed.
4. Protect the patients shoulders with a small rubber sheet and a towel and pin it in front
5. Fold and place the wash cloth over the eyes and put cotton in the ears
6. Loosen the hair and comb out tangles
7. Mix the hot and cold water and test the temperature
8. Wet the hair with warm water. Apply shampoo or soap, and rub the scalp and hair well.
9. Rinse the hair well. Squeeze the water from the hair.
10. Remove the bucket of dirty water, and collect the rubber sheets into the second bucket.
11. Place a clean towel under the patients head and dry the hair well
12. Make the patient comfortable. The hot water bottle may be placed underneath the towel on which the hair is spread to dry
13. When dry, comb the hair and braid it.
14. Remove all articles, clean and replace them chart the procedure.

2.7 NAIL CARE

Purpose:

- Maintain skin integrity around nails
- Provide for clients comfort and sense of well being
- Maintain foot function
- Encourage self-care

Articles Required:

- Water proof pad
- Wash cloth, towel
- Wash basin, warm water, soap
- Lotion
- Disposable gloves
- Nail clippers, file
- Polish remover (if necessary)

Procedure:

1. Wash your hands
2. Help client to sit if possible. Elevate head of bed for bedridden client.
3. Remove colored nail polish if client is scheduled for surgery.
4. Fill washbasin with warm water [100-104oF], place water proof pad under basin.
5. Soak client's hands or feet in basin for 10-20 Minutes.
6. Dry the hand or foot that has been soaking. Rewarm water, and allow other extremity to soak while you work on the softened nails.
7. Gently clean under nails.
8. Beginning with large toe or thumb, clip nail straight across
9. Push cuticle back gently.
10. Repeat procedure with other nails
11. Rinse foot or hand in warm water.
12. Dry thoroughly with towel, especially between digits
13. Apply lotion to hands or feet
14. Help client to comfortable position
15. Remove and dispose of equipment.
16. Wash your hands.

Unit 3

VITAL SIGNS

3.1 INTRODUCTIONS:

Vital sign are very important indicators of the state of health of a person. They help in diagnosis of disease. This vital signs indicate the basic functioning of the body as follows: **temperature** is the degree of body heat. It shows the ability of the body to produce and lose heat and whether or not the balance is maintained as in normal temperature.

Pulse and BP indicate the action of the heart and condition of the circulatory system. **Respiration** is a vital function of life. By observing respirations we find out how well the respiratory system is working in regard to both lung function and the act of breathing.

Temperature varies with the following factors

- Time of day
- Age
- Exercise
- Temperament
- Place of taking
- Climate

Conversion Scale:

To Convert Fahrenheit into Celsius

$C = (F - 32) \times 5/9$

To Convert Celsius into Fahrenheit

$F = 9/5x\ C + 32$

Sites for taking temperature:

1. Mouth
2. Axilla
3. Groin
4. Rectum

3.2 TEMPERATURE TAKING AND RECORDING:

Equipments for taking oral temperature

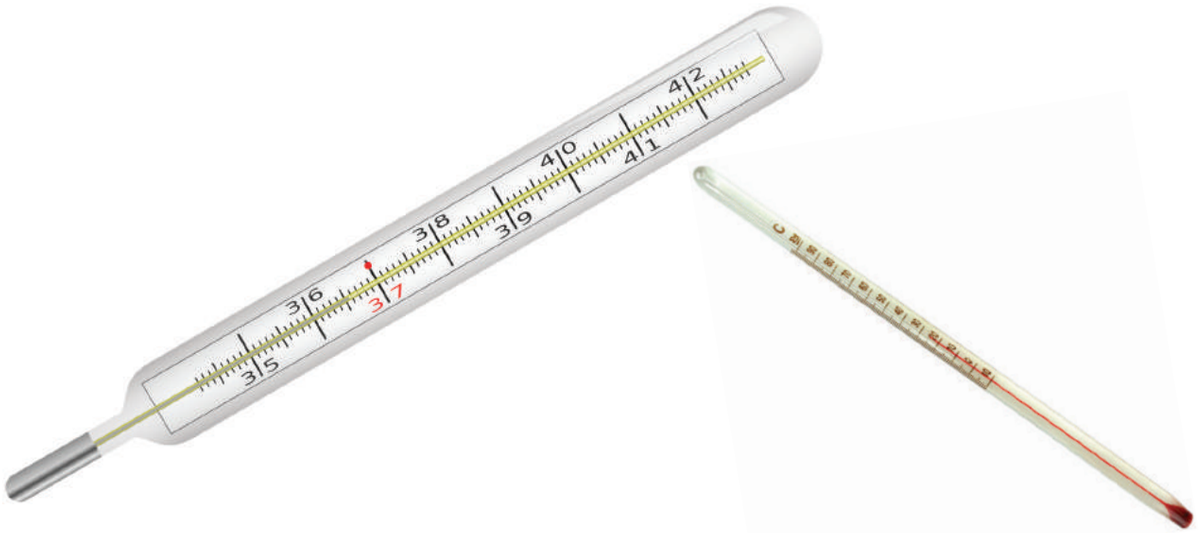
1. A tray taking oral thermometer in a jar of disinfectant, such as

   carbolic 1 in 20 (or)

   dettol 1 in 40
2. clean water in a container
3. clean cotton swabs, and small swabs moistened in soap solution
4. kidney tray or paper bag for soiled swabs
5. red and blue pens, temperature book or chart
6. watch with seconds hand

Procedure:

1. Bring the tray to the bedside and explain to the patient, who should be at rest sitting or lying down position.
2. Make sure the patient has not just taken a bath, nor had a hot or cold drink within fifteen minutes.
3. Take a thermometer from the lotion, dip in clean water and wipe with cotton, using a circular movement, from the bulb towards the stem. Avoid touching the part that goes into the mouth.
4. Read the thermometer and be sure it is shaken down to 35˚C (95˚F) or below.



5. Place the thermometer under the patients tongue and instruct him not to bite it but to close his lips gently. He should not talk or cough.
6. Keep the thermometer in the mouth for 1 to 3 minutes.
7. Place the tips of three fingers (never the thumb) gently over the radial artery at the wrist.
8. Feel the pulsation carefully before starting to count. Note the strength and regularity of the beats.
9. Using a watch with seconds hand, count the number of beats for one minute.
10. Feel or watch the rise and fall of the patient's chest.
11. Count each rise and fall as one respiration. Count for a full minute.
12. While counting the rate, note also
    i. Rhythm – regular or irregular
    ii. Depth – shallow, normal or deep
    iii. Sound – quiet or noisy
    iv. Any discomfort or difficulty in breathing
13. Record the temperature, pulse and respiration on the chart or in the TPR chart
14. Taking and replacing thermometer should be in rotation making sure they remain in disinfectant for at least 3 minutes before being used for another patient.
15. After the procedure, clean and reset the tray for next use.

3.3 BLOOD PRESSURE

Definition:

Blood pressure is the force or pressure of blood against the wall of blood vessels as it flows through them.

It depends on the following factors.

- Force of the heart beat
- Elasticity of the blood vessels walls
- Volume of blood in circulation
- Dilatation of contraction of the small arteries and capillaries.

Systolic blood pressure is the highest pressure in the arteries, due to contraction of the heart.

Diastolic pressure is the lowest pressure.

It occurs between the heartbeats

Pulse pressure is the difference between the systolic and diastolic pressures

It is normally about 35 and is a measure of the hearts strength

Articles Required:

- Sphygmomanometer: To measure arterial pressure
- Bladder and cuff: To exert equal pressure around the artery being ausultated.
- Stethoscope: To auscultate arterial pressure waves
- Pen, pencil and flow chart: For timely documentation of findings.

Procedure:

1. Explain the procedure to the patient, and have him seated by a table or lying down, with the arm supported and relaxed.
2. Place the centre of the cuff of the BP apparatus over the brachial artery and wrap it smoothly and firmly around the patient's arm 5 cm above the elbow tuck the end in neatly.
3. Find the brachial pulse with the fingers and place the stethoscope over it.
4. Close the screw valve, and inflate the cuff until the pulse disappears and above that about 20 mm mercury.
5. Open the valve slowly, and listen for the first sound while watching the manometer reading. The first sound gives the systolic reading. As air escapes the sounds become louder and clearer.
6. Continue to let air out slowly. As you listen the sounds suddenly become dull, and at then point take the diastolic reading.
7. Allow all the air to escape and the mercury to fall to zero.
8. Repeat the procedure if there is any doubt about the reading
9. Record the reading. The systolic pressure is always written over the diastolic pressure eg. 120/80 mm Hg.
10. Remove the cuff from the patients arm roll and replace in the box.

Unit 4

ANTHROPOMETRIC MEASUREMENT

S3IP2H

4.1 INTRODUCTION:

Anthropometric measurement includes height, weight, head circumference, chest circumference and mid-arm circumference.

Quantitative expression of body mass, which indicates state of growth and health, is measured in kilograms or pounds using adult or infant weighing scale.

4.2 CHECKING WEIGHT OF AN INFANT

Infant-weighing scale [Infantometer]

Purposes:

- To check whether an infant has adequate weight for age
- To calculate food requirements
- To calculate intravenous fluids and medications
- To monitor whether an infant gaining or loosing weight depending on disease condition

Required articles

- Infant weighing scale- infantometer
- Draw sheet
- Duster
- Paper and pencil for calculation

Procedure:

1. Clean the weighing scale with wet duster
2. Place draw sheet on the scale
3. Balance the scale to read zero
4. Place the weighing scale close to the wall to prevent the child from falling
5. Instruct mother to stand beside the scale
6. Undress the child before weighing
7. Mummify the infant with the same draw sheet and place the infant on the scale
8. Place the left hand over the infant without touching
9. Note the weight
10. Lift the infant from the scale and help the mother to dress the infant
11. Check and compare previous weight
12. Difference of more than 100 gms, needs to be clarified by rechecking the infants weight immediately
13. If the difference is still the same, it should be informed to the doctor concerned.
14. If the weight is in pounds and it must be converted to kilograms using conversion table.
15. Document the weight.

1 Kg = 2.2 lbs

4.3 MEASURING THE LENGTH OR HEIGHT OF AN INFANT

Measurement of length by placing the child on a paper covered surface. Making the end points of the top of head and heels of the feet, and measuring between the two given points gives the length of the child.

Length of the baby can be measured in weighing scale by marking with scale between head and heel points.

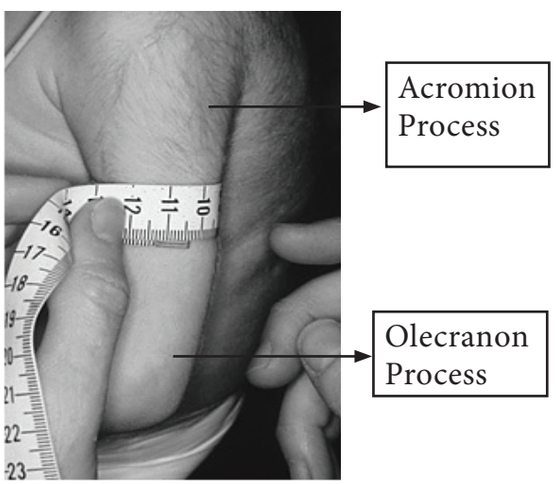
4.4 MEASUREMENT OF HEAD CIRCUMFERENCE

1. Place light drape or paper on flat surface
2. Place infant in supine position or seated on paper drape
3. Place tape measure over the most prominent point of the occiput, around the head just above the eyebrows and pinna. This point is should be taken as head circumference.

4.5 MEASUREMENT OF CHEST CIRCUMFERENCE

Place tape measure underneath the back of baby and bring it to front measured at nipple line gives the chest circumference.

4.6 MEASUREMENT OF MID-ARM CIRCUMFERENCE



1. Place the tape vertically, alone the posterior aspect of the upper arm to the acromion process and the olecranon process.
2. Half measured is the mid point
3. Place the inch tape at the midpoint and measure around the arm. It gives the mid arm circumference.

4.7 MEASUREMENT OF HEIGHT & WEIGHT OF ADULT

MEASUREMENT OF HEIGHT:

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

Purpose:

To measure accurate height of the patients

Required articles:

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

Guidelines:

1. Have the patients shoes / slippers removed while taking height to avoid any variations in the reading
2. If thick object or scale 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 equipment
2. Explain the purpose and 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, heals together and eyes looking straight ahead.
7. Place the straight object on the top of the head at right angles to the scale on the 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 equipment
11. Wash your hands
12. Record the date and time of the procedure and height in the nurse's notes or graphic sheet.

Measurement of weight:

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

Purposes:

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

Required articles:

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 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. Collect the equipments
2. Explain the 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 machines reading is set at zero level
6. Tell the patient to remove the slippers or shoes and extra cloths
7. Assist the patient to step on the centre 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
11. Record the weight in the graphic sheet or nurse's notes.

4.8 BODY MASS INDEX (B.M.I)

BMI is an attempt to quantify the amount of tissue mass (muscle, fat and bone) in an individual, and then categorize that person as underweight, normal weight, overweight, or obese based on that value.

The body mass index is a value derived from the mass (weight) and height of an individual. The BMI is defined as the body mass divided by the square of the body height and is universally expressed in units of Kg/m2 resulting from mass in kilograms and height in meters.

$$BMI = \text{mass}_{kg} / \text{height} m^2$$

Student Activity:
Every student has to calculate their BMI and to be categorized

WHO regards a BMI of less than 18.5 as underweight and may indicate malnutrition. While a BMI equal to or greater than 25% considered overweight and above 30 is considered obese.

Category	BMI (Kg/m^2)	
	From	To
Low		18.5
Normal	18.5	25
Obese (level 1)	25	30
Obese (level 2)	30	35
Obese (level 3)	35	40
Obese (level 4)	40	

BMI ranges are based on the relationship between body weight and disease and death. Overweight and obese individuals are at an increased risk for the following diseases

- Coronary artery disease
- Dyslipidemia
- Type 2 diabetes
- Gall bladder disease
- Hypertension
- Osteoarthritis
- Stroke

WEIGHT lbs	100	105	110	115	120	125	130	135	140	145	150	155	160	165	170	175	180	185	190	195	200	205	210	215
kgs	45.5	47.7	50.0	52.3	54.5	56.8	59.1	61.4	63.6	65.9	68.2	70.5	72.7	75.0	77.3	79.5	81.8	84.1	86.4	88.6	90.9	93.2	95.5	97.7
HEIGHT in/cm	Underweight					Healthy					Overweight					Obese				Extremely Obese				
5'0" - 152.4	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42
5'1" - 154.9	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	36	37	38	39	40
5'2" - 157.4	18	19	20	21	22	22	23	24	25	26	27	28	29	30	31	32	33	33	34	35	36	37	38	39
5'3" - 160.0	17	18	19	20	21	22	23	24	24	25	26	27	28	29	30	31	32	32	33	34	35	36	37	38
5'4" - 162.5	17	18	18	19	20	21	22	23	24	24	25	26	27	28	29	30	31	31	32	33	34	35	36	37
5'5" - 165.1	16	17	18	19	20	20	21	22	23	24	25	25	26	27	28	29	30	30	31	32	33	34	35	35
5'6" - 167.6	16	17	17	18	19	20	21	21	22	23	24	25	25	26	27	28	29	29	30	31	32	33	34	34
5'7" - 170.1	15	16	17	18	18	19	20	21	22	22	23	24	25	25	26	27	28	29	29	30	31	32	33	33
5'8" - 172.7	15	16	16	17	18	19	19	20	21	22	22	23	24	25	25	26	27	28	28	29	30	31	32	32
5'9" - 175.2	14	15	16	17	17	18	19	20	20	21	22	22	23	24	25	25	26	27	28	28	29	30	31	31
5'10" - 177.8	14	15	15	16	17	18	18	19	20	20	21	22	23	23	24	25	25	26	27	28	28	29	30	30
5'11" - 180.3	14	14	15	16	16	17	18	18	19	20	21	21	22	23	23	24	25	25	26	27	28	28	29	30
6'0" - 182.8	13	14	14	15	16	17	17	18	19	19	20	21	21	22	23	23	24	25	25	26	27	27	28	29
6'1" - 185.4	13	13	14	15	15	16	17	17	18	19	19	20	21	21	22	23	23	24	25	25	26	27	27	28
6'2" - 187.9	12	13	14	14	15	16	16	17	18	18	19	19	20	21	21	22	23	23	24	25	25	26	27	27
6'3" - 190.5	12	13	13	14	15	15	16	16	17	18	18	19	20	20	21	21	22	23	23	24	25	25	26	26
6'4" - 193.0	12	12	13	14	14	15	15	16	17	17	18	18	19	20	20	21	22	22	23	23	24	25	25	26

BMI Chart

Unit 5

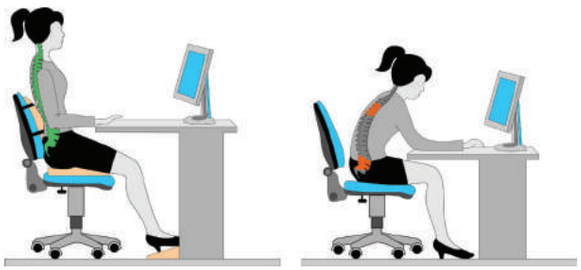
POSITIONS USED FOR PATIENTS

5.1 INTRODUCTION:

Nursing is a job that needs a lot of bending our backs, flexing our arms and legs and pushing and pulling patients. Because of this, many nurses are at risk for developing physical strain and back injuries or even fractures. One way to prevent these from happening is to practice proper body mechanics.

Definition

Body mechanics involves the coordinated effort of muscles, bones, and the nervous system to maintain balance, posture, and alignment during moving, transferring, and positioning patients. Proper body mechanics allows individuals to carry out activities without excessive use of energy, and helps prevent injuries for nurses and patients.



Purposes of good body mechanics and posture.

(1) To provide maximum comfort and relaxation.

(2) To aid in normal body function.

(3) To prevent contractures and neuromuscular deformities and complications.

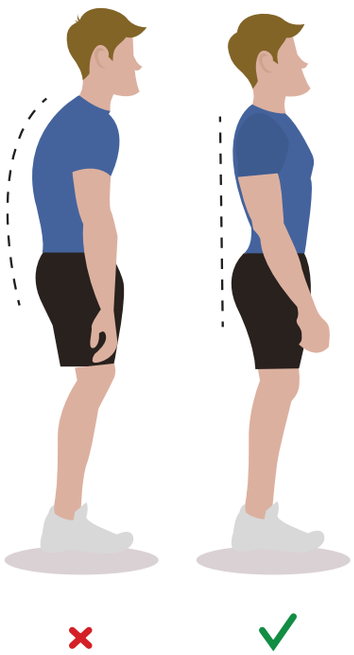
(4) To conserve maximum possible energy by preventing unnecessary strain.

Normal positions.

Positions

1. Standing position:

In a standing position, the back should be straight; feet firmly on the ground, about 4 to 6 inches apart to give an adequate base of support, with the toes pointing straight ahead or slightly toed out; head and rib cage held high; chin, abdomen, and buttocks pulled in; and knees slightly bent.



2. Sitting position:

In a sitting position, the back should be straight, with the weight resting equally on the buttocks and under surface of the thigh, but not on the base of the spine.

Positions used for patients.

Positions

3. **Dorsal position (Supine.):**

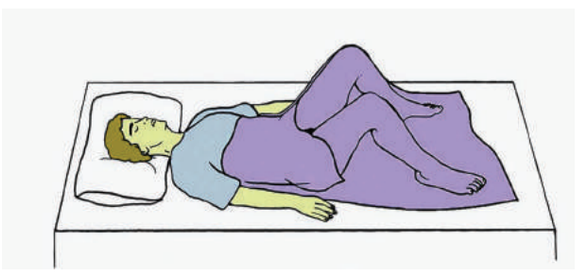
Patient is flat on the bed with legs extended and arms at the sides of the body. This is not a comfortable position, as the curves of the body are not supported.

Indications

- Surgical procedures, it allows access to the peritoneal, thoracic and pericardial regions; as well as the head, neck and extremities.

4. Dorsal recumbent position:

Place patient flat on back with one pillow under head; have knees flexed and separated and feet flat on bed.



Indications

- Rectal, vaginal and pelvic examinations and treatments.
- For normal Deliveries.

5. Lateral Position:

Patient lies on his side with spine straight. The knees are flexed; the upper knees are more flexed than the lower one. Pillows may

be provided for the head, in between the legs, and to support the back and abdomen. The lower arm is kept above the head and the upper arm is placed on a pillow in front.

Indications

- General comfort, rest and relaxation.
- Back care.

The arms and legs do not bear the weight of the body.

6. Sims or Left Lateral position:

Place patient on left side somewhat obliquely across the bed with buttocks to edge of mattress. Incline the body forward, draw the left arm back under patient and place the right arm free in front. The thighs should be flexed upon the body, the right more than the left.

Indications

- Vaginalexaminations.
- Perineal examination.
- Rectal examinations.
- Post operative, to maintain a clear airway.

7. Jack knife position:

Place patient on a prone position with the hips directly over the band of the examining table. Tip the table with the head lower than the hips. Lower the foot part of the table so that the patient's feet are below the level of his head.

Indications

- For drainage after any procedures.
- Operation on the rectum and coccyx.

8. Knee Chest Position:

Place patient in the prone position, then assist her to kneel so that her weight rests on her chest and knees. Turn head to one side and flex her arms at the elbows extending, then to the bed in front of her. Be sure the thighs are perpendicular to the level of the head. Watch pulse and general condition of the patient.

Indications

- To obtain better exposure of the vagina, cervix, and rectum.

- To examine the bladder.
- To help correct retroversion of the uterus.
- To administer caudal and sacral anesthesia.
- Vaginal and rectal examinations.
- Operative procedures on the vagina, rectum and perineum.
- Operative deliveries

9. Lithotomy Position:

A position of the body for medical examination, pelvic or abdominal surgery, or childbirth in which the individual lies on the back with the hips and knees flexed and the legs spread and raised above the hips often with the use of stirrups.

Indications

- Abdominal surgeries.
- Childbirth.
- Pelvic examination.
- Urologic examination of the prostate.
- Male urethral surgery. Examination or operations on rectum and genital organs.

10. Prone Position:

Patient lies flat on his abdomen with head kept on a pillow and turned to one side and another pillow under the lower chest. Pillows are kept under the waist and under the lower legs. The arms are flexed at the elbow and kept above the head.

Indications

- For treatment on the back.
- To secure drainage of pus in front of the abdomen.
- When there is bedsore or burns or an injury at the back (spine.)
- Change of position for patients with fractured spine.

11. Sims position or semi prone position:

This is a modified left lateral

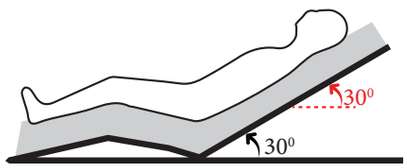
position. The patient lies on the left side. Head, shoulders and chest are turned forward so that her chest rests on the pillow. The right knee is well flexed and rests on the bed in front. The left knee is slightly flexed and is positioned behind the right knee.

Indications

- Vaginal examination.
- For rest and relaxation.

12. Fowler's Position and Semi-Fowler's Position:

Patient is in a partially sitting position. The back of the bed is elevated to 45 degrees with the aid of a backrest and pillow or by adjustment of the cot. It can be elevated to 30 degrees as well as 90 degrees. 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.



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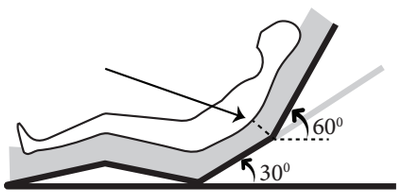

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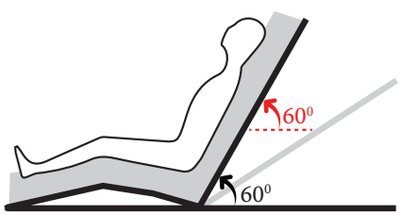

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Indications

- To obtain good drainage in the pelvis.
- To localize infection in the pelvis and prevent it's spread to the peritoneum.
- To prevent strain of abdominal muscles.
- 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.

13. Trendelenburg position:

The patient lies on his back with the foot at the bed elevated on wooden blocks. Patient's head and trunk are lower than the legs.

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 measure.

Indications

- Gynecological surgery and suprapubic prostatectomy cases.
- To prevent shocks.
- To prevent or relieve post-partum hemorrhage.

Unit 6

IDENTIFICATION OF INSTRUMENTS

6.1 OXYGEN MASK

Oxygen mask is used to give when O2 concentration of over 25% is needed. Oxygen flow of 8–12 litre/minutes will be sufficient to maintain the concentration of O2 to 25%. O2 mask should be properly fitted over the nose and mouth and fastened with ties at the back of the head.

6.2 STETHOSCOPE

S3SK45

The stethoscope is an important medical device for auscultation or listening to the internal sounds of human body. The sounds heard on auscultation in human body are heart sounds, breathing sounds, bowel sounds, fetal heart rate etc.,

6.3 TONGUE DEPRESSOR

A tongue depressor is a tool used in medical practice to depress the tongue to allow for examination of the mouth and throat for physical examination.

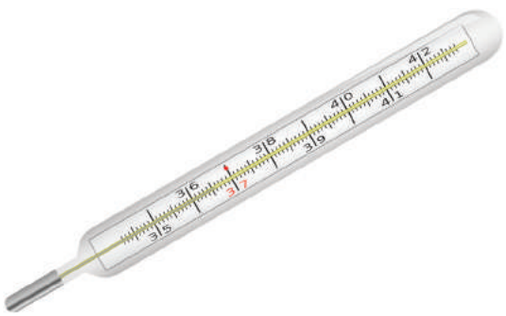
6.4 KNEE HAMMER

The knee or reflex hammer is a medical instrument used by practitioners to test deep tendon reflexes.

6.5 SPHYGMOMANOMETER [BLOOD PRESSURE APPARATUS]

A Sphygmomanometer is a device used to measure blood pressure. This consists of an inflatable cuff, bulb a mercury reservoir, and a manometer. Normal blood pressure is adults is 120/80 mm Hg.

6.6 CLINICAL THERMOMETER



The clinical thermometer is an instrument used to measure body temperature. Normal body temperature 98.4° F to 98.6° For 37° C

6.7 SYRINGES AND NEEDLES

The parental route of medication is given by injection. The syringes vary in sizes like 2, 5, 10, 30 and 50 ml.

6.8 SCISSORS

Scissors are hand operated shearing tools. They are used to cut or dissect tissues, used during dressings and bandaging, removal of sutures.

6.9 FORCEPS

Forceps are hand held, hinged instrument used for grasping and holding objects. Forceps are a surgical instrument used during operation of body organs for grabbing, holding tissues, arteries, removing tissues within or from the body.

There are many types such as straight forceps.

- Curved forceps
- Alice forceps
- Sinus forceps
- Migills forceps
- Needle holding forceps

6.10 THUMB FORCEPS

Thumb forceps are hand help instrument used for holding during surgery dressing and debridement of wounds.

There are two types commonly used are

- Toothed thumb forceps
- Non-toothed thumb forceps

6.11 SPONGE HOLDER

Sponge holding forceps or sponge holder are used by doctors to hold cotton sponges during surgery to arrest bleeding.

Unit 7

IDENTIFICATION OF BONES

7.1 DEFINITION

Bone is a hard living connective tissue, which forms the skeleton of human body. Bone is highly vascular organ made up of bone. Cartilage, loose and dense connective tissue and nerve tissue.

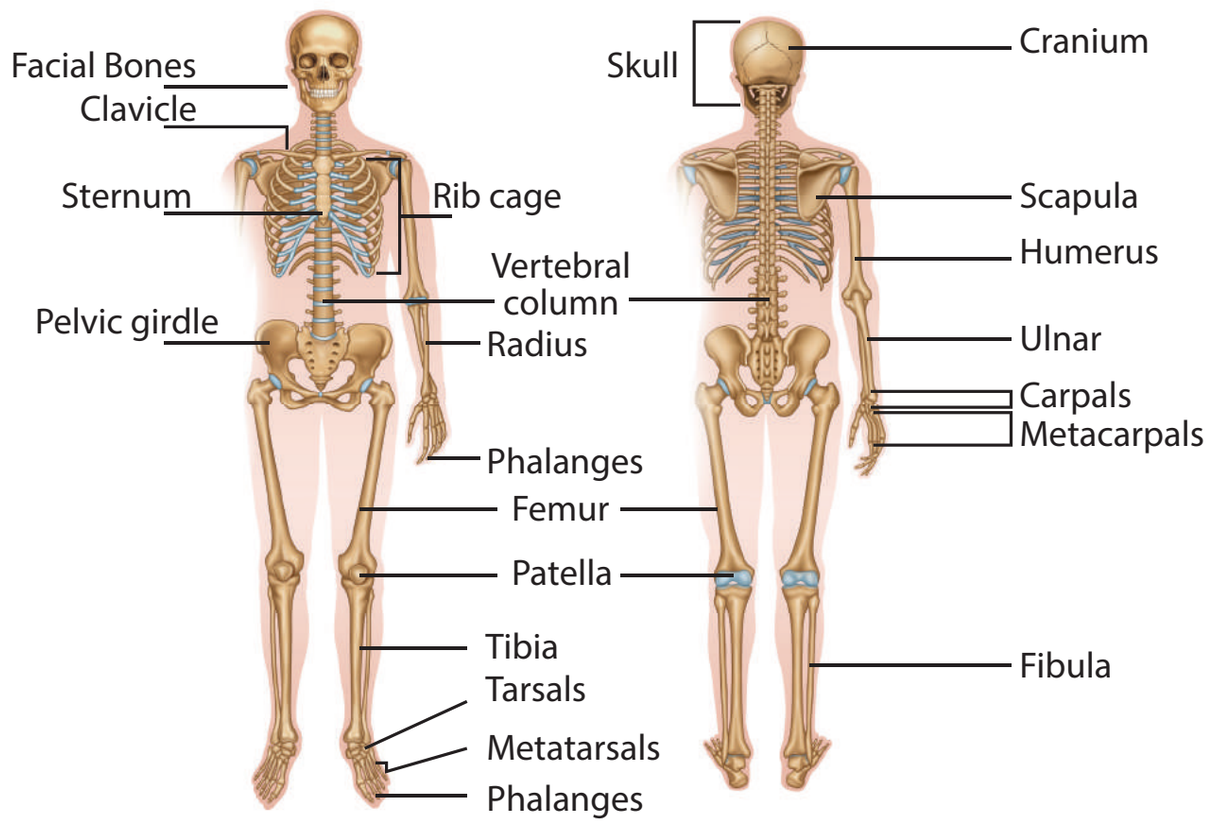
7.2 FUNCTIONS

- Support of body
- Provides attachment for muscles, ligaments, tendons and fascia.
- Encloses vital organs such as heart and brain
- Production of blood cells
- Produce movements as levers
- Store house of calcium.

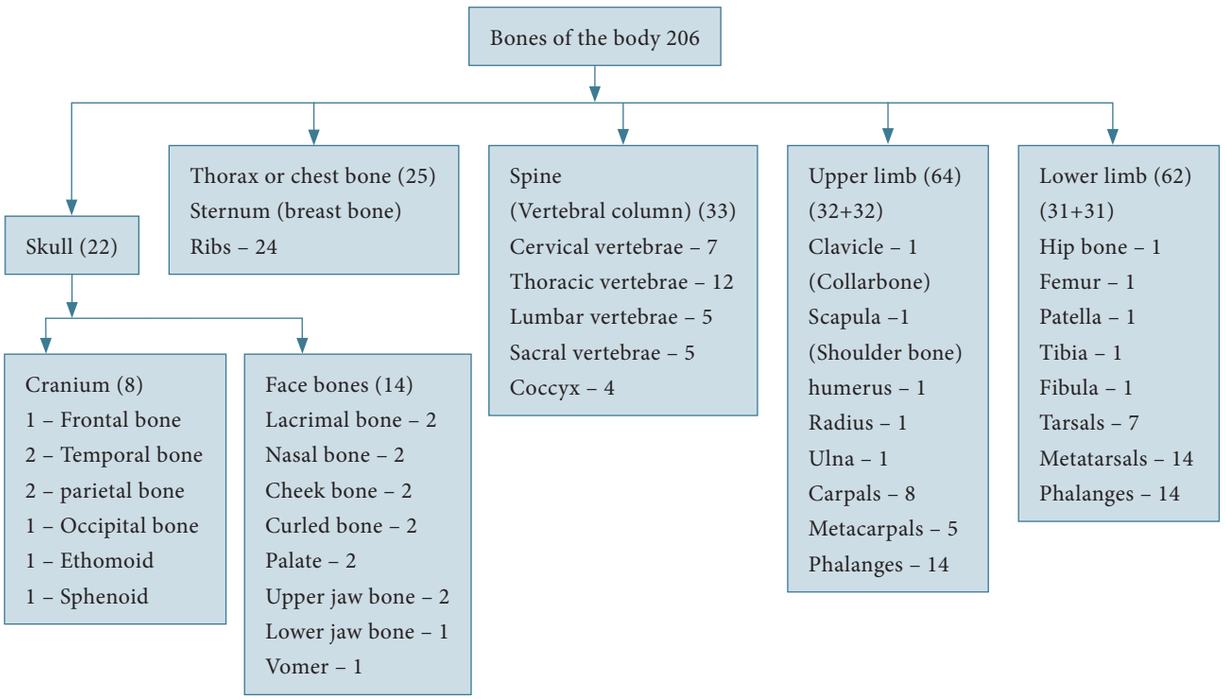
S3W7S2

7.3 BONE STRUCTURE

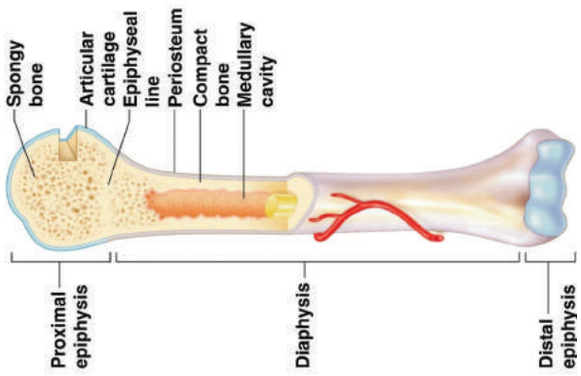
Bone consists of organic and inorganic materials. The organic substance includes and about 1/3rd of interstitial substance or matrix. The inorganic substance consists of remaining 2/3rd of matrix which is made up of calcium and phosphorus.



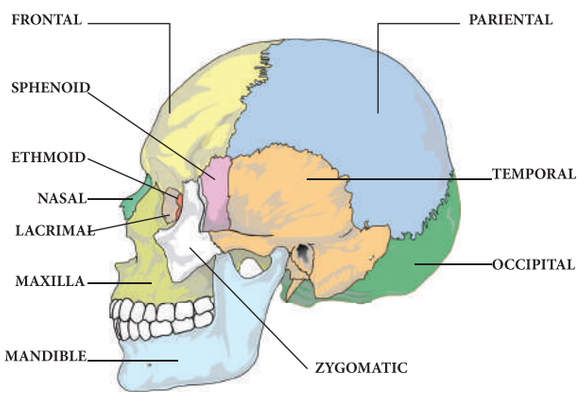
7.4 BONES OF THE BODY



It consists of outer "Compact bone" and inner "Spongy" bone.



7.5 SKULL



The skull consists of 2 parts

1. The cranium is made up of eight bones
2. The facial skeleton is made up of 14 bones

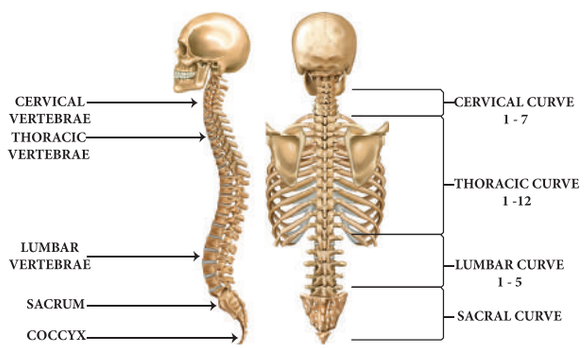
Cranial bones

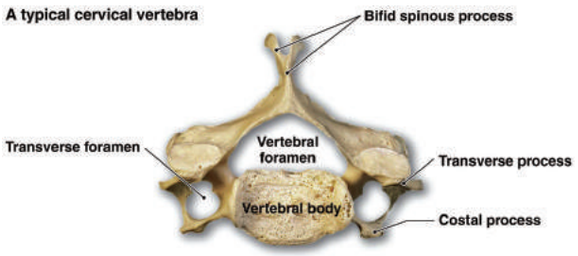
a. Frontal bone – 1	Which forms the forehead and helps to protect the eyes.
b. Parietal bone – 2	One on each side of the top of the skull, joined into the middle.
c. Temporal bone – 2	One an each side below the parietal bones. These protect the inner parts of the ears.
d. Occipital bone – 1	Which forms the back and base of the skull. It has a large hole on its base called the foramen magnum, for the spinal cord to pass through
e. Sphenoid bone – 1	A hat shaped bone.
f. Ethmoid bone – 1	Which form the roof of the nose between the eyes.

Facial skeleton (bones)

a. Nasal bones – 2	Which form the bridge of the nose
b. Lacrimal bones – 2	Near the eyes, which contain tear ducts
c. Cheek bones – 2	Otherwise called zycomatic bones
d. Palatebones – 2	Which join with the upper jaw bones
e. Curled bones – 2	One in each side of the wall of the nose
f. Vomer bone – 1	Helps to form the nasal septum
g. lower jaw – 1	Which forms the Mandible. Only the lower jaw can be moved during chewing (mastication)
h. Upper jaw – 2	Which form the projections on the inner sides of the nasal cavity

7.6 VERTEBRAL COLUMN





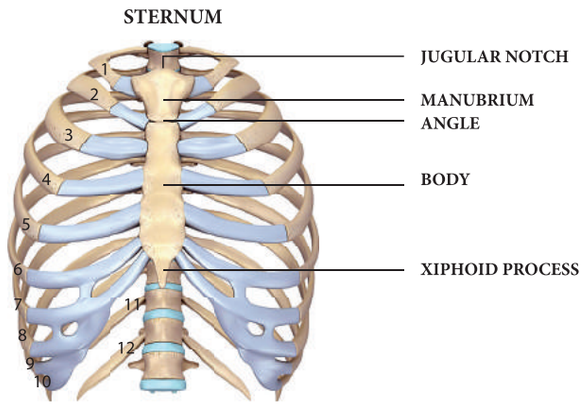
Spine or backbone is the central part of the skeleton. It supports the head and encloses the spinal cord. It consists of 33 regular bones called 'vertebrae'

The parts of the vertebral column

a. Cervical vertebrae – 7	This is in the neck region. The first two bones called atlas and axis are important for nodding and turning the head.
b. Thoracic vertebrae – 12	Forming the back position of the thoracic cavity
c. Lumbar vertebrae – 5	Found in the waist region. These are big and strong for giving support
d. Sacral vertebrae – 5	Fused together to form the sacrum
e. Coccygeal – 4	Fusing to form the coccyx which forms the tail end of the vertebral column.

The sacrum and the coccyx are called fixed vertebrae and the others are called movable vertebrae

7.7 THORAX



Thorax is formed by 12 thoracic vertebrae at the back, the sternum [breast bone] in front and the 12 pairs of ribs with their cartilages on sides.

The ribs are twelve pairs of the long curved bones. The upper seven pairs which are separately attached to the sternum by its cartilages are called true ribs.

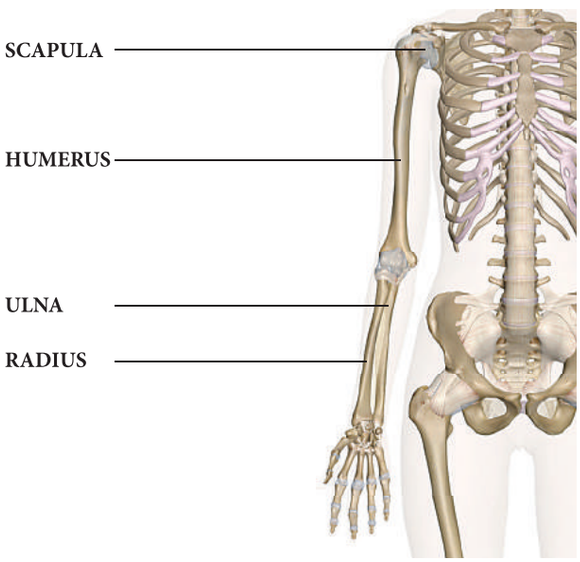
The next five pairs of ribs are called false ribs because they are joined by their cartilages to those of the ribs above and not directly to the sternum.

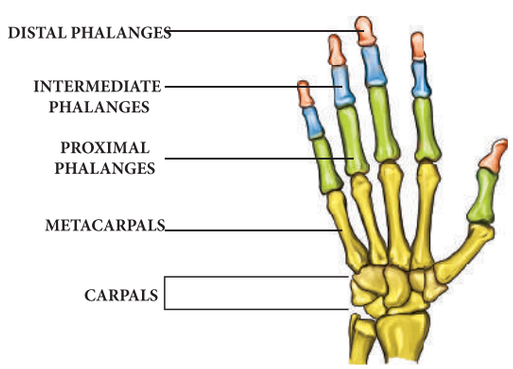
The last two pairs are not connected to the sternum at all and are called floating ribs.

Clavicle – 1	The clavicle or collarbone is a long curved bone forming the interior part of the shoulder girdle.
Scapula – 1	It is a large, flat, triangular shaped bone. This is otherwise called shoulder blade.
Humerus – 1	It is the longest bone in the upper limb
Radius – 1 Ulna – 1	They extends from the elbow joint to the wrist joint
Carpal bones – 8	It consists of short bones arranged in two rows
Meta carpal – 5	It consists of 5 bones seen in the palm.
Phalanges – 14	These form the skeleton of the fingers. 3 phalanges in each finger and only 2 phalanges in the thumb

7.8 BONES OF THE UPPER LIMB

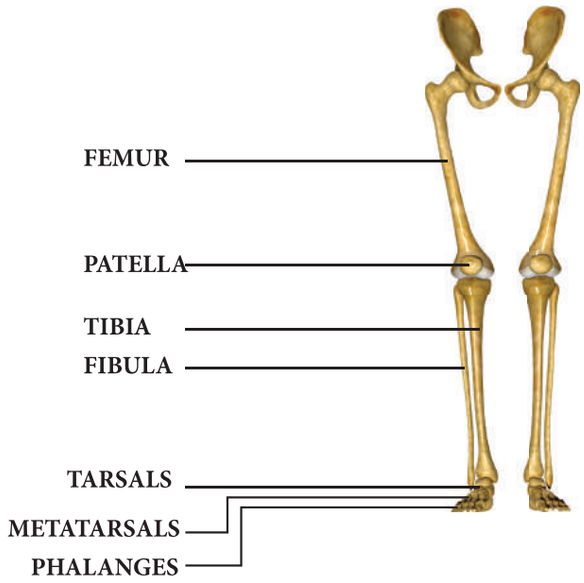
Each upper limb consists of thirty two bones.



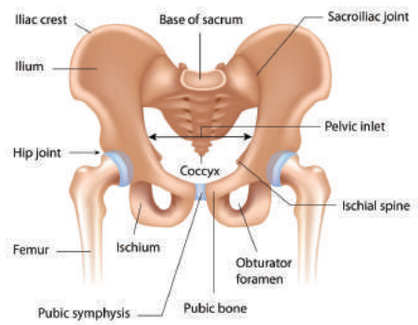


7.9 LOWER LIMB BONES

Each lower limb consists of thirty one (31) bones.



The Pelvic Girdle



Innominate bone – 1	It is otherwise called as hip bone. Irregular flat bone, which has 3 parts, Ilium, ischium and pubis
Femur bone – 1	It is the largest and strongest bone in the body. Otherwise called as thighbone.
Patella 1 [knee cap]	It is the small bone at the front of the knee joint.
Tibia – 1	It is the long bone on the inner side of the lower leg.
Fibula – 1	Fibula is a long thin bone on the outer side of the leg.
Tarsal bones – 7	Tarsal bones of the ankle are seven short bones. The largest is the heel bone – calcanium
Meta tarsal bones – 5	They are 5 long bones in front of the feet. They support the toes.
Phalanges [toe bones] – 14	Fourteen in number. Two in the big toe and three in each of the other toes.

Unit 8

HANDWASHING TECHNIQUE

8.1 DEFINITION

A technique of cleaning hands is to prevent transmission of micro-organisms.

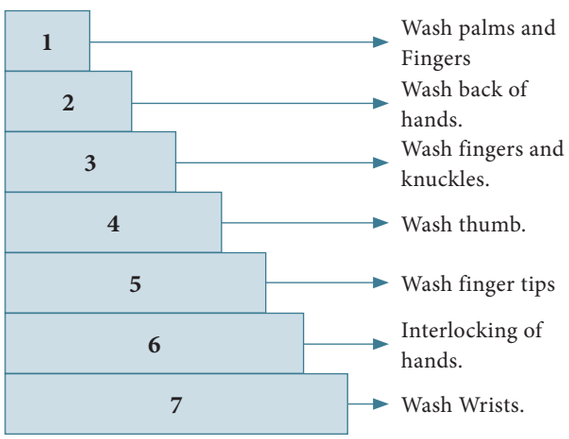
Purpose

- Cleanliness.
- Aesthetic Feeling.
- To prevent cross infection.

Indication

- At the end of each task.
- Before handling clean articles.
- Before surgical procedures and delivery.
- Before serving or eating food.
- When even necessary.

8.2 EFFECTIVE HAND WASHING STEPS



GUIDELINES FOR MAINTAINING AND WASHING

- Cut nails short to prevent accumulation of dirt.
- Remove jewelery to ensure through cleaning.
- Remove the wrist watch and push long uniform sleeves above wrists.
- Inspect the surface of the hands and fingers for breaks or cuts in skin and cuticles.

8.4 MEDICAL HAND WASHING

Equipments needed

- Sink with warm running water.
- Antimicrobial soap / Regular soap.
- Clean towel.

Procedure

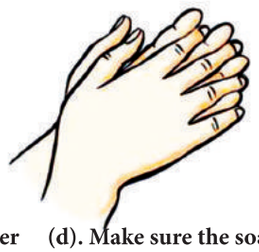
- Stand in front of sink, keeping hands and uniform away from sink surface.
- Open tap and wet below hand (hold hands below level) thoroughly under running water.
- Keep hands and forearms lower than elbows during washing.
- Apply 1ml of regular 3ml antiseptic liquid soap to hands lathering thoroughly.

STEPS OF HAND WASHING

(a). Wet hands under running water

(b). Apply soap and rub palms together to ensure complete coverage

(c). Spread the lather over the backs of the hands



(d). Make sure the soap gets in between the fingers

(e). Grip the fingers on each hand

(f). Pay particular attention to the thumbs

(g). Press fingertips into the palm of each hand

(h). Dry thoroughly with a clean towel

- Wash hands using plenty of lather and friction for atleast 10 to 15 seconds.
- Interlock fingers and rub palms and back of hands with circular motion atleast 5times each.
- Rinse hands and wrist thoroughly keeping hands down and elbows up.

SURGICAL HAND WASH

- Dry hands thoroughly from fingers to wrist and forearms with towels.
- Discard towel in soiled bin.
- Turn of water.

SURGICAL HAND WASHING/SCRUB

- Wear cap and mask.
- Turn on water.
- Wet hands and arm under running warm water.
- Hand should be held above elbows. Use circular movements to wash palms, back of hands, wrists, forearms and interdigital spaces for 20–25sec.
- Rinse hands and arms thoroughly under running water.
- Clean and scrub nails of each hand with 15 strokes using microbial agent.
- Holding the brush perpendicular scrub palm, each side of thumb and fingers and posterior side of hand with 10 strokes each.
- Scrub from wrist of 5cm above each elbow.
- Entire scrub should last for 5–10minutes.
- Discard brush to soiled bin.
- Take care not to touch the tap or sides of the sink during the procedure.
- Rinse hands well under running water from fingers to elbow.
- Use a sterile towel to dry one hand moving from fingers to elbow.
- Use one side to dry one hand and reverse side for other hand.
- Discard towel to the soiled bin.

For assist one person need to stay while surgical hand washing.

Unit 9

WEARING OF GOWN, GLOVE & MASK

9.1 GOWNING PROCEDURE:

Clean or disposable gowns or plastic aprons are worn during procedures when the nurse's uniform is likely to become soiled.

Indication:

- When the nurses changes the dressings of a client with extensive wounds, burns, etc.,
- During delivery procedure and surgical procedure.
- Patient susceptible to infection.
- Strict aseptic diagnostic procedure like FNAC (Fine needle aspiration cytology), L.P (Lumbar Puncture), bone marrow biopsy, Thoracentesis, etc.,

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Purpose:

- To prevent soiling of clothing during contact with the patient.
- To protect healthcare personnel from coming in contact with infected materials.

Procedure:

- After hand washing technique if followed.
- Pick up a sterile gown and allow it to unfold keeping inside of the gown towards the body without allowing the outside of the gown to touch any area.
- With hands at shoulder level, slip both arms into arm holes simultaneously. Ask the assisting nurse to bring the gown over shoulders.
- The assisting nurse fastens the ties at the neck. Overlap the gown at the back as much as possible and fasten the waist, ties or belt.
- Prevent the gown from becoming wet.
- While removing avoid touching soiled parts on the outside of the gown. Roll up the gown with soiled part inside and discard in the appropriate container.

9.2 GLOVING TECHNIQUE:

Gloving is defined as the putting on of a pair of sterile glove to protect one's own hand from pathogenic micro organisms and to avoid contamination of a sterile area by hand.

Purpose:

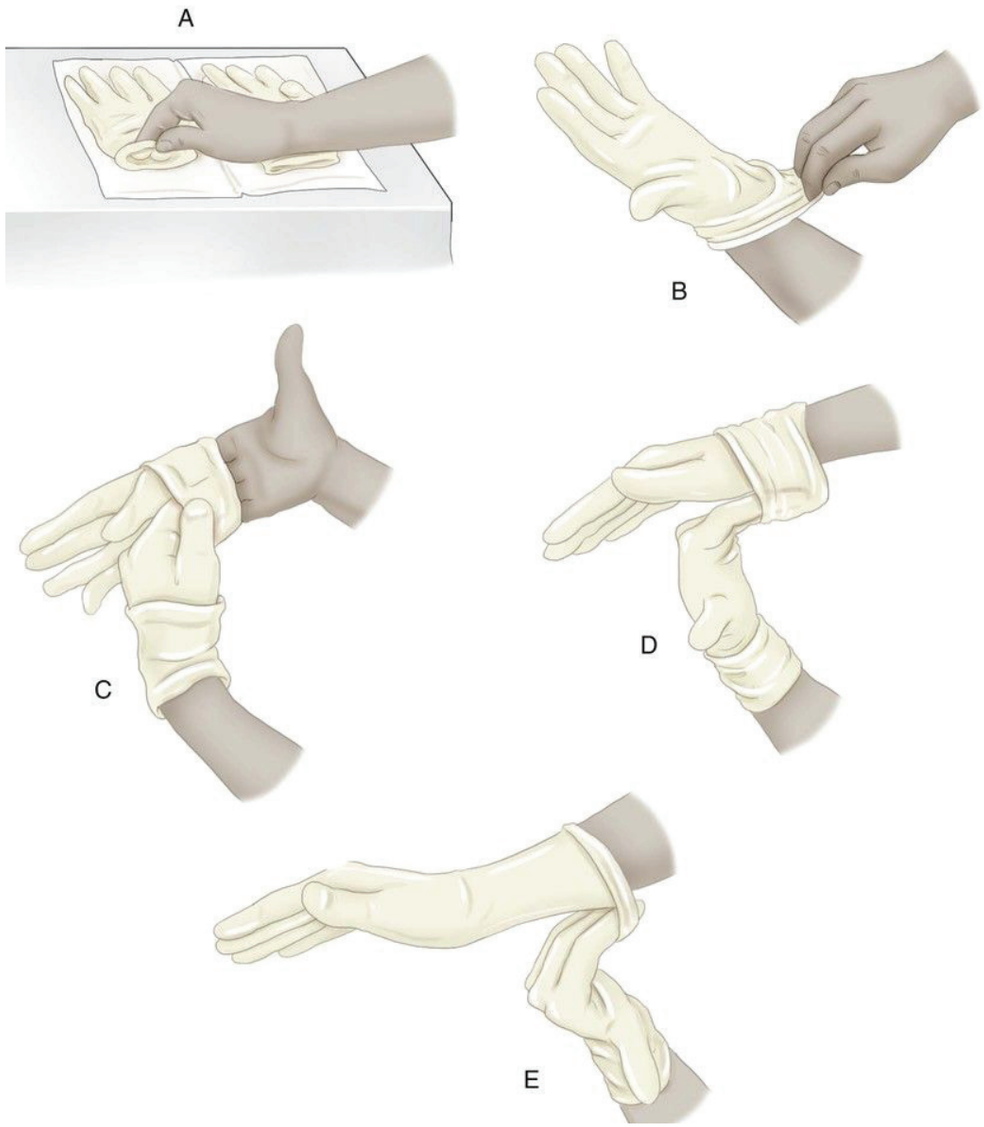
- To protect the nurse from the pathogenic micro organisms.
- To safely use her hands to handle without contaminating any objects.

Indication:

- Contact with open wound.
- For strict aseptic diagnostic procedures.
- Handle with infected materials like blood, urine, faeces etc.
- Nurse or health personnel with any cut injury in hands or fingers.
- For surgical procedure and delivery procedure.

1. When the glove packet is collected from the autoclaved bin, it is placed flat on the sterile towel.
2. The packet of powder is removed from the glove pack and the hands are powdered.
3. Identify right and left hand
4. Pick up the left glove with the right hand, by the inside turned down cuff.
5. Carefully push the fingers of the left hand into the glove until it reaches the cuff.
6. Pick up the right glove by putting the gloved hand under the cuff.
7. Carefully push the fingers of the right hand into the glove and pull the glove cuff over the cuff of the gown.
8. Now pull the cuff on the left glove completely over the gown cuff of the left hands.
9. Adjust the gloves.

Steps to Procedure:



9.3 WEARING MASK:

Mask are worn to reduce the risk for transmission of organisms by the droplet contact, air borne routes and splatters of body substances.

Purpose:

- The mask should be worn by personnel who work close to the client if the infection is transmitted by large particles aerosols e.g measles, mumps, acute respiratory diseases in children.
- The mask should be worn by all personnel entering the room if the infection is transmitted. by small particle aerosols. e.g pulmonary tuberculosis.

Steps to Procedure:

1. Find top edge of mask
2. Hold the mask by top two strings. Tie two top ties at the top of the back of the head with ties above the ears.
3. Tie two lower ties snugly around the neck with the mask well under the chin.
4. Ensure that the mask covers the mouth and the nose adequately.
5. If glasses are worn, fit the upper edge of the mask under the glasses.
6. When removing the mask, first untie the lower strings of the mask.
7. Discard the used mask in the waste container without touching the soiled part.
8. Wash your hands.

Unit
10 APPLICATION OF BANDAGES

S4BC7F

10.1 INTRODUCTION

A bandage is a piece of material used either to support a medical device such as a

- Dressing
- Splint
- Support or
- To restrict the movement of a part of the body


Spica bandage of shoulder


Recurrent bandage of stump

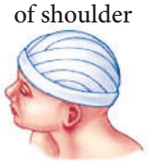

Figure of 8 bandage of both shoulders


Spica bandage of shoulder


Figure of 8 bandage of ankle


Scultetus bandage


Four tailed bandage


Recurrent bandage of head


Barton bandage (single turn)


Many tailed bandage

Uses

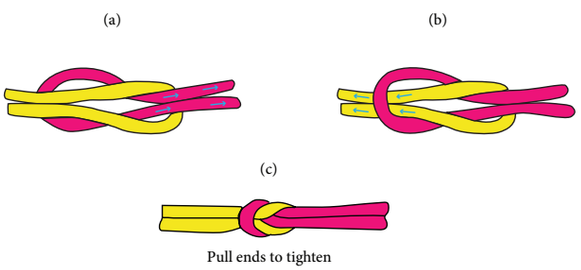
Bandages are used to:

1. Maintain direct pressure over a dressing to control bleeding.
2. Keep dressings or splints in position.
3. Support a limb or joint.
4. Prevent movement.
5. Prevent or reduce swelling.
6. Help in lifting and carrying casualties.

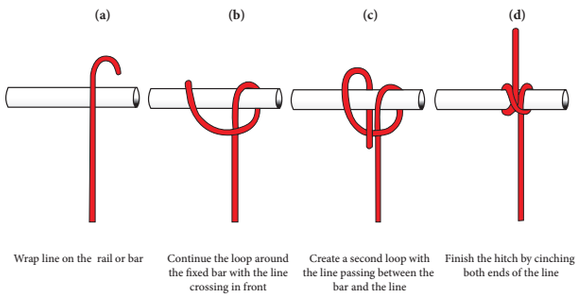
10.2 TYPES

1. Triangular bandages
2 Roller bandages

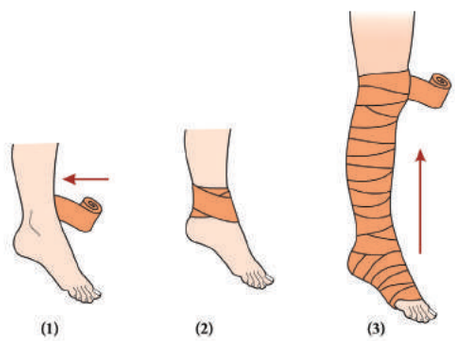
A reef knot is used to tie the ends of the bandage, because it is flat and will not slip. The rule for tying a reef knot is 'right over left then left over right'.



A clove hitch made from a narrow bandage, is placed round his wrist. The ends of the bandage are taken around the neck and tied.

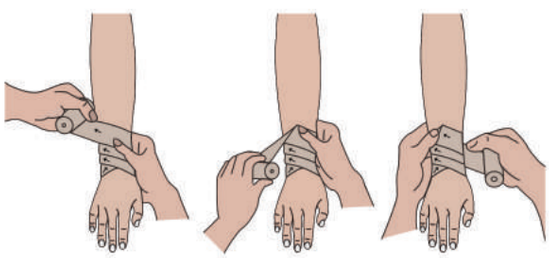


Simple Spiral Bandage:



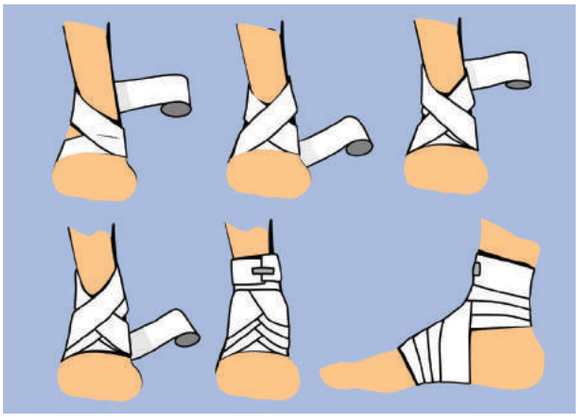
This is used on fingers or other uniform surfaces. This bandage is just round in spirals.

Reversed Spiral Bandage:

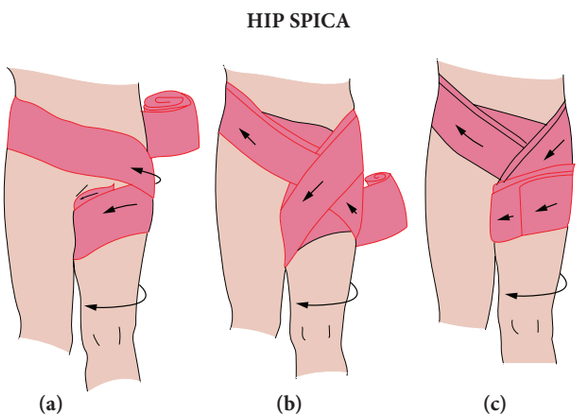


This is used on limbs where the thickness of the part varies. e.g Fore arm & Legs.

Figure of Eight



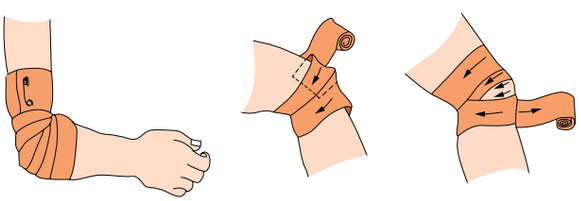
This may be used on limbs instead of the reverse spiral also for the hand and foot.



Spica:

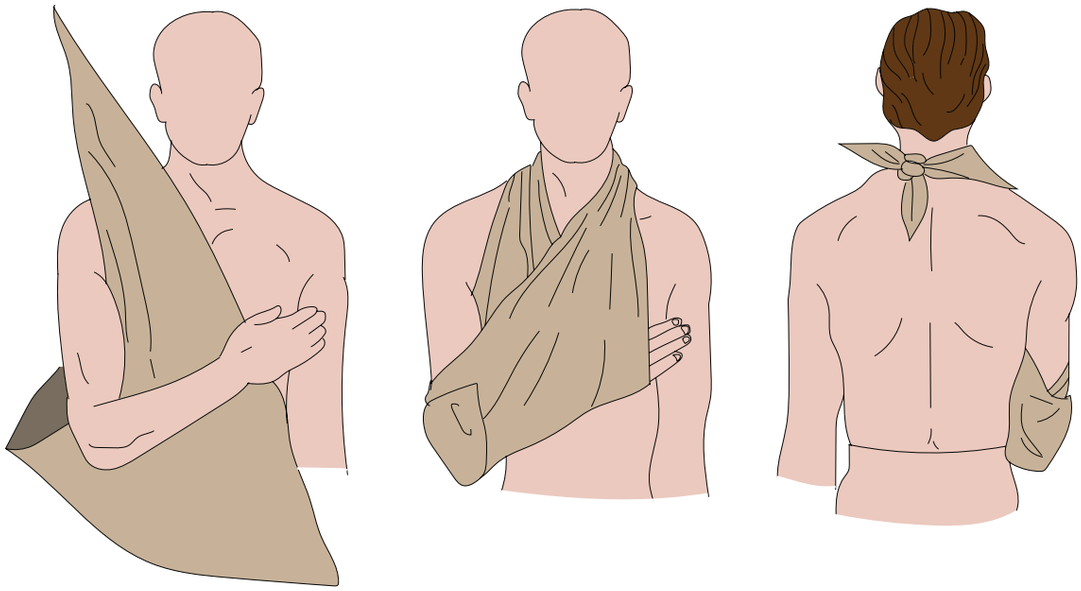
This is used for shoulder, hip and thumb. And this is a modified figure of eight.

Divergent Spica:

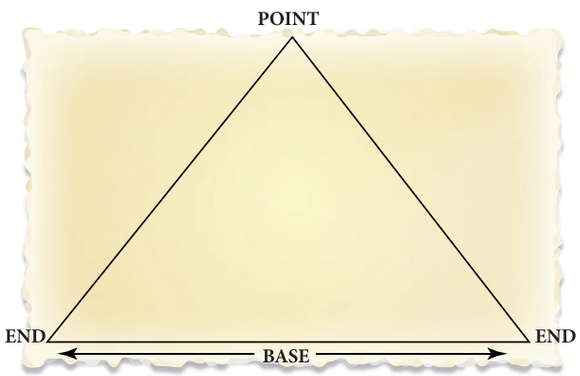


This bandage pattern encloses a flexed joint or projection. It is used for a flexed joint. e.g Elbow, knee, heel

Triangular Bandage:

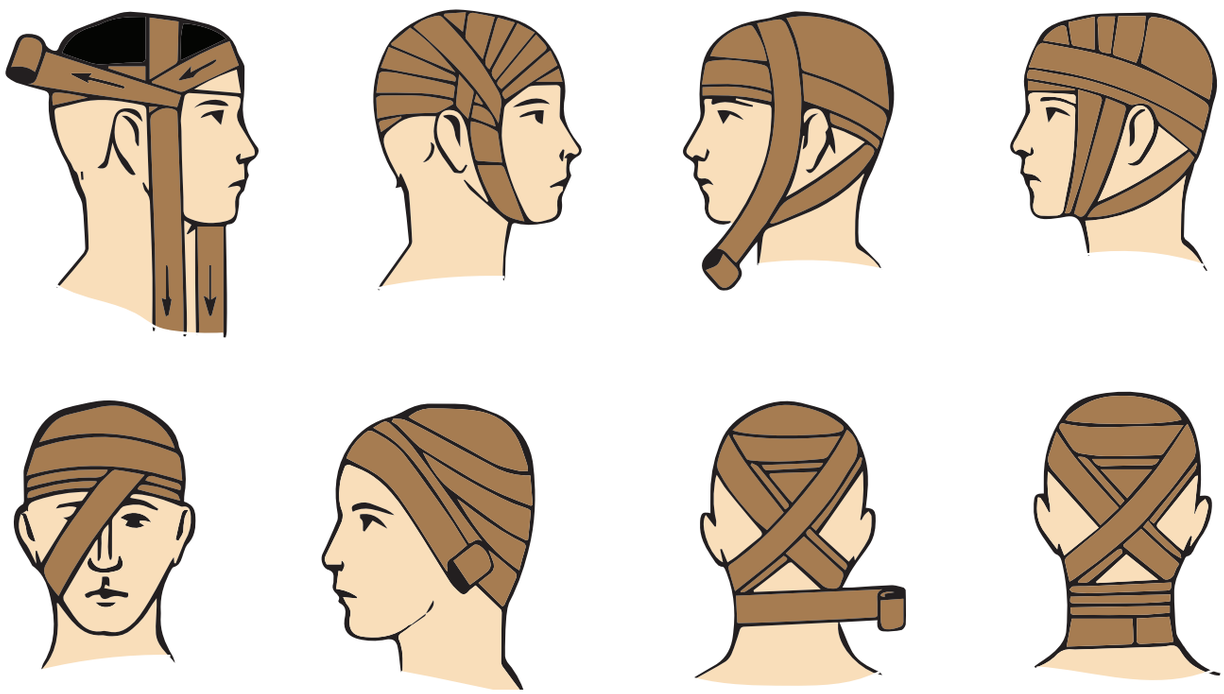


A triangular bandage is used in treating a fracture of the collar bone. It helps to keep the hand raised high up, giving relief from pain due to the fracture.



10.3 SPECIAL BANDAGES:

Capeline bandage for head.



- one end being continued round the scalp and other going order it
- scalp turn secured by horizontal turn
- capline bandage completed

Eye and Ear Bandage

10.4 PATTERNS USED IN BANDAGING

1. Circular turns, as used for head and trunk.
2. Simple spiral, for parts of uniform thickness, eg. Fingers wrist.
3. Reverse spiral, used on limbs where the thickness of the part varies, e.g forearm leg.
4. Figure-of-Eight

This may be used on limbs instead of the reverse spiral also for the hand and foot.

5. Spica, used for the shoulder, hip and thumb
6. Divergent Spica, for a flexed joint, e.g elbow, knee, heel
7. Recurrent to cover tips of fingers or a stump.
8. Special bandages such as the capeline for the head, eye bandage, ear and breast bandages.

10.5 APPLICATION OF BANDAGE

Preliminary Assessment

- Check the doctors order to see the specific precautions if any regarding the positioning and movement.
- Assess the patients need for application of bandage.
- Monitor vital signs.
- Assess the patients mental status.
- Assess the need for pain medication
- Assure the patient, the patient's family.
- Assess the adequacy of circulation by noting surface temperature, skin colour, and sensation of body parts to be wrapped.
- For tying the bandage a 'reef knot' must be always used.
- The knot should be made where it does not hurt the skin or cause discomfort.
- Tuck the loose ends of the bandage out of sight.
- Not in use the triangular bandages should be folded narrow. Bring the two ends to the centre and fold again. It becomes a packet which measures 16 x 9 cm handy to carry.
- Wrinkled Bandages are uncomfortable.
- Never ignore any complaints of pain experienced by the patient. This should be invested and the cause is removed immediately.
- Do not use extra turns in order to use all the bandages.

- When completed, fix the bandage with a circular turn and secure it with a safety pin or other suitable materials such as adhesive strapping.

Preparation of the patient

- Explain the sequence of the procedure to the patient and explain how the patient can assist you.
- Place the articles needed conveniently in the bed side table.
- Bring the patient to the edge of the bed.
- Provide privacy.
- Help the patient to assume comfortable and correct position.
- Perform hand hygiene.

Rules for Application

- Face the patient.
- When bandaging left limb, hold the head of the bandage in the right hand vice versa.
- Apply the outer side of the bandage over the pad and wind it around the injury twice so that it is firm.
- Bandage from below upwards over the limb. Also make it a roll to apply bandage from the inner side to the outer side.
- See that the bandage is neither too loose nor too tight.
- Roll bandage so that each layer covers two-thirds of the earlier layer. Fix the bandage by pinning it up or using adhesive plaster. The usual practice of tearing the final end into two long tails and tying them up is quite satisfactory.

Articles Required

1. Correct width and number of bandages.
2. Disposable gloves (if necessary)
3. Safety pins
4. Scissors
5. Adhesive tapes
6. Rubber Sheet (if necessary)

Procedure

- Apply bandage from distal point toward proximal boundary using variety to turns to cover various shapes of body parts.
- Unroll and very slightly stretch bandage
- Over lap turns by one half to two thirds width of bandage rolls.
- Apply additional rolls without leaving any uncovered skin surface. Secure last bandage applied.
- Remove gloves if worn and perform hand hygiene.
- Assess distal circulation when bandage application is complete and atleast twice during 8 hours period.
- observe the bandage site for 5 – P

It comes in various widths lengths and types of material. For best results, use different widths for different body areas.

For e.g

Fingers	—	1 inches
Hand & arm	—	2 to 2.5 inches
Leg	—	3 to 3.5 inches
Trunk	—	4 to 6 inches

Five 'P'

- Pain
- Pallor
- Pulselessness
- Palpate skin for warmth
- Paralysis

NURSING - THEORY VOCATIONAL - Class XI

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