



Participant Handbook

Sector
Health

Sub-Sector
**Allied Health &
Paramedics**

Occupation
General Duty Assistant



Reference ID: **HSS/ Q 5101, Version 1.0**
NSQF level: 4

General Duty Assistant



Shri Narendra Modi
Prime Minister of India

“ Skilling is building a better India.
If we have to move India towards
development then Skill Development
should be our mission. ”



Certificate

COMPLIANCE TO QUALIFICATION PACK – NATIONAL OCCUPATIONAL STANDARDS

is hereby issued by the
HEALTHCARE SECTOR SKILL COUNCIL
for

SKILLING CONTENT : PARTICIPANT HANDBOOK

Complying to National Occupational Standards of

Job Role/ Qualification Pack: **"General Duty Assistant"** QP No. **"HSS/ Q 5101 , NSQF Level 4"**

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Authorised Signatory
(Healthcare Sector Skill Council)

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HSSC dedicates this book to youth of the country who desire to learn specialized skills, an invaluable asset for making a career in the Healthcare Sector and wish to be part of the most Nobel profession of saving lives.

For Healthcare Sector Skill Council

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About this book

This Participant Handbook is designed to enable training for the specific Qualification Pack(QP). Each National Occupational Standards (NOS) is covered across Unit/s.

Key Learning Objectives for the specific NOS mark the beginning of the Unit/s for that NOS.

- Assist nurse in bathing and grooming the patient.
- Assist patient in dressing-up.
- Support individuals to eat and drink.
- Assist patient in maintaining normal elimination.
- Transferring patient within the hospital.
- Communicating appropriately with co-workers.
- Prevent and control infection.
- Assist nurse in performing procedures as instructed in the care plan.
- Assist nurse in observing and reporting change in patient condition.
- Assist nurse in measuring patient parameters accurately.
- Respond to patient's call.
- Clean medical equipment under supervision of nurse.
- Transport patient samples, drugs, patient documents and manage changing and transporting laundry/ linen on the floor.
- Carry out last office (death care).
- Act within the limits of your competence and authority and work effectively with others.
- Maintain a safe, healthy and secure environment.
- Practice Code of conduct while performing duties.
- Follow biomedical waste disposal protocols.

Symbols used in the book have been listed below.

Symbols Used



Key Learning Outcomes



Steps



Time



Tips



Notes



Unit Objectives



Exercise



Skills Practical



OJT

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The book on New Employability Skills is available at the following location: <https://eskillindia.org/Home/handbook/NewEmployability>



1. Introduction to the Program

Unit 1.1 - Objectives of the Program

Unit 1.2 - Introduction to the Healthcare Industry

Unit 1.3 - Different Departments in a Hospital

Unit 1.4 - Tools and Equipment



Key Learning Outcomes

At the end of the unit, you will be able to:

- Understand Healthcare Service Providers (primary, secondary & tertiary).
- Understand the services offered to patients in a hospital.
- Understanding of various departments in the hospital.
- Know about the different types of tools and equipment used in a hospital.

UNIT 1.1: Objectives of the Program

Unit Objectives



At the end of the unit, you will be able to:

- State the overview of the program.
- State the ground rules.

1.1.1 Overview of the Program

This program will facilitate an overview of:

- Healthcare Industry.
- Behavioural, professional and technical skills required for performing the job effectively.
- Methods to manage the work to meet requirements.
- Ways to maintain a safe, secure and healthy working environment.
- Roles and responsibilities of a GDA.

1.1.2 Skills This Program Trains

Healthcare assistants require to have good ability to interact or communicate well with other people. This program will equip you with skills like:

- Being friendly and the ability to put patients at ease, whatever their physical or social needs.
- Being tactful and sensitive at all times.
- Acquiring a good sense of humour.
- Respecting the patients and their families.
- Being patient, as shifts can be long and often stressful.
- Understanding basic Healthcare and hygiene standards.
- Being able to communicate well.
- Ability to deal with aggressive or anxious patients and their families.
- Responsibility and flexible attitude towards patients and the job.
- Manual dexterity and a certain level of physical strength.
- Gaining a fair amount of stamina.
- Ability to stay calm under pressure.
- Sincerity and commitment to the job.
- Ability to think quickly and solve problems as they arrive.

1.1.3 Ground Rules

All the participants are expected to follow certain ground rules which will facilitate an efficient learning environment. These rules are:

- Arrive and start on time.
- Participate in all phases of the workshop.
- All mobile phones should be either switched off or in silent mode.
- Adhere to the timelines. If the break given is of 15 minutes, then be in the training room within those 15 minutes.
- Clear your doubts with the facilitator. Do not talk among yourselves.
- Listen to others when they talk. Do not interrupt. Be sure to ask questions if you don't understand something.

Tips



- Overview of the program
- Objectives of the program
- Skills needed for the role

Notes

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UNIT 1.2: Introduction to the Healthcare Industry

Unit Objectives



At the end of the unit, you will be able to:

- State the overview of healthcare industry.
- Describe the job ladder in healthcare industry.

1.2.1 Overview of Healthcare Industry

The Healthcare industry is one among the world's biggest developing industries. Among many of the developed countries, healthcare consumes higher than 10 percent of their gross domestic product (GDP). Thus, it can make a major contribution towards a country's economy. It is a collection of various sectors which are a part of the economic system. These sectors are responsible for the cure, preventive care, rehabilitation and palliation of patients by providing them with the required goods and services. The healthcare industry is dependent on multidisciplinary teams of trained professionals and assistants to take care of the health needs of the people. The healthcare sector in India is progressing by leaps and bounds with its reach, services and expense expanding to both public and private sectors. This is generating a big market for information systems and IT solutions related to healthcare.

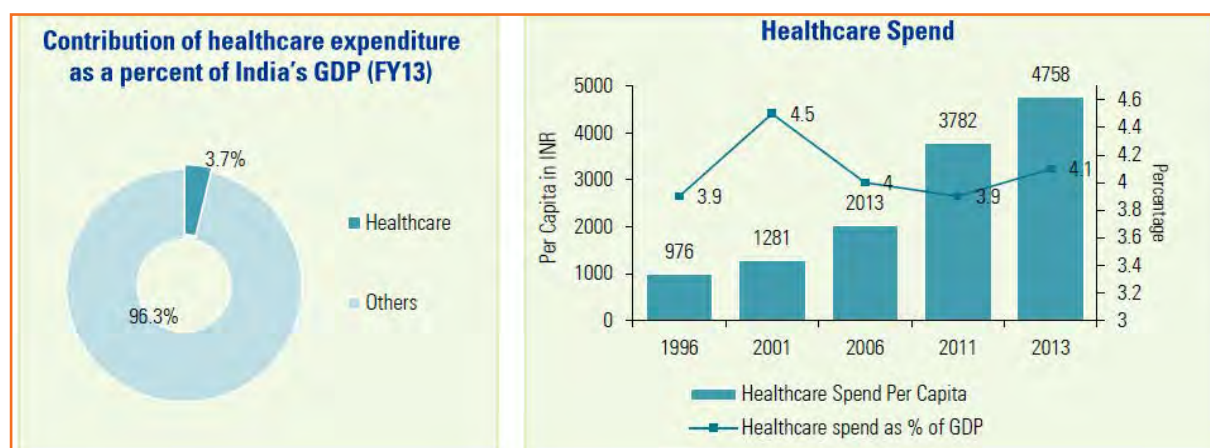


Fig.1.2.1: Contribution of Healthcare Expenditure as a percent of India's GDP (FY13)

Market size

As per the industry estimates the Indian healthcare sector had reached US\$ 100 billion in the year 2015 and is likely to touch US\$ 275.6 billion by the year 2020. According to the reports of the research firm, Venture Intelligence, in the year 2013, life sciences and healthcare had come up as one of the most favoured sector for venture capital, second only to technology. It procured 27 investments valued at US\$ 181 million.

- As there is a diverse range of the required health services, there are more than 11 lakh related health professionals belonging to various categories, but they still fall short of the present demand. These include operators of medical equipment, sanitarians, nursing assistants, medical physiotherapists.

- In spite of the fact that health expenditure has increased, the per capita income in India is much less as compared to that of the rest of the developing countries.
- It is likely that in the near future the health expenditure will rise due to shift in trends like increased reach of insurance, altered demographics and greater consumer awareness.

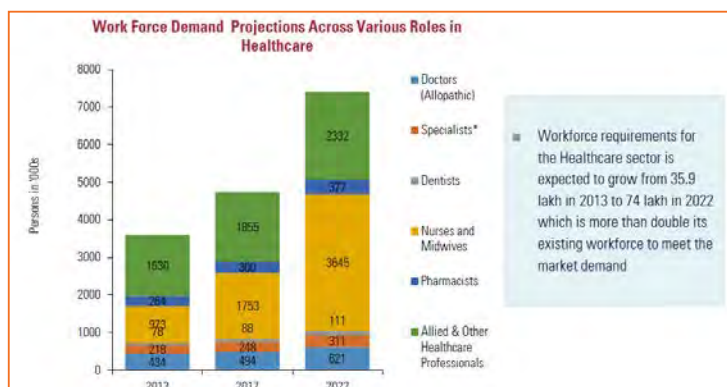


Fig.1.2.2.: Work Force Demands in Healthcare Sector

Organisational Structure of a Hospital

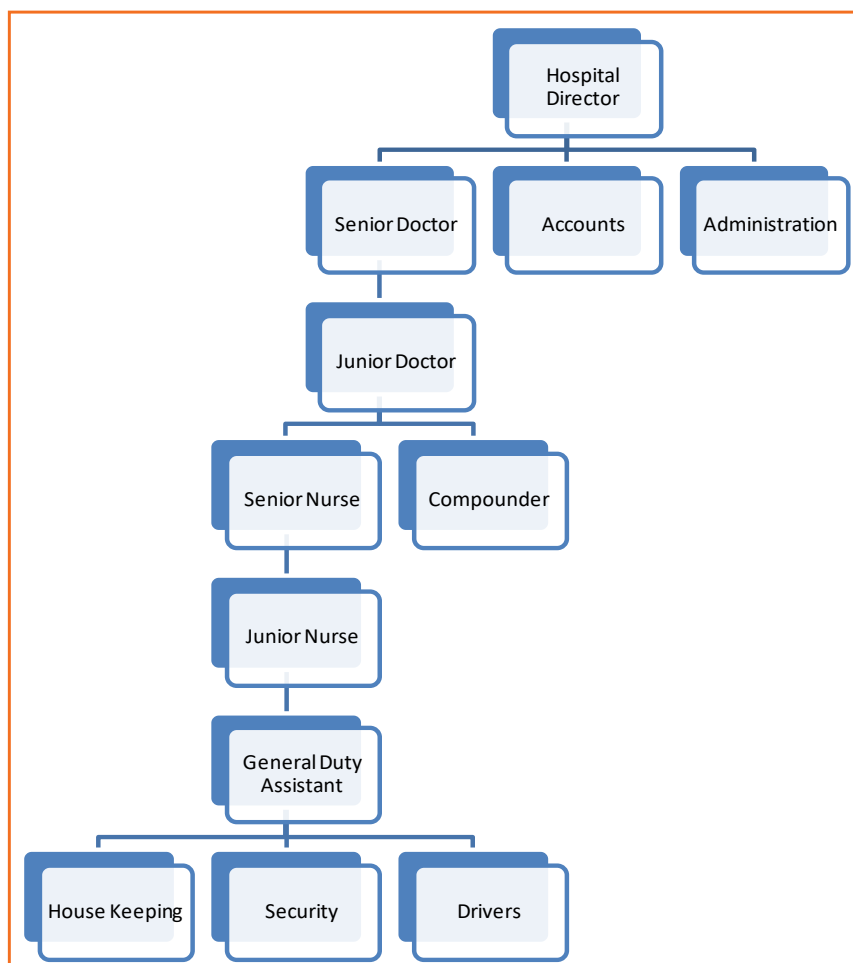


Fig.1.2.3: Organisational Structure of a Hospital



- In India Health is the responsibility of the central, state and local government.
- Components of healthcare delivery system are:
 - » Public Health Sector
 - » Private Sector
 - » Indigenous systems of medicine
 - » Voluntary Health Agencies
 - » National Health Programmes



Notes

UNIT 1.3: Different Departments in a Hospital

Unit Objectives



At the end of the unit, you will be able to:

- Explain the varied key concepts related to the job role of a General Duty Assistant.

1.3.1 Overview

Let us look at some of the key words that you should know as a General Duty Assistant. The common terms are as follows:

1.3.2 Hospital

Hospitals have a vital role to play within the healthcare system. They are healthcare institutions which include a well organised medical and professional team. They have inpatient facilities and provide medical and linked services at all times of the day and night. A hospital is an institution that people go to when they are suffering from health problems. A hospital has specialized staff such as doctors, nurses, ward boys, general duty assistants who help in providing treatment to the ailing or sick person.



Fig.1.3.1: Hospital

As a general duty assistant you should be aware of all these departments and the activities involved with it. You may not go to these departments daily. However, you may be needed in any of these departments as a part of your job role. Let's take a look at the different departments present in the hospital:

- **Anaesthetics department:** In this department, doctors give anaesthesia for operations.



Fig.1.3.3: Cardiology



Fig.1.3.2: Anaesthetics department

- **Cardiology department:** This department gives medical care to people suffering from heart or circulatory problems. The treatment can be provided on an inpatient or outpatient basis. Outpatient means a brief visit that lasts only a day. Inpatient means a visit to a hospital which requires a minimum of a night's stay in a ward.

- **CSSD:** The central sterile services department (CSSD), also known as the sterile processing department (SPD), central supply department (CSD) or central supply, is an integral part of hospitals and other similar facilities that carry out sterilization and other procedures on medical appliances, equipment and items of consumption; for later use by health personnel in the operating theatre or for aseptic methods such as catheterization, stitching of wounds and bandaging.

The procedure involves cleaning the used equipment such as tools of stainless steel with a sterilizer. The equipment is first dried on a stand, then wrapped in an aseptic bag which is a special paper bag, sealed with tape and then sterilized in a steam autoclave or by using a gas. The entire process is done following the regulations of the facility.



Fig.1.3.4: Central Sterile Services Department



Fig.1.3.5: Coronary Care Unit

- **CCU:** A coronary care unit (CCU) is also called as cardiac intensive care unit (CICU). It is a ward in the hospital which specializes in providing healthcare to people suffering from heart attacks, cardiac dysrhythmia, unsettled angina and other heart problems which need regular observation and treatment.

- **Emergency department:** This is also called as casualty ward and is the place in the hospital where patients are initially taken when they arrive in an ambulance in emergency situations. The department is functional throughout the day and night and is fully staffed and prepared to handle all kinds of emergencies. Patients are attended as per the severity of their condition. There is a separate area for minor injuries under the supervision of nurses and a GDA.



Fig.1.3.6: Emergency



Fig.1.3.7: Elderly services department

- **Elderly services department:** This department deals with the various problems related to the elderly and includes issues such as diabetes, movement problem, bone disease, gastroenterology, and syncope and so on. It is managed by consultant physicians who have specialization in geriatric medicine. The services provided include home visits, outpatient clinics and daytime hospitals. This department works in close association with community services functioning especially for the elderly.

- **Geriatric intensive-care unit:** This unit is at times also known as intensive care and caters to the needs of the extremely ill patients. It has a few beds and is managed by specialist medical personnel along with consultant dietitians, anaesthetists and physiotherapists. The patients arrive here for treatment from some other hospitals as well as from other departments of the same hospital.

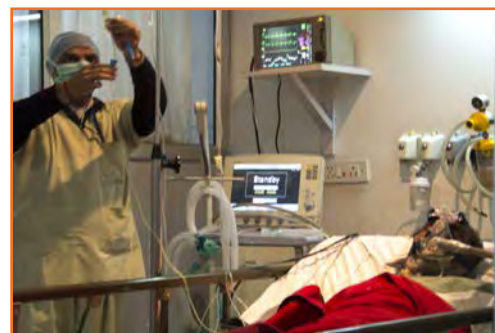


Fig.1.3.8: Geriatric intensive-care unit



Fig.1.3.9: General surgery department

- **Gynaecology department:** This department deals with issues related to the urinary tract and reproductive organs of females. The problems could range from infertility and incontinence to endometritis. The services include screening of cervical smear and checks for post-menopausal bleeding.



Fig.1.3.10: Gynaecology department



Fig.1.3.11: Maternity departments

- **ICU:** The Intensive Care Unit (ICU) is a unit in the hospital where seriously ill patients are cared for by specially trained staff. An intensive care unit (ICU), also known as a critical care unit (CCU), intensive therapy unit or intensive treatment unit (ITU) is a special department of a hospital or Healthcare facility that provides intensive care medicine.

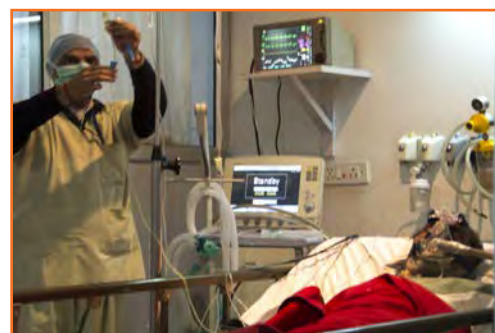


Fig.1.3.12: Intensive Care Unit

Intensive care units cater to patients with the most severe and life-threatening illnesses and injuries, which require constant, close monitoring and support from specialist equipment and medication in order to ensure normal bodily functions. They are staffed by highly trained doctors and critical care nurses who specialise in caring for seriously ill patients. Common conditions that are treated within ICUs include trauma, multiple organ failure and sepsis.

- **Medical record department:** Often a patients' medical records are needed by a GDA and therefore, you should be familiar with terms such as health record and medical chart. These records provide the patients' health observations, which drugs have been administered and how, and other treatments, dosage, test reports, etc.

The screenshot shows a 'MEDICAL RECORD' window. At the top, there's a 'Record no.' field with '413' and an 'Enter date' field with '15/04/1998'. Below this, patient details are listed: Surname: AHLEERS, Given name: EVELYNE, Maiden name: DEPLANTAY, Sex: F, Birthdate: 09/03/1955, Birthplace: MORNAY BERRY Cher, Location: P. ARCHIVES PASSIVES, NIP: 156382, Notes: DEPLANTAY, Disposal: 998. A 'SUB-RECORDS' table is at the bottom with columns for Owner, Notes, and Date. It contains three entries: 1265 (CHIR. DIG, SORTIE, 15/04/1998), 1266 (URO, PRESENT, 15/04/1998), and a Compteur entry.

Fig.1.3.13: Medical record (Snapshot)



Fig.1.3.14: Neonatal intensive care unit

- **Operation Theatre:** An operating theatre or OT, is a hospital area or room where surgeries and other procedures requiring sterile equipment and environment are done.



Fig.1.3.15: Operation Theatre



Fig.1.3.16: Pathology labs

- **Radiology department:** This department utilizes various imaging technologies for the diagnosis of diseases so that the required treatment can be given. The technologies used are:
 - » Radiography
 - » CT or Computed Tomography
 - » PET or Positron Emission Tomography
 - » MRI or Magnetic Resonance Imaging



Fig.1.3.17: Radiology department

Some Other Departments in a hospital are as under:

- **Medicine:** Medicine is a drug or other preparation which doctors use to help cure or prevent a disease.
- **Physician:** A medical doctor who is trained in human medicines is called a physician.
- **Surgeon:** A doctor who performs the operative procedures is called a surgeon.
- **Human anatomy and physiology:** Study of human body and its functions.
- **Pathology and Pharmacology:** Study of diseases and the medicines for curing illness.
- **Histology:** Is the study of microscopic anatomy of plant or animal cells and tissues.
- **Microbiology:** Study of microscopic organisms including unicellular and multi cellular organisms. Microbiology has many sub-disciplines such as virology, mycology, parasitology, and bacteriology.
- **Immunology:** Immunology is a branch of biomedical science that encompasses the study of the immune system of all organisms.
- **Genetics:** A field of biology, explaining study of genes, variation and the concept of heredity associated with living organisms.
- **Cardiology:** Department of medicine associated with treatment of human heart conditions.
- **Critical care medicine:** Deals with diagnosis and administration of life threatening conditions with consistent monitoring.
- **Endocrinology:** It is a department of medicine that studies various hormonal problems like diabetes.
- **Gastroenterology:** Medicine vertical which studies the management of conditions related to the digestive system.
- **Nephrology:** Deals with kidney related conditions.
- **Oncology:** Department of specialized medicine that provides treatment to patients suffering from cancer.
- **Paediatrics:** Sub vertical of medicine which study health conditions and treatment of children.
- **Pulmonology:** It is a part of medicine for studying various lungs conditions.
- **Ophthalmology:** It deals with medical care for conditions associated with the eye.
- **Obstetrics and gynaecology:** It is division of medicine involving the study of pregnancy and the reproductive health of women.
- **Dermatology:** It is a division of medicine which studies medical care related to skin and the organs linked to it.
- **Diagnosis:** The physician practicing in any of the internal medicine specialties the medical condition that a patient is suffering from. This is called diagnosis.
- **Prescription:** Once the physician makes a diagnosis he suggests the medication needed to treat the condition. This is called a prescription.

1.3.3 Branches of General Surgery

- **Anaesthesia:** Surgeons perform the operative procedures by blocking the pain sensation of the patient. This is called anaesthesia.
- **Cardiovascular surgery:** Deals with surgery done to treat conditions related to the heart and blood supply.

- **Gastroenteric surgical procedures:** Deals with the digestive system conditions and also include specialties like endoscopy and colorectal surgery.
- **Neurosurgery:** Treats conditions related to the brain and the nervous system.
- **Transplant surgery:** Involves surgical procedures carried to transplant organs from one person to another.
- **Trauma surgery:** Deals with surgery for patients injured in accidents and need immediate medical attention.
- **Vascular surgery:** Deals with surgical procedures to treat abnormalities in blood vessels.

1.3.4 Supporting Branches of Medicine

- **Clinical pathology:** A branch of medicine that deals with the identification and study of diseases and their causes.
- **Radiology:** A branch of medicine that supports both medical and surgical care specialists by providing medical imaging services such as X-rays, CT scans, MRI.
- **Pharmacology:** Deals with the study of drugs and the medications that are used to treat medical conditions.
- **Community and preventive medicine:** Deals with prevention and cure of diseases like Malaria, TB, HIV that spread in the community.

On Job Training-1: Visit to Hospital

1. Observe the location of different departments in hospital like Reception Desk, OPD, Casualty, Inpatient Ward, Laboratory, Nurse Station, OT, ICU, Pharmacy and Cafeteria. Make a note of your observations and findings.

Tips

- As a general duty assistant you should be try and visit the various departments in the Hospital and understand the activities involved in them.

Exercise

1. Describe the term 'Hospital'.

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UNIT 1.4: Tools and Equipment

Unit Objectives



At the end of the unit, you will be able to:

- Recognize the different types of medical instruments and equipment.

1.4.1 Tools and Equipment

Weighing machines: Weighing machines have an important role to play in patient care. If there are inconsistencies in recording the body weight of patients or if wrong weighing equipment are used, it could cause errors in the diagnosis, medication and treatment. Hence appropriate weighing machines should be used.



Fig.1.4.1: Weighing machines



Fig.1.4.2: Blood Pressure Gadgets

Blood Pressure Gadgets: It is a device used to measure blood pressure, composed of an inflatable cuff to collapse and then release the artery under the cuff in a controlled manner.

Gauge: It is a bandage utilized to give support to a dressing, a splint or a similar device. It can also be used to give support or curb the movement of a body part.



Fig.1.4.3: Gauge



Fig.1.4.4: Tourniquet

Mannequin: Mannequins are used to provide patient care and to impart management skills. Interactive scenarios are created by using these mannequins for training purposes.



Fig.1.4.6: Wheel chair

Trolleys: Surgical instrument trolley used for carrying equipment and tools.



Fig.1.4.8: Personal protective equipment



Fig.1.4.5: Mannequin

Wheel chair: Wheelchairs are equipment utilized for people who are unable to walk because of some disability, sickness or injury



Fig.1.4.7: Trolleys

PPE: Personal protective equipment (PPE) are specially designed equipment to protect workers from germs by creating a barrier.

First Aid kit: A first aid kit is a collection of supplies and equipment used to provide first aid, and can be put together for the purpose by an individual, organization or purchased complete.



Fig.1.4.9: First Aid kit

Betadine: These microbicides have been used worldwide as a crucial initial line of defence in both homes and hospitals.



Fig.1.4.10: Betadine

Cotton Bandage: These medical bandages are like rolled gauze bandages and are utilized for various kinds of wounds, cuts and injuries.



Fig.1.4.11: Cotton Bandage

Sanitizers: Use of cleaners to remove germs and achieve a standard in cleanliness



Fig.1.4.12: Sanitizers



Fig.1.4.13: Disinfectants

Disinfectants: These are antimicrobial agents which are used on objects to eradicate microorganisms which might be present on them.

Insulin pen: Insulin pen is used by diabetic patients. It gives them confidence and the advantage of precision and convenience.



Fig.1.4.14: Insulin pen

Little Anne: This a CPR training mannequin designed to give CPR training of high quality to students.



Fig.1.4.15: Little Anne

Ambu Mask (Adult): These are face masks which are designed to be used with manual and automatic resuscitators and ventilators.



Fig.1.4.16: Ambu Mask

AED Trainer: AED Training System has all the requisite features needed for learning about adult CPR, defibrillation and defibrillator pad placement.

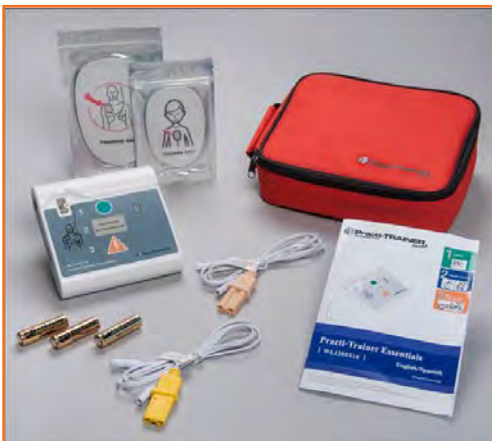


Fig.1.4.17: AED Trainer

Pocket Mask: A pocket mask is an equipment utilized to safely provide rescue breaths in case of cardiac arrest or respiratory arrest.



Fig.1.4.18: Pocket Mask

Oxygen Cylinder: A container filled with oxygen in the form of gas or as a cryogenic storage tank with liquid oxygen.



Fig.1.4.20: Oxygen Key

Oxygen Cylinder Trolley: It is used in hospital for carrying oxygen cylinders.



Fig.1.4.22: Hospital Bed

Bedside Locker: This is a small sized cabinet or table which is kept beside the hospital bed.



Fig.1.4.23: Bedside Locker



Fig.1.4.19 Oxygen Cylinder

Oxygen Key: The key used for opening the valve on oxygen/ medical air cylinders



Fig.1.4.21: Oxygen Cylinder Trolley

Hospital Bed: This is a special bed designed to be used by patients requiring hospitalization or any other kind of health treatment. There are special features incorporated in these beds for the comfort of the patients and convenience of the healthcare workers.

Cardiac Table: This special table is used for making it easy for the patients to eat meals while staying in their beds.



Fig.1.4.24: Cardiac Table

Walker: It gives support to patient while walking who has difficulty in waking after a surgery or fracture.



Fig.1.4.25: Walker

Crutch: It's a long stick with a padded piece at the top that fits snugly under a person's arm. It can be used for help or support while walking.



Fig.1.4.26: Crutch

Stretcher: It is utilized for shifting patients who require medical care.



Fig.1.4.27: Stretcher



Fig.1.4.28: Cane

Cane: It is used for help or support while walking.

Bed pan: It is used to provide toilet facilities to a bedridden patient in a Healthcare facility, generally comprising of a metal, glass, or plastic receptacle.



Fig.1.4.29: Bed pan



Fig.1.4.30: Urinal (Male & Female)

Urinal (Male & Female): A urinal is a bottle for urination. It is most frequently used in Healthcare for patients who find it impossible or difficult to get out of bed.



Fig.1.4.31: Artery Forceps

Artery Forceps: It is a surgical tool used in many surgical procedures to control bleeding.

Dissecting Forceps: Dissecting forceps are used to handle tissues and other materials and also to manipulate needles and other instruments whilst operating.



Fig.1.4.32: Dissecting Forceps

Splint: A splint is a medical device which is used to restrict the movement of an injured part of the body and to prevent any more damage to it. It is generally utilized to give temporary stability to a broken bone while the injured person is being transported to a hospital for proper treatment.



Fig.1.4.33: Splint



Fig.1.4.34: Cervical Collar

Cervical Collar: A cervical collar is formed from thick foam rubber which is covered in cotton for softness. It is utilized to support the neck and to control pain and discomfort after an injury such as whiplash.

Spine Board: It is an equipment usually used to handle patients as a part of trauma care prior to hospitalization to provide rigid support during shifting. Patients with probable spinal or limb injuries are moved on these boards.



Fig.1.4.35: Spine Board

Kidney Tray: It is a bean shaped shallow basin utilized as a receptacle to collect soiled dressings and medical waste in the hospital wards.



Fig.1.4.36: Kidney Tray



Fig.1.4.37 IV Stand

IV Stand: It is used for administering intravenous drugs such as drips.

Measuring Glass: Measuring glass for measuring any and all liquid ingredients.



Fig.1.4.38: Measuring Glass



Uro bag: A urine collection device.

Fig.1.4.39 Uro bag

Sample Collection Bottle: Are used for collecting blood, urine, sputum sample.



Fig.1.4.40: Sample Collection Bottle



Fig.1.4.41: Normal Saline Bottle

Normal Saline Bottle: It contains saline which is a sterile solution of sodium chloride (NaCl), generally called table salt, in water.



Fig.1.4.42: Micropore



Fig.1.4.43: Hydrogen Peroxide

Hydrogen Peroxide: Hydrogen peroxide is one of the rare germicidal agents combined with hydrogen and oxygen, hence making it the safest natural sanitizer.

Syringe destroyer: It is a compact equipment with a steel alloy cutter used for secure and fast removal of needles and syringes.



Fig.1.4.44: Syringe destroyer

Syringe Sterilizer: Used for sterilising syringe.



Fig.1.4.45: Syringe Sterilizer

Thermometer: A device that measures temperature.



Fig.1.4.46: Thermometer

B.P. Monitoring Machine: Used for measuring blood pressure.



Fig.1.4.47: B.P. Monitoring Machine

Hot Water Bottle: This is a container with a stopper to provide heat to the body, usually when in bed or to provide warmth to a particular body part. It is filled with hot water and closed with the stopper.



Fig.1.4.48: Hot Water Bottle

Transfer forceps: This is an instrument similar to a pair of pincers or tongs, made for grasping, handling, or extracting tissues.



Fig.1.4.49: Transfer forceps

Suction Apparatus: A suction machine is an equipment which removes liquids, gases or substances such as mucus or serum from a body cavity by creating a partial vacuum.



Fig.1.4.50: Suction Apparatus



Fig.1.4.51: Folley catheter

Suction Catheter: These are flexible, elongated tubes utilized to eliminate respiratory secretions from the airway by suction to ensure clear passage.



Fig.1.4.52: Suction Catheter



Fig.1.4.53: Ryle's tube

Vacutainer: This is a sterile tube that collects blood and is made of plastic or glass. It has a closure that evacuates and forms vacuum within the tube. This facilitates a predefined volume of liquid.



Fig.1.4.54: Vacutainer



Fig.1.4.55: Examination table

Examination table: The exam table is where the practice of medicine takes place - the interaction between the physician and patient.



Fig.1.4.56: Draw Sheet

Draw Sheet: A sheet that is placed in such a way that it can be taken from under a patient or invalid without disturbing the bedclothes.

1.4.2 Common Medical Equipments

The medical equipment used commonly in the hospital includes:

- Diagnostic equipment such as stethoscope, blood pressure apparatus, thermometer.
- Imaging equipment such as x-ray, ultrasound, CT scan, MRI.
- Specialized equipment such as ECG, ventilator, oxygen, pulsometer, dialysis machine.
- Other patient management equipment in hospitals are beds, wheelchairs and stretchers etc.

You need to identify and understand the form and function of some hospital equipment in order to assist the doctor or the nurse efficiently. Let us now look at the common medical equipment used in the hospitals.

Patient Monitor

The patient monitor is a big equipment used for recording and interpreting a patient's vital signs during medical care or treatment. The heart rate, breathing rate and the ECG of the patient are displayed on the LCD monitor. The patient monitor will be attached by the nurses. The recordings of the patient monitor are noted and reported to the doctor in regular intervals.



Fig.1.4.57 Patient Monitor



Fig.1.4.58: X-ray Machine

X-ray Machine

Doctors get X-rays from X-ray machines which help them in diagnosis of the ailment and detection of fractured bones, foreign substances inside the body as well as harmful cavities.

ECG (Electro Cardio Gram) Machine

- An ECG machine detects any abnormalities in heart functions.
- It is found in the heart disease section in the hospital.



Fig.1.4.59: ECG Machine

Ultrasound Machine

Ultrasound machine maps the body's interior and produces its visual picture. One of the uses of the ultrasound is to check pregnant mothers and report the growth of the foetus.



Fig.1.4.60: Ultrasound Machine

Medical Ventilator

A medical ventilator is a machine which pumps air in and out of lungs.



Fig.1.4.61: Medical Ventilator

Dialysis

Medical Ventilator Role of a dialysis machine is to remove harmful/toxic substances and purify the blood stream in absence of kidney not functioning properly. It is used for taking out waste material and undesired water. There are specialized equipment such as saline bottles, catheters and apparatus used for feeding and medication of the patient.

1.4.3 Some Other Equipment for Personal Care

Feeding Tools

- Steel Plate
- Steel Glass
- Steel Bowl
- Spoon

Bathing Equipment

- Steel Jug
- Bath Tub
- Screen
- Towel
- Gown
- Gloves
- Liquid Soap Bottle
- Mask – packet, Shoe
- Cover – packet
- Hair Cap
- Mackintosh
- Sponge Cloth
- Comb
- Tooth Brush
- Toothpaste
- Hair Oil
- Shampoo Bottle
- Bath Soap
- Talcum powder

Nail care equipments

- Nail cutter
- Hand towel
- Disposable bath mat
- Disposable gloves

Skills Practical: General Medical Tools

1. Divide the class into 5 groups. Name each group as team A, B, C, D and E.
2. Once the teams are formed, open your participant handbooks.
3. Each team has to make questions on any of the medical tools that have been discussed in the chapter.
4. Each team will get 15 minutes to read and prepare questions.

Tips

- Common medical instruments used in the hospital.
- Helping the healthcare professional in the use of the common medical equipments.

Exercise

1. List few common medical equipments and their usage.

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2. List few common surgical instruments and their usage.

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2. Broad Functions of a General Duty Assistant

Unit 2.1 - Job Role of a General Duty Assistant

Unit 2.2 - Compassion and Patient Centricity



HSS/N 9607
HSS/N 9603

Key Learning Outcomes



At the end of the unit, you will be able to:

- Develop broad understanding of the functions to be performed by GDA.
- Develop understanding of Patient Comforts and Safety.
- Understand the daily care need of patient.
- Understand the Role of GDA while transporting sample /drug of the patient.

UNIT 2.1: Job Role of a General Duty Assistant

Unit Objectives

At the end of the unit, you will be able to:

- Define the roles and responsibilities of general duty assistant.
- Explain the code of conduct for the job.
- Explain personal grooming, health and hygiene practices.

2.1.1 Introduction

If you like to care for people and make a positive difference in their lives, this could be the ideal job for you. Healthcare assistants help with the day-to-day care of patients, either in hospitals or in patients' homes. The core purpose of a GDA is providing high quality, compassionate healthcare and support.

2.1.2 Who is a General Duty Assistant?

A General Duty Assistant is one who is responsible for providing support to nurses and other support staff. A General Duty Assistant is responsible for taking personal care of the patient and is a critical member of the healthcare team. General Duty Assistants are also known as "Nursing Care Assistants", "Nursing Assistant", "Nursing Aides", "Bedside Assistants" or "Orderlies" when working in a hospital environment.



Fig.2.1.1: General Duty Assistant Helping Patient

2.1.3 Roles and Responsibilities

There are four core areas that a General Duty Assistant must focus on:

- Ensuring patient care/comfort.
- Assisting nurses and doctors.
- Maintaining a safe, healthy and secure environment.
- Managing work to meet requirements.

All four areas are critical in delivering quality healthcare to the patient. Let us learn about them in detail.

Ensuring patient care/comfort

One of the responsibilities of a General Duty Assistant is taking care of the patient's comfort. As a GDA, you will need to follow these steps to make the patient comfortable:

- Help and support the patient in managing personal hygiene.
- Help and support the patient in performing daily activities.
- Help the patient in moving from one ward to the other as needed.

Assisting nurses and doctors

As a General Duty Assistant, you must do the following to help the nurses and doctors:

- Help in carrying out procedures as advised in the care plan.
- Observe gross abnormalities like high body temperature, increased breathing rate in the patient.
- Report the abnormalities to the attending nurse or the doctor.
- Help in handling, cleaning and management of hospital equipment.
- Help in transporting sample/drugs to different departments.
- Help doctors and nurses in carrying out office work.

Maintaining a safe, healthy and secure environment

A hospital is a place where many sick people come for treatment. It is a place where germs spread. In a hospital there are many patients who are treated and have low immunity. Therefore, it is necessary to keep the environment clean and healthy. As a General Duty Assistant, you should keep the surrounding of the patient clean. You must follow these steps:

- Maintain cleanliness and hygiene in the hospital surroundings to prevent spread of infections.
- Follow bio-medical waste disposal protocols.

Managing work to meet requirements

The patient's needs are the most important in a hospital. As a General Duty Assistant, you must plan your work and services according to the patient's needs. This is called the patient care plan. You must make a patient care plan by:

- Planning and organising work.
- Knowing the patient's needs to facilitate quick recovery.
- Consulting with the attending doctor and nurse about the patient's condition.
- Maintaining the patient's activity schedule during his/her stay in the hospital.
- Motivating the patient to maintain a steady emotional state.
- Work effectively with others.

2.1.4 Act within the Limits of Your Competence and Authority

As a general duty assistant you need to recognise the boundaries of the role and responsibilities of your work and work within the level of competence in accordance with legislation, protocols and guidelines.

To be competent, a general duty assistant on the job must be able to:

- Adhere to legislation, protocols and guidelines relevant to the organization.
- Work within organizational systems and requirements and in line with the job role.
- Recognize the boundary of one's role and responsibility and seek supervision when situations are beyond one's competence and authority. For e.g. if you see some abnormality in the patient's condition, immediately inform the concerned nurse or doctor.
- Promote and demonstrate good practice as an individual and as a team member at all times.
- Identify and manage potential and actual risks to the quality and safety of practice.
- Evaluate and reflect on the quality of your work and make continuous improvements. For e.g. talk to different nurses and doctors who are working with you and ask for feedback to improve your work.
- Execute the given task agreed to in your job role in accordance with your strengths and weaknesses, or delegate accordingly.
- Always seek guidance from your supervisor or employer when in doubt during effective delivery of your work or task.
- Establish and maintain workplace relationships effectively.

2.1.5 Code of Conduct

The code of conduct is formulated to make certain that the self-esteem and respect of the patients is sustained and compassionate treatment is given to them. It emphasizes that healthcare associates should ensure that their conduct remains as per the defined standards.

Code of conduct for a general duty assistant

As per the code of conduct, as a general duty assistant you must:

- Be accountable and answerable for your actions or lapses.
- Maintain and bolster the privacy, respect, rights, health and general wellbeing of people who utilize the health and care services.
- Work along with your colleagues to ensure that a high quality, secure and sympathetic healthcare and support is provided.
- Communicate in a frank and efficient manner to bolster the health, safety and general well-being of people using the health and care services.
- Respect a patient's right to confidentiality.
- Make genuine efforts to promote the quality of healthcare and support given to the patients through regular professional progress.
- Exhibit good practices, both as a person as well as a team member.

2.1.6 Code of Ethics

It's important to follow the code of ethics outlined by your company. These could be regarding different aspects of your role, like the way you speak, the way you identify yourself, the way you deal with patients and other colleagues.

Code of ethics for a general duty assistant

- Never accept any offers of loans, gifts, or hospitality from anyone you are supporting or anyone who can risk or compromise your position.
- Comply with your work agreement.
- Always treat people with respect and compassion.

2.1.7 Personal Grooming

As a general duty assistant, personal grooming and patient hygiene are your key responsibilities. For this you should have knowledge about basic health and hygiene practices. But before that, your personal grooming is important. For this you should have knowledge about basic health and hygiene practices. As a GDA you will be in constant touch with the doctors, nurses or patients. Hence you should always be presentable. Your uniform should be clean and ironed. Following are the things that should be taken care of:

- No stains, broken buttons, or loose threads present on the uniform.
- Wear clean and polished shoes at all times.
- Do not wear sandals/slippers/sports shoes and white socks while you are on duty.
- Keep your nails short and clean as you will be taking care of patients.
- Comb your hair before commencing duty.
- Wear your ID cards on duty; this helps the patient to identify the staff.
- Always remain well dressed whether in the hospital premises or even during off-duty hours.

2.1.8 Health and Hygiene Practices

Personal Hygiene Tips

Being healthy is very important. You can be healthy by following the tips given below:

- Brush your teeth every day.
- Clean your hands and feet.
- Bathe daily.
- Cut your nails once a week.
- Wear clean clothes.
- Don't chew ghutka or smoke or drink.
- Awareness of various diseases is very important including AIDS.



Fig.2.1.2: Personal Hygiene Tips

Yoga

Practice of yoga not only helps to stay healthy but also helps in relieving stress.

2.1.9 Skills Practical: Group Discussion

1. Divide the class into four groups. Assign one topic to each group. Choose one topic from the list given below.
 - Role and responsibility of GDA
 - Code of Conduct
 - Personal Hygiene

Tips

- A General Duty Assistant is responsible for taking personal care of the patient and is a critical member of the healthcare team.
- Core areas where General Duty Assistant focuses are:
 - » Ensuring patient care/comfort.
 - » Assisting nurses and doctors.
 - » Maintaining a safe, healthy and secure environment.
 - » Managing work to meet requirements.

Exercise

1. Why is the role of a general duty assistant important for the company?

.....

.....

2. What do you understand by “code of conduct”?

.....

.....

3. Why is personal grooming important?

.....

.....

UNIT 2.2: Compassion and Patient Centricity

Unit Objectives

At the end of the unit, you will be able to:

- Show and develop patient centricity
- State the patient's right
- Maintain data confidentiality

2.2.1 Compassion

Definition of compassion

The definition of compassion is the ability to understand the emotional state of another person or oneself.

How can a general duty assistant practice compassion?

As a General Duty Assistant, you will need to put yourself in place of the patient. You will need to develop the desire to reduce the suffering of others. Compassion is the foundation of the healing process. By showing concern, dedication and support, a general duty assistant can give patients comfort and hope during the most difficult of times. To become a compassionate role model, you have to act to satisfy the needs of patients selflessly, unprompted and with empathy for all. To show compassion you should always have a smile, on your face and a tender touch. In order to treat the patient compassionately, you need to console those in despair, be generous to those in need and comforting to those in worry.

How compassion impacts the quality of care given?

Treating patient compassionately affects the overall health of the patient. Apart from the medication and health and hygiene aspects, a patient also needs care and compassion. It helps in improving the overall health of the patient.

2.2.2 Patient Centricity

The role of a general duty assistant revolves around the patient. His/her sole responsibility is to provide proper care to the patients and while performing any type of activities, take care of patient's comfort.

So the following points need to be kept in mind:

- While bathing: All activities related to performing patient bathing should be performed keeping into consideration the patient benefits. Use patient centric approach and make the

Fig.2.2.1: Bathing a Patient patient feel comfortable while bathing. For e.g. the clothing should be dry, clean and of a suitable size for the patient, the fasteners are available and secured for patient's convenience, the footwear is of the right size and non-slippery to prevent fall, painful movements minimised during the dressing procedure. Ensure patient privacy.



Fig.2.2.1: Bathing a Patient

- **While feeding:** Always have an approach which is centred on the patient. Put the patient at ease while feeding. For e.g. ensure that the food is not spilt at the time of feeding, keep compassionate behaviour, feed according to the patient's pace of eating to prevent choking, give fluids often to help in chewing and help in carrying out other activities, such as elimination or oral health maintenance before beginning to feed.



Fig.2.2.3: During elimination



Fig.2.2.2: Feeding a Patient

- **During elimination:** Utilize patient centric approach to make sure the patient is at ease during elimination. For e.g. maintain clean environment to prevent infection, be sympathetic and check constantly for the patient's elimination needs, help in the process and maintain proper hygiene to avoid infections. Check the bedsheet after elimination to see if it needs to be changed.

Also inspect the patient's clothes at regular intervals and be sure the patient is secure during the shifting activities.

- **While communicating:** Maintain eye contact with the patients and the focus should be on non-verbal communication rather than on unnecessary talk with them. Make relevant conversation with the patients during the procedure to ease out the shifting. Provide necessary particulars to the patients and to their families, physicians and healthcare team members.

- » While dealing with patients suffering from stigmatizing diseases: Be patient and sensitive to the patients, especially diseases like HIV and Tuberculosis.
- » While maintaining cleanliness: Follow all procedures keeping the patient's safety in mind and keep the patient's environment and all the used equipment clean.



Fig.2.2.4: Communicating with Patient

- » While dealing with medical procedures: Enquire from the patients about abnormal observations to make sure its onset and progress. Halt, alter or update the procedure according to the comfort of the patient. Give details to the patient about the importance of the observation and advise changes to improve the condition. Help the patient to manoeuvre while noting measurements and make certain that they are at ease.

- **Other important points:**

- » Maintain a patient centric approach and make sure the patient feels at ease while being attended to a call, for e.g. be prompt in responding to a bell call, always check if the patient needs anything by inspecting the surroundings, and motivate the patient to use the call bell as and when required.
- » Maintain patient's confidentiality.
- » Be sensitive to potential cultural differences.

- » Respect the rights of the patient(s).
- » Be capable of being responsive, listen empathetically to establish rapport in a way that promotes openness on issues of concern.

2.2.3 Data Confidentiality

Data

In a hospital, the data generated is its primary asset and its security is essential. This data could be:

- In a hospital, the data generated is its primary asset and its security is essential. This data could be:
- The policies and procedures of your hospital.
- The way your hospital functions for example its process flow, the way departments work, the names and contact information of various people.
- The patient's information like contact number, financial information, personal information, etc.



Fig.2.2.5: Communicating with Patient

Measures to maintain Data Confidentiality

Information confidentiality is the normal procedure of protecting important data from unofficial access, application, leak, interruption, alteration, investigation, recording or elimination. This confidential data could be electronic data, physical data, etc. It is important that as a general duty assistant you take all measures for information security. To maintain information security:

- Do not reveal patient's personal and financial information to anybody other than the account holder.
- Do not divulge unauthorized information, written or verbal to any patient/competitor/any other people e.g. photocopy of patient information sheet etc.
- Do not share information about a patient with other patients.

Skills Practical: Role Play

1. Divide the class into four groups.
2. Prepare a role play around the customer centricity.



- ### Tips
- Compassion is the ability to understand the emotional state of another person or oneself.
 - Apart from the medication and health and hygiene aspects, a patient also needs care and compassion.
 - The sole responsibility of GDA is to provide proper care to the patients and while performing any type of activities, take care of patient's comfort.
 - Avoid unwanted and unnecessary communication with patients.



1. How will you maintain patient centricity.
-
-

2. List the rights of a patient.
-
-

3. How will you maintain data confidentiality in your hospital?
-
-



Notes





3. Introduction to Human Body- Structure & Function

Unit 3.1 - Basics of Anatomy and Physiology



HSS/N 5101, HSS/N 5102,
HSS/N 5103, HSS/N 5104,
HSS/N 5105, HSS/N 5106,
HSS/N 5111

Key Learning Outcomes

At the end of the unit, you will be able to:

- Recognise the different parts of the body.
- Elaborate different systems of the body.
- State the different positions of the body.

UNIT 3.1: Basics of Anatomy and Physiology

Unit Objectives

At the end of the unit, you will be able to:

- Explain the functions of the human body in discharging your role as a General Duty Assistant.

3.1.1 Overview

The most important role of a General Duty Assistant is taking care of the needs of the patients. It is very important to know how the different parts of the body and how they function. It helps to have a good understanding of the different parts of the body and the functions they perform. This knowledge will create awareness in you and will help you serve your patients better. In this course, you will be introduced to the different parts of the human body, the different life processes and lastly, an insight into the various branches of medicine, the terms and terminologies used.

3.1.2 Understanding the Human Body

The human body is broadly divided into three areas:

- Head and Neck
- Thorax and Abdomen
- Upper and Lower Limbs

Head and neck region of the human body is the top most part of our body. Human body consists of brain, eyes, ears, mouth with the food pipe (or the oesophagus) and nose with trachea (or the wind pipe). The thorax region is the middle part of our body. It comprises heart and lungs. The abdomen region consists of the stomach, liver, pancreas, intestines, kidneys and the reproductive organs. The arms and legs form the upper limbs and lower limbs of the human body respectively.

The arms and legs form the upper limbs and lower limbs of the human body respectively. The shape and structure of the human body is built on a framework of specialized tissues called the bones and muscles. The bones and muscles hold the organs in place. The internal organs of the human body are very delicate. They are covered with a bony structure to guard them from external shocks and injuries.



Fig.3.1.1: Human Anatomy

Head and Neck

The brain, eyes, ear, nose and mouth are part of the head. Each of these organs has specific functions of its own.

The head has a hard outer covering. This is a bone called cranium or skull. All the organs in the head region are held by muscles which are attached to the skull. The skull protects the brain from external shocks and injuries.

All the functions of the body are controlled by the human brain for example breathing, digestion, heartbeat, blood circulation. These functions are broadly classified as sensory, motor and special senses.

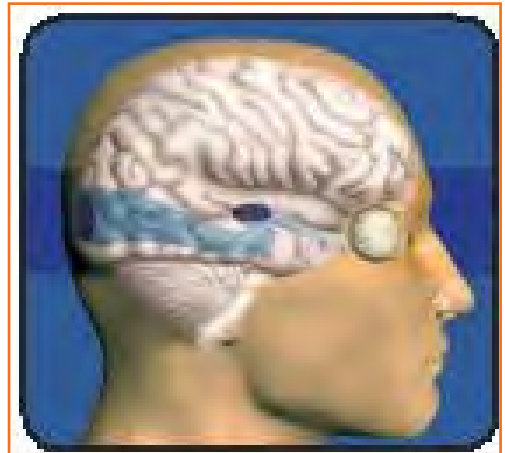


Fig.3.1.2: Head and Neck

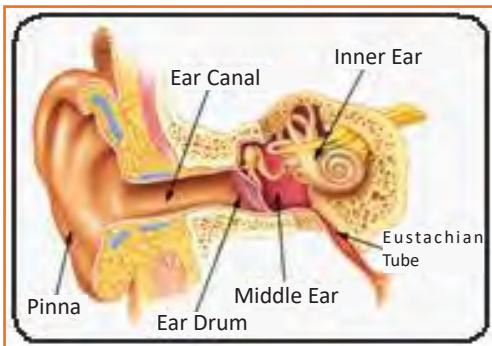


Fig.3.1.3: Ear and its Structure

The sensory functions include touch and pain sensations. The motor functions include movement of organs such as limbs or muscles and special senses include sight, sound, taste and smell. The brain extends as the spinal cord at the back of the body. The brain is connected to the various organs by nerves which transmit signals to the organs.

The face contains the organs – eyes, ears, nose and mouth. The eyes allow us to see. The eyes are attached to the brain which controls the sensation of vision and movement of the eye balls through nerves. The ears allow us to hear. They comprise of the outer, center and internal ear, made of the hearing apparatus. The hearing apparatus are set of bones and membranes which allow us to hear.

The nose supports in the sensory function of smell. It also serves in the function of breathing. It has two nostrils on the external side and internally opens into the wind pipe which is connected to the lungs. The mouth is located below the nose and extends towards the beginning of the digestive system. It opens into the food pipe or the oesophagus extending into the neck and thorax. The mouth comprises teeth that help in chewing the food. The neck portion of our body contains the food pipe and the trachea. The neck also comprises the larynx or the voice box. It is prominent in the male human body.

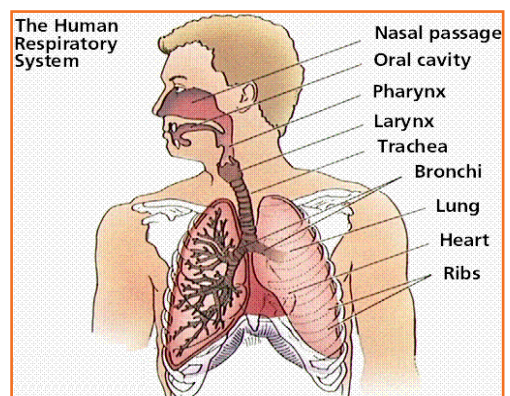


Fig.3.1.4: Respiratory System

Thorax

The neck region extends into the thorax region which is made up of shoulders and the chest. The chest is made up of a bone framework called the ribs. The rib encloses a pair of lungs which help in breathing. The heart is present at the centre of the two lungs towards the left. It is made up of muscles and pumps blood to the whole

body. The heart supplies blood to the body through the network of arteries. The veins carry deoxygenated blood from various body parts to the heart.

Arteries and veins are vessels or pipes which form the arterial and venous system respectively. These vessels are connected to all the organs. Blood from the heart is carried by arteries to the various organs and after purification the blood from the various organs is carried to the heart by veins.



Fig.3.1.5: Thorax (Male)

The thorax also has a large muscle called the diaphragm that aids in breathing and supports the lungs. The thorax in the female human body also comprises of the mammary glands also known as breasts. The breasts function is to provide nutrition to the new-born child.

Abdomen

The thorax extends into the abdomen. The abdomen comprises of the stomach which helps to digest the food that we eat. The stomach is supported by other vital organs such as the liver which releases substances called enzymes that help in digestion of the food. The stomach extends into long tube-like structures called intestines. These structures help in digesting and absorption of the nutrients from the food. At last, the undigested food is excreted (thrown out) through an opening called the anus. A pair of kidneys is present in the lower side of the abdomen and is a vital organ that helps in excreting the waste materials produced in the body.

The lower region of the abdomen is made up of a bony framework called the pelvis or the hip. This region also comprises of the reproductive organs or the genitalia which are distinct in males and females. The male reproductive organs are the testicles and the penis and the female reproductive organs comprise of the ovaries, uterus and the vagina.

The upper abdomen part comprising of stomach, liver, etc. is not covered by any bone structure to protect it from external shocks and injuries. Therefore, as a general duty assistant, you must take special care while handling the patient to avoid injuries to the upper abdomen.

Upper and Lower Limbs

The upper limbs and lower limbs enable humans to move from one place to another. They also help in eating and carrying out important functions. The arms are connected to the thorax in the shoulder region. The arms are

jointed organs comprising of the upper arm and the lower arm and the palm. The lower limbs are jointed organs that are connected to the abdomen at the pelvis region. The upper leg region is made of thighs and the lower leg region comprises of heels and toes that aid in movement.

Back of Human Body

The back region of the human body is made up of the vertebral column that extends from the back of the head to the back of the hip. The spinal cord is the extension of the brain. It is located in the vertebral column. It performs the function of movement.

3.1.3 Human Physiological Systems

The human body performs various activities like breathing, eating, running. Each part of the body has specific functions which help the body perform these various activities. Let us learn the functions of the different parts of the human body.

Human Physiological Systems

The basic physiological systems in the human body are:

- The nervous system – It consists of the brain, the spinal cord and the network of nerves.
- The muscular and skeletal system - It consists of the bones, muscles and the connective tissues.
- The circulatory system - It's composed of heart, the network of arteries and veins.
- The respiratory system - It consists of the upper and the lower respiratory tracts. The upper respiratory tract is nose and the sinuses, and the lower respiratory tract includes trachea, bronchi and the alveoli.
- The digestive system - It includes mouth, the oesophagus (food tube), the stomach, the liver and the gall bladder, the pancreas, the large and the small intestine extending into the rectum and the anal canal.
- The urinary system - It includes of the kidneys, ureters and the bladder.
- The reproductive system - It includes of the sex organs.

The basic physiological systems are supported by the endocrine system that secrete the hormones and the immune system that helps in protecting the body from infections.

Nervous System

The nervous system is the network for sending and receiving information in both the interior and exterior parts of the body. The central nervous system comprises the brain and the spinal cord. The brain serves as the leader in your body, it controls the working of the other parts of the body. It is responsible for all sensory processing done by the body. Sensory functions such as sight, hearing, taste and smell are termed as special senses. And the organs which help us to see, hear, taste, smell are eyes, ears, mouth and nose respectively. These organs are called sensory organs as they connect us to the outer world. These senses are controlled by the brain. There is another sensory organ which helps us to connect with the outside environment, i.e. the skin. The skin helps us feel. The nerves, spinal cord and brain together control all parts of the human body.

Any feeling that a person experiences generates signals carried by the nerves to the spinal cord and eventually to the brain. The nerves are the units of the nervous system that connect the various organs to the spinal cord and brain. The brain then responds with a reaction which is carried back to the organ. The organ then acts as per the instructions received from the brain.

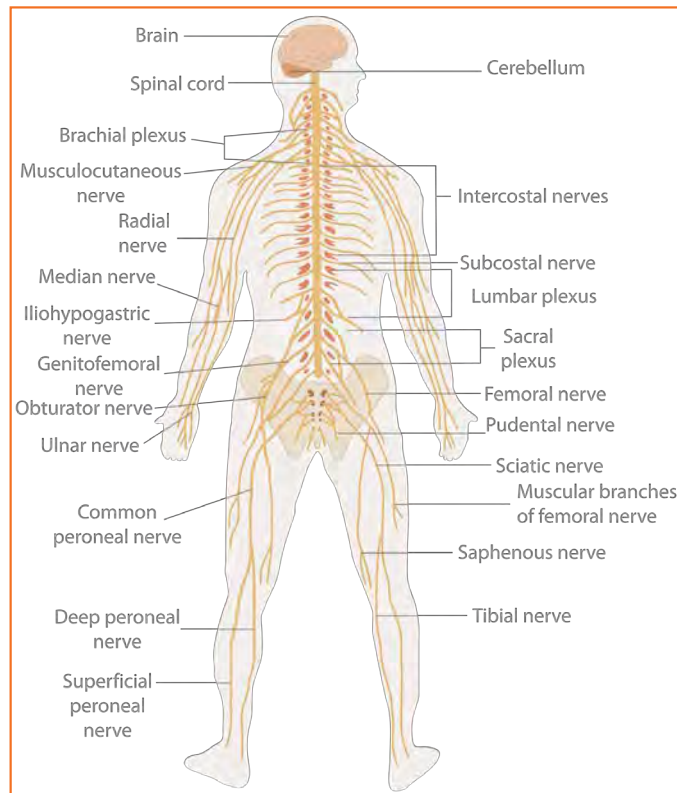


Fig.3.1.6 Nervous System

Muscular and Skeletal System

There are more than 600 muscles in our body. The muscular and skeletal structure of our body comprise of the skeleton, and the attached muscles. The human skeleton gives the body a basic shape and structure and is comprised of bones. The bones are the hard structures of the body and form the framework of the body. Our bones are strong enough to hold our body weight. They give support to our body and assist in giving it a proper shape. The skull provides protection to the brain and gives shape to our face. The backbone protects the spinal cord which is a passage for the transmission of messages between the different parts of the body and the brain. The rib cage covers and protects different organs of the body such as the heart, the lungs and the liver. The pelvis protects the bladder, the intestines and in females, the reproductive organs.

Muscular System

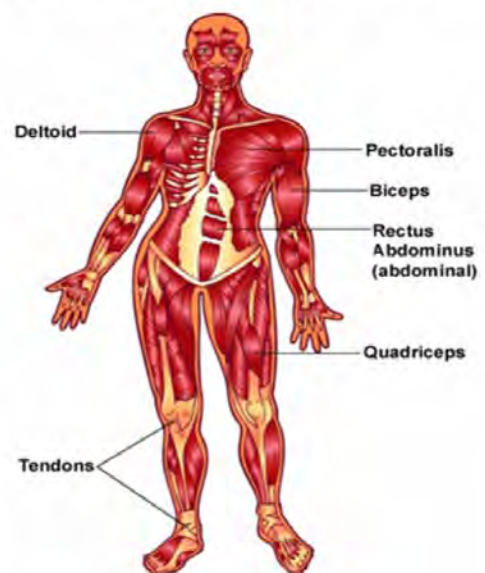


Fig.3.1.7(a): Muscular System

Along with their structural role, the larger bones within the body have bone marrow which produces blood cells. Bones are rigid and inflexible. So just with the bones, it's not possible to walk or move your hands and legs. You need muscles for flexibility and they also support the bones in activities like walking and running. The muscles form the bulk of the body organs. The bones and muscles together are responsible for body movement. Muscles are also connecting structures that hold the various organs in place. The bones are attached to the muscles by tissues called Tendons. The muscle and skeleton hold the body in place.

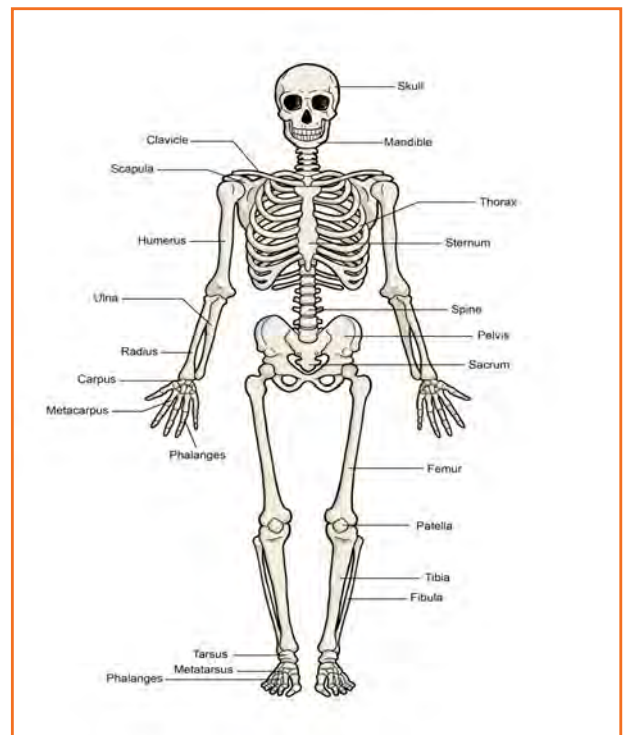


Fig.3.1.7(b): Skeletal System

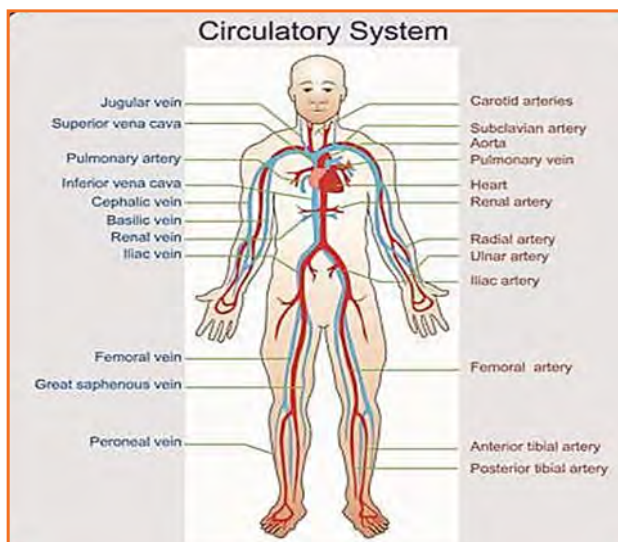


Fig.3.1.8: Circulatory System

Circulatory System

The circulatory system is also known as the cardiovascular system or the vascular system and it circulates blood to the every tissue of the body. With each heartbeat, heart pumps blood throughout our body. It carries oxygen and other vital nutrients to all the cells. The circulatory system comprises of the heart and the blood vessels, which include arteries, veins and capillaries. The blood, pumped by the heart, acts as a transportation system. It transports oxygen and nutrients to the various organs. It does this through blood vessels known as arteries and capillaries. Once the body absorbs oxygen and all nutrients, waste products are released.

The circulatory system and the respiratory system work together to transport oxygen to various organs of the body and remove carbon dioxide. It does this through a different set of blood vessels known as veins. The circulatory system is, therefore vital in the maintenance of the regular body functions.

Respiratory System

The respiratory system comprises the trachea and lungs as the central units. While breathing, the air is inhaled into the lungs, mostly through the nose, and enters the wind pipe, also known as the trachea. The trachea allows passage of air into the lungs and the oxygen is then absorbed in the lungs. The blood transports the oxygen to the different organs of the body. Each body organ uses the oxygen to release energy. This energy released is used for performing various body functions. While performing various activities, the body organs produce carbon dioxide.

The carbon dioxide is transported to the lungs by the blood and from the lungs the air carrying carbon dioxide is breathed out. This process of breathing is — using oxygen to release energy — and breathing out of air is collectively called respiration. The organs involved in respiration are grouped together as the respiratory system. Thus, the respiratory system plays a crucial role as it provides oxygen that is critical for body functioning.

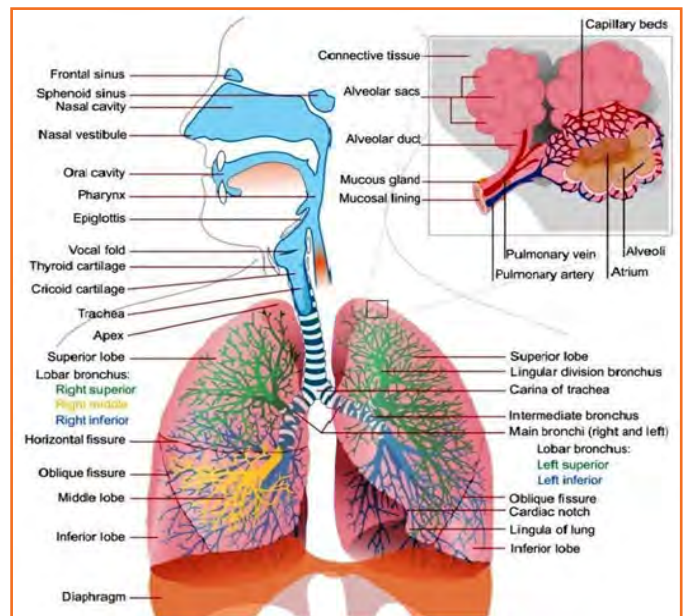


Fig.3.1.9: Respiratory System

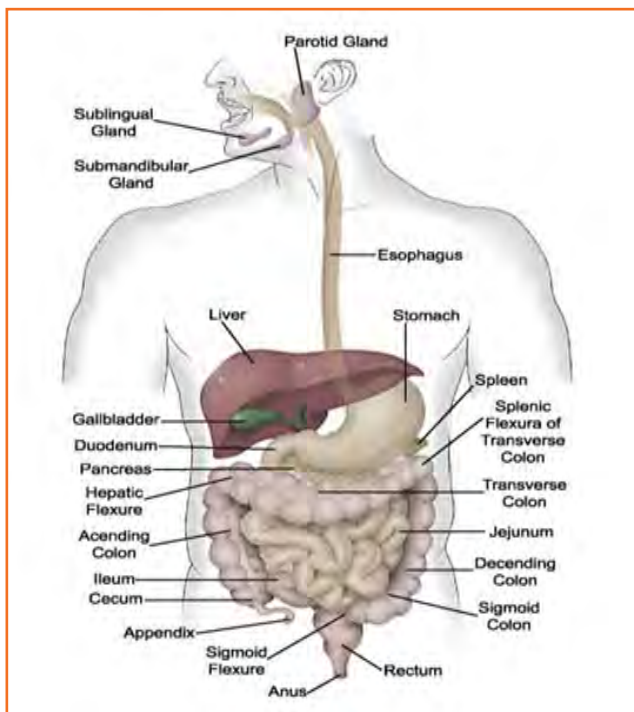


Fig.3.1.10: Digestive System

Digestive System

- The digestive system breaks down the food and absorbs all nutrients from the food. This whole process is known as digestion.
- The food goes into the body via mouth and is chewed into smaller bits and swallowed. The food pipe, also known as the oesophagus, takes the food into the stomach and then the intestines.
- Here the food is broken into small units with help of substances called enzymes.
- The enzymes that are needed for the digestion of the food are produced by the salivary glands, liver, pancreas and gall bladder. The blood absorbs all nutrients from the chewed food and carries them to various organs for producing energy.

Urinary System

- The urinary system consists of the kidneys, the urethra, the ureters and the urinary bladder. When the body organs utilize the nutrients and oxygen for the production of energy, they produce waste products such as ammonia and urea. These waste products are carried by the blood to the kidney. In the kidneys, the waste products are filtered from the blood and excreted out of the body as urine.
- Urine is a liquid with excess water. Urine passes through the ureters and fills the urinary bladder. The urinary bladder when full with urine, releases the urine out of our body. If the kidneys fail to function normally, the waste products in the blood can cause harm to the body organs. So it is very necessary to throw out the waste materials.
- The excretory system is hence critical to good health as the harmful wastes are thrown out from the body by this system.

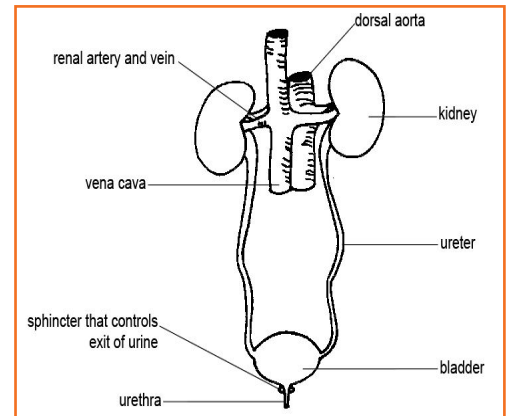


Fig.3.1.11: Urinary System

Reproductive System

- The reproductive system is of two kinds that is the male reproductive system and the female reproductive system. It comprises of the sex organs. The male reproductive system includes the testicles and the male sex organ called the penis. The testicles produce seminal fluid which contains fertilization units called sperms. The seminal fluid is passed through the penis.
- The female reproductive system includes the ovaries, the uterus and the female sex organ called the vagina. When the sperms come in contact with the ovum, fertilization takes place that lead to the development of a foetus. The foetus develops into the uterus of the female human body and is delivered as a human baby.
- The reproductive system functions in the development of a new generation of the human body.

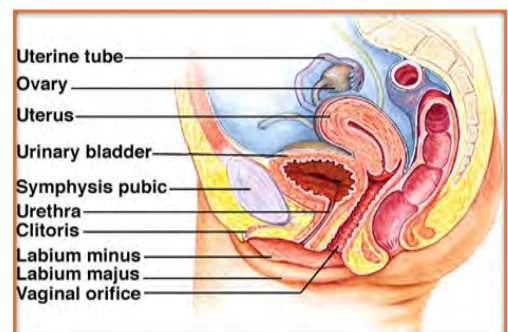


Fig.3.1.12: Reproductive System (Female)

The female reproductive system consists of those parts of the body which take part in reproduction.

- The female body has from birth multitude of eggs that could grow into a baby.
- The female body possesses a perfect place for these eggs to get fertilized with sperms and grow a human.

Male Reproductive System

- The penis includes:
 - » the root which is connected to the lower abdominal organs as well as the pelvic bones,
 - » the shaft
 - » the cone shaped end called glans penis

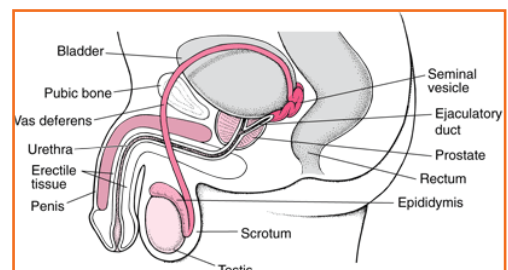


Fig.3.1.13: Male Reproductive System

- » The opening of the urethra at the apex of the glans penis which carries semen and urine
- The scrotum is a thick-skinned sac that encircles and shields the testes.
- The testes are oval bodies that average about 1.5 to 3 inches (4 to 7 centimeters) in length and 2 to 3 teaspoons (20 to 25 milliliters) in volume. The testes have two primary functions:
 - » Producing sperm (which carry the man's genes)
 - » Producing testosterone (the primary male sex hormone)
- The epididymis is a collection of coiled microscopic tubes that together are almost 20 feet (6 meters) long. The epididymis collects sperm from the testis and provides the environment for sperm to mature and acquire the ability to move through the female reproductive system and fertilize an ovum.

Supporting Physiological Systems

The basic physiological systems are supported by other physiologic systems such as the endocrine system and the immune system. The endocrine system is made up of organs called endocrine glands. Some examples of endocrine glands are the thyroid, pituitary, thymus. The endocrine system produces chemical substances called hormones. Hormones help in the body processes such as growth, reproduction and digestion. The immune system comprises the lymph nodes and the lymphocytes.

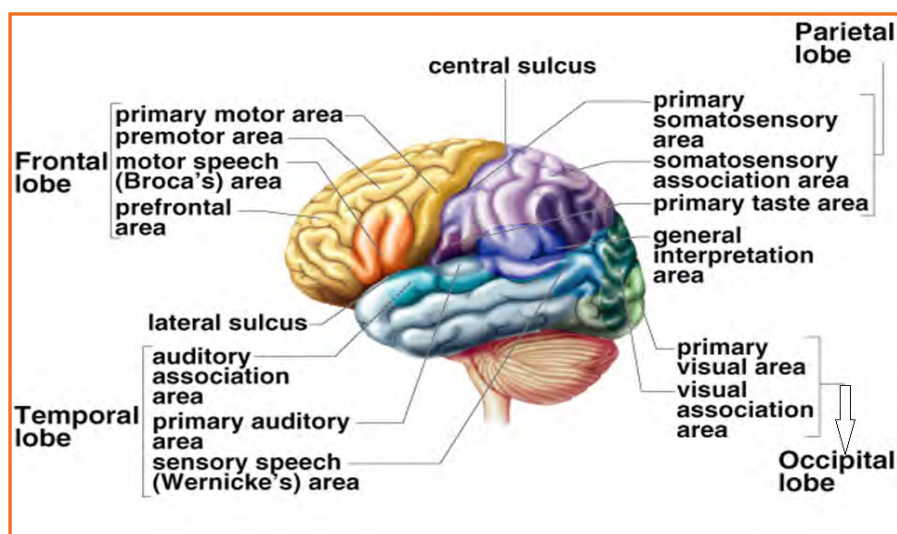


Fig.3.1.14: Physiological Systems

It protects the body from harmful germs and keeps the body healthy. The immune system is critical in preventing the infections and protects the body from diseases.

3.1.4 Routes of Drug Administration

A route of drug administration in pharmacology and toxicology is the path by which a drug, fluid, poison, or other substance is taken into the body. Routes of administration are generally classified by the location at which the substance is applied. Drugs are introduced into the body by several routes. They may be:

- Swallowed, orally
- Given by injection into a vein (intravenously), into a muscle (intramuscularly), into the space around the spinal cord (intrathecally), or beneath the skin (subcutaneously)

- Under the tongue or sublingually
- Placed between the gums and cheek or buccally
- Inserted in the rectum or rectally, or inserted in the vagina (vaginally)
- Added to the eye (by the ocular route) or to the ear (by the otic route)
- Sprayed into nose (nasally)
- Inhaled through the mouth (by inhalation) or nose (by nebulization)
- Locally applied onto the skin (cutaneously)
- Applied by a patch on the skin (transdermally)

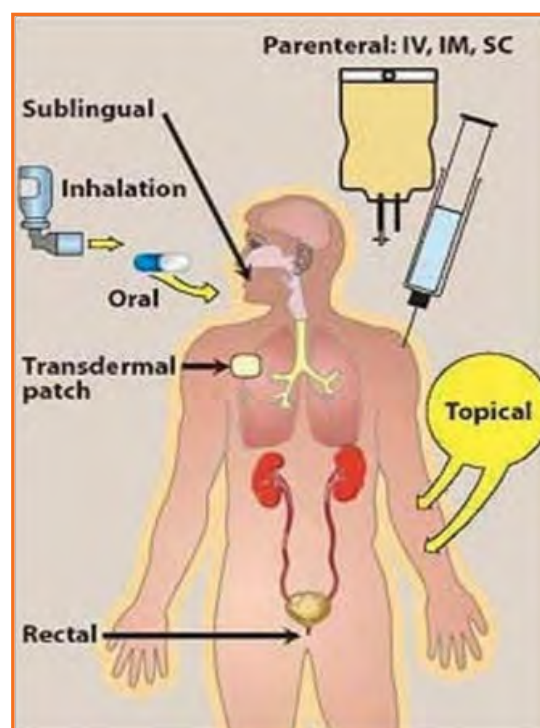


Fig.3.1.15: Routes of Drug Administration

3.1.4.1 Oral Route

Drugs can be given to the patients orally in the form of liquids, tablets or capsules. It is the safest and an economical as well as a convenient way of administering drugs. Some patients, however, might not like its movement through the digestive tract. The digestion for these drugs starts in the mouth and the stomach. The oral drugs are taken along with tea, coffee or water.

Alternative routes are required for giving drugs if the oral route cannot be used, for example:

- When a patient is incapable of ingesting by mouth.
- When a quick administration of drugs is needed or the drug requires to be given as a precise dose or in high quantity.
- When a drug is not effectively absorbed.

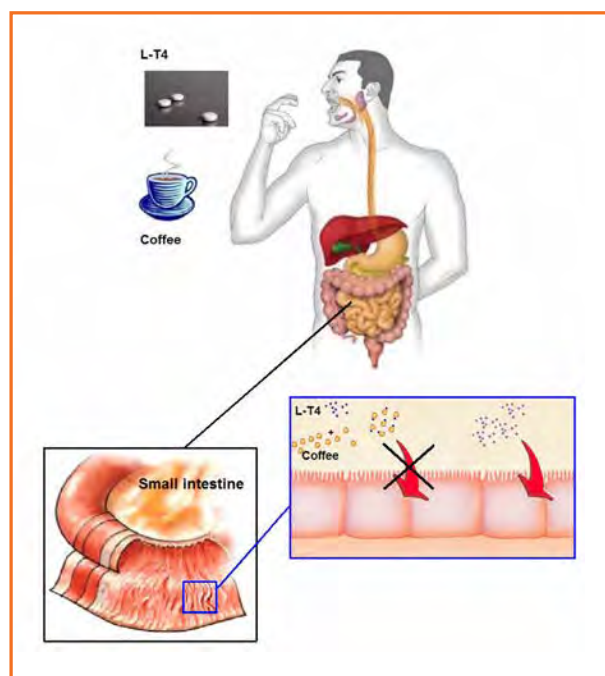


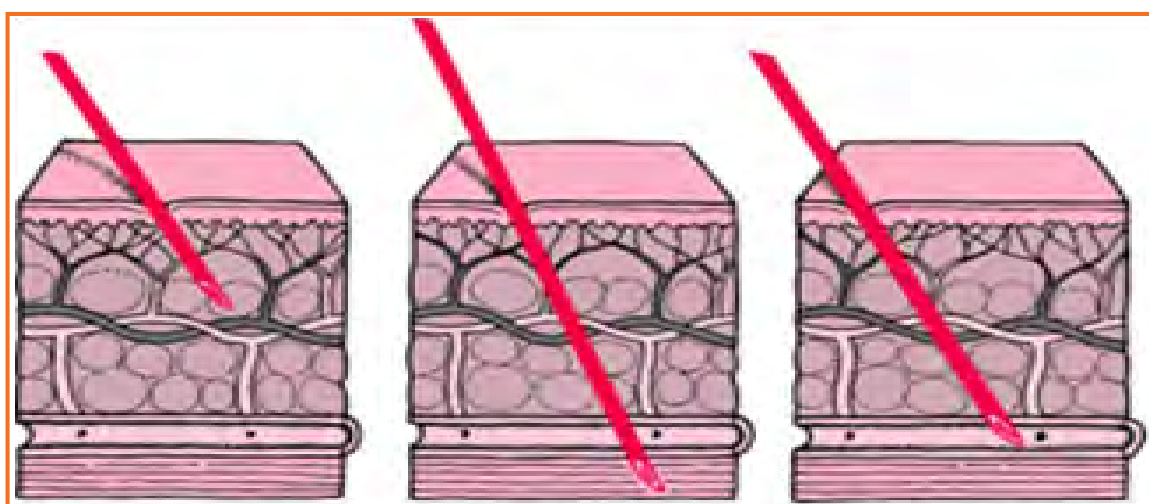
Fig.3.1.16: Oral Route

3.1.4.2 Injection Routes

The injection routes also called parenteral administration and can be categorised into:

1. Intramuscular
2. Intravenous
3. Intrathecal
4. Subcutaneous

A drug can be specially made so that its absorption from the site of injection can be delayed for a couple of hours or even days. These drugs, hence, do not require to be given to the patients as regularly as the ones which are rapidly absorbed.



Subcutaneous

Intramuscular

Intravenous

Fig.3.1.17: Various Injection Routes

Sometimes a drug is administered using a needle through the skin in ways such as subcutaneous, intramuscular, or intravenous route, or using a patch on the skin, transdermal route or using an implant.

5. **Subcutaneous Routes:** The needle with the drug is injected into the layer of fatty tissue which lies just below the outer skin. The injected drug then goes to the small blood vessels called the capillaries, and then enters the bloodstream. A drug might also enter the bloodstream via the lymphatic vessels.
6. **Intramuscular route:** The needle carrying the drug is injected into the muscles, which lie under the skin and the fatty tissue. Hence, to reach to that area a longer needle is needed. This route is taken when more volumes of a drug are required by the patient. The muscles in the upper arm region, thigh region, or buttocks are used for this purpose.
7. **Intravenous route:** The needle is inserted directly into a vein. Intravenous route is the best way to administer an exact dose in a fast and controlled manner. However, it can be complicated to administer than a subcutaneous or an intramuscular injection since inserting a needle or a catheter inside a vein may be difficult for specific patients such as an overweight person.
8. **Intrathecal route:** The needle is inserted between vertebrae of the lower spine region, in the area around the spinal cord. This makes the drug being administered into the spinal canal. The site where the drug is to be injected is made numb using a local or surface anaesthetic. This route is used mainly when a drug is required to give a quick or local effect on the brain, the spinal cord, or the tissues around them (meninges).

3.1.4.3 Sublingual and Buccal Routes

A few drugs are placed under the tongue (taken sublingually) or between the gums and teeth (bucally) so that they can dissolve and be absorbed directly into the small blood vessels that lie beneath the tongue. These drugs are not swallowed.



Fig.3.1.18: Sublingual and Buccal Routes

3.1.4.4 Rectal and Vaginal Route

Rectal route

Many drugs that are administered orally can also be administered rectally as a suppository. In this form, a drug is mixed with a waxy substance that dissolves or liquefies after it is inserted into the rectum. Because the rectum's wall is thin and its blood supply rich, the drug is readily absorbed.

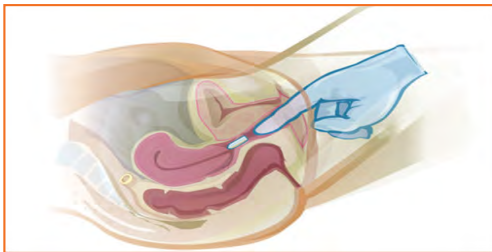


Fig.3.1.20: Vaginal route

Vaginal route

Some drugs may be administered vaginally to women as a solution, tablet, cream, gel, suppository, or ring. The drug is slowly absorbed through the vaginal wall. This route is often used to give estrogen to women during menopause to relieve vaginal symptoms such as dryness, soreness, and redness.

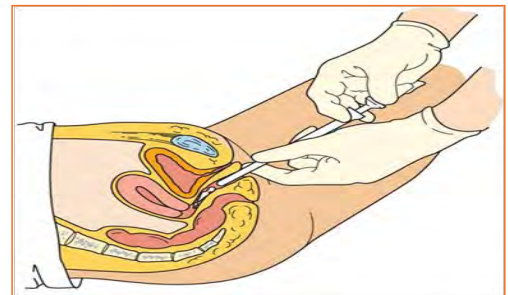


Fig.3.1.19: Rectal route

3.1.4.5 Ocular Route

Drugs used to treat eye disorders (such as glaucoma, conjunctivitis, and injuries) can be mixed with inactive substances to make a liquid, gel, or ointment so that they can be applied to the eye. Liquid eye drops are relatively easy to use but may run off the eye too quickly to be absorbed well. Gel and ointment formulations keep the drug in contact with the eye surface longer, but they may blur vision.

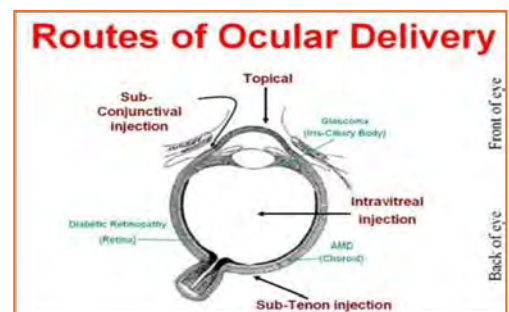


Fig.3.1.21: Ocular Route

3.1.4.6 Otic Route

Drugs used to treat ear infection can be applied directly to the ears. Ear drops containing solutions or suspensions are applied only to the outer ear canal. Before applying ear drops, people should thoroughly clean the ear.

Drugs that can be given by the otic route include hydrocortisone for relieving inflammation, ciprofloxacin for treating infection, and benzocaine for numbing the ear.

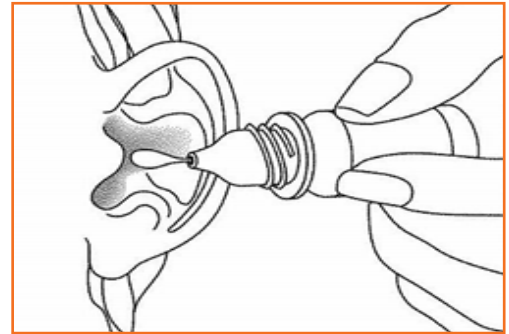


Fig.3.1.22: Otic Route

3.1.4.7 Nasal Route

If a drug is breathed in and absorbed through the nasal passages, it must be transformed into tiny droplets in air termed as being atomized. After the drug has been absorbed, it enters the bloodstream. Drugs administered by this route work quickly, however some may irritate the nasal passages.



Fig.3.1.23: Nasal Route

3.1.4.8 Nebulization Route

Just like the inhalation route, drugs given by nebulization must be aerosolized into small particles to reach the lungs. Nebulization needs special devices, such as ultrasonic or jet nebulizer systems.

Using the devices properly helps maximize the amount of drug delivered to the lungs.



Fig.3.1.24: Nebulization Route

3.1.4.9 Cutaneous Route

Drugs applied to the skin are usually used for their local effects and thus are most commonly used to treat superficial skin disorders, such as psoriasis, eczema, skin infections (viral, bacterial, and fungal), itching, and dry skin. The drug is mixed with inactive substances. Depending on the consistency of the substances, the formulation that can be used may be an ointment, cream, lotion, solution, powder, or gel.



Fig.3.1.25: Cutaneous Route

3.1.4.10 Transdermal Route

Some drugs are delivered bodywide through a patch on the skin. These drugs are sometimes mixed with a chemical (such as alcohol) that enhances penetration through the skin into the bloodstream without any injection. Through a patch, the drug can be delivered slowly and continuously for many hours or days or even longer. As a result, levels of a drug in the blood can be kept relatively constant.



Fig.3.1.26: Transdermal Route

3.1.5 Drug Dosage

Getting the right dose(s) is important in any drug or combination of drugs, this is because taking under or over a preferred dose is not good thing.

Evaluation of Taking Too Low a Dose

If someone takes too low a dose they will end up feeling disappointed as the probability is that the person who took the drug/combination of drugs was hoping for the drug/combination of drugs to have interesting effects but because they took too low a dose they get minor effects and they hope the effects will get more intense but they never do and the experience ends and most of the time they consider their experience to be a waste of drugs.



Fig.3.1.27: Drug Dosage

Evaluation of Taking Too High a Dose

Dosage instructions are clearly written on the prescription or hospital chart/record, and on the pharmacy label. Dosage instructions need to be followed and are available on the hospital chart, the pharmacy label of the suggested medicine or the doctor's prescription. They are also written on the packaging label and the inserts of medicines available over the counter.

3.1.6 Self Vaccination Tips for GDA

General Duty Assistant is at risk for exposure to serious, and sometimes deadly, diseases as they work directly with patients or handle material that could spread infection. They should get appropriate vaccines to reduce the chance that you will get or spread vaccine-preventable diseases. The recommended vaccines are:

Vaccines	Recommendation
Hepatitis B	<ul style="list-style-type: none"> Get the 3-dose series Get anti-HBs serologic tested 1–2 months after dose #3
Flu (Influenza)	<ul style="list-style-type: none"> Get 1 dose of influenza vaccine annually.
MMR (Measles, Mumps, & Rubella)	<ul style="list-style-type: none"> If you were born in 1957 or later and have not had the MMR vaccine, or if you don't have an up-to-date blood test that shows you are immune to rubella, only 1 dose of MMR is recommended. However, you may end up receiving 2 doses, because the rubella component is in the combination vaccine with measles and mumps.

Varicella (Chickenpox)	<ul style="list-style-type: none"> If you have not had chickenpox (varicella), if you haven't had varicella vaccine, or if you don't have an up-to-date blood test that shows you are immune to varicella (i.e., no serologic evidence of immunity or prior vaccination) get 2 doses of varicella vaccine, 4 weeks apart.
Tdap (Tetanus, Diphtheria, Pertussis)	<ul style="list-style-type: none"> Get a one-time dose of Tdap as soon as possible if you have not received Tdap previously (regardless of when previous dose of Td was received). Get Td boosters every 10 years thereafter. Pregnant HCWs need to get a dose of Tdap during each pregnancy.
Meningococcal	<ul style="list-style-type: none"> Those who are routinely exposed to isolates of <i>N. meningitidis</i> should get one dose.

Fig.3.1.28: Self Vaccination TIPS for GDA

3.1.7 Drug Dosage Abbreviation

Abbreviation	From the Latin	Meaning
Aa	Ana	of each
Ad	Ad	up to
a.c.	ante cibum	before meals
a.d.	aurio dextra	right ear
ad lib.	ad libitum	use as much as one desires; freely
admov.	Admove	apply
Agit	Agita	stir/shake
alt. h.	alternis horis	every other hour
a.m.	ante meridiem	morning, before noon
Amp		ampule
Amt		amount
Aq	Aqua	water
a.l., a.s.	aurio laeva, aurio sinister	left ear
A.T.C.		around the clock
a.u.	auris utrae	both ears
Bis	Bis	twice
b.i.d.	bis in die	twice daily
B.M.		bowel movement
bol.	Bolus	as a large single dose (usually intravenously)

B.S.		blood sugar
B.S.A		body surface areas
cap., caps.	Capsula	capsule
C	Cum	with (usually written with a bar on top of the "c")
comp.		compound
cr., crm		cream
D5W		dextrose 5% solution (sometimes written as D5W)
D5NS		dextrose 5% in normal saline (0.9%)
D.A.W.		dispense as written
dc, D/C, disc		discontinue
dieb. alt.	diebus alternis	every other day
dil.		Dilute
disp.		dispense
div.		divide
d.t.d.	dentur tales doses	give of such doses
D.W.		distilled water
elix.		elixir
e.m.p.	ex modo prescripto	as directed
emuls.	Emulsum	emulsion
ex aq	ex aqua	in water
fl., fld.		fluid
G		gram
h.s.	hora somni	at bedtime
inj.	Injection	Injection
Nebul	Nebula	a spray
Syr	Syrupus	syrup
Susp		suspension
Tab	Tabella	Tablet
Tbsp		tablespoon
ung.	Unguentum	ointment
W		With
w/o		without

Fig.3.1.29: Drug Dosage Abbreviation

Tips

- Main organs of Circulatory system
 - » Heart
 - » Artery
 - » Vein
 - » Capillary
- Main organs of Digestive system
 - » Mouth
 - » Oesophagus
 - » Stomach
 - » The small intestine
 - » Colon (large intestine)
 - » Rectum
- Main organs of Endocrine system
 - » Pancreas
 - » Adrenal Gland
 - » Thyroid Gland
 - » Pituitary Gland
 - » Pineal Gland
 - » Ovaries
 - » Testes
- Immune system/ Lymphatic Systems
 - » Bone marrow
 - » Thymus
 - » Spleen
 - » Lymph nodes
- Muscular system: Types of muscles includes:
 - » Skeletal muscle
 - » Smooth muscle
 - » Cardiac muscle
- Major organs of nervous system :
 - » Brain
 - » Spine
 - » Nerves
 - » The Eyes

- Reproductive system

The female reproductive composed of:

- » Ovaries
- » Fallopian tubes
- » Uterus
- » Cervix
- » Vagina

The male reproductive organs are:

- » Scrotum
- » Testis
- » Spermatic ducts
- » Sex glands
- » Penis

- Main Organs of Respiratory system:

- » Mouth and nose
- » Trachea (windpipe)
- » Lungs
- » Diaphragm

- Skeletal system:

Main function of skeletal system includes:

- » Providing support for muscles, tendons and our internal organs.
- » Allowing the body to move.
- » Protecting organs, including the brain, heart and lungs.
- » Producing blood cells.
- » Storing minerals, such as calcium.

- The main organs of Urinary system:

- » Kidneys
- » Ureters
- » Bladder
- » Urethra

Exercise

1. Describe the basic human body shape and structures.

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2. Describe the working of the nervous system.

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3. List the different organs that form the circulatory system

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4. How does the digestive system work? Explain with the help of a diagram.

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Notes

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4. Personnel Hygiene and Professional Behaviour

Unit 4.1 - Personnel Hygiene and Professional Behaviour



HSS/ N 5107, HSS/N 9603,
HSS/N 9604, HSS/N 9605,
HSS/N 9607, HSS/N 5108

Key Learning Outcomes

At the end of the unit, you will be able to:

- Develop understanding of the concept of Healthy Living.
- Develop understanding & procedures of Hand Hygiene.
- Develop techniques of Grooming.
- Be equipped with Techniques of Use of PPE.
- Be vaccinated against common infectious diseases.

UNIT 4.1: Personnel Hygiene and Professional Behaviour

Unit Objectives

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4.1.1 Introduction

Numerous people die daily from across the world due to infections caught while getting healthcare. Hands are the primary medium of transmission of germs during healthcare. Thus, hand hygiene is a vital measure to ensure so as to avoid harmful infections caused by germs.

All healthcare workers and other persons dealing with the patients require to be careful about hand hygiene and need to carry it out in the correct manner and at the proper time.

You should clean your hands by rubbing an alcohol-based formulation on them if they are not soiled and the cleaning is just a routine measure. It is quick, effective and soft on the hands.

Washing hands with soaps

It's generally best to wash your hands with soap and water. Follow these simple steps:



Fig.4.1.2: Apply soap

- **Step 1:** Wet hands with running water
- **Step 2:** Apply soap



Fig.4.1.1: Wet your hands with water

- **Step 3:** Work up a good lather
- **Step 4:** Rub the hands vigorously for about 20 seconds, scrub well all around the hands



Fig.4.1.3: Wash hands

- **Step 5:** Rinse well.



Fig.4.1.5: Dry Hands

- **Step 6:** Dry the hands with a clean or disposable towel or air dryer.
- **Step 7:** If possible, make use of a towel or the elbow to turn off the faucet.



Fig.4.1.4: Rinse Well

4.1.2 Hand Sanitizer

Hand sanitizer provides several advantages over hand washing with soap and water. However, they are not effective if organic matter (dirt, food, or other material) is visible on hands.

Steps to Use hand Sanitizer



- **Step 1:** Make sure all organic matter is removed from hands.
- **Step 2:** All visible organic matter (for example: dirt) must be removed from hands prior to applying waterless hand sanitizer.
- **Step 3:** Apply a coin sized amount of hand sanitizer to the palm of one hand.
- **Step 4:** Rub hands together covering all surfaces of hands and fingers.
- **Step 5:** Rub until hand sanitizer is absorbed.



Fig.4.1.6: Hand sanitizer

4.1.3 Hand Care

- Take care of your hands by regularly using a protective hand care cream or lotion, at least daily.
- Do not regularly wash hands with soap and water immediately before or after having used an alcohol-based hand rub.
- Avoid using hot water to wash your hands.
- Dry your hands completely before wearing gloves.

Please remember:

- Do not wear artificial fingernails or extenders when in direct contact with patients.
- Keep natural nails short.

Before touching a patient

To protect the patient against germs and infection by harmful organisms on your hands, clean your hands before touching a patient.

Before clean / aseptic procedure

Hands should be properly cleaned before accessing a sensitive site of the body of a patient which has a risk of infection for the patient. Mucous membrane, broken skin and an invasive medical equipment are examples of such sites. The cleaning procedure is imperative to prevent outside and also the patient's own germs from entering the body.

After body fluid exposure risk

The hands should be cleaned properly immediately after performing a procedure which involves a risk of exposure to the body fluids. They need to be cleaned after glove removal to prevent getting oneself and the health-care surroundings infected from the patient's harmful germs.

After touching a patient

To protect you from colonization with patient germs and to protect the health-care environment from germ spread Clean your hands when leaving the patient's side, after having touched the patient.

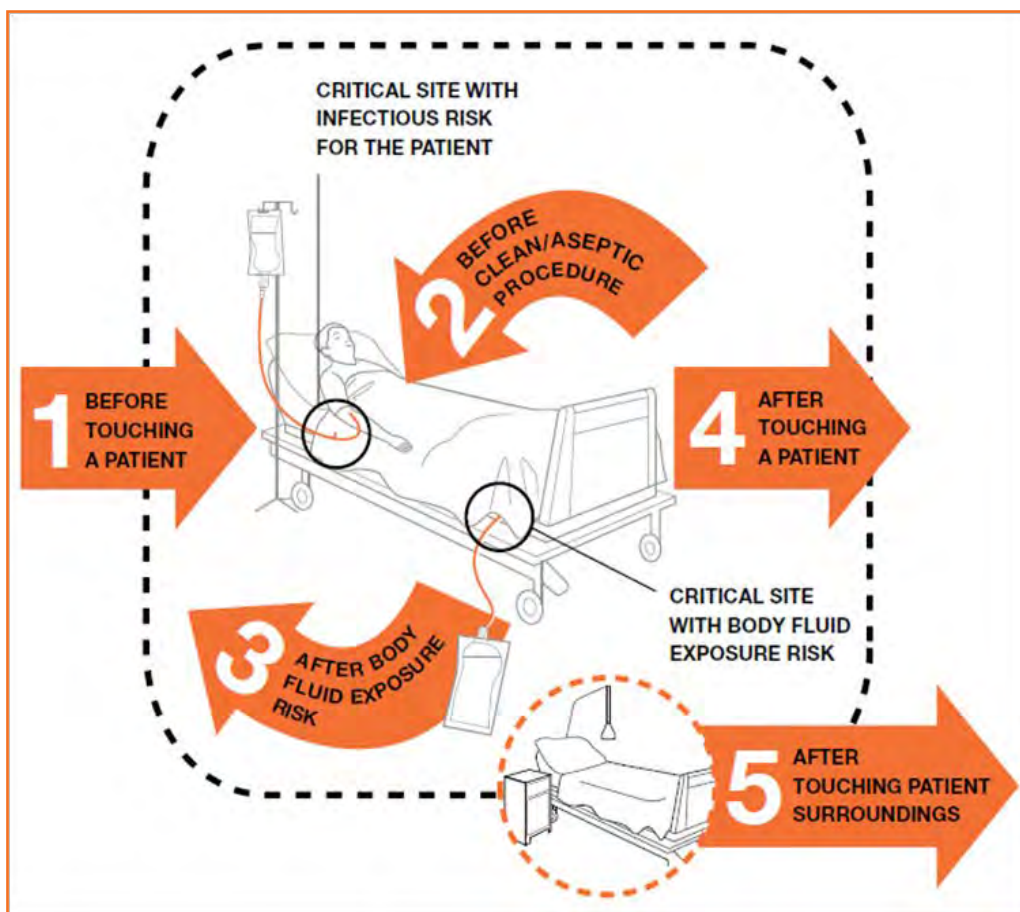


Fig.4.1.7: Need of Hand Hygiene

4.1.4 Personal Protective Equipment

PPE is the special equipment or clothing utilized to safeguard oneself and the patients from germs. The PPE acts as a barrier between a human and an external infection causing agent. PPE is an important part of infection control systems. It helps to keep the healthcare giver, the patients, the co-workers, and the visitors protected from disease. PPE includes gear such as gloves, gowns, goggles, masks and face shields.

Gloves: In the medical field, gloves are the frequently used item of PPE. They are made of vinyl or nitrile rubber and are supposed to be used only once. Gloves should always be used when there is a risk involved due to touching infectious agents or body fluids.



Fig.4.1.8: Gloves



Fig.4.1.9: Gown

Gowns: Gowns are another regularly used item of PPE. They are generally made of a thin, waterproof cloth material, and are mostly used only one time. Gowns are worn over the uniform if there is a risk that the medical caregiver or doctor may touch the excessive body fluids or if the patient has been kept in isolation to avoid infection.

Goggles: Goggles, worn over the eyes.



Fig.4.1.10: Goggles



Fig.4.1.11: Face Mask

Masks: Masks are worn over the nose and the mouth. The eyes, the mouth, and the nose provide access to infectious agents, and this PPE safeguards you from various types of diseases. If there are chances of exposure to large amounts of body secretions, a face shield can be worn to protect the complete facial area.

Face Shields: These are typically used to prevent body fluids from contact with the mucous membranes of the eyes.

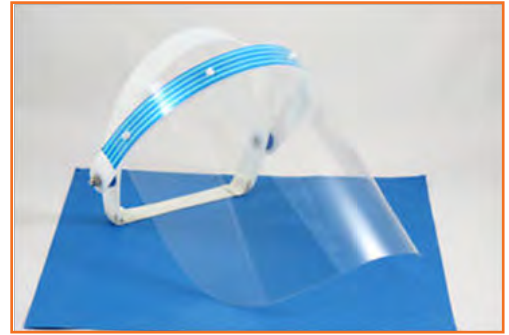


Fig.4.1.12: Face Shield



Fig.4.1.13: Shoe Covers

Shoe Covers: These help protect shoes and flooring. In hospitals and clinics, spills can occur unexpectedly and hence to prevent stains or unhygienic conditions, shoe covers should be used.

Head Covering: The cap's purpose is to keep the hair neatly in place & present a modest appearance while taking care of a patient.

The use of PPE depends on the situation and type of exposure that you may be subjected to.



Fig.4.1.14: Head Covering

4.1.4.1 Steps to put on PPE



STEP 1: Identify all the necessary PPE as per the requirement or hazard



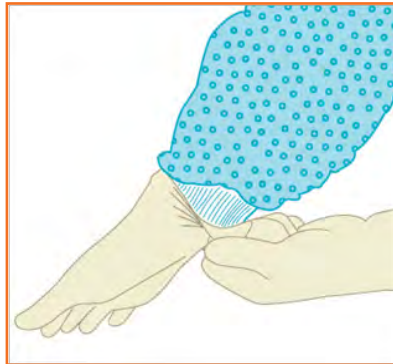
STEP 2: Put on a gown.



STEP 3: Put on face shield.



STEP 4: Put on medical mask and eye protection



STEP 5: Put on gloves.

4.1.4.2 Steps to take off PPE



STEP 1: Avoid contamination of self and others. Remove the most contaminated item first.



STEP 2: Perform hand hygiene. Peel off gown and gloves and roll inside out. Dispose gloves and gown safely.



STEP 3: If wearing face shield – remove face shield from behind. Dispose of face shield safely.



STEP 4: If wearing eye protection and mask, remove goggles from behind, put goggles in a separate container for reprocessing. Remove mask from behind and dispose of safely.



STEP 5: Perform hand hygiene.

All equipment need not be worn in every situation. According to the kind of germ or infection, different equipment are required to be worn. For example, to prevent certain kinds of infections, a mask may be needed while in other situations, a gown and gloves may be required.

The type of exposure one expects to have is also a necessary consideration when choosing an equipment. For instance, one may need a certain kind of equipment while drawing blood and a different one if taking a medical history.

4.1.5 Vaccination

Vaccinations function by stimulating the immune system which is the human body's natural disease-fighting mechanism. Immunizations equip the immune system to fight off a disease. To immunize the body against viral diseases, the strength of the virus utilized in the vaccine has been decreased or the virus has been killed. To immunize the body against bacterial diseases, it is possible to use a little amount of the dead bacteria to stimulate the production of antibodies against the whole bacteria.



Fig.4.1.15: Vaccination

It has been noticed that there can be improvement in the effectiveness of immunizations by periodic repeat injections or "boosters".

Precautions

- Vaccines do not always prove to be effective, and it cannot be predicted whether a vaccine will benefit an individual. For effectiveness, vaccination programs are dependent on entire communities participating. The more the number of people who get vaccinated, the lower will be everybody's risk of being exposed to a disease. Even individuals who do not get immunity through vaccination are protected if their friends, neighbours, children, and co-workers are immunized.
- Vaccination has risks as well as many benefits. All those who get vaccinated should make that sure that they are fully aware about both the benefits and the risks. All the queries or concerns should be addressed with a physician or other healthcare personnel.

4.1.6 Universal Immunisation Programme

Universal Immunization Programme is a vaccination program launched by the Government of India in 1985. It became a part of Child Survival and Safe Motherhood Programme in 1992 and is currently one of the key areas under National Rural Health Mission (NRHM) since 2005.

Immunisation Schedule

S No	Vaccine & its\ Presentation	Protection	Route	Number of doses	Vaccination Schedule
1	BCG (Bacillus Calmette Guerin) - Lyophilized vaccine	Tuberculosis	Intra- dermal	1	At birth (upto) 1year (if not Given earlier)
2	OPV (Oral Polio Vaccine) - Liquid vaccine	Poliomyelitis	Oral	5	Birth dose for institutional deliveries, Primary three doses at 6, 10 & 14 week and one booster dose at 6-24 month of age.
3	HepatitisB—Liquid Vaccine	Hepatitis B	Intra-muscular	4	Birth dose (within 24 hour) for institutional deliveries, Primary three dose sat 6,10 & 14 week.

4	DPT(Diphtheria, Pertussis and Tetanus Toxoid) – Liquid vaccine	Diphtheria, Pertussis and Tetanus	Intra- muscular	5	Three doses at 6,10 & 14 week and two booster dose at 16 - 24 month and 5-6 years of age
5	Measles - Lyophilized vaccine	Measles	Sub -cutaneous	2	9 - 12 months of age and 2nd dose at 16 - 24 months.
6	TT(Tetanus Toxoid) – Liquid Vaccine	Tetanus	Intra-muscu lar	2 2	10 years and 16 years of age For pregnant woman, two doses given (one dose if previously vaccinated within 3Year)
7	JE Vaccination (in selected high disease burden districts) Lyophilized vaccine	Japanese Encephalitis (Brain fever)	Sub - cutaneous	2	9-12months of age and 2nd dose at 16-24 months (6 month after vaccination drive)
8	Hib (given as pentavalent containing b + DPT + Hep B) (in 8 states) – Liquid vaccine	Hib Pneumonia and Hib meningitis	Intra- muscular	3	6, 10 & 14 week of age

Fig.4.1.16: Immunisation Schedule

4.1.7 Other Vaccinations

Typhoid immunization

- Slot for 'typhoid conjugate vaccine' for primary immunization at 9-12 months of age.
- Applicable only for Typbar-TCV.
- Booster of either Typbar-TCV or Vi-polysaccharide (Vi-PS) vaccine at 2 years of age.
- Typhoid Vaccine for babies at the age of 2 year either of Typbar TCV or Vi-polysaccharide (Vi-PS).
- Need of revaccination following a booster of Typbar-TCV not yet determined.

Hepatitis - A immunization

- Single dose administration of live attenuated H2 strain hepatitis A vaccine at 12 months.
- Two doses for inactivated (killed) Hepatitis-A vaccine.

Human Papillomavirus (HPV) vaccination

- Two doses of HPV vaccine for adolescent/preadolescent girls aged 9-14 years.
- For two-dose schedule, the minimum interval between doses should be 6 months.
- Three dose schedule for adolescent girls aged 15 years and older to continue.

Rabies immunization

- Children having pets in home and children perceived with higher threat of being bitten by dogs to be included in 'high-risk category of children' for rabies vaccination.
- These groups of children should now be offered 'pre-exposure prophylaxis' against rabies.

Pertussis immunization

- No need of repeating/giving additional doses of wP vaccine to children who had earlier completed their primary schedule with aP vaccine-containing products.
- Recommendations on the currently available wP vaccine containing pentavalent (DTwP+Hib+ HepatitisB) products in Indian market.

Other changes

- An update and recommendation on use of new Indian Rotavirus vaccine, 116E.
- The comments and some information for several vaccines are also updated and revised.

Disease Eradication

Eradication is the reduction of an infectious disease's prevalence in the global host population to zero.

- Eradicated:
 - » Smallpox
 - » Rinderpest
- Global eradication underway:
 - » Poliomyelitis (polio)
 - » Dracunculiasis
 - » Yaws
 - » Malaria
- Regional elimination established or under way:
 - » Hookworm
 - » Lymphatic filariasis
 - » Measles
 - » Rubella
 - » Onchocerciasis
 - » Bovine spongiform encephalopathy (BSE) and new variant Creutzfeldt–Jakob disease (vCJD).
 - » Syphilis
 - » Rabies

4.1.8 Non-communicable disease (NCD)

NCDs are characterized only by their non-infectious cause, and not compulsarily by their duration. Some chronic diseases of long duration, such as HIV/AIDS, are caused by infections. Chronic diseases require chronic care management as do all diseases that are slow to develop and are of long duration.

There are five important risk factors for non-communicable disease in the top ten leading risks to health. These are:

1. Raised blood pressure
2. Raised cholesterol
3. Tobacco use
4. Alcohol consumption
5. Overweight

The other factors associated with higher risk of NCDs include a person's economic and social conditions, also known as the social determinants of health. These are also referred to as lifestyle diseases like:

- Cancer
- Diabetes
- Hypertension
- Osteoporosis
- Alzheimer's
- Heart Disease
- Fibromyalgia

4.1.9 Communicable Disease

It is a condition caused by an infectious external agent typically through touch or direct/indirect contact with an infected person, animal, or any other agent. The list is as follows:

- Ebola
- Enterovirus D68
- Flu
- Hantavirus
- Hepatitis B
- HIV/AIDS
- Measles
- Pertussis
- Rabies
- Sexually Transmitted Disease
- Shigellosis
- Tuberculosis
- Zika

- Wash your hand immediately after taking off your gloves and never walk around the hall with gloves that have touched a patient or a body fluid.
- Dispose off PPE immediately after first use.
- Do not touch your face or adjust the equipment with contaminated gloves.
- Do not touch the environmental surfaces except when necessary during the patient care.

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5. Bio Medical Waste Management

Unit 5.1 - Bio Medical Waste Management



Key Learning Outcomes

At the end of the unit, you will be able to:

- Segregation of Biomedical waste at source.
- Describe color coding and type of containers for disposal of Bio Medical Waste.
- Label for transport of Bio Medical Waste containers/bags.

UNIT 5.1: Bio Medical Waste Management

Unit Objectives

At the end of the unit, you will be able to:

- Segregation of Biomedical waste at source.
- Describe color coding and type of containers for disposal of Bio Medical Waste.
- Label for transport of Bio Medical Waste containers/bags.

5.1.1 Introduction

The wastes that are disposed from the hospital can be a source of many infections such as HIV, hepatitis B and other bacterial infections. You must take extreme care while disposing the wastes such as needles, syringes and gloves in order to prevent infections to yourself and others. In this chapter, the basic rules that need to be followed to dispose wastes safely are listed.

Waste management includes collecting, moving, treating or organising, handling and observing of waste materials. Also, the excretory wastes eliminated by the patients should also be handled properly, as incorrect management of wastes inside the healthcare centre can lead to high risk situations that can lead to infections. It could also cause infection when containers break open inside garbage trucks. In order to follow a standard method of waste management you must know about the different types of the waste that are generated in the hospital.

Waste Category	Type Of Waste	Treatment And Disposal Option
Category – 1	Human waste – human tissues, organs, body parts	Incineration(Type 1) / deep burial(Type 2)
Category – 2	Animal waste – animal tissues, organs, body parts, carcasses, bleeding parts, fluid, blood	Incineration Type 1 / deep burial (Type 2)
Category -3	Microbiology and biotechnology waste – wastes from laboratory cultures, stocks or specimen of live microorganisms or attenuated vaccines	Local autoclaving/ microwaving / incineration(Type 1)
Category -4	Waste Sharps – needles, syringes, scalpels, blades, glass	Disinfecting (chemical treatment (Type 3)/ autoclaving / microwaving and mutilation / shredding (Type 4)
Category- 5	Discarded Medicine and Cytotoxic drugs	Incineration@ / destruction and drugs disposal in secured landfills
Category -6	Soiled Waste – cotton, dressings, soiled plaster casts, lines, bedding and other materials contaminated with blood	Incineration@ / autoclaving / microwaving

Category -7	Solid Waste – tubing, catheters, intravenous sets and so on	Disinfecting by chemical treatment (Type3) / autoclaving / microwaving and mutilation / shredding (Type 4)
Category -8	Liquid Waste – waste coming out from the laboratory and washing, cleaning, housekeeping and disinfecting activities	Disinfecting by chemical treatment (Type 3) and discharge into drains
Category -9	Incineration Ash – ash from incineration of any biomedical waste	Disposal in municipal landfill
Category -10	Chemical Waste – production of biologicals, chemicals used in disinfecting, as insecticides and so on	Chemical treatment (Type 3) and discharge into drains for liquids and secured landfill for solids.

Fig 5.1.1: Categories of Biomedical Waste Schedule – I

Colour Coding and Type Of Container Schedule II

Color code	Type of container	Waste Category	Treatment Options
Yellow	Plastic bags	1,2,3 & 6	Incineration
Red	Disinfected container/ plastic bag	3,6 & 7	Autoclaving/ Micro Waving/ chemical treatment
Blue/white transparent	plastic bag/ puncture proof container	4 & 7	Autoclaving/ Micro Waving/ chemical treatment, Destruction & Shredding
Black	plastic bag	5,9 & 10 (solid)	Disposal in secured land fills

Fig 5.1.2: Colour Coding and Type Of Container Schedule II

5.1.2 Segregation of Bio-medical waste

Bio-Medical Waste should be carefully managed to prevent people especially health care professionals who are frequently exposed to different kinds of waste as a part of their work.

7 Steps of bio-medical waste segregation

Step 1: Collection and Proper labelling of bins

- Biomedical wastes are collected in various kinds of containers from different. Dust bins or waste containers should be located in such a way that total collection is achieved. Needles and other sharper objects must always be placed in puncture- proof containers.
- Waste bins and disposable bags should have the biohazard signs depicting the type of waste.

- Schedule III (Rule 6) of Bio-medical Waste (Management and Handling) Rules, 1998 specifies the Label for Bio-Medical Waste Containers / Bags as:

Step 2: Storage

After collecting the bio-waste, it is imperative to store it properly and in a designated proper place. Typically, one should not store such waste for more than 8-10 hrs in large hospitals. In addition, every waste container should be properly labelled.

SHARPS Red Sharps Container	BIOHAZARD Red Container or Red Liner in Container	TRACE CHEMO Yellow Container
<ul style="list-style-type: none"> ✓ Needles ✓ Ampules ✓ Broken Glass ✓ Blades ✓ Razors ✓ Staples ✓ Trocars ✓ Guide Wires ✓ Other Sharps 	<ul style="list-style-type: none"> ✓ Infectious Waste ✓ Blood Products (albumin.etc) ✓ Contaminated Personal Protective Equipment (PPE) ✓ IV Tubing ✓ Cultures, Stacks 	<ul style="list-style-type: none"> ✓ Empty vials, ampules ✓ Empty Syringes, Needles ✓ Empty IVs ✓ Gowns ✓ Gloves ✓ Tubing ✓ Aprons ✓ Wipes ✓ Packaging
		

Fig 5.1.3: Biohazard Symbol




RCRA HAZARD Black Container	PHARMACEUTICAL Blue Container	RADIOACTIVE Shielded Containers with Radioactive Symbol
<ul style="list-style-type: none"> ✓ Hazardous meds (RCRA) ✓ Half/Partial doses (RCRA) ✓ Hazardous bulk meds ✓ P-listed drugs, packaging ✓ Bulk chemo ✓ Pathological Waste (Incineration Only) 	<ul style="list-style-type: none"> ✓ Pills ✓ Injectables ✓ Antibiotics 	<ul style="list-style-type: none"> ✓ Fluorine-18 (F-18). 110 minutes half-life. ✓ Technetium-99 (T-99m). 6 hours half-life. ✓ Iodine-131 (I-131). 8 days half-life. ✓ Strontium-89 (Sr-89). 52 days half-life. ✓ Iridium-192 (Ir-192). 74 days half-life. ✓ Cobalt-60 (Co-60). 53 years half-life.
		

Fig 5.1.4: Cytotoxic hazard Symbol

Step 3: Transportation

The stored containers need to be transported to proper waste management facilities using trolleys or covered wheelbarrows.

Step 4: Personnel safety and its devices

The use of protective gears should be made mandatory for all the personnel handling waste.



Fig 5.1.5: Special Vehicle

- **Gloves:** Should worn at all times when collecting, segregating, and transporting waste.



Fig 5.1.6: Gloves

- **Aprons, gowns, suits or other apparels:** Proper clothing should be worn to protect the body and clothes.



Fig 5.1.7: Safety Suit

- **Masks:** Masks, goggles and face shields should be used to prevent inhalation of toxic fumes and other smells or bacterial agents.



Fig 5.1.8: Masks



Fig 5.1.9: Boots

- **Boots:** Boots/shoe-covers should be worn to prevent splashes or infected waste touching the feet/legs.

Step 5: Cleaning and its devices

- **Brooms:** Proper brooms or sweeping rods should be used for handling and sweeping dry waste.



Fig 5.1.10: Brooms



Fig 5.1.11: Dustpans

- **Dustpans:** Dustpans should be used to pick up waste instead of hands.



Fig 5.1.12: Mops

- **Mops:** Mops with long handles should be used to wipe spillage or any other liquid waste.



Fig 5.1.13: Vacuum Cleaner

- **Vacuum cleaners:** Domestic vacuum cleaners or industrial vacuum cleaners should be used to clean carpeted areas.

Step 6: Storage and Handling

Dustbins: Clean dustbins and containers should be used for storage.

Handling devices

- Trolleys
- Wheel barrows



Fig 5.1.15: Wheelbarrows



Fig 5.1.14: Trolleys

Step 7: Treatment: Technology options for 'treatment'

The treatment of Bio-Medical Waste can be done using any of the following processes:

1. Chemical processes
2. Thermal processes
3. Mechanical processes
4. Irradiation processes
5. Biological processes

Chemical processes: Chemicals or disinfectants can be used to treat smaller quantities of waste, such as Sodium hypochlorite, dissolved chlorine dioxide, hydrogen peroxide and so on.

Thermal processes: Heat can be used to disinfect specific waste. Thermal processes involve Autoclave & Microwave:

- Autoclaving, a low heat thermal process, uses steam for disinfecting. Autoclaves can be of gravity flow autoclave and vacuum autoclave.
- Microwaving involves disinfecting waste by moisture, heat and steam using microwave energy.
- Incinerator & Hydroclaving are examples of high heat systems. Hydroclaving uses steam treatment with fragmentation and drying. Incineration involves burning.

Mechanical processes: These processes are used to change the physical form or characteristics of the waste either to facilitate waste handling or to process the waste in conjunction with other treatment steps. The two primary mechanical processes are

- **Compaction:** Used to cut down waste volume
- **Shredding:** Used to treat plastic and paper waste and making them reusable. The waste has to be disinfected before putting in a shredder.

Irradiation processes: Uses ultraviolet or ionizing radiation on the waste within a closed environment. Typically need post shredding to make the waste unidentifiable.

Biological processes: Using biological enzymes to treat waste.

Waste can be of the following categories:

- **Infectious:** Waste containing pathogens which can cause diseases. E.g. waste from surgery/autopsies of people with infectious diseases, sharps or nails.
- **Pathological:** Waste such as tissues, body parts, foetus, blood and body fluids which are collected from wards, OTs, and drugs that have expired or contaminated.
- **Radioactive:** Waste such as solids, liquids and gaseous contaminated with radioactive material. E.g. used in diagnosis/treatment of diseases such as toxic goitre.
- **Others:** Waste from offices, kitchens and rooms, such as bed linen, utensils, and paper.

5.1.3 Occupational Health Hazards

- The health hazards because of improper waste management can affect Occupational hazards.
- The occupants in institutions and spread in the vicinity of the institutions.
- People happened to be in contact with the institution like laundry workers, nurses, emergency medical personnel, and refuse workers.
- Risks of infections outside the hospital for waste handlers, scavengers and the general public.
- Risks associated with the hazardous chemicals like drugs, being handled by persons handling wastes at all levels.
- Injuries from sharps and exposure to harmful chemical waste and radioactive waste also cause health hazards to employees.

The public's health can also be unfavorably affected by bio-medical waste.

Improper practices such as discarding of bio-medical waste in municipal dustbins, open spaces, water bodies etc., leads to the spread of diseases.

Emissions from incinerators and open burning also lead to exposure to harmful gases which can cause cancer and respiratory diseases.

Bio-medical waste is hazardous to animals and birds too!

What you can do?

Use only disposable syringes.

Bandages, cotton and other blood stained waste should not be thrown with general waste.

Use black plastic bags to dispose biomedical wastes.

Keep trash out of reach of small children.

Diapers, Sanitary napkins etc. should be disposed separately.

Drugs that are past date of expiry should be thrown away.

Dos and Don'ts

Ensure that

Product is mutilated.

Product is treated prior to disposal.

Product is segregated.

Do not

Reuse plastic equipment.

Mix plastic with other wastes.

Burn plastic.

Tips

- Types of Wastes
 - » Infectious waste
 - » Pathological waste
 - » Sharps
 - » Chemicals
 - » Pharmaceuticals
 - » Genotoxic waste
 - » Radioactive waste
 - » Non-hazardous waste
- Colour Coding and Container Types
 - » Yellow: Plastic bag
 - » Red: Disinfected container/ plastic bag
 - » Blue/ White Translucent: Plastic Bag/ puncture proof container
 - » Black: Plastic bag
- Steps of Biomedical Segregation
 - » Collection and Proper labelling of bins
 - » Storage
 - » Transportation
 - » Personnel safety and its devices
 - » Cleaning and its devices
 - » Storage and Handling
 - » Treatment

Exercise

1. Describe the different categories of BMW?
.....
.....
2. Anatomical waste consists of human and animal tissue, organs, and body parts. Which containers should this waste be disposed into?
 - a. Red containers
 - b. Sharps containers
 - c. Containers lined with yellow bags
 - d. Containers lined with black bags
3. Objects that may be capable of causing punctures or cuts, that may have been exposed to blood or body fluids including scalpels, needles, glass ampoules, test tubes and slides, are considered Biomedical Waste. How should these objects be disposed?
 - a. Containers lined with black bags
 - b. Containers lined with clear bags
 - c. Sharps containers
 - d. Containers lined with yellow bags
4. Into which containers are sharps/needles to be disposed of?
 - a. Red pails
 - b. Yellow hard-plastic sharps containers
 - c. Containers lined with yellow bags
 - d. Boxes lined with black/dark green bags
5. What is the treatment option for category 1, 2, 3 and 6?
.....
.....
6. What is the treatment option for category 5?
.....
.....





6. Emergency Medical Response

Unit 6.1 - Emergency Medical Response



Key Learning Outcomes

At the end of the unit, you will be able to:

- Describe chain of survival.
- Demonstrate CPR.
- Rescue of a child.
- Demonstrate two rescuer forms of CPR.

UNIT 6.1: Emergency Medical Response

Unit Objectives

At the end of the unit, you will be able to:

- Describe Chain of Survival.
- Demonstrate Cardio Pulmonary Resuscitation.
- Chain of Survival.
- Rescue of a child.

6.1.1 Basic Life Support

An emergency medical condition can be defined as a condition where acute symptoms of such severity manifest themselves that the absence of prompt medical attention could cause permanent impairing or endanger the life of the individual.

As a General Duty Assistant you must be well versed with the basic medical responses in case of emergency.

Learning basic responses to emergencies can help you deal with an emergency. You may help by trying to keep a person breathing, alleviate their pain or reduce the effects of an injury or unexpected illness until an ambulance comes.

Basic life support or BLS is a kind of medical aid which is given to victims suffering from life-threatening sicknesses or injuries until they can be shifted to a hospital for full medical care.

First aid includes simple steps of ABC – airway, cardiopulmonary resuscitation (CPR) and breathing. In any situation, the DRSABCD Action Plan should be implemented.

DRSABCD stands for:

- **Danger:** Always be careful about any danger to you, to the bystanders, if any, and then to the wounded or ill person. Ensure that you do not put yourself at risk while trying to help someone else.
- **Response:** Try to find out if the person is conscious. See if they respond to your talk or touch.
- **Send for help:** Call an ambulance.



Fig.6.1.1: Basic life support chart

- **Airway :** Check if the injured or the ill person's airway is clear and if the person is breathing. If the person is responsive and conscious and the airway is unobstructed, try to find out ways to help with the injury or illness. In case the person is unresponsive or unconscious, the airway needs to be inspected by opening the mouth and looking inside. If the mouth is unhampered, push the head back gently by lifting the chin and check the breathing. If the mouth is blocked, turn the person to one side and take out the contents of the mouth. After this, tilt the head back again and check for breathing signs.
- **Breathing:** Check the breathing of the wounded or ill person by observing the chest movements of the person. Check for signs of breathing by placing your ear close to the person's mouth or nose. Breathing can also be checked by placing your hand on the lower side of the chest. If the person is found to be breathing even though unconscious, turn the body to one side keeping the head, neck and the spine in one line. Continue to keep a check on the breathing till the ambulance arrives.
- **CPR:** This procedure is applied if an adult is unconscious and does not show any signs of breathing. Lay the person flat on the back and then keep the base of the palm of a hand at the middle of the chest and the other on top. Push down thirty times with smooth and firm movements, compressing to one third of the chest's depth. After this give two breaths. This is done after tilting the head back gently by lifting the chin. Close the nostrils of the person with your fingers, put your open mouth firmly over the open mouth of the person and then blow air into the mouth. Repeat with 30 compressions and two breaths at the speed of about five repeats in two minutes until help arrives or the person responds.
- **Defibrillator:** For adults who are not conscious or breathing, an automated external defibrillator (AED) is used. An AED is a machine which gives an electrical shock to negate the effect of any irregular heart beat or arrhythmia. This is done to get the heart beat back to normal. AED should be applied by a trained person. If the afflicted person responds to this treatment, turn him or her to one side and tilt the head to keep the airway clear.

1. Airway

Once the patient's level of consciousness has been checked, inspect the airway. If the patient is conversing and alert the airway can be considered to be open. If the patient is not responding, he or she should be placed facing up to inspect the airway properly. If the patient is lying facing down, then roll the patient on the back carefully. If the patient is not responding and the airway is not clear, clear the airway. Tilt the head, and lift the chin.

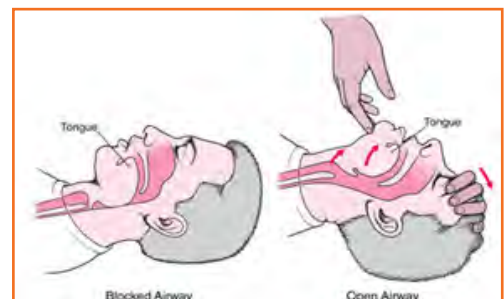


Fig.6.1.2: Airway

Head-tilt/chin-lift technique

To perform the head-tilt/chin lift technique on an adult:

- Press down on the forehead while pulling up on the bony part of the chin with two to three fingers of the other hand.
- Tilt the head past a neutral position to open the airway while avoiding hyperextension of the neck.

2. Cardiopulmonary resuscitation

Cardiopulmonary resuscitation is provided to a patient when the heart and breathing of the patient has stopped due to a cardiac arrest. It circulates blood which contains oxygen to the essential organs of the body. Chest compressions, a ventilator and an AED are used for this purpose.

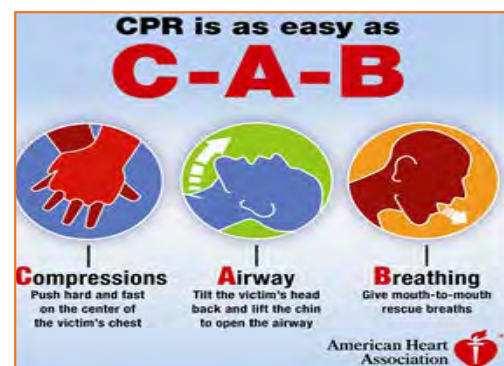


Fig.6.1.3: CAB

- **Compressions:** Chest compressions are an important element of a CPR. To ensure good results and proper CPR, high quality chest compressions must be provided. Ensure that:

- » Patient is on a firm, flat surface to allow for adequate compression. In a non- healthcare setting this would typically be on the floor or ground, while in a healthcare setting this may be on a stretcher or bed.
- » » The chest is uncovered to facilitate proper hand placement and notice chest uncurl.
- » » Position the hands such that the heel of one hand is in the middle of the chest and the other hand on top.

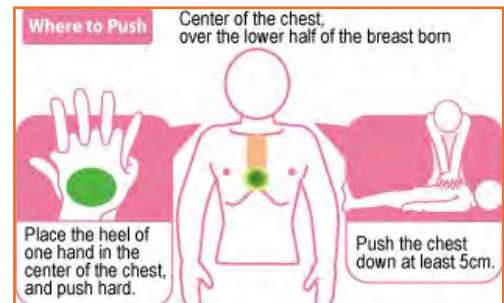


Fig.6.1.4: Compressions

- » Arms are kept as straight as possible, while the shoulders are positioned directly over the hands to facilitate proper compressions. Elbows should be locked to keep the arms straight.
 - » The rate of the compressions should be in the range of 100 per minute to 120 per minute, and the depth of the compressions should be at least 2 inches.
 - » The chest must be given time to totally recoil before the next compression to enable the blood to flow back into the heart after the compression.
 - » If a CPR has to be given to an adult patient, it involves 30 chest compressions followed by 2 ventilations.
- **Ventilations:** These provide oxygen to a person who does not appear to be breathing. They may be given through various methods such as:

Mouth-to-Mouth

- Using the head-tilt/chin-lift method.
- Close the nostrils using fingers and seal the person's mouth with your mouth.
- Provide ventilations by blowing air into the person's mouth. Ventilations should be provided at the rate of one at a time. Break the seal slightly between ventilations to take respite and then after taking a breath re-seal the mouth.

Pocket mask

Pocket masks are CPR breathing barriers which form a layer between your mouth and the person's mouth. These barriers prevent you from coming in contact with the patient's blood, vomitus and saliva. They also stop you from breathing in the air exhaled by the patient. The process of using a pocket mask involves:

- Collect the mask and the valve.
- Ensure the air passage is clear.
- Put the mask over the mouth and nose of the person.
- Place the lower part of the mask below the mouth up to the chin.
- Fix the mask firmly.

6.1.2 Rescue of Child

Checking an injured or ill child/ infant

Checking for an injured Steps

- Check for responsiveness
- Check for breathing.
 - » Bend the head back and pull up the chin:
 - » For a child: Shut the nose with your fingers, then seal the child's mouth completely.
 - » Infant: completely seal the infant's mouth and nose.
 - » Blow in air for about 1 second to ensure that the chest rises distinctly.
 - » Give continuous rescue breaths.
- Do a fast scan for severe bleeding



Fig.6.1.5: Check for responsiveness



Fig.6.1.6: Check for Breathing

In case of conscious choking – child cannot cough, speak or breathe

- Give 5 blows on the back: Give firm blows on the back keeping the palm of a hand in between the infant's shoulder blades.
- Give 5 thrusts on the chest: Keep two or three fingers at the middle of the infant's chest just beneath the nipple line and compress the breastbone approximately 1½ inches.
- Continue the care: Continue giving 5 back blows and 5 chest thrusts until the:
 - » Object is thrown out of the mouth.
 - » Infant is able to cough forcefully, cry or breathe.
 - » Infant becomes unconscious.



Fig.6.1.7: Back blow



Fig.6.1.8: Chests thrust

AED—Child and Infant Younger Than Age 8

- Turn on AED. Follow the voice and/or visual prompts.
- Wipe Bare Chest Dry



Fig.6.1.9: Back blow

- **Attach Pads:** If pads risk touching each other, use front-to-back pad placement.



Fig.6.1.10: Front to back pad placement



- Plug In Connector, If Necessary
- Perform CPR: After delivering the shock, or if no shock is advised:
 - » Perform about 2 minutes (or 5 cycles) of CPR.
 - » Continue to follow the prompts of the AED.



Fig.6.1.11: Plug in connector

6.1.3 Performing CPR for an Adult

- **Step 1: Check the scene for immediate danger:** Check that you're not putting yourself in harm's manner by administering the CPR to somebody unconscious. Do whatever you think is necessary to move yourself and the other person to safety.
- **Step 2: Assess the victim's consciousness:** Gently tap on his or her shoulder and ask them "if they are ok?" in a loud and clear voice. If he or she gives a positive response then the CPR is not needed. Instead, give basic first aid and take measures to treat shock, and assess whether or not does the victim needs emergency services. If the victim does not respond, continue with the subsequent steps.

- **Step 3: No need to check for a pulse:** Else you waste precious time.

- **Step 4: Do Check for breathing:** Check that the air passage is unblocked.



- **Step 5: Position the victim on the back:** Make sure the person is lying flat on the back.



- **Step 6: Put the heel of one hand on the person's breastbone,** a pair of finger-widths on top of the meeting space of the lower ribs, precisely within the middle of the chest.



- **Step 7: Put your second hand above the first one.**



- **Step 8: Place your body over your hands,** in order to straighten your arms.



- **Step 9:** Perform thirty chest compressions.



- **Step 10:** Minimize pauses in chest compression.



- **Step 11:** Make sure the airway is open.



- **Step 12:** Give 2 rescue breaths (optional).
- **Step 13:** Repeat the cycle of thirty chest compressions.



6.1.4 CPR Using AED

- **Step 1:** Use an automated external defibrillator or AED. Ensure that the area is clear of puddles or standing water.
- **Step 2:** Expose the person's chest totally. In case of a lady, remove any necklaces or bras and also check for body piercings, or whether person may be using a pacemaker.
- **Step 3:** Press analyse on the AED machine.
- **Step 4:** Press analyse on the AED machine. If a shock is required for the patient, the machine can notify you. If you do shock the victim, ensure nobody is touching him/her.
- **Step 5:** Do not remove the pads from the person and repeat CPR for another five cycles before using the AED again.



6.1.5 Choking Treatment

- **Step1:** If the person is conscious but unable to breathe or speak: Using the heel of your hand give up to five blows between the shoulder blades.



Fig.6.1.12: Back Blow



Fig.6.1.13: Thrust

- **Step2:** If Person Is Still Choking, Do Thrusts:
 - » In case the person is not pregnant or too overweight, do abdominal thrusts.
 - » Stand at the back of the person and encircle the waist with your arms.
 - » Position your closed fist just atop the person's navel. Clasp your other hand over the closed fist.
 - » Pull inward and upward at a quick pace as if attempting to lift the person up.

- **Step3:** If the person is obese or pregnant, do high abdominal thrusts:

- » Stand at the back of the person and encircle the person with your arms positioning your hands just below the breast bone.
- » Pull inward and upward at a quick pace.
- » Continue until the object is forced out.



Fig.6.1.14: High abdominal thrusts

- **Step 4: Give CPR, if Necessary**

- » If the obstruction comes out, but the person is not breathing or if the person becomes unconscious:
- » For a child, start CPR for children.
- » For an adult, start CPR for adults.

- **Step 5: Follow Up**

- » When emergency medical personnel arrive, they will take over and may do CPR or take the person to the hospital, if needed.



Fig.6.1.15: Obstruction comes out

6.1.6 Conversion Disorder

Conversion disorder (CD) was a diagnostic term used earlier for some psychiatric conditions. It is also at times used for patients who show neurological symptoms. These symptoms include numbness, blindness, paralysis, or fits. All these symptoms cannot be related to a well-established organic cause, and can cause considerable distress.

Conversion disorder is shown by symptoms such as:

- Poor coordination or imbalance
- Unusual movements
- Paralysis or extreme weakness
- Difficulty in talking or swallowing
- Withholding urine
- Losing sense of touch
- Blindness or other visual disability
- Deafness
- Seizures, convulsions or fits
- Psychological symptoms, such as stress or conflict.

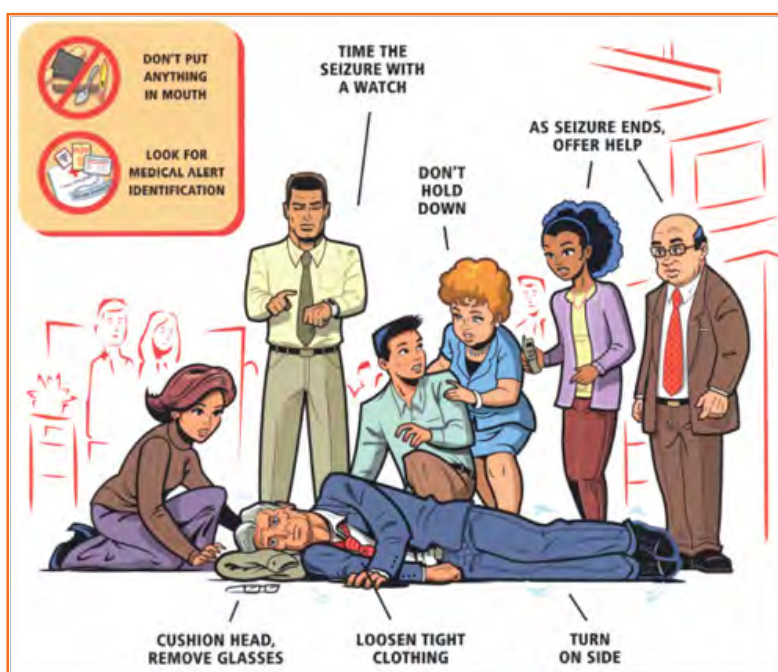


Fig.6.1.16: Symptoms

Emergency measure in case on convulsive seizure:

- Stay calm.
- Remove objects like furniture
- Note down the time at which the seizure begins.
- Stay at their side. If they do not faint but appear blank or dazed, gently take them away from any danger. Talk to them slowly and calmly.

- Cushion their head with something soft if they have collapsed to the ground.
- Don't hold them down.
- Don't put anything in their mouth.
- Check the time again. If a convulsive (shaking) seizure doesn't stop after 5 minutes, call nurse or doctor immediately.
- After the seizure has stopped, put them into the recovery position and check that their breathing is returning to normal. Gently check their mouth to see that nothing is blocking their airway such as food or false teeth. If their breathing sounds difficult after the seizure has stopped, call nurse or a doctor.
- Stay with them until they are fully recovered.

Call for emergency help under the following circumstances:

- The person is pregnant or diabetic.
- The seizure happened in water.
- The seizure lasts longer than five minutes.
- The person does not regain consciousness after the seizure.
- The person stops breathing after the seizure.
- The person has a high fever.
- Another seizure begins before the person regains consciousness following a previous seizure.
- The person injures himself during the seizure.
- If, to your knowledge, this is the first seizure the person has ever had.
- Check for a medical identification card that identifies the patient as someone who is known to suffer from epilepsy.

6.1.7 Needle Stick Injuries

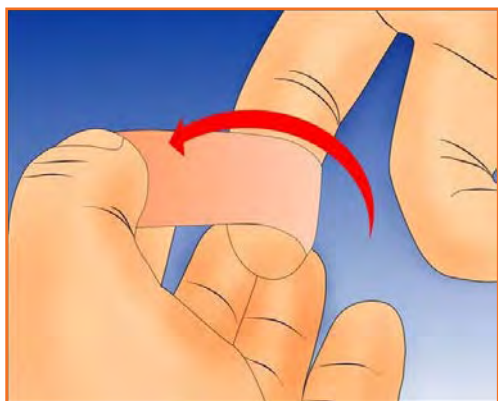
- These injuries are wounds caused by needles accidentally puncturing the skin and such injuries are hazardous for people who work in hospitals.
- “Sharps” is a term used for needles, scalpels, lancets, razor blade, scissors, metal wire, retractors, clamps, pins, staples, cutters, and glass items.

Emergency measures in case of needle stick injury



- **Step 1:** Encourage the wound to bleed, ideally by holding it under running water
- **Step 2:** Wash the wound using running water and plenty of soap

- **Step 3:** Don't scrub the wound while washing it



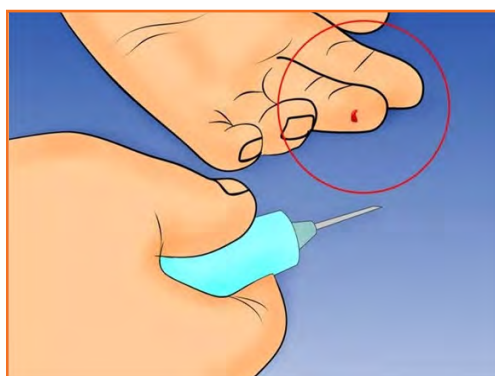
- **Step 4:** Dry the wound and cover it with a waterproof plaster or dressing

- **Step 5:** Seek medical attention immediately. The blood may need to be tested to find out if further treatment is required.



- **Step 6:** Find out if there is a possibility of HIV exposure. Precautions should be promptly taken to prevent sero-conversion.

- **Step 7:** Find out if there is a possibility of other exposures. The risk for transfer of hepatitis is much more than that of HIV (about 30% for Hepatitis B and about 10% for Hepatitis C)



Tips

- Cardiopulmonary Resuscitation (CPR) is a technique that saves lives CPR includes chest compressions as well as mouth-to-mouth resuscitation
- While performing CPR:
 - » Ensure scene safety.
 - » Check for response.
 - » Shout for nearby help/activate the resuscitation team; can activate the resuscitation team at this time or after checking breathing and pulse.
 - » You must be extra careful when you perform CPR on babies and infants.
 - » Check for no breathing or only gasping and check pulse (ideally simultaneously).
 - » Immediately begin CPR, and use the AED/defibrillator when available. CPR consists of cycles of 30 chest compressions and two breaths.
 - » If the baby is not breathing, perform gentle compressions using maximum three fingers.
 - » Always wear gloves to avoid any direct contact with the patient's potentially infected body fluids.

Exercise

1. Describe DRSABCD Action Plan?

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2. Describe in detail CPR?

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Notes

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7. Body Mechanics

Unit 7.1 - Body Mechanics



HSS/N5101, HSS/N 5106,
HSS/N 5111

Key Learning Outcomes

At the end of the unit, you will be able to:

- Learn the kinetics of joints and movements.
- Learn mechanisms that affect movements in human body.
- Understand general principles of movements.
- Understand the process and precaution to be taken care of while transferring the patient.

UNIT 7.1: Body Mechanics

Unit Objectives

At the end of the unit, you will be able to:

- Understand the rules and importance of body mechanics.
- Move patient safely.

7.1.1 Body Mechanics

Patient Care requires the GDA's to bend their backs, flex their arms and legs and strain their body while handling the patients. GDA's are, hence, at a risk of straining themselves physically and developing spinal injuries. They can prevent these problems from occurring by practicing body movements known as body mechanics. This is a term used for the efforts made by our body in coordination with the muscles, bones and nervous system.

Rules

The rules that should be followed when transferring/moving patients:

- The base of your back should always be kept in its normal position.
- Move as near to the patient's bed as possible.
- Do not twist your body.
- Set the feet to provide a comfortable and firm wide support when lifting.
- The abdominal muscles should be contracted.
- Keep your head upright and shoulders straight.
- Push up from the knees.

Importance

Body mechanics are important as they protect the GDAs from the following:

- Musculoskeletal strain
- Injuries to self
- Injury to patients
- Tiredness

The various principles for body mechanics are:

Stable Center of Gravity

- Keep a steady centre of gravity to ensure even distribution of weight
- The centre of gravity should be low.
- Greater balance is met with a low centre of gravity.
- Flex your knees and keep your body straight rather than bending.

Wide Base of Support

- Maintain a wide base of support
- Having a wide base of support gives your body more stability.
- Spread your feet apart to a reasonable distance.
- Flex your knees to position the centre of gravity closer to the base.

Proper Body Alignment

- Body alignment refers to the way the joints, tendons, ligaments and muscles are arranged when initiating a position.
- A line of gravity passing through your base of support maintains your balance.
- Balance in upper and lower body parts would reduce risks of having back injury.
- When you're stronger muscle (groups) are involved, greater amount of work can be safely done.
- Keep the back upright.

7.1.2 Moving Patient

To properly move patients using proper body mechanics, perform the following:

Pushing

- Be close to the patient.
- Position one foot in front of the other.
- Position the hands on the patient, bend your elbows and lean to the patient.
- Position the weight from your flexor to the extensor portions of your legs.
- Apply pressure with the use of your leg muscles.
- To prevent fatigue, keep using alternate rest

Pulling

- Stay close to the patient being pulled.
- Place one foot in front of the other.
- Hold the patient, flex elbows and lean your body away from the patient.
- Shift your weight away from the patient.
- Avoid any unnecessary movements.
- To prevent fatigue, provide alternate rest periods.

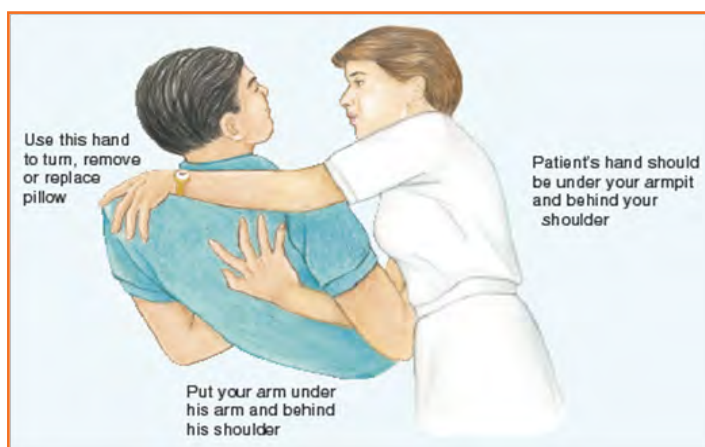


Fig.7.1.1: Moving Patient

Lifting and Carrying

- Be on a squat position facing the subject.
- Hold the subject and tighten your centre of gravity.
- Use your dominant leg muscles when lifting.
- Hold the subject at waist height and close to the centre of gravity.
- Keep your back erect.



Fig.7.1.2: Lifting Objects

Tips



- Never lift more than you can comfortably handle.
- Create a base of support by standing with your feet 8–12" (shoulder width) apart with one foot a half-step ahead of the other.
- DO NOT let your back do the heavy work—USE YOUR LEGS. (The back muscles are not your strongest muscles.)
- If the bed is low, put one foot on a footstool. This relieves pressure on your lower back.
- Consider using a support belt for your back.

Notes







8. Positioning/ Transferring/Mobility of Patients

Unit 8.1 - Positioning/ Transferring/ Mobility of Patients



HSS/N 5101, HSS/N 5102,
HSS/N 5103, HSS/N 5104,
HSS/N 5105, HSS/N 5106

Key Learning Outcomes

At the end of the unit, you will be able to:

- Describe importance of positioning for a patient in treatment and recovery.
- Introduction to various types of position.
- Learn various kinds of means available for transferring patients.
- Describe care to be taken while transferring patient.
- Understand usage of Wheel chair, stretcher, shifting of patient from bed to stretcher, stretcher to Operation Theatre table Etc., and in special situations.
- Understand the importance of physical moments for well being.
- Describe usage of modes used for mobility and their maintenance.
- Describe care while patient is walking or using assisted devices.

UNIT 8.1: Positioning/Transferring/Mobility of Patients

Unit Objectives

At the end of the unit, you will be able to:

- Describe importance of positioning for a patient in treatment and recovery
- Introduction to various types of position
- Learn various kinds of means available for transferring patients
- Describe care to be taken while transferring patient
- Understand usage of Wheel chair, stretcher, shifting of patient from bed to stretcher, stretcher to Operation Theatre table Etc., and in special situations
- Understand importance of physical moments for well being.
- Describe usage of modes used for mobility and their maintenance

8.1.1 Overview

All patients who arrive at the hospital may not be in a position to walk. Such patients need to be transported, right from the ambulance to the hospital ward, from the stretcher to the bed, from wheel chair to bed and vice versa in each case. While transporting patients, you must exercise extreme care. Remember the patient is unwell. You must keep the comfort of the patient foremost in your mind and adopt the correct procedure while transportation.

Transporting patients from ambulance to hospital ward

When a patient is admitted into the hospital, you need to assist the patient while moving from one point to another right from the time of entry.

8.1.2 Arrangements for Patient Transfer from the Ambulance

You must follow the following steps for easy and convenient transfer of the patient to the hospital wards.

- Learn from the nurse in charge, the method of transfer before the ambulance arrives. Get the necessary vehicle - wheel chair, stretcher or bed - ready.
- Confirm which unit or ward the patient has to be transferred to. Check if it is ready.
- Check if any equipment such as medication, oxygen supply has to be transferred with the patient.
- Ensure that at least two other General Duty Assistants are ready to assist you, if the transfer needs to be done on a stretcher.
- Once the ambulance arrives, coordinate with the ambulance team and gather all the equipment needed for the transfer.
- Arrange for a stretcher or a wheelchair based on the condition of the patient.
- Carry all the medical charts and reports along with the patient into the ward and hand them over to the nurse.

8.1.2.1 Transferring Patient Using a Stretcher

The stretcher is used for patients who are often too sick to transfer themselves in and out of the ambulance to the ward bed.

The patient in the ambulance is transferred in a lying down position on the ambulance stretcher bed. The steps involved in the transfer of a patient using a stretcher are as follows:

- **Step 1:** Adjust the height of the stretcher to your waist level, so that you are not bending while transferring the patient.
- **Step 2:** Align the stretcher with the ambulance bed. With the help of the ambulance team and General Duty Assistants, move the patient to the side of the bed by rolling him or her towards you.
- **Step 3:** Support the patient at the shoulders and buttocks area, to transfer from the ambulance bed to a stretcher.
- **Step 4:** Transfer the patient on the stretcher that has wheels and carefully guide the stretcher towards the appointed ward.
- **Step 5:** Ensure that the attachments to the ambulance bed are also smoothly transferred along with the patient.
- **Step 6:** Hand over the belongings and the patient medical charts, if any, to the nurse once you enter the ward.



Fig.8.1.1: Transferring Patient Using a Stretcher

Stretcher and its parts

The stretcher is a critical component of the hospital system. It is a medical equipment used to carry patients who have difficulty in movement from one place to another. It also serves as a hospital bed that can be moved from one ward to another. A stretcher is generally handled by two persons, one at the head end and the other at the feet end. The patient is transferred to the stretcher and then is lifted or wheeled away. Stretchers have to be utilized if a person is incapable of walking or if wheelchairs or similar devices cannot be used. Most modern stretchers have straps for the safety of the patients.



Fig.8.1.2: Stretcher and its parts

The different parts of a stretcher are:

1. **Stretcher bed:** The stretcher bed is a flat area with a thin mattress on which the patient is placed.
2. **Handle bars:** The handle bar is located on one side of the stretcher and is used by the assistant to hold and push the stretcher.
3. **Side rails:** The side rails of the stretcher prevent the patient from falling off the side and ensure the safety of the patient.
4. **Wheels:** The stretchers are provided with wheels with rubber covering for smooth movement.
5. **Wheel locks:** Wheel locks prevent the movement of the stretcher while the patient is transferred.

6. **Attachments:** The stretcher also has provisions for attachment of medication drips and carrying the support systems needed by the patient.

The components of the stretcher vary from place to place. As a GDA you should be aware of the form and function of the stretcher that you will be using in your hospital.

8.1.2.2 Transferring Patient Using a Wheelchair

If the patient is able to move on his or her own, then you can use a wheelchair for transferring the patient into the ward. Before the ambulance arrives, keep the wheelchair ready for use. The steps involved in the transfer of a patient using a wheelchair are as follows

- **Step 1:** With the help of the ambulance team, align the wheelchair with the ambulance bed.
- **Step 2:** Assist the patient in stepping out of the ambulance.
- **Step 3:** Carefully transfer the patient to the wheelchair. Ensure that the patient is comfortably seated in the wheelchair.
- **Step 4:** Collect the belongings of the patient and place them on the patient.
- **Step 5:** In case the patient has been attached with a medication drip, ensure that the drip is also moved with the patient during the transfer.
- **Step 6:** While transferring the patient on the wheelchair, lock the wheels of the chair.
- **Step 7:** Transfer the patient smoothly without any jerks while moving the wheelchair. Do not rush the patient into the ward.

Transferring a patient from the ambulance to the ward is a team effort. You should be ready with a plan of transfer for each patient. You should be prepared to plan and coordinate for the smooth transfer of the patient from the ambulance to the ward.

Parts of a Wheelchair

Patients who are too weak to walk on their own, use a wheelchair. The different components of the wheelchair are designed to facilitate easy and comfortable movement of the patients. The components of the wheelchair are:

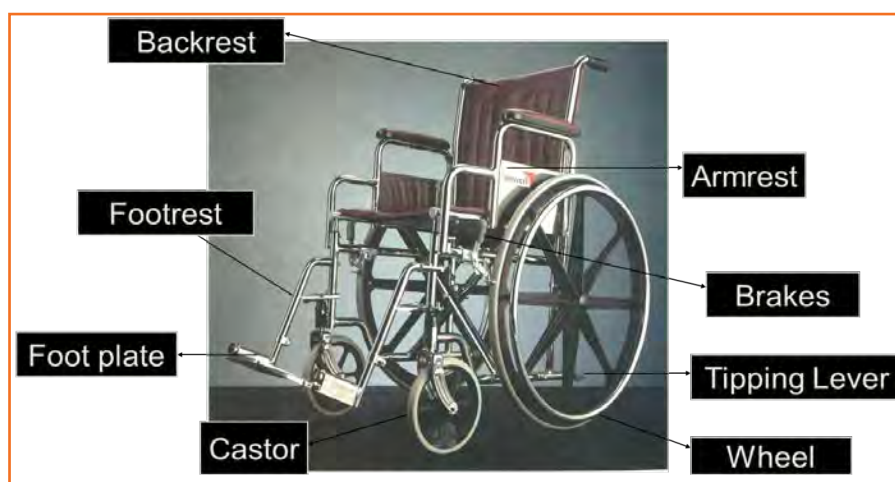


Fig.8.1.3: Wheelchair and its parts

Seat: It is made of metal or vinyl plastic. It is the basic component on which the patient rests during movement from one point to another. **Foot rest** - The patient can rest his legs on the foot rest. It is a small platform-like component which is attached to the seat of the wheelchair.

Arm rests: The seat is attached with two arm rests which the patient can hold for support. Sometimes the arm rest is covered with padding so that the patient can rest his/her arms on it.

Wheels: The wheels enable the wheelchair to move. There are two pairs of wheels. The front wheels are small in size and are located under the foot rest. The rear wheels are large wheels that are attached to the seat at the back.

Metal skirts: The metal skirts are present on the rear wheels and are used by the patient for changing the direction of movement. In addition to these core components, there are other components such as:

- Wheel locks to prevent movement of the wheelchair, especially while transferring the patient into the wheelchair.
- Brakes to control and bring the motion to a stop.
- Push bars are present on the back rest of the seat, used to move the wheel chair. An assistant must hold the push bars and push the wheelchair forward to make it move. An assistant can also pull the push bars backward in order to make the wheelchair go backwards.

If the patient cannot use at least one leg, you will need to use a lift to transfer the patient.

- **Step 1:** Keep the bed at the minimum level.
- **Step 2:** Place the wheelchair adjacent to the bed so that the patient's healthy side is facing towards the bed.
- **Step 3:** Lock the brakes of the wheelchair and take out the feet from the foot rests.
- **Step 4:** Swivel the foot rests or take them away from the wheelchair.
- **Step 5:** Explain the procedure which was used to lift and swivel the patient into the wheelchair. For example, at the count of 3, I am going to assist you to get up, turn to your strong side and get in the wheelchair. In the above image the patient can be seen using the right side to get into a wheelchair.
- **Step 6:** Move the patient's such that the feet come in firm contact with the floor.
- **Step 7:** If required, help can be provided to block the person's knees for added support to bear the weight
- **Step 8:** Balance the patient's feet with your feet to avoid slipping.
- **Step 9:** With the help of your leg muscles, get up and lift the patient upwards in a gradual steady motion.
- **Step 10:** Place the patient on the bed
- **Step 11:** Help in lifting the person's legs onto the bed.
- **Step 12:** Ensure that the patient is comfortable.



Fig.8.1.4: Moving patient to wheelchair

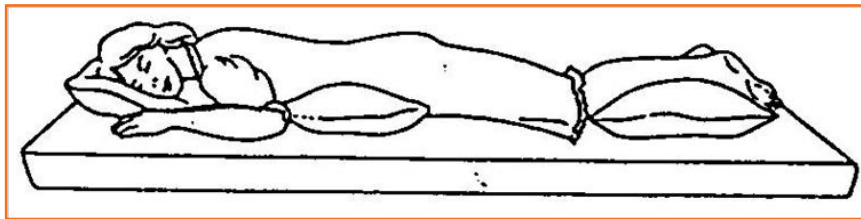
8.1.3 Patient Position

Bed rest, ordered by the medical officer, is also a very essential part of the patient's treatment.

In case the patient is incapable of moving, he must be shifted and repositioned after every two hours at the minimum. This should be done both day and night. If the patient is capable of moving himself, he or she must be encouraged to do so with precautions. A GDA then requires to check if the patient's posture is good.

Several postures should be taken by the patient for relief, support, and proper posture. If a patient hesitates to change a body position due to a sore condition he or she should be warned that not changing the position might cause deformation of a body part.

Prone position: The constant resting position of the head and knees help in limited movement of hip and knee joint. In the prone position, place the patient flat on the abdomen with legs outstretched. The feet should be over the side of the mattress with the toes pointing.



Supine Position: In the supine position, place the patient face up, with the hands at the back of the head/neck.



Fig.8.1.6: Supine Position

Lateral recumbent: In the lateral recumbent position, place the patient on their left side and put their right thigh and knee pulled up.

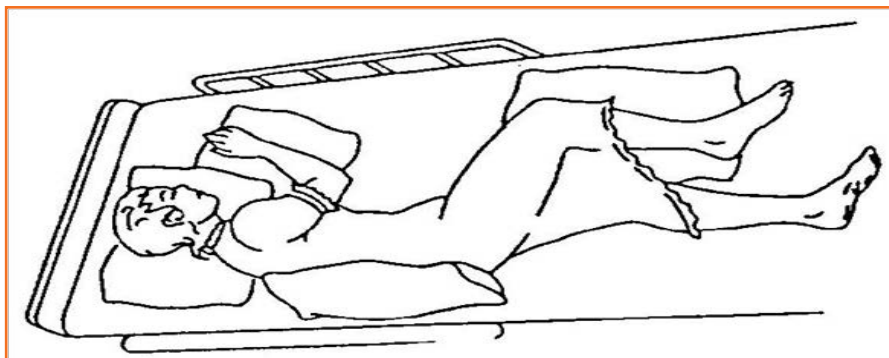


Fig.8.1.7: Lateral recumbent

Fowler's position: In half-Fowler's position the patient is in bed, supine position, and the head of the bed is drawn up to about 30 to 45 degrees. In full-Fowler's position the patient is in the same position but the head side of the bed is drawn up to 90 degrees.

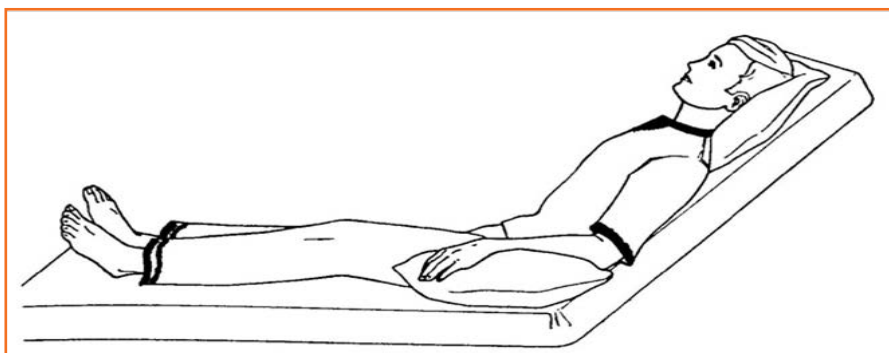


Fig.8.1.8: Fowler's position

Dorsal Recumbent: Patient laying on back with knees bent and feet flat on the examination table.

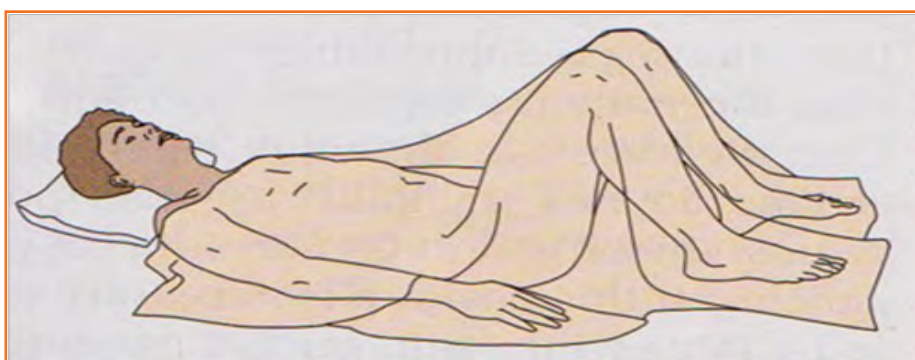


Fig.8.1.9: Dorsal Recumbent

Lithotomy: Patient laying on back with knees bent, thighs apart, and feet in stirrups

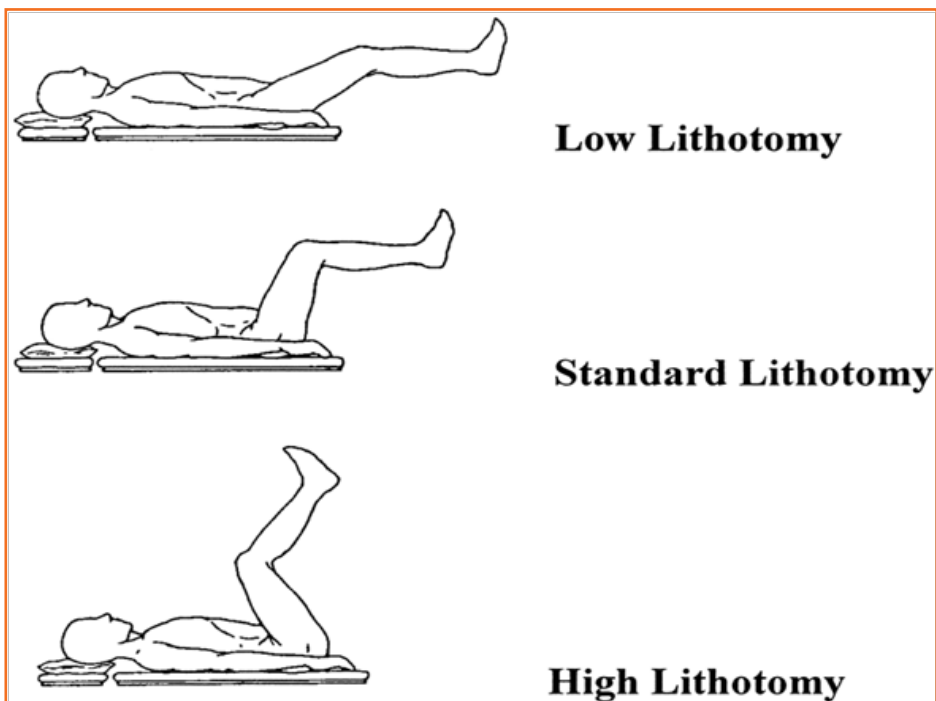


Fig.8.1.10: Lithotomy

Sims' (aka Left Lateral Position): Patient lying on left side with left arm behind back, right hip and knee flexed.

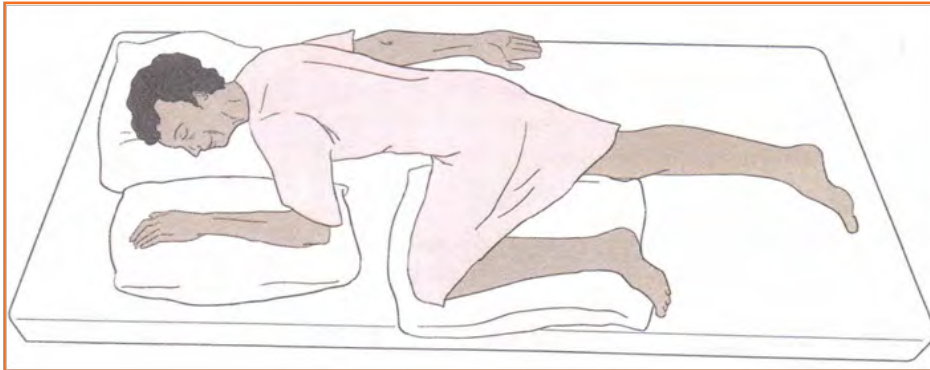


Fig.8.1.11: Sims'

Trendelenburg: Patient lies supine at angle with head lower than trunk, knees bent

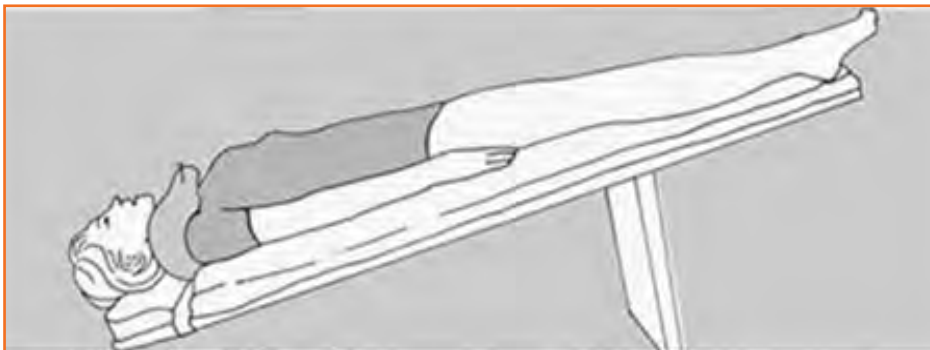


Fig.8.1.12: Trendelenburg

8.1.4 Transferring Patient from Stretcher to the Bed

A patient is often carried into the ward on a stretcher. The patient needs to be carefully and safely transferred from the stretcher onto the bed. This process is very important because while transferring, the patient should not suffer any injury or pain. Also, the medical condition of the patient must also be kept in mind while doing it. There are certain steps you must follow to safely transfer the patient from the stretcher to the bed:

- **Step 1:** Before transferring a patient from the stretcher to the bed, report to the nurse about the transfer of the patient into the ward.
- **Step 2:** Ensure that there are at least two other General Duty Assistants to help you when the patient is transferred to the bed.
- **Step 3:** Place the stretcher close to the side of the bed. Ensure that both the bed and the stretcher are stabilized or locked before moving the patient. You can use the lock of the stretcher and the hospital bed in order to prevent the stretcher or bed from moving.
- **Step 4:** Lower any side rails present.
- **Step 5:** Roll the patient gently to a side and place a sheet on the stretcher. Roll back the patient onto the sheet.

- **Step 6:** Ask the other assistants to hold the sheet from the remaining sides.
- **Step 7:** Gently lift the patient with the sheet and shift the patient onto the bed.
- **Step 8:** Place the patient comfortably on the bed. Raise the side rails to prevent the patient from falling off the bed.

8.1.5 Transferring the Patient from a Bed to the Stretcher

During the stay in the hospital a patient may have to be moved from one ward to the other for various procedures. For example, before you transfer the patient, you must plan the procedure by collecting information about the patient's medical history and condition from the nurse. The steps involved are:



Fig.8.1.13: Transferring Patient Bed to Stretcher

- **Step 1:** Ensure that there are at least two other General Duty Assistants to help you when the patient is transferred from the bed to the stretcher.
- **Step 2:** Place the stretcher close to the side of the bed. As the assistant in charge, ensure that both the bed and the stretchers are stabilized or locked before moving the patient.
- **Step 3:** Lower side rails, if present.
- **Step 4:** Roll the patient gently to a side and place a sheet on the bed. Roll back the patient on the sheet.
- **Step 5:** Get on to the patient's bed and hold the sheet from one side. Ask the other assistants to hold the sheet from the sides.
- **Step 6:** Gently lift the patient with the sheet and shift the patient onto the stretcher. Get down from the bed.
- **Step 7:** Place the patient comfortably on the stretcher.
- **Step 8:** Move the equipment attached to the patient along with the patient.
- **Step 9:** Remove the wheel locks of the stretcher and move the stretcher gently.
- **Step 10:** Place the medical records along with the patient while moving the stretcher.

8.1.6 Ambulation/Movement

- Before assisting patients out of bed and helping them walk, it is important to determine the level of assistance each patient requires. This varies with each patient's health status and the length of time the patient has been inactive.
- For patients who are ill or recovering from surgery, provide a simple "assist." It can involve just walking alongside the patient or using a gait belt for additional stability. Patients who need more than that, offer an assistive device such as a cane, a walker, or crutches, etc.
- Patients who have been immobile or on bed rest often experience vertigo and orthostatic hypotension the first few times they sit up in bed or try to stand. Therefore, it is often beneficial to break the ambulatory process into stages to ensure safety.

- Begin the process by making the patient sit up in bed for a few minutes and if they feel fine then ask them to hang their legs at the side of the bed. If they are still feeling fine then ask them to stand while giving support and then the next step is ambulation.
- If a patient becomes weak or dizzy during ambulation and begins to fall, it is important to protect both yourself and them from injury. Instead of trying to hold the patient up or catch them, help ease her gently to the floor.



Fig.8.1.14: Moving a patients

8.1.6.1 Equipment Used for Ambulation

Gait Belt: With a gait belt used for transferring a patient, grasp the belt with both hands. Ensure you walk slowly and make the patient to set the pace of the walk. Ideally, one of your hands should hold the back of the belt and the other hand should be placed below the front side of the belt. It is best to be on the patient's weaker side and keep asking the patient to use the strong arm and take support from a handrail, if possible.



Fig.8.1.15: Using Gait Belt



Fig.8.1.16: Walker

Walkers: Used for patients who have difficulty in walking and need support. The ideal height of the walker should be such that the patient is standing straight, elbows slightly bent. If using a walker without wheels, then ensure that the patient's feet are not moving.

Canes: These are used by patients who have weakness and need slight support for walking. Canes should always be used on the patient's stronger side to ensure correct balance of the weight between the cane and the patient's weaker side. The ideal height of the cane should be such that the patient's elbow is slightly flexed when walking. Three-point and four-point canes provide more support than single tip.



Fig.8.1.17: Canes



Fig.8.1.18: Brace

Brace: This is used for the patient who needs specific support for a weakened muscle or joint. Before the patient uses a brace, check for loose screws or bolts and report to the supervisor/nurse.

8.1.7 Role of a General Duty Assistant While Transporting Patient

- When you use a stretcher, you must understand the condition of the patient before planning the process of transfer.
- Ask the nurse of the patient about the need for transfer of the patient. Learn about the condition of the patient to plan a safe technique of transfer.
- In many cases, some parts of the patient's body may be broken, hurt or very weak. You should know about those areas and ensure that those areas are not affected when the transfer is carried out.
- The patient might be provided with medication and support for breathing. In such cases the support equipment must also be carefully moved along with the patient.
- Experienced staff should accompany the patient during the transfer and appropriate documentation and equipment should be available.
- The receiving ward should also be prepared for the patient. Ensure that you organize the facilities that are required for the transfer.

8.1.8 Transferring Patient from Bed to Wheelchair

There are many ways of transferring the patient to the wheelchair from the bed. But you have to use the safe and most comfortable way for the patient. Before you start the procedure, collect information about the patient's condition from the nurse.

- **Step 1:** Ensure that patient is comfortably seated on the bed. Roll the patient to one side and place a belt around the patient.
- **Step 2:** Hold the patient from the waist and move the patient close to your body.
- **Step 3:** Now get into a standing position with the patient and gently move the patient close to you
- **Step 4:** Place the patient on the edge of the seat on the wheelchair and rock the patient into the chair. Ensure that wheels are locked to prevent movement of the wheelchair.
- **Step 5:** Instruct the patient to use the arm rests for support.
- **Step 6:** Place the feet of the patient on the footrest of the wheelchair.
- **Step 7:** Remove the wheel locks of the wheelchair and move the wheelchair gently to the ward that the patient has to be moved into.
- **Step 8:** Place the medical records on the patient while moving the wheelchair.

General Precautions to be Taken While Transferring a Patient

Some patients walk into the hospital by themselves, while others are brought in an ambulance. This depends on the medical condition of the patients. As a General Duty Assistant, you must be prepared for facilitating these movements of the patient by consistently coordinating with the workforce in the hospital. There are few steps you must keep in mind while transporting the patient:

- While shifting a patient from the ambulance to the ward, you must understand the condition of the patient and coordinate the process of transfer with other General Duty Assistants.
- You should collect all details of the patient from the nurse before planning the transfer.
- The transport procedures involve the use of varied equipment such as wheelchairs and stretchers.
- You should be aware of the usage of these equipment and take necessary precautions while handling them.
- You should take certain precautions with respect to the physical condition of the patient and also take some protective measures to prevent any undue physical strain on yourself.

8.1.9 Safety Measures in Handling Equipment

The basic equipments used in the transport of the patient are the stretcher and the wheelchair. While using these equipments, you must keep a few points in mind:

- While using a stretcher or a wheelchair ensure that the wheels of the equipment are locked. This will prevent any inappropriate movement while the patient is being transferred.
- If the stretcher is provided with side rails, ensure that side rails are lowered before the transfer and raised back into the place once the transfer is done.
- Ensure that the stretcher bed is rigid enough to support the patients, especially in case of patients with a weak back.

- While moving the stretcher or the wheelchair take care while you move the patient on uneven ground. Do not rush the movement.
- Do not stop or start moving the wheelchair or the stretcher with a jerk. Initiate or stop the movement smoothly.
- The medication equipment such as the drip or the breathing support system attached to the patient should be stabilized with the stretcher or the wheelchair.

Safety Measures While Handling the Patient

- The most important precaution that you need to take while handling the patient is getting all the information about the condition of the patient.
- You must understand the painful areas of the patient and be sensitive to the movements of those areas while transferring the patient.
- When you use a blanket for lifting the patient, lift the patient gently with the help of other assistants, holding the blanket gently.
- Do not hold and lift the patients by their armpits whereas lift them from a wheelchair. Always use a belt that can be used to hold the patient in position.
- You should also avoid undue strain on yourself when you lift the patient. Do not take the burden of the patient's weight onto your back.
- Always use the powerful muscle of your legs, thighs and the arms in lifting and moving the patients.
- In order to avoid undue strain on your back while using the transfer equipment, adjust the height of the equipment to the level of your waist.
- Hold the patient as closely as possible to your body. Do not let the patient slip or roll away. Always slide the patient gently into the wheelchair or the stretcher.

8.1.10 Fall Prevention

Patient falls are serious problems in hospitals and are used as a standard measure of quality. Unfamiliar environment, severe illness, surgery, bed rest, medicines, treatments and the placement of various tubes/catheters may result in falls in hospitals.

Falls are shocking for patients, family members, and care givers. A fall may result in a fear of falling again that can lead to a downward spiral of reduced mobility, loss of function and further risk for falls.

The linkage from nursing assessment of fall risk, to risk communication of care team members, to tailored interventions to prevent falls is yet to be established. The goal of the Fall TIPS research study is to establish this link.

Preliminary findings from patient interviews completed for the Fall TIPS research study suggest that many patient falls in hospitals can be prevented if patients wait for help to get out of bed.

Skills Practical: Role Play

Transporting Patient

1. In groups of four prepare a role play around transporting the patient using a wheelchair and stretcher.

Tips

- Mobility of patient is done through:
 - » Ambulance
 - » Stretcher
 - » Wheelchair
 - » Stretcher to the Bed
 - » Bed to Stretchers
- Acquire all the important information regarding the patient's condition before transferring them.
- Be sensitive to the movements of the painful areas of patient while transferring.
- Do not hold and lift patients by their armpits while lifting them from a wheelchair.
- Avoid undue restraint on your back while using the transfer equipment.
- Hold the patient closely to your body and do not let the patient slip or roll away.

Exercise 

- 1. List the arrangements that you should make before transferring the patient.
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- 2. What is a stretcher? List its parts.
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- 3. List the parts of a wheelchair.
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- 4. Write the steps to transfer patient between wheelchair and bed.
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- 5. List the precautions you must take while transporting patients.
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Notes 

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9. Consent, Documentation & Records

Unit 9.1 - Consent and Reporting



HSS/N5114, HSS/N 5115,
HSS/N 9605

Key Learning Outcomes

At the end of the unit, you will be able to:

1. Understand guidelines for documentation.
2. Learn various types of records of importance for Patient Care Assistant.
3. Understand the use and importance of records and consent taking.
4. Understand abbreviations and symbols.
5. Enter, transcribe, record, store, or maintain information in written or electronic/magnetic form.

UNIT 9.1: Consent and Reporting

Unit Objectives



At the end of the unit, you will be able to:

- Explain importance of observing and reporting the conditions of the patient as well as taking consent while assisting the patient
- Explain the importance of verbal information to the doctor in charge
- Explain the importance and guidelines for documentation of different observations and informed consent of the patient.
- Understand uses and importance of various records in healthcare set up & how to obtain information from them at the time of follow up or during research activities

9.1.1 Consent

It is a principle that an individual must give permission before receiving any kind of medical care or check-up. This should be done as per an initial explanation by a clinician. Consent is needed from a patient's side irrespective of the type of treatment required. Medical ethics and the international human rights law include the principle of consent as its vital component.

The consent can be provided in two ways. They are:

1. **In a verbal manner:** for example, by telling that they are fine with having an X-ray done.
2. **In a written form:** for example, by filling and signing a consent form for a surgical procedure.

A consent can be considered to be credible if it is voluntary and informed, and the person who is consenting should have decision making capacity. These can be further explained as follows:

- **Voluntary:** The person who requires treatment should give the consent on his own free will without any pressure or influence by the medical personnel, friends or family.
- **Informed:** The medical staff should provide all essential information to the person which includes the advantages and risks involved, alternative treatments and the outcome of avoiding the prescribed treatment.
- **Capacity:** The person should have the capacity to assimilate all the provided information and analyse it to take a well informed decision.

The healthcare personnel who are treating the patient directly should get the required consent. For example, the nurse organizing a blood test for diabetes or a surgeon preparing for an operation.

If a patient has been advised to get a major surgery done, then his or her consent should be taken well in advance. This will give the patient sufficient time to think about all the provided information related to the surgery, put queries and take back the consent, if desired.

Adults can give consent on their own but in the case of a child, parents need to do the needful.

When consent is not necessary

There are a few exceptions when treatment can be carried out without consent. For example, it consent can be avoided if:

Treatment is needed in an emergency, and the person is unable to give consent because they lack the capacity to do so.

A person with a severe mental health condition such as schizophrenia, bipolar disorder, multi-personality disorder or dementia lacks the capacity to consent to the treatment of their mental. However, in these cases, treatment for unrelated physical conditions still requires consent, which the patient may be able to provide, despite their mental illness.

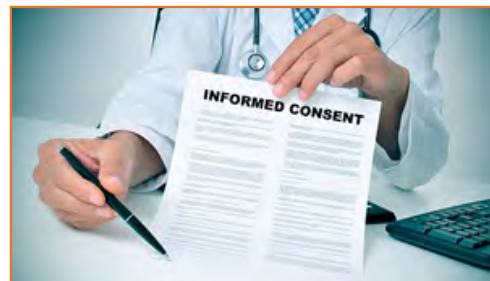


Fig.9.1.1: Consent

9.1.2 Reporting and Documentation

Clear and accurate documentation is important as it provides a summary of the assessment, on-going care and education of the person with diabetes. It provides a method of communicating details about the care with other professionals as well as being a potential form of evidence if there is a legal case.

Documentation refers to all forms of documentation that has been recorded in a professional capacity. Precise documentation and record keeping are a basic part of clinical practice as they show a clinician's accountability as well as provide a record of their professional practice.

Effective documentation should be:

- Clear, concise and accurate.
- Contemporaneous with the events recorded in chronological order.
- Complete
- Comprehensive
- Collaborative and person-centred.
- Confidential

Documentation can be made up of:

- Written and electronic health records including email and faxes.
- Audio and video tapes.
- Images such as photographs and diagrams.
- Observation charts and checklists.
- Incident reports.
- Clinical anecdotal notes or personal reflections.

Documentation should be able to demonstrate:

- A full report of the clinical assessment, the care provided and future care planning information related to the person's condition and any interventions/actions taken to achieve health outcomes.
- Proof that the clinicians have done their duty of giving care and have taken appropriate actions to render the topmost standard of care.
- A record of all communications with relevant health professionals.

INDIAN JOURNAL OF MEDICAL RESEARCH**PATIENT CONSENT FORM****(For Clinical Images)****Manuscript Ref. No.:****Patient's Registration number:****Title of manuscript:****Name of authors (Only two):****Corresponding author:**

(With E mail)

To be signed by the patient

I hereby give my consent for image(s) and clinical information related to me to be reported in the *Indian Journal of Medical Research* (both in print and electric edition).

I understand that my name and identity will be concealed.

Once signed, I cannot revoke my consent.

Name of patient:**Date of Birth (DD/MM/YY):****Signature of patient** (or signature of the person giving consent on behalf of the patient):**Relationship to the patient in case of other person signing the consent:****Address:****Date:***Fig.9.1.2: Sample patient Consent Form*

9.1.3 Medical Record Documentation

Medical records are to be accurate, well documented and kept safely as these are also used as legal documentation for the patient.

Medical records:

- Tells the Healthcare team about a patient; the care and treatment rendered to him.
- Gives details about the patient.
- Helps staff in making good decisions related to the patient.
- Helps in analysing whether the care being provided is benefitting the patient or not.

Method of doing the documentation

Documentation of records must be, complete, accurate, regular and timed, and legal.

All the details of everything done and observed by you should be recorded. This includes the care and treatment given to the patient and all observations related to the patient, especially if they are abnormal. If the care is not documented, it was not given. So, if you have performed all the allocated duties, take out the time to document them. If you are proving a bath to your patient and the patient complained of a headache during the bath, you must record both the bath given and the patient's complaint. The nurse should be told about the headache as early as possible. All abnormal observations should be immediately reported to the supervisor/nurse. In addition, it should be put down in the patient's medical record by the nurse.

Nurses generally document the following:

- Baths provided
- Oral care given
- Foot care given
- Hair/nail care given
- Urinary catheter care
- Turning and positioning done
- Food intake
- Fluid intake
- Level of awareness

Tips



- All the observations which are not considered normal are to be documented and reported to the nurse right away.
- Observations must be recorded in a timely manner.
- Do not use pencil or ink that can be erased.
- Keep all medical records in a safe and secure place.
- Medical records are confidential. Do not tell anyone unless they are taking care of the patient.
- Do not use any abbreviation unless they are accepted for use by hospital or nursing home.



10. Observing and Reporting

Unit 10.1 - Observing and Reporting



Key Learning Outcomes

At the end of the unit, you will be able to:

- Understand the importance of observing and reporting to authority for said or unsaid findings, if any.
- Understanding the importance of verbally informing the person in authority.

UNIT 10.1: Observing and Reporting

Unit Objectives

At the end of the unit, you will be able to:

- Understand the importance of observing and reporting to authority for said or unsaid findings, if any.
- Understanding the importance of verbally informing the person in authority.

10.1.1 Observing and Reporting

As a minimum the following information should be documented at an initial appointment:

- Date and time of occurrence of service.
- Relevant history of the illness.
- Relevant physical examination, assessment findings and diagnosis.
- Treatment options and treatment given e.g. clinical observations results of treatment, and
- Medication prescribed
- Diagnostic and therapeutic orders/plan.
- Signature, surname and initials, and designation of the clinician.

Some aspects of the initial assessment can be documented using case notes (see the examples below).

Note: *If an assessment form is used it is still a requirement to make an entry in the case notes. The education delivered and the plan should be documented in the case notes.*

Initial consult – case note entry

Diabetes education assessment note

- Referral source and reason.
- Preferred name and age.
- Type of diabetes.
- Date of diagnosis.
- Current signs and symptoms/issues.

Concerns

- Persons understanding of purpose of the appointment.
- How are they feeling about their diagnosis? Do they have concerns, questions?

Diabetes management

- Management – prior and current (including diabetes medication)
- Previous education.

Psychosocial

- Mental health
- Social: Marital status, employment
- Living arrangements
- Independence level with ADLs
- Cultural considerations
- Social supports/significant others
- Barriers to learning e.g. language, memory deficits, religion.

Relevant medical and surgical history

- Include relevant history including mental health, family history of cardiovascular and / or early death (<60 years).
- Allergies/alerts
- Hearing or visual deficits.

Diabetes complications/cycle of care

- Micro – retinopathy, nephropathy, neuropathy
- Macro – CHD, CVA, PAD
- Oral health and sexual health.

Medications

- Include over the counter and complementary medications.

Anthropometry

- Weight, height, BMI
- Pathology tests e.g. HbA1c/ lipids/eGFR/AER/Liver function
- BP

Foot assessment

- Circulation and sensation
- Self care and footwear

Lifestyle

- Smoking
- Alcohol
- Nutrition
- Physical activity/exercise
- Stress
- Driving

Self-care assessment and education planning (based on risk factors and current need)

- Pathophysiology of type 1/type 2/steroid induced

- Management requirements
- Oral hypoglycaemic agents profile
- Insulin profile
- Healthy eating principles/carbohydrate intake
- Importance of regular activity
- Commencement /update of blood glucose monitoring
- Commencement/update of insulin/check technique
- Complications of diabetes (micro and macro)
- Health checks (cycle of care)
- Coping skills
- Rights and responsibilities
- Decision making/behaviour change

Referrals

- What referrals did you provide (to allied health) or recommend at this appointment?

Resources provided

- What written or other resources did you provide at this appointment?

SMART Goals

S = Specific

M = Measurable

A = Achievable

R = Realistic

T = Time framed

Education plan- Should be used to record what is planned for subsequent appointments.

Subsequent visit

The method used to document education will vary depending on the preferences of the practitioner. However, it is useful to use headings and try to avoid writing in narrative sentences.

Narrative charting can result in a lot of writing, can be time consuming and repetitive. This method of writing case notes is still commonly used but more nurses are now turning to problem oriented approaches, clinical pathways or focus charting.

Guiding principles;

- Document any amendments to education plan
- Document education given
- Document plan for next appointment including Patient goals
- Complete any outstanding assessment areas.

It is important to communicate with the referring doctor after your initial appointment to communicate the education plan and potential education completion date. Consider additional communication if circumstances change or there are concerns. Always communicate when the person discharged from your care.

The Documentation and record keeping cycle of a patient by a healthcare provider is demonstrated in the Fig below (illustrative).

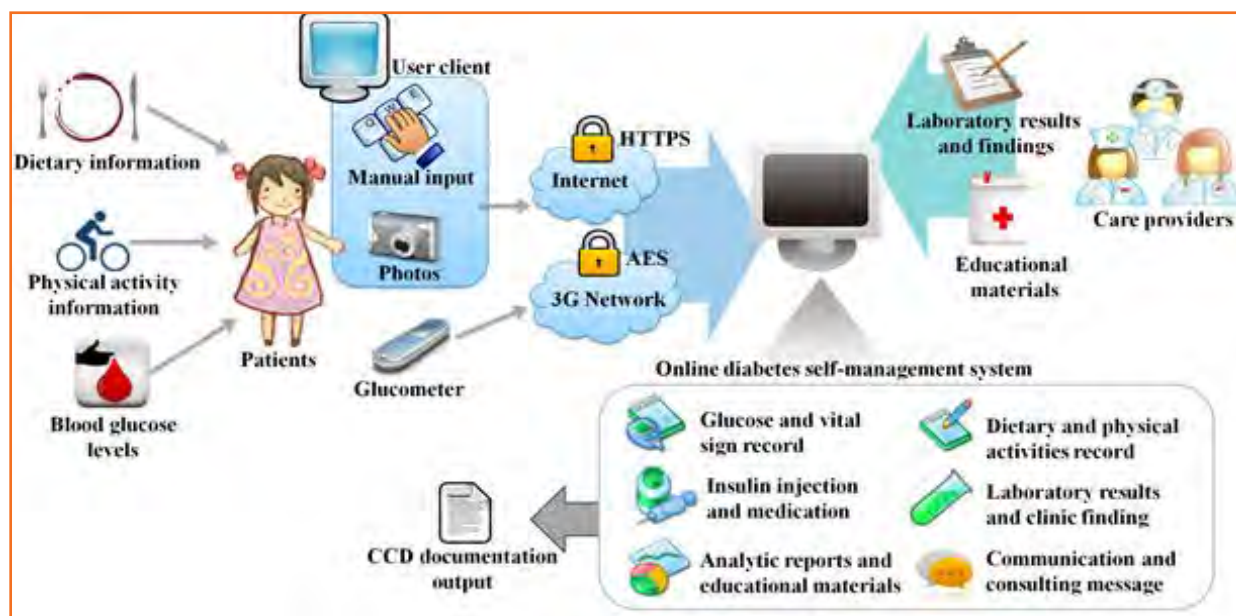


Fig10.1.1: Documentation and record keeping cycle of a patient

Tips

- Consent to treatment is the principle that a person must give their permission before they receive any type of medical treatment or examination. It can be given:
 - » Verbally
 - » In writing
- For consent to be valid, it must be voluntary and informed, and the person consenting must have the capacity to make the decision.
- Effective documentation should be:
 - » Clear, concise and accurate
 - » Contemporaneous with the events recorded in chronological order
 - » Complete
 - » Comprehensive
 - » Collaborative and person-centred
 - » Confidential



11. Patient's Rights & Environment

Unit 11.1 - Patient's Rights



HSS/ N 5101 to HSS/ N 5106
HSS/N 5109, HSS/N 5111
HSS/N 5112, HSS/N 9606

Key Learning Outcomes



At the end of the unit, you will be able to:

- Describe necessary arrangements to ensure patient safety and comfort.
- Understand sensitivities involved in patient's right.
- Learn GDA role in maintaining patient's rights.

UNIT 11.1: Patient's Rights

Unit Objectives



At the end of the unit, you will be able to:

- Enumerate patient's rights
- Learn the role of General Duty Assistant in maintaining patient's rights

As a GDA, you have to impart certain information about patients' rights to patients and caregivers. Tell your patients that you want their experience to be excellent.

You should communicate the following to the patient at the beginning- 'Here is some information that will help you make decisions about your Healthcare. If, at any time, you need more information, we want you to have it quickly. Your doctor, practice clinical staff members or administrative staff members will help you with your concerns. Please feel free to ask.'

This chapter puts together a range of information which includes rights of a patient and the standards of care a patient should expect.

11.1.1 Rights of a Patient

As a patient, you have the right to:

- Get kind, sympathetic and dignified care in safe and protected surroundings. It must be devoid of abuse, neglect, laxity and ill-treatment.
- Get thoughtful treatment with respect for privacy, individual values, personal beliefs and spiritual and cultural traditions.
- Get information about rights and the policies associated with them, both in a verbal and written manner, so that it can be clearly comprehended by you and your representative. .
- Have privacy and confidentiality. All the aspects of the medical care from consultation to check-up and medication to case discussion should be kept private and not made public.
- Receive prompt care by qualified personnel in an environment suitable for healthcare needs.
- Get referrals to staff and services in a prompt manner, in accordance with quality professional practice.
- Get information about protective and legal services, if abuse or neglect has to be dealt with.
- Have knowledge about the professional status of the care givers and the medical advisors.
- Take part in decisions related to personal care and treatment as per wishes and perception. Have the liberty to include friends and family in such decisions.
- Get details related to your health status which include the diagnosis, the prognosis, the treatment course, the advantages and the risks of the treatment, and the chances for achieving good health. This all should be explained in a language you can understand.

- Refuse care, treatment and services, to the extent permitted by law. You will be fully informed of possible consequences of such refusal.
- Express satisfaction regarding services rendered and to comment and make suggestions for improvement of the quality of care and services.
- File a complaint and to receive a response in a timely manner without fear of discrimination.
- Access your medical records, approve and refuse the release of your medical records. Records are maintained private and confidential in a safe and secure environment.
- Know, in advance of services, the cost of services and any applicable payment policy.
- Agree or refuse to participate in research/experimental activities.

11.1.2 Ethical Aspect of Legal Rights

- It is your right to know about all the details related to your illness. All information, from your medical records to your treatment plan and from the risks and side effects of the treatment to any other query, can be obtained from the concerned doctor.
- At the time of a physical check-up, you have a right to be treated with dignity and consideration for your modesty.
- You have a right get information about your doctor's qualifications. If you are unable to judge their capability yourself, do not be reluctant to ask around.
- You have a right to get total confidentiality about all aspects related to your illness.
- If you are not sure about the treatment plan prescribed for you, you have a right to get a second opinion from another specialist.
- It is your right to be informed about the details on a suggested operation and the possible risks involved. If for some reason, like you being unconscious, you could not be informed about the operation, your close relatives need to be provided the same prior to giving consent.
- If a discharge is being planned for you or you are being shifted to some other hospital, you have the right to be told about it in advance so that you can have a say in it, after consulting the doctor.
- You have a right to receive the papers related to your case upon request

11.1.3 Patient Safety and Comfort

In order to ensure patient safety and comfort some basic safety precautions and general guidelines are to be followed by a hospital staff or GDA inside the premises:

- Smoking is acknowledged to be both a health and fire hazard. Make sure that smoking is NOT permitted in hospital. No smoking is applicable in patient rooms.
- Please notify your nurse before you are leaving.

- Let the nurse know if patient has dentures, hearing aid, contact lenses, or other prosthetic devices. Be sure to store them properly when not in use, otherwise they could be disposed of accidentally.
- Please report any accidents, such as spills or broken glass, right away to the concerned staff so that it can be taken care promptly.
- No alcohol or drugs should be permitted in the hospital premises. Security Staff should be informed of all potential substance abuse problems and help management to resolve of any potential behaviour problems.
- Special care should be given to the patients receiving oxygen. Electrically-operated equipment and aerosol products are not permitted in these areas. Smoking while on oxygen or near an oxygen tank is dangerous and prohibited.
- Rest is a very important part of the healing process. To insure patient get the downtime that they need, visiting hours need to be followed as per the hospital guidelines to provide a peaceful environment during patient's stay.

Tips



- Patient's legal right
- Ethical aspect of legal right
- Patient safety and comfort

Notes







12. Patient Basic Care and Needs

Unit 12.1 - Aid in Personal Hygiene

Unit 12.2 - Aid in Daily Activities

Unit 12.3 - Assist in Performing Care Plan

Unit 12.4 - Measuring Parameters



HSS/N 5101, HSS/N 5102
HSS/N 5103, HSS/N 5104
HSS/N 5105, HSS/N 5106
HSS/N 5109, HSS/N 5111

Key Learning Outcomes



At the end of the unit, you will be able to:

- Understand the difference of care provided to ill patients, terminally ill, physically challenged and handicapped personnel.
- Develop knowledge for measuring height & weight of patient using instruments.
- Develop an understanding to keep a record of Intake & output of patient.
- Understand the importance of bathing and it's types.
- Enlist points to observe during bathing which need to be reported.
- Understand need for care to private body parts of patient.
- Understand the need of “after bath care” to the patient.
- Develop understanding for Identifying rashes, abrasions, Dryness, changes in colour, pressure areas, temperature, bruise and swelling of skin.
- Identify pressure sores/ bed sores, understand causes for pressure sores (Bed sores).
- Understand the importance of maintaining oral care, skin and nail care.
- Understand the importance of oral care in case of dentures and unconscious patients.

UNIT 12.1: Aid in Personal Hygiene

Unit Objectives



At the end of the unit, you will be able to:

- Help in bathing patients.
- Help in grooming patients.

12.1.1 Help in Bathing Patients

Introduction

Bathing is a common daily task that is necessary for our personal hygiene. Bathing is done to make a patient clean, remove any dust/dirt or any other external agent from the skin, increase blood circulation, promote confidence, reduce body odour and encourage movement.

Importance of Bathing

Bathing is washing and cleaning the body using water and soap. Bathing regularly helps prevent infection. Bathing also, as an activity, relaxes the patient and keeps the patient fresh. It promotes the circulation of blood within the body.

In many cases, however, patients are unable to perform this activity by themselves. It is your duty as a GDA to facilitate a bath or bathe the patient and help maintain appropriate personal hygiene. You must follow the bathing methods that the nurse or the doctor suggests depending on the condition of the patient.

Common Bathing Techniques

Patients are given a bath according to their needs and medical conditions. Patients, who are able to get up and walk, get a shower or a tub bath; whereas patients who are ill or weak will have a bed bath.

There are three different kinds of bath that are given in a hospital, namely:

- Shower or tub bath
- Full bed bath
- Limited bed bath

A bed bath is given to a patient when a patient cannot move out of bed. A bed bath is given completely on bed.

A partial bed bath is a technique wherein you help the patient in taking a bath close to the bed. It is given to patients who cannot move to use the shower.

A shower or tub bath is a bathing technique that is followed by patients who can maintain personal hygiene by themselves. The patient might use the tub or the shower for taking a bath.

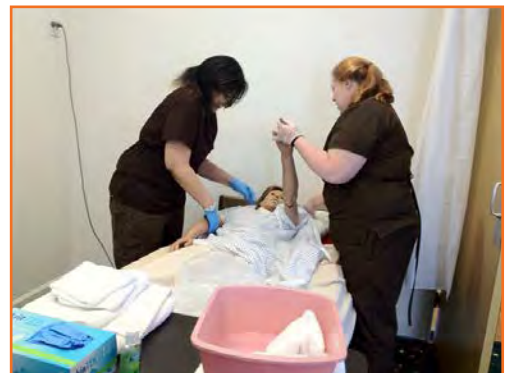


Fig.12.1.1: Bathing Patients

Role of a GDA in bathing a patient

As a GDA, you have to prepare the patient for the bathing procedure as per instructions given by the doctor. The following arrangements have to be made before starting the procedure:

Procedure for a complete bed bath:

- Set the temperature in the room temperature to keep the patient warm during bathing.
- Draw the curtains or blinds for privacy.
- Get two big bowls of warm water, one for washing and other for rinsing.
- Put a wash cloth in each basin.
- Move the patient gently while washing and rinsing the body.

Procedure for a partial bath:

- Keep two trays of warm water ready to be used by the patients for washing and rinsing.
- Assist the patient with washing the areas that the patient cannot reach, such as the back.
- Give the patient towels and sheets for drying immediately after the bath.
- Move the patient gently while washing and rinsing the body.

Procedure for a self-bath:

- Make sure that the tub or shower appliance is clean.
- Place a non-skid mat on the tub or the shower floor.
- Check the water temperature.
- Assist the patient to the tub or the shower.
- Make sure the patient wears the robe and slippers.
- Help the patient sit on the edge of the tub. Ask the patient to hold a bar for support with one hand.
- Give the patient towels and sheets for cleaning immediately after the bath.

Precautions to be followed while bathing:

- Consult the nurse or the doctor and discuss the method of bathing that must be followed with each patient.
- Consider patients preference and conditions when deciding the type, frequency and time of bath.
- Give importance to patient's privacy needs (e.g. Draw the curtains properly) and encourage the patient to do as much as possible to promote independence.
- Arrange for the bath of the patient by keeping the necessary items in place such as the soap, water and towels for cleaning.
- Make sure that the water that is used is warm. Have the patient test the water. Adjust the temperature, if needed.
- Instruct the patient on the use of taps and bathroom accessories.
- Assist your patient in undressing and put dirty clothing in the plastic bag of the laundry hamper.
- Make sure you don't hurt or injure the patient in anyway while bathing the patient.
- Make sure that water does not enter the wounds of the patient while bathing.
- Stand beside the patient and encourage the patient to perform the activity by themselves. Help the patient

to dress up after drying.

- Remove all the wet bed sheets and towels after the bathing procedure is complete.
- Ensure that the area is dry, as wet areas can lead to infection.

Types of bed bath

Cleansing Baths is part of routine patient care for personal hygiene. The kinds of baths are:

1. **Shower:** Ambulatory patients are usually able to take a shower. Patients who are physically hampered can use an easy drying chair inside the shower. The care giver can help the patient with the shower.
2. **Self Help:** If a patient is restricted to the bed, then this bath provides them the required hygiene. The GDA arranges the bathing equipment and helps in cleaning difficult to reach areas, like back, legs, feet, and external genitalia.
3. **Complete Bed Bath:** The GDA helps the patients, who are bedridden, with a complete body wash.
4. **Partial Bath:** The GDA helps in cleaning only those body parts that could cause inconvenience or odour, such as face, hands, and genital areas.

Purpose of the bed bath

The purpose of the bed bath is to:

- Keep the skin clean.
- Make the patient comfortable and fresh.
- Stimulate circulation and thereby increase elimination through the skin.
- Observe the skin for redness, sores, swelling, rashes or other infections and bony prominences for bed sores.
- Improve the patient's self-image and emotional and mental well-being.
- Prevent pressure sores.

Articles needed for giving a bed bath

- Jug of hot and cold water - 2
- Bath towels -2
- Large basin -1
- Linens for bed making
- Screen
- Patient's clothes
- Bowl with clean cotton balls for eye care
- A clean tray containing:
 - » Articles for mouth care
 - » Sponge clothes - 2
 - » Soap and soap dish
 - » Spirit
 - » Talcum powder
 - » Oil

- » Comb
- » Cotton dressing pads – 2
- » Nail cutter
- » Mackintosh with cover
- » Kidney tray and paper bag
- » Gloves (optional)

Perineal Care

Cleansing the external genitalia and the surrounding region is called perineal hygiene. Being warm and moist and lacking ventilation, the perineal region is favourable to the proliferation of pathogenic organisms. The pathogenic organisms are able to enter into the body through the various orifices in this region such as the vaginal orifice, the anus and the urinary meatus. Meticulous cleanliness is mandatory to avoid bad odour and to enhance comfort.

What is Perineal Care

Perineal care involves bathing the genitalia and the surrounding region. Proper inspection and care of the perineal region requires professional clinical assessment. The proper procedure for perineal care is to wash the perineum from the cleanest region to the less clean region. The urethral orifice is supposed to be the cleanest region and the anal orifice is the unclean part.

Importance of perineal care

Perineal care is carried out to:

- Keep cleanliness and prevent infections in the perineal area
- Relieve inflammation and congestion
- Relieve pain
- Stimulate circulation
- Prevent infection and promote healing
- Prevent the spread of infection
- Make the patient comfortable

Indications for Perineal care

Perineal care should be carried out for the following types of patients:

- Patients who are incapable of carrying out self-care
- Patients who are suffering with genitor-urinary tract infections
- Patients who have incontinence of urine and stool
- Patients who are experiencing excessive vaginal discharge
- Patients having indwelling catheters
- Post-partum patients
- Patients who after surgery are on the genitor-urinary system
- Patients having wound, ulcers or surgery in the perineal area

Preliminary Assessment before performing perineal care

Before performing perineal care, a preliminary assessment must be made. You must:

- Analyse the condition of the skin in the perineal region— inspect the area for any itching, drainage, irritation, ulcers and so on.
- Analyse the need and the frequency required for the perineal care
- Analyse whether the perineal care requires an 'aseptic' procedure or a 'clean' procedure.
- If there is a wound, the perineal care should be done according to the aseptic procedure or the 'clean' procedure.
- Check the orders of the physician and any particular instructions.
- Analyse if the patient is capable of self-care.
- Analyse if the patient is mentally fit to follow instructions.
- Check the items available in the unit.

Equipment needed for perineal care

- The equipment needed for perineal care are:
- Gloves (non-sterile)
- Sponge cloth
- Basin with warm water
- Waterproof pad or gauze
- Towel
- Mackintosh
- Soap dish with soap
- Toilet paper
- Bed pan

Procedure for perineal care

Take a look at the steps for carrying out perineal care:



- **Step 1:** Arrange all the equipment.
- **Step 2:** Explain the procedure to the patient.
- **Step 3:** Perform hand hygiene and wear gloves.
- **Step 4:** Provide privacy to the patient by closing the door or by putting the screen.
- **Step 5:** Position the patient. Uncover the patient's perineal area.
- **Step 6:** Place a mackintosh and towel (or waterproof pad) under the patient's hips.
- **Step 7:** Cleanse the thigh and groin by:
 - » Making a mitt with the sponge cloth.
 - » Cleansing the patient's upper thighs and groin area with soap and water.
 - » Rinsing and drying.

- » Washing the genital area.

Proper disposal of urinary wastes

The urinary system of the human body functions as the body's filtering system, wherein it removes all the toxic waste materials along with excess water in the body. The accumulation of wastes, if not removed, may lead to medical complications. You must help the patient in the process of urination. In this chapter, you will learn the importance of waste elimination by urination and the procedure to use the urinal.

Elimination of wastes by urination

The kidneys are the central units of the excretory system. The blood carrying the waste materials enters the kidneys where they are filtered out and removed from the body with excess water in the form of urine. Urine is filled up in the urinary bladder which opens into the genital area through the urethra. When the bladder is full, the patient develops an urge to empty the bladder. If the bladder is not emptied then it can lead to extreme discomfort for the patient. When the patients express the need to empty the bladder, you must immediately facilitate for the same. You must help the patient to the toilet if the patient can walk. If the patient cannot walk, then you must arrange for the equipment for the passage of urine by the bed. The urine output of a patient in a day is critical to understand the functioning of the kidneys. If the kidneys are infected or are not functioning properly then the urine output is low. If the waste materials are not removed by production of urine then they can accumulate within the body leading to severe complications.

Precautions to be taken while assisting in urination

- Once the urine is passed from the body, it should be drained out immediately.
- Urine should not accumulate anywhere in the surroundings of the bed or the room. It can lead to infections with severe complications. You must take proper hygiene measures to prevent infections arising out of urine that is accumulated.
- In case of patients who are able to move, help the patients by keeping the toilet ready to use when they express the need to use. Instruct the patient not to latch the door from inside of the toilet, as you cannot enter the toilet if the patient needs help.
- Maintain the privacy and dignity of the patient.
- In case the patient has passed urine on the bed, gently clean the bed and change the clothes of the patient. Ensure that the patient is not embarrassed.
- Always wear gloves while assisting the patient in urination or while collecting the urine to measure the output.
- Dispose off any urine that is collected into the toilet and ensure that all the equipment is thoroughly cleaned and sanitized.

12.1.1.1 Perform a Body Bath

- **STEP 1:** Wash hands. Assemble all the articles and take them to the bedside after testing the temperature of the water.
- **STEP 2:** Explain the procedure to the patient.
- **STEP 3:** Place a stool at the foot of the bed. Place the articles near the patient, within reach.
- **STEP 4:** Arrange clean linen on the stool in order of use.

- **STEP 5:** Screen the patient.
- **STEP 6:** Check if there is any drought.
- **STEP 7:** Ask the patient if he or she wants a bedpan.
- **STEP 8:** Remove all the top linen and patient's clothes except the sheet or blanket and place one pillow under the head if the patient is uncomfortable.
- **STEP 9:** Position the bath towel below the patient's chin.
- **STEP 10:** Give oral hygiene.
- **STEP 11:** Give eye care to the patient using wet cotton balls from inner to outer canthus.
- **STEP 12:** After checking the temperature of the water, fold a sponge towel around your hand. Wash the patient's face properly with water and then proceed to dry the face with a bath towel.
- **STEP 13:** Take the sponge towel and fold it around your hand. Apply soap. Clean the patient's neck and ears.
- **STEP 14:** Keep the sponge towel in a soap dish. Take a second sponge towel and rinse it in water and wipe off the soap from the neck and ears. Then dry it with the second bath towel.
- **STEP 15:** Spread the mackintosh with cover under the opposite arm. Clean the arm from the distal to the proximal end including the axilla. Use a circular movement, while applying soap.
- **STEP 16:** Wash and dry the arm with the bath towel. Place the basin of water under the patient's hand and allow the patient to rinse their hand in the water and then dry it.
- **STEP 17:** Spread the mackintosh with cover under the other arm and repeat steps no. 14 & 15.
- **STEP 18:** Change the water.
- **STEP 19:** Spread a bath towel over the patient's chest. Fold the top linen at the level of the umbilical area and repeat step no. 14. Use circular movements while applying soap.
- **STEP 20:** Spread the mackintosh with cover under the opposite leg and precede in the same way as in step no 14 & 15.
- **STEP 21:** Spread the mackintosh with cover under the other leg, and proceed in the same as in step no. 14 & 15.
- **STEP 22:** Place the mackintosh and the towel over the bed, then place the basin of water over it, and bend the patient's knees, place one foot in the basin of water, and wash it. Dry the foot with a towel and repeat the procedure for the other foot.
- **STEP 23:** Change the water.



Fig.12.1.2: Removing gown and linen



Fig.12.1.3: Applying soap



Fig.12.1.4: Cover the patient's chest



Fig.12.1.5: Applying soap on back

- **STEP 24:** Turn the patient onto the opposite side. Spread the mackintosh with cover on the patient and tuck it under the patient. Wet the back with water, and apply soap. Then wash and dry the back and buttocks, with special care to the bony prominences. Apply spirit, powder, and remove the bath towel. Then change the water.
- **STEP 25:** Give a wet cotton pad to the patient, and ask them to clean the genitalia. If the patient is unconscious, clean and dry the genitalia with two different cotton pads.
- **STEP 26:** Apply powder to the body.
- **STEP 27:** Put a clean dress on the patient, then comb and set the hair.
- **STEP 28:** Remove and replace the articles.
- **STEP 29:** Be sure to leave the patient feeling comfortable and tidy.
- **STEP 30:** Wash your hands.
- **STEP 31:** Record and report to the ward sister if there is any redness, cracks on the skin, or any abnormality is observed.



Fig.12.1.6: Wearing gloves



Fig.12.1.7: Applying powder to the body

12.1.1.2 Skin Abnormalities

During bathing observe and report any of the following:

- Temperature - hot skin could mean fever; cold skin could mean poor circulation. Sensitivity - pain, tenderness, itching, or burning. Odour - may be caused by sweat secreted by the sweat glands; by abnormal conditions, such as infection or kidney disease; or by bodily discharges (urine, faeces) that need to be cleaned.
- Texture - could be smooth and elastic or dry and rough; nutritional deficiencies can influence skin texture.
- Colour - reddened areas that could indicate pressure, cyanosis (bluish tinge) or jaundice (yellowish tinge).
- Swelling (oedema) - stretched or tight appearing; usually begins in the ankles or legs or any other pendent part; may be associated with injury.
- Skin lesions - rashes, growths, or breaks in the skin.

How to take care of the abnormalities

- Inspect the patient's skin carefully for pressure areas at the time of providing a bath or a back massage.
- Wash any areas that are red with soap water, rub with lotion.
- Keep the sheets which are under the patient clean, unrumpled and tight to assist in eliminating skin irritation.
- Ensure proper nutrition and fluid intake for the patient as advised by the physician.
- Ensure that when the patient is incapacitated, urine and faeces are kept off the patient's skin, the skin is washed with soap and water and the buttocks and the genital region are kept dry. A body lotion or powder may be used in the region, depending upon the skin type of the patient.



Fig.12.1.8: Skin Abnormalities

- Assist obese patients who need help while washing and drying areas under skin folds (groin, buttocks, under breasts, and so forth).
- For patients with very dry skin, various bath oils may be added to the bath water.
 - » Omit the use of soaps because of its drying effect.
 - » Use lotions and oils after the bath.

12.1.1.3 Sitz Bath

A sitz bath is used to wash the perineum region that is the area between the vulva or the scrotum and the rectum. It is a warm, shallow bath which can be used as a part of daily personal hygiene. It can even alleviate pain or itching in the genital region.

Sitz Bath is recommended by a doctor in case a patient:

- Has got surgery done on the vulva or vagina.
- Has lately given birth.
- Has got haemorrhoids removed by a surgical procedure.
- Has pain or irritation due to haemorrhoids.
- Has issues with bowel movements.

Giving patient sitz bath

- Clean the bathtub.
- Set water temperature. Make sure water should be warm not hot.
- Fill the bathtub with 3-4 inches of water
- Mix soothing additives to the water if you wish.
- Soak in the sitz bath. Make sure that the affected area is covered in the warm bath.
- Pat patient dry when finished.

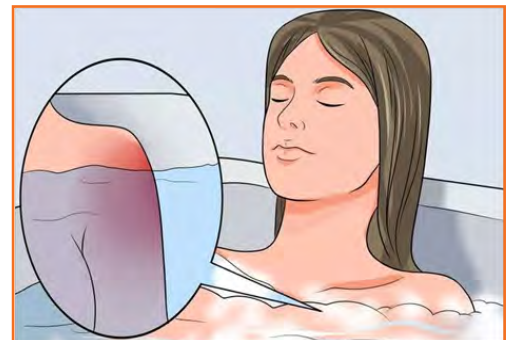


Fig.12.1.9: Giving patient sitz bath

12.1.2 Help Patient in Grooming

Maintaining a patient's hygiene is one of the most important duties of a GDA. Grooming helps meet patients' basic cleanliness needs as well as helps the patient's feel emotionally well.

Oral Care

In order to keep our mouth clean, we must practice good oral hygiene every day. Our mouth is an important organ as it plays a vital role in the digestion of food. Since the mouth is exposed directly to the external atmosphere, a lot of bacteria is found in the mouth.

During the stay in the hospital, a patient might be unable to take care of oral hygiene. So you, as a General

General duty assistant, must help the patient in maintaining oral hygiene. In this chapter, you will learn how to maintain oral hygiene of a patient.

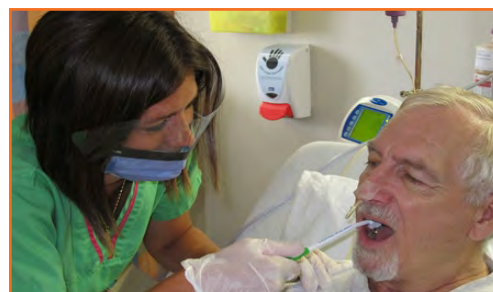


Fig.12.1.10: Oral Care

Maintenance of oral hygiene

A daily part of our routine is brushing the teeth and rinsing the mouth. These are the most common activities carried out to maintain oral hygiene as a daily habit. Maintaining oral hygiene will depend on the condition and type of food the patient eats. If the patient is eating normal solid food then encourage the patient to brush their teeth every day. Ensure that the required material such as toothbrush, toothpaste and other such material are kept ready for the patient to use. Also, remember to replace these materials in case they get over.

Role of a GDA in maintaining oral hygiene

To maintain oral hygiene we use a toothbrush, toothpaste, mouthwash and dental floss. In addition to it, the GDA should take care of following points:

- Speak in a gentle, soft and soothing voice when helping patients brush and floss.
- Avoid brushing the tongue as this can cause irritation in elderly patients. Instead, use a tongue scraper to clean the tongue.
- Wrap the toothbrush handle with a tape as it makes the toothbrush handle easy to hold.
- Teach patients to brush the eating surfaces using soft, circular motions.
- Instruct patients and care givers to replace toothbrushes every three months.
- If the patient is using a denture, remove the dentures. Clean them gently under running water or by brushing with a soft brush.
- The various abnormalities that can be observed in the oral cavity include redness of the skin, bleeding of the gums or bad breath. Report these abnormalities to the nurse or a doctor immediately.

Oral care of an unconscious patient

Oral hygiene assists in maintaining the healthy condition of the mouth, the gums, teeth and the lips. It also provides a massage to the gums and alleviates discomfort due to bad odours and tastes. Some patients require special oral hygiene methods because of their level of dependence.

Effects of a neglected mouth

The mouth presents all requirements for bacterial growth such as warmth, moisture, and food supply from residual foods. It causes some local infections like:

- Gingivitis: Inflammation of the gums
- Glossitis: Inflammation of the tongue
- Root Abscess: Pus formation of the root of the teeth
- Stomatitis: Inflammation of the mucus membrane of the mouth
- Dental Carries
- Bleeding Gums

Importance of Oral Care

Oral care is important to:

- Keep the mouth clean and moist.
- Keep the teeth and gums in good condition.
- Keep the oral cavity free from bad odours.
- Stimulate appetite.
- Prevent infection and tooth decay.

Articles required for giving oral care

To perform oral care, a tray containing the following articles is required:

- Gauze pieces in a small bowl
- Container with artery forceps, swab sticks, tongue depressor and mouth gag
- Container with 1:8 hydrogen peroxide, Condyl's Lotion 1/6000(KMnO₄) Listerine/Betadine, Chlorhexidine Gluconate, Boroglycerine, Vaseline, and Olive Oil.
- Feeding cup with water
- Kidney tray and paper bag
- Small mackintosh with towel



Fig.12.1.11: Articles required for giving oral care

Procedure for performing oral care

Take a look at the steps to perform oral care:

- Explain the procedure to the patient / relative.
- Provide privacy.
- Position the patient so he or she is comfortable (Fowler's position with cardiac table in front or lateral with face at the edge of the pillow).
- Place the mackintosh and face towel across the patient's chest.
- Place the kidney tray close to the patient's cheek.
- Arrange the articles.
- Always remember to wear gloves.
- Prepare the mouthwash or use the commercially available mouth wash solution.
- Take a gauze piece and wrap it around the artery forceps, covering the tips completely.
- Open the unconscious patient's mouth gently by pressing the lower jaw forward.
- Moisten the gauze. Dip it in the cleansing agent and clean the inside of the cheeks and the tongue.
- Let the fluid flow through the corner of the mouth or clean with wet gauze sponges. Clean the patient's lips with the towel.
- Observe for tooth decay, coated tongue, cracked lips or any other abnormalities and report the same to the senior.

- Apply glycerine or any other emollients to the tongue, gums and lips.
- Remove the kidney tray, mackintosh and towel.
- Place the patient in a comfortable position.
- Clean and replace the articles.
- Wash your hands.
- Record the procedure mentioning the observations made during the procedure.

Hair Care

Taking care of the hair is one of the aspects in maintaining personal hygiene. Excessive hair needs to be trimmed and maintained properly and hair that has fallen off the patient should be cleaned. There are various methods that need to be followed for hair care of a patient. In this chapter, you will learn the steps to maintain cleanliness and hygiene of the patient's hair.

Importance of Hair Care

The head and the face are the predominantly hairy regions of the body. In addition to these areas, hair is present under the armpits, chest, and genital areas of both male and female patients. The outer most layer of skin on the head is called the scalp. Hair cells are embedded in the scalp and each strand of hair keeps growing during the life time of an individual. Different types of bacteria are present on the scalp and the hair. If the hair is not kept clean, it tends to become matte, greasy and can smell bad. These conditions aid the growth of germs in the hair and lead to infections. You must ensure that the hair is kept clean and excess hair is periodically removed to avoid any discomfort to the patient. Let us look at the different methods of maintaining the hygiene of the hair of a patient.

Role of a GDA in hair care

- Patients who can take a shower by themselves should be encouraged to wash their hair regularly.
- Shampoo is a special agent that can be used to clean the hair. You must motivate patients to shampoo their hair regularly.
- In case of patients' confined to the bed, you must shampoo the hair of the patient and keep the hair of the patient clean.
- Hair should be properly combed from time to time. You should assist the patient in combing the hair and keeping it clean.
- In the case of male patients, facial hair in the form of a beard or a moustache has to be shaved and trimmed according to the patient's choice.
- Excess hair in other regions of the body such as the armpits or the chest has to be removed according to the directions of the doctor.
- Hair is cut and shaved by barbers. Barbers can provide hair cutting services in the hospital as and when requested.

Arrange for all the required equipment by the side of the bed, before you start cleaning the hair of the patient.

The things needed include:

- A large pitcher of warm water
- Shampoo
- Bed Shampoo pan
- Towels and wash cloth
- Clean comb and brush

12.1.2.1 Steps for Assisting a Patient with Hair Care

The steps for hair care of a patient is as follows:

- **Step 1:** Cover the pillow with a towel or any protective cover, to keep it dry.
- **Step 2:** Untie the gown or loosen the bed clothing.
- **Step 3:** Put a towel under the person's neck and arms.
- **Step 4:** Put the bed shampoo pan under the person's head.
- **Step 5:** Place a washcloth over the person's eyes so the shampoo does not burn them.
- **Step 6:** Wet the hair of the patient first and then apply the shampoo.
- **Step 7:** Wash the hair of the patient until it is clean and shiny. It takes more rinsing for a female patient. Hair should be shampooed two to three times a week as it becomes dirty or greasy soon. However, before washing the hair of the patient, check with the doctor if it is fine to use a shampoo.
- **Step 8:** Gently dry the hair of the patient using a clean dry towel.
- **Step 9:** Now, help the patient comb the hair with a comb or a brush. Provide the patient with towels and sheets for cleaning immediately after the procedure.

12.1.2.2 Shaving

- **Step 1:** In the beginning, the patient may just need to be reminded to shave. If an electric razor is being used, he may continue to shave for a longer period as it requires less skill and is safer.
- **Step 2:** If the patient begins to cut himself while shaving with the razor, it is time to take over the shaving.
- **Step 3:** Moisten the man's beard region with a cloth and apply the shaving cream.
- **Step 4:** Shave with small strokes in the direction of the hair growth. Be gentle across sensitive surface.
- **Step 5:** Rinse the area using a fresh wet cloth and after that, dry the skin. Use of after-shave lotion is a matter of choice.
- **Step 6:** Special pre-shave lotion meant for electric razors may be used if the patient is using an electric razor. Shave with firm circular motions.

Shaving Tools and Accessories

- Razor
- Shaving Cream
- Brush
- Trimmer
- Wax
- Lather Bowl
- Disinfecting Liquid or Spray
- Disposable gloves

12.1.2.3 Steps to maintain Nail Care

Nail Care

Nails should be kept short and clean as they tend to collect dirt and germs. Dirty fingernails spread infection.

Also, broken nails can lead to injuries, therefore shaping the rough edges of the nail is also important. A patient may be too weak to take proper nail care. As a General Duty Assistant, you must ensure that nail hygiene of the patient is maintained. In this chapter, you will learn how to take proper nail care.

Common Methods of Nail Care

Cutting and shaping of the nail is very important for proper nail care. The fingernails are cut using a nail cutter or sharp scissors, straight across and then a nail file is used, if available, to round off the nail. During the morning bath, the nail care of hands and feet is administered as nails are softer and easier to trim after a bath. Provide the patient with towels and sheets to cleaning immediately after the procedure.

The things needed include washbasin, washcloth, hand towel, nail cutters.

- Disposable bath mat and gloves
- **Step 1:** Wash hands, and arrange supplies within easy reach.
- **Step 2:** Position patient in chair, place disposable mat under patient's feet if possible, and provide patient with privacy.
- **Step 3:** Fill the basin with warm water. Place the basin on a disposable mat and help patient place his feet into the basin.
- **Step 4:** Soak the feet for 5 to 10 minutes. Re-warm the water if necessary.
- **Step 5:** Trim nails straight across using a nail cutter and even with clippers.
- **Step 6:** Round the fingernails to be smooth, without any jagged edges using a filer.
- **Step 7:** Trim and clean toenails in the same way as for fingernails.
- **Step 8:** Remove gloves and dispose them properly.



Fig.12.1.12: Nail Care

Finger, toe nails and other foot care

- People suffering with dementia may lose their ability to maintain their nails, particularly their toe nails.
- The elderly people may have troublesome feet problems like bunions or calluses. However, if the person has dementia, communicating such issues might be difficult for him or her.

Clothing

Patients might be unable to manage their own clothing needs during the stay in the hospital. In some cases the patient is too weak to dress up. Also, a patient undergoing different medical procedures needs to wear clothes designed specifically for that procedure. Therefore, correct clothing of a patient is very essential. As a General Duty Assistant, it is your duty to assist the patient in dressing. In case, the patient is very weak you must dress him/her yourself. But for this you must first know the different types of hospital garments, the procedure to dress a patient, precautions to be taken and the steps to maintain clothing hygiene. This chapter lists all this for you.

Types of Hospital Clothing

The type of clothing a patient must wear depends on the needs of the patient. In many cases the clothes worn by a patient are designed based on the body area that needs to be examined. The most common type of hospital clothing that is used is a hospital gown. Based on the need of the patient, hospital gowns are classified as:

- Basic hospital gown
- Isolation gown
- Toddler gown
- Nursing gown

Basic Hospital Gown

This is the most common type of hospital gown and is used for patients whose upper body has to be examined. These gowns can be worn on the patient's regular clothes and are very roomy and comfortable.

Isolation Gown

Isolation gowns are used by patients who need extra protection. In patients where there is secretion of body fluids or if the patient's body is insensitive to infections, isolation gowns are the best choice.

Toddler Gown

Toddler gowns are designed for children and typically printed with cartoons and images. They are meant to make the child comfortable and cheerful.

Nursing Gown

Nursing gown is a special type of gown that is designed to facilitate the feeding of the child by a nursing mother.

Role of a GDA while clothing the patient

- Check with the doctor or the nurse with respect to the type of clothing that needs to be worn by a patient.
- One of the most important principles of clothing is to prevent any injury or discomfort to the patient while clothing him or her.
- Always instruct the patient before you actually dress him or her up. Before you start to change the clothes of a patient, describe the process that would be followed and explain what needs to be done while changing their clothes.
- For patients who have suffered a stroke, one side of the body may be weak. Instruct such patients to undress the weak part first. While putting on a dress, it should be put on from the strong side first.
- You will need to put a sweater on the patient too to keep warm as poor blood circulation could make the patient cold.
- Put the patient's shoes or slippers on. Make sure the sole of the footwear is non-slippery.
- Try and make the patients wear their clothes themselves. This will help them manage their activities on their own.

Maintaining the privacy and dignity of the patient

While dressing the patient the most important point to be kept in mind is maintaining their privacy. Some patients may not be able to dress by themselves. You, as a General Duty Assistant, must take care of the following points while dressing the patient:

- Collect and arrange the patient's clothes. Make sure you get all the under garments such as underwear, vests, briefs and socks.
- Let the patient choose what they would like to wear. If they cannot choose for themselves then, you need to pick clothes that are free of holes, and those with proper buttons and zippers. You may dress the patient in the restroom.
- When you do so make sure you close the door for privacy.
- Even if the patient has its own private room, close the bathroom door when the patient are inside the bathroom.
- Make sure you draw the curtains to maintain privacy while you dress the patient in bed.
- If the patient wears an adult brief, make sure you put this on first. This is another aspect of dignity.
- Put on the socks or stockings on the patient, then the vests and then put on the top layer of clothes.
- Make sure you dress the patient the same way you would dress yourself. Remember, to maintain the patient's dignity at all times.

Maintaining clothing hygiene

- To avoid any form of infection, it is necessary to maintain the patient's personal hygiene including the clothing. As clothes worn by the patient come on direct contact with the body, they may impure with germs. To prevent any infection, it is very important to change the clothing of the patient and dress him/her with a clean piece of clothing. To do so, you must follow the given points:
- Change the patient's clothes every day. Items such as underwear, personal towels, facecloths, nappies are often contaminated as they come into direct contact with the body. So change them every day.
- Change the clothing if it is stained due to the treatment procedure.
- Every patient's clothes must be washed separately.
- Ensure clothes are not shared between patients. During laundering, micro-organisms may spread from one set of clothing or linen to the other. So laundry hygiene must be maintained.
- Patients must always be provided with clothing and gowns that are washed and that smell fresh and good.

Tips

- Use mild soap and gentle strokes with a soft cloth when giving a bath to the patient.
- Rinse the skin well and then dry it with a soft towel.
- Use bland lotion to moisturise the skin do not use alcohol base lotion on skin. Alcohol dries the skin.
- Keep a time track sheet to monitor the position of the patient.
- Change the patient's clothes every day.
- Every patient's clothes must be washed separately.
- While brushing patient's teeth various abnormalities can be observed in the oral cavity. Report these to nurse or doctor immediately.

Exercise

1. Name the type of skin abnormalities that you will observe while bathing a patient?

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2. What are the different clothing principles?

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3. Why is it important to maintain oral hygiene?

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4. List the tips for hair care.

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UNIT 12.2: Aid in Daily Activities

Unit Objectives

At the end of the unit, you will be able to:

- Assist a patient to eat and drink.

12.2.1 Patient Care Planning

The General Duty Assistant has to perform certain simple procedures like enema or preparing the patient for an operation. These different procedures are a part of patient care management and assisting nurses in performing procedures as instructed in the care plan.

Patient care plan means planning your services according to the needs of the patient. As a General Duty Assistant, you must plan your services according to the patient's needs. You must make a patient care plan by:

- Knowing the patient's needs to facilitate their fast recovery.
- Consulting with the attending doctor and nurse about the patient's condition.
- Maintaining the patient activity schedule during his/her stay in the hospital.
- Motivating the patient to maintain a steady emotional state.
- Understanding and respecting the patient's rights and maintaining privacy.

12.2.2 Importance of Patient Care Planning

Patient care plan basically concentrates on the patient's care and concern. Patient care planning involves standard procedures and policies to be followed to prevent spread of infection, avoid discomfort to the patient and ensure continued treatment. As a general duty assistant it is your responsibility that you ensure and perform the correct procedure as instructed by the nurse. You have to ensure that the patient is comfortable and not inconvenienced due to the procedure or during the procedure. The procedure is performed in a timely manner as part of the treatment plan.

12.2.3 Feeding the Patient

One of the most important roles for you as a General Duty Assistant is feeding a. Different patients with different medical conditions must be fed in different ways. In this chapter we will study in detail about the different feeding techniques and the role of a GDA in feeding.

Supplies routine patient feeding

- Stainless Steel Plate
- Stainless steel Glass



Fig.12.2.1: Feeding the Patient

- Stainless Steel spoon
- Steel bowl
- Steel Jug
- Disposable Gloves

Types of Feeding

Feeding is the process of ingesting food. It is a critical activity as food ingested into our body is converted into energy by the process of digestion. Doctors decide the methods of feeding that needs to be followed depending on the physical condition and the type of nutrition needed by the patient. The different types or methods of feeding are classified as:

1. Oral feeding
2. Tube feeding
3. Fluids or intravenous route

Oral Feeding

Oral feeding is providing food or fluids through the mouth. Oral feeding is done using spoons and other normal cutlery. This is suggested for a patient who can perform the daily activities normally and is able to respond to the instructions given by you.



Fig.12.2.2: Tube Feeding

Tube Feeding

A feeding tube is a medical equipment used to give nutrition to patients who are unable to feed themselves by mouth, are incapable of swallowing safely, or require to be given nutritional supplements. In tube feeding, a type of external nutrition is delivered into the digestive system in a liquid form. A tube is inserted into a part of the digestive system, often through the throat or nose. The tube carries the food directly into the digestive system. Sometimes, it is used in addition to the oral feeding method. The most common type of tube used for feeding is called the Ryle's tube. Ryle's tube is also called a nasal tube or NG tube.

Intravenous fluids (IV fluids)

An intravenous or an IV line is used in case of patients who are unable to feed even with your assistance. It is a short-term device used to give fluids containing essential nutrients directly into the bloodstream through a vein. The process of inserting an IV line is specialized and is carried out by the nurse. The IV line is usually inserted by the nurse on the instruction of the doctor. You must monitor the level of the IV fluid from time to time and report the same to the nurse.



Fig.12.2.3: Intravenous fluids (IV fluids)

Role of a GDA while feeding a patient

- Encourage the patients to eat independently.
- Check the patient records for any instructions on the diet to be followed or any food to be avoided.
- If the person has not eaten well, you must report this immediately to the nurse in charge.
- Sit on a chair close to the person so he or she can see or hear you. Talk to him or her about the food you are feeding.

- Put the spoon on the side of the mouth where there is feeling. Be sure food is being swallowed and not collected on the numb side of the patient's mouth.
- Stop feeding a patient if they tell or show that they have had enough. Stop feeding a person if they fall asleep during the meal.
- If the patient can walk, encourage him or her to walk before a meal. Walking may help in gaining appetite and helps the body digest the food.
- Wear gloves while carrying, serving or feeding the patient. If the patient express discomfort while feeding you can remove the gloves, wash your hands thoroughly and continue feeding the patient

12.2.4 Precautions While Feeding a Patient with a Medical Condition

A General Duty Assistant is needed while giving oral feeding. In intravenous and tube feeding, the role of a General Duty Assistant is restricted to just assisting the nurse in monitoring the condition of the patient and changing the packet of fluid in case it is over. No matter which feeding technique he/she is using, he/ she must

follow these precautions Steps while feeding a patient



- **Step 1:** Check the diet of the patient with the dietician or the nurse before feeding the patient.
- **Step 2:** Only feed the patient at a pace he or she is comfortable with.
- **Step 3:** Make sure the patient is completely awake and alert before feeding.
- **Step 4:** Make sure the patient's food or liquids are of the correct consistency before feeding them to the patient.
- **Step 5:** Check the temperature of the food or liquids to ensure each item is suitable for the patient to consume.
- **Step 6:** If the patient begins coughing excessively or choking, stop feeding immediately. Provide appropriate care and notify the Healthcare provider.
- **Step 7:** Never rush the patient while eating.
- **Step 8:** Never feed a patient who is not properly positioned.
- **Step 9:** Provide the patient with towels and sheets for cleaning immediately after eating.

Guidelines for serving food

The importance of serving food is to facilitate the feeding process for the patient. In order to make sure that you

serve the patient effectively, you must follow the following guidelines



- **Step 1:** Ask the nurse about the diet plan of the patient.
- **Step 2:** Help the patient to the washroom in washing their hands before dining.
- **Step 3:** Check the temperature of the food that is being served. It should be comfortable for the patient.
- **Step 4:** Keep noise levels low.
- **Step 5:** Do not shout or raise your voice.

- **Step 6:** Do not bang plates or cups.
- **Step 7:** Arrange the food to be consumed by the patient in a manner where all the items are kept open for the patient to choose from.
- **Step 8:** Always tell the patient what is being served and encourage the patient to eat the items that are being served.
- **Step 9:** Tell the patient about the benefits of the food items being served.
- **Step 10:** Encourage the use of dentures, if the patient uses a denture. This will help the patient in chewing better and therefore in better digestion of the food consumed.

12.2.5 Food Nutrition and Dietetics

Let us study about the food which is given to the patients and its importance. The type of food that the patients eat has a considerable effect on their health. Alterations in their diet can assist in preventing or controlling a number of health problems such as obesity, diabetes and some of the risk factors related to cancer and heart diseases. Dietetics is the health area that deals with the interaction between nutrition and health. You as a general duty assistant should have sufficient knowledge about the nutrition need of the patient according to his/her condition or disease type. Let us see some of the common diet of patient in health and disease, which a GDA should know.

Diet in Gastroenteritis: Gastroenteritis or common stomach flu is a condition where the stomach and the intestines are inflamed, generally due to a viral infection. Common symptoms of this ailment include:

- Upset stomach
- Nausea
- Diarrhoea
- Cramping
- Vomiting

The aim of a diet that has been planned to deal with gastroenteritis is to prevent dehydration from occurring. An appropriate balance of electrolytes also needs to be maintained. Minerals like sodium and potassium are the electrolytes that a body requires to work properly.

Vomiting and diarrhoea, which are the common symptoms of gastroenteritis, can flush out the electrolytes from the body. In this case, such food should be provided which can rehydrate the body and reinstate the balance of the electrolytes. Oral dehydration salts help a lot in this case. Oral rehydration salts (ORS) is a specially prepared drink that has a combination of dry salts. When mixed in the right proportion with safe water, the ORS drink can help in rehydrating the body after plenty of fluid has been lost as a result of diarrhoea. There are two ways to make oral dehydration salts.

Take the ORS powder present in the market and mix it with water as prescribed. Second way is to simply add one teaspoonful of sugar and one teaspoonful of salt in one glass of water and the solution is ready.

- **Diet in Diabetics:** A simple, nutritious and healthy diet that is full of nutrients, has less fat, and moderate calories is required for patients suffering from diabetes. The content of carbohydrates in what the patient eats should be increased carbohydrates affect the blood sugar levels.
- **Diet in heart disease:** Patients suffering from heart diseases must be given healthy fats, nutrients, fibre, omega 3 and protein rich food items. Eating more fruits and vegetables will help a lot.

Tips

- One of the most important roles for you as a General Duty Assistant is in feeding and/or assisting a patient in feeding
- The different types or methods of feeding are classified as:
 - » Oral feeding
 - » Tube feeding
 - » Fluids or intravenous route
- Encourage the patients to eat independently.
- Check the diet of the patient with the dietician or the nurse before feeding the patient.
- Encourage the use of dentures, if the patient uses a denture. It will help patient in chewing better and therefore better in digestion of the food consumed.
- Cleaning the external genitalia and surrounding area is called perineal hygiene.
- Before performing perineal care, a preliminary assessment must be made.

Exercise

1. What is the importance of feeding?

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2. List the precautions while feeding a patient.

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3. What is the importance of managing elimination needs?

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UNIT 12.3: Measuring Parameters

Unit Objectives



At the end of the unit, you will be able to:

- Help in measuring patient's parameters accurately

12.3.1 Measuring Vital Signs/Parameters

The heart rate, blood flow, body temperature and the oxygen supply are described as the "Vital Signs".

The general health condition of a patient is measured using these parameters. These vital signs are measured from time to time to understand the status of the patient's health. Increase or decrease in these measurements can lead to medical emergencies. Vital signs are the first thing to be checked by a doctor to understand the status of the health condition. As a GDA, you are expected to know about these parameters and ways to measure it as these are the health indicator of patient's condition. Although your job as a GDA will be to assist the nurse in taking these measurements.

12.3.2 Body Temperature

Body temperature is a measure of the body's ability to regulate heat. The human body functions normally in a specific range of temperature. If the body temperature is steady, the body functions normally. If it is either high or low, it means you are not normal and that you need medical attention. Body temperature is measured in degrees Fahrenheit (F) and degrees Celsius (C). The normal body temperature for a healthy person is 98.6 degrees Fahrenheit or 37 degrees Celsius. It may also be 1 °F (0.6 °C) above or below 98.6°F (37 °C). The body temperature is normally measured using a thermometer.

The most common places for measuring body temperature are:

- Mouth
- Ear
- Forehead
- Armpit (also called axillary method)
- Rectum

Equipment used for measuring body temperature

In the hospital, body temperature is measured using a clinical thermometer. Clinical thermometers are of two types: Liquid Filled and Electronic.



Fig.12.3.1: Measuring Body Temperature

The traditional measuring instrument may be a glass tube. it's a bulb at one finish. The bulb contains a liquid that is commonly mercury. The liquid expands with an increase within the temperature. The glass wall of the measuring instrument is label to point the temperature levels. The bulb of the thermometer is inserted into a piece to live the temperature.

Let us currently learn the procedure to live and report the body temperature victimization the oral technique. The temperature may be measured by putting the bulb of the thermometer within the mouth. This technique is understood because the oral technique. The oral technique is that the most typical technique of mensuration body temperature. As a GDA you need to apprehend the steps to live the body temperature victimization the oral technique.



Fig.12.3.2: Thermometer

12.3.2.1 Measuring Body Temperature Using the Oral Method

Step 1: Wash the thermometer in water under normal room temperature.

Step 2: Ensure that the reading of the mercury level is below the 95 ° F mark.

Step 3: Reset the mercury level below the 95° F level by shaking it vigorously.

Step 4: Place the bulb thermometer under the tongue. Ask the patient to close the lips tightly around it. The person must be able to breathe through their nose. Keep the thermometer in the mouth just for a minute. Use a watch to check the time. Use a watch to measure the time. Remember, in order to get an accurate reading, you must ensure that the patient breathes through the nose while you take the temperature.

Step 5: Remove the thermometer from the mouth and note the reading. Step 6: Clean the thermometer in water under normal room temperature.

12.3.3 Blood Pressure

During the heartbeat, the heart pumps blood to the different parts of our body. Blood flows to different parts of our body within blood vessels and exerts certain pressure on the wall of the vessels. This pressure is known as blood pressure. An increase in the blood pressure can damage the body organs and a decrease in the blood pressure results in insufficient supply of blood to the body organs. The vessels may break leading to haemorrhage (blood clots), further leading to death of a person. Also, low blood pressure indicates that blood flow to the organs is not adequate. Therefore, blood pressure is a good indicator of the person's health as it indicates the flow of blood to the various organs.

Equipment used for measuring blood pressure

The BP apparatus or sphygmomanometers is used to measure the blood pressure is measured using or. The BP apparatus comprises a pressure cuff which is wrapped around the arm of the patient. The pressure cuff is attached to the hand bulb. The hand bulb pumps air into the pressure cuff. A release valve on the hand bulb controls the air pumped into the cuff. The pressure cuff is attached to the mercury gauge through rubber tubing

.The mercury level keeps rising as the hand bulb pumps air into the pressure cuff. The BP apparatus is used along with a stethoscope which is used to hear sounds generated in blood vessels.



Fig.12.3.3: B P Monitor

Measurement of blood pressure

As a GDA you must know the steps to measure the blood pressure of the patient although it is the duty of the nurse, you only need to assist him/her in doing that.

- **Step 1:** First, see that the patient is relaxed and is comfortably positioned on the bed.
- **Step 2:** The patient extends the arm. The cuff of the BP apparatus is wrapped around the patient's upper arm.
- **Step 3:** The drum of the stethoscope is placed under the pressure cuff. The sound of the blood flow is heard when the drum is placed.
- **Step 4:** The hand bulb is used to inflate the cuff to create maximum pressure. This is indicated in the mercury gauge by the rise in the level of mercury.
- **Step 5:** The doctor inflates the pressure cuff until the sound of blood flow stops. Now the pressure cuff is deflated by using the release valve of the hand bulb and the pressure drop is indicated by the mercury level.
- **Step 6:** The reading of the mercury level is noted when the first sound is heard on the stethoscope.
- **Step 7:** The pressure cuff is deflated until the normal blood flow sounds are heard again. The reading of the mercury level is noted when the blood flow sounds are heard normally.
- **Step 8:** The pressure cuff is removed from the arm of the patient and the patient is asked to relax.

12.3.4 Breathing Rate

Breathing is a process of taking in breath which we call inspiration and letting out breath which we call expiration. When we breathe in air, the lungs get filled with air. The lungs absorb the oxygen in the air inhaled. The blood then carries this oxygen and supplies it to all parts of the body. Breathing rate is the number of breaths a person takes in a minute. Measuring breathing rate is a good way to check on the supply of oxygen within the body. Normal breathing rate for adults is 12 to 20 breaths per minute.

12.3.4.1 Measurement of Breathing Rate

The most common method of measuring breathing rate is by physical examination of the patient for a minute. The steps involved are:

- Step 1:** Seat the patient comfortably on the examination stool.
- Step 2:** Ask the patient to breathe normally. Observe the number of chest expansions.
- Step 3:** Measure the breathing rate by counting the number of chest expansions in one minute.

The normal breathing rate of a healthy person is 12 to 20 breaths per minute. If the breathing rate is higher than 20 breaths per minute it indicates that the oxygen supplied to the body parts is inadequate. Lower breathing rate indicates the abnormality of the functions of the lungs. Both high and low breathing rates need medical attention. You must report them to the doctor immediately.

12.3.5 Height and Weight of a Patient

Body measurements have been used as nutritional indices for many years. Height is the measurement taken from crown to heel after ensuring that the neck, hip joint and knees of the Patient are extended and weight is the heaviness of the person.

To measure height and weight of a patient, the following equipment is needed:

- Scales with a height rod / height measuring apparatus
- Tape measures or measuring rod
- Weighing machine / Weight balance / Weighing scale
- Pen / Pencils / Chalk to mark
- Weighing machine / Weight balance / Weighing scale
- Pen / Pencils / Chalk to mark
- Height and weight record sheet

Procedure for measuring height and weight



To weigh a patient:

- Explain the procedure to the patient being weighed.
- When weighing children, explain the procedure to the mother. To weigh an infant:
- A clean paper is kept when weighing of an infant takes place by keeping the baby on the platform and noting the weight.
- Place the child on the platform.
- Read the weight after balancing and record it on the infant's chart.
- Tell the mother the recorded weight and show / tell how much weight the child has gained or lost.

To weigh children and adults:

- Balance the scale / weighing machine.
- Instruct the person to stand on the middle of the platform of the weighing machine.
- In case of a scale, move the bar to the right or left until the scale balances.
- Read the scale or the reading on the weighing machine.
- Record the weight on the chart immediately. Tell the person his weight.

To measure the height of a newborn / infant:

- Place the tape measure or measuring rod on a table or firm surface and place the infant alongside the measure. Hold the head and heel firmly and note the reading or,
- Place the infant on a white cloth or paper, hold the head and feet in a straight line; have someone mark the position of the head and heel; place the tape measure on the marked area and read the length.



Fig.12.3.4: Measuring height



Fig.12.3.5: Weighing a patient



Fig.12.3.6: Weighing Machine

To measure the height of school children and adults:

- Instruct the person to stand against the height rod, with his feet together, with his back towards the height rod, arms and hands straight and head erect.
- Place a flat board or ruler on top of his head and read the figure appearing at the point where the ruler touches the head.
- Read out the height to the person and record it.

Skills Practical: Role Play 

1. In groups of four prepare a role play on measuring vital body parameters as:
 - Body temperature
 - Blood pressure
 - Height and weight
2. You have 10 minutes to prepare your role plays.

Tips 

- The heart rate, blood flow, body temperature and the oxygen supply are described as the “Vital Signs”.
- The body temperature is normally measured using a thermometer.
- The BP apparatus or sphygmomanometers is used to measure the blood pressure.

Exercise 

1. How will you measure body temperature? What is the importance of monitoring body temperature?

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2. Define documentation. Write the purpose of documentation.

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3. List down some of the care that nursing assistants must document.

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.....





13. Elimination

Unit 13.1 - Elimination



HSS/N 5105
HSS/N 5110

Key Learning Outcomes

At the end of the unit, you will be able to:

- Understand the importance for excreta disposal in human body.
- Understand care to be provided in case of urine and bowel Incontinence or patient with urinary catheter.
- Observation of urine and stools for routine as well as special reporting.

UNIT 13.1: Elimination

Unit Objectives

At the end of the unit, you will be able to:

- Explain the meaning for excreta disposal in human body.
- Understand care to be provided in case of urine and bowel Incontinence or patient with urinary catheter.
- Observation of urine and stools for routine as well as special reporting.

13.1.1 Managing Elimination Needs

Removal of body waste is called elimination. Some patients may not be in a state to move in order to eliminate their body wastes. Some may not even be aware of the need for elimination of their body wastes. How must you help such patients? Is there any special equipment that you must use to help such patients? Which are these equipment and how to use them?

13.1.2 Equipment Used for Managing Elimination Needs

Most patients who are in a good medical condition can express the need to use the toilet and manage their needs themselves. However, many of them need some help to move to the toilet. For patients who are bedridden, v can manage their elimination needs by using various equipment.

Some of the equipment used are:

Bed Pan

A bed pan is used for patients who are bed ridden but are able to say their need to pass urine or defecate.

Urinal

A urinal is much like a bed pan but is meant only for a male. The urinal is shaped in a way that only a male patient may use it while still in bed and remain comfortable.

Diapers

Diapers are used for Patients connected to the bed are provided with different types of elimination needs.

Foley Catheters

These are tube like equipment that are inserted directly into the urinary bladder and are used to empty the urine directly from the bladder.

On the basis of the patient's condition, the doctor would advise the use of the appropriate equipment. You must know the equipment to be used depending on the medical condition of the patient.



Fig.13.1.1: Bed Pan



Fig.13.1.2: Diapers



Fig.13.1.3: Foley Catheters

13.1.3 Placing the Bed Pan for Use

In order to help a person with the bedpan, you must put the following items within easy reach of the patient.

- A basin with warm water
- Disposable gloves
- Toilet paper
- Towels
- Wash clothes

Steps are as follows:

- **Step 1:** Tell the patient that you are helping him/her in using the bed pan which will further help him/her to overcome any fear or uncertainty.
- **Step 2:** Try to lower the head part of the bed to a lowest position that a patient can bear. Also try to level the bed so that the patient can easily roll on his/her side.
- **Step 3:** Enquire the patient, on which side he/she is more comfortable.
- **Step 4:** Put on the disposable gloves.
- **Step 5:** Enquire the patient to hold the rails of the bed so that they can stay to the rolled side.
- **Step 6:** Bring the patient a warm bed pan which is rinsed in hot water and then dried. Bring it inserted in paper cover.
- **Step 7:** Place the bed pan across the buttocks, to ensure the buttocks are under the curved edge of the bed pan.
- **Step 8:** Ask the patient to sit back to ensure that the bed pan does not move from its place. Hold the bed pan till the time patient sit back to its place.
- **Step 9:** Lift the head of the patient somewhat from the bed, so that patient can come in a sitting position, which will relax him/her.
- **Step 10:** Provide some privacy to the patient. In addition, ensure that he/she has a call button nearby for contacting you.
- **Step 11:** When the patient is done, answer his call accordingly. Carry the warm water basin.
- **Step 12:** Take out the bed pan after its use.

13.1.3.1 Removal of Bed Pan After Use

- **Step 1:** Lower the head of the bed to a flat position, if possible.
- **Step 2:** Ask the person to turn over so that you can take away the bed pan.
- **Step 3:** Grab the bed pan with one hand and carefully take off from the person's buttocks.
- **Step 4:** If the person has had a bowel movement, use a washcloth and towel to clean the area using the appropriate cleansing methods as per your hospital's protocol.
- **Step 5:** Place the bed pan on a chair and place a towel over the contents of the bed pan. Never place the bed pan on a side table or a bed table.
- **Step 6:** Cleanse the person's buttocks or genital area first with toilet paper or wet wipes. If necessary, wash the anal area with soap and warm water. Dry thoroughly.
- **Step 7:** Adjust the position and dressing of the patient. Keep the bedding in order. Step 8: Open the windows to keep the air fresh and clean.

Elimination of wastes such as faeces and urine can lead to different types of infections. You must maintain hygiene while helping the patient in managing their elimination needs.

13.1.3.2 Precautions to be taken While Using Bed Pan

- Respond to the call of the patient quickly.
- Explain the process politely before placing the bed pan.
- Always wear gloves while helping the patient use the bed pan.
- If the patient complains of pain while urinating or if you observe any abnormality such as bleeding while passing urine or blood in the faecal matter, report it to the nurse or the doctor immediately.
- If you find any areas of redness or soreness on the skin of the patient near the buttocks or the genitals, report to the doctor immediately.
- Once the bed pan is removed and cleaned, fill it with warm soap water. Use a toilet brush to clean the pan thoroughly. You can also use a bleach to clean the bed pan. After cleaning the bed pan, sanitize it immediately.
- Maintain proper hygiene while managing the elimination needs of the patient. It is very critical in the prevention of many infections.

13.1.4 Using Urinals

Patients who are recovering from surgery or illness and cannot reach to a bathroom quickly are forced to ask for help when they feel the need to urinate.

Step to use Urinals 

- **STEP 1:** Collect equipment required for the procedure
- **STEP 2:** Put on safe hand gloves

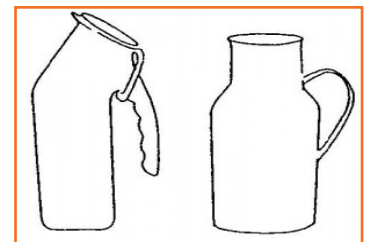


Fig.13.1.4: Urinals

- **STEP 3:** Share the procedure with the patient
- **STEP 4:** Choose a position that is comfortable for patient. If patient is not comfortable to stand on his/her feet, ask him/her to sit when using the urinal.
- **STEP 5:** Tilt the patient ward slightly, aims into the urinal.
- **STEP 6:** Empty and clean the urinal after use.

13.1.5 Using Diaper

A person whose body is bigger than that of small babies wears an adult diaper. There are various situations when an adult needs to wear diapers such as severe diarrhea or dementia, mobility impairment, incontinence and so on.

Some people have medical conditions due to which they have urinary or fecal incontinence, require diapers or comparative items since they are unable to control their bladders or bowel movement. Bedridden patients, including those with good bowel and bladder control, may wear diapers since they are unable to go to the toilet frequently or independently.



Fig.13.1.5: Diaper

Changing Diapers

- **Step 1:** If the patient is soiled, you also want to have either wipes or washcloths to perform perineal care. Make sure at least one of the washcloths is dampened with warm water and another is completely dry. You need multiple washcloths if they had a bowel movement.



Fig.13.1.6(a): Changing Diapers

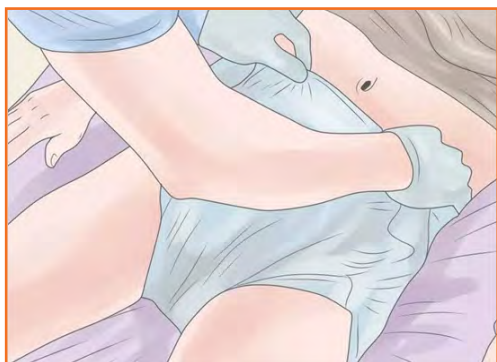


Fig.13.1.6(b): Changing Diapers

- **Step 2:** Wipe the patient's genitals thoroughly with the dampened washcloth and then pat them dry with the dry one. You don't want to leave moisture on the patient's skin or else it defeats the purpose. If they have a foley catheter, make sure you wipe around it as well as four inches up the tubing coming out of the urethra.
- **Step 3:** With patients on bedrest, the best way to put an adult diaper on is to have them roll onto their side. An incontinence pad helps immensely if the patient can't roll on their own.

- **Step 4:** If they are able, ask the patient to grab the rail on the side of the bed that you are turning them, which will be the face you are on. If the bed doesn't have a rail, be very cautious. You don't want the patient rolling off the bed.
- **Step 5:** Then grab the pad on the opposite side of you and slowly pull it upwards and towards you, assisting the patient to their side. Once they are in place, support the patient's back and bottom and put the pad back on the bed.

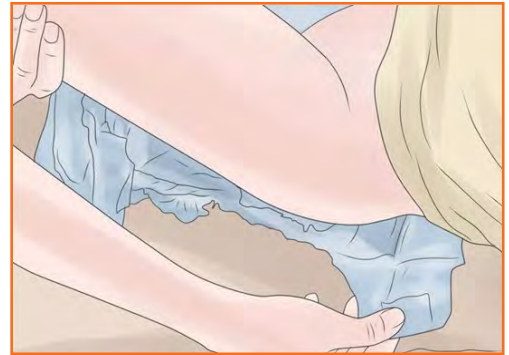


Fig.13.1.7(a): Cleaning Body



Fig.13.1.7(b): Cleaning Body

- **Step 6:** If they are soiled wipe their bottom and in the creases around their bottom thoroughly with the wipes or dampened washcloth and pat dry with the dry one. Then place barrier cream on their bottom if necessary.
- **Step 7:** Make sure the plastic side of the adult diaper goes on the outside of the patient. Most briefs have four sticky flaps, two on each end. Place that half underneath the patient's bottom in such a way that it will be directly in the center once they roll back. Tuck the end closest to them underneath their hip as much as you can. The rest of the brief should be down by their legs.
- **Step 8:** Once it is in place, ask or assist them back flat onto their back. Then roll them the other way exactly how you did it the first time and pull out the rest of the brief.
- **Step 9:** The other end of the brief down at their legs should then be pulled up between their legs towards the stomach. Lay it flat and wrap the sticky flaps over the end on the stomach securing the brief. Make sure it is wrapped very snug so it doesn't slip off.

Tips

- Respond to the patient call quickly
- Always wear gloves while helping the patient use the bed pan.
- If the patient complains of pain while urinating report it to nurse or doctor immediately.
- If you find any redness or soreness in the patient's skin inform it to nurse or doctor immediately.
- Maintain proper hygiene while managing the elimination needs of the patient.





14. Bed Making

Unit 14.1 - Bed Making



HSS/N 5114
HSS/N 9605

Key Learning Outcomes



At the end of the unit, you will be able to:

- Understand various types of linen used in hospitals.
- Develop an understanding for the need of periodic changing of linen.
- Understand preparation of an empty bed, occupied bed and room after discharge etc.
- Describe how to prepare room for admission.

UNIT 14.1: Bed Making

Unit Objectives



At the end of the unit, you will be able to:

- Know about the various types of hospital beds.
- Make up the bed for patient.

14.1.1 Hospital Bed

A hospital bed is specially designed for hospitalized patients or others in need of some form of Healthcare.

Common features are adaptable height for the entire bed, the head, and the feet, modifiable side rails, and electronic buttons to operate both the bed and other nearby electronic devices.

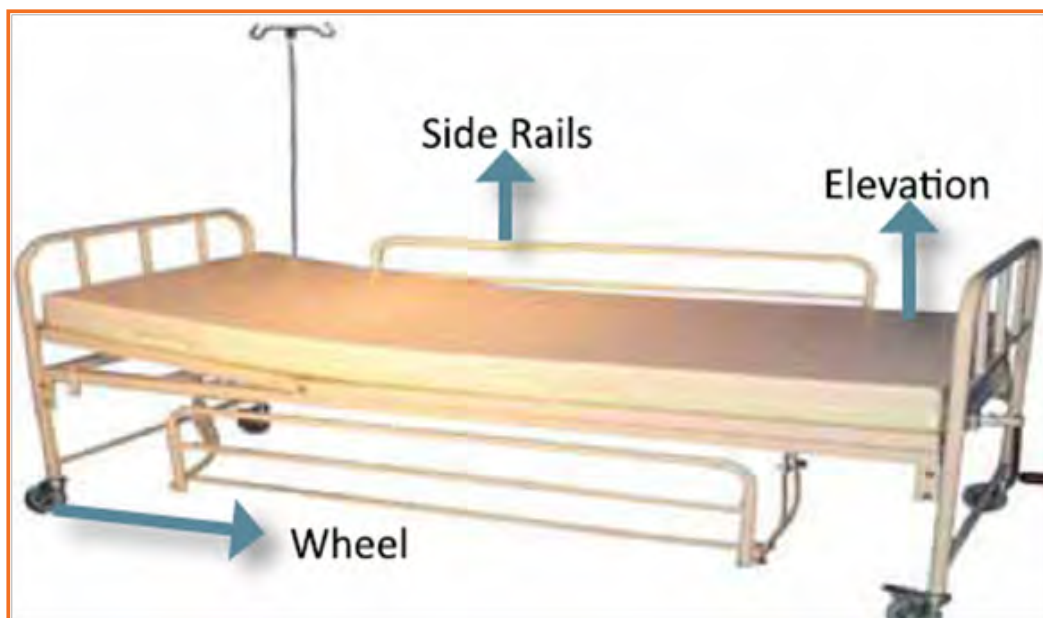


Fig.14.1.1: Hospital Bed

Wheels: Enable easy movement of the bed, either within parts of the facility or within the room. Wheels are lockable. For safety, wheels can be locked during shifting the patient in or out of the bed.

Elevation: Beds can be raised and lowered. While cranks are used in old beds, on modern beds this is an electronic feature.

Side rails: These can be raised or lowered, as they provide protection for the patient and make the patient, feel more secure.

14.1.1.1 Types of Hospital Beds

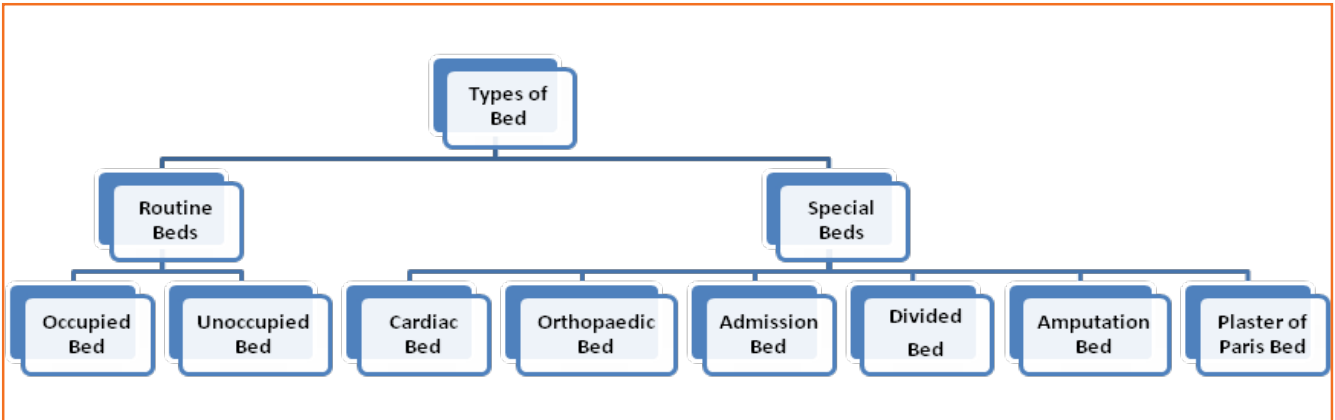


Fig.14.1.2: Types of Hospital Beds

Routine beds

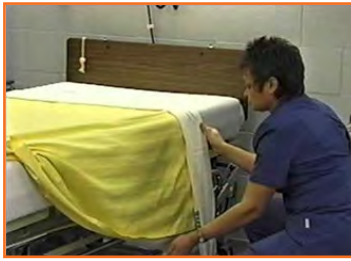


Fig.14.1.3: Simple unoccupied bed.



Fig.14.1.4: An occupied bed.

Special beds



Fig.14.1.5: Cardiac bed



Fig.14.1.6: Orthopaedic bed



Fig.14.1.7: Operation bed



Fig.14.1.8: Admission bed



Fig.14.1.9: Plaster of Paris bed



Fig.14.1.10: Amputation bed

14.1.2 Bed Making

The reason for bed making is to enable Patients to feel good and to diminish pathogens in the Patient's condition. Spotless, dry, and sans wrinkle cloths additionally help to diminish the potential for skin breakdown and they are essential to help control smell.

Important supplies for bed making incorporate clean materials, a tight base sheet to avoid wrinkles that may cause skin irritation, and clothing of the upper bed that does not weigh on the Patient's body or confine their movement, yet at the same time covers his or her shoulders. Changes in fundamental bed making might be essential for comfort and to suit a Patient's conditions.

Purpose of Bed Making

- To minimize source of skin irritation.
- To provide a clean environment for the Patient.
- To promote the Patient's necessities.
- Patient has clean, safe surroundings throughout hospitalisation.
- Patient verbalizes a sense of comfort while in bed.
- To reduce source of illness.
- To provides a good look.
- To provide a clean environment.
- Patient's skin remains free of irritation throughout hospitalization.
- Prepare the bed for the Patient's return.



Fig.14.1.11: Bed Making

Supplies

- Bed side
- Linen Hamper or bag
- Bed sheet
- Blanket
- Top sheet
- Pillow Cover
- A plastic draw sheet
- Cotton draw sheet
- Bottom Sheet
- Mattress Pad
- Gloves

Kinds of Linens

There are five types of linens generally:

1. **Blanket:** A large piece of fabric which is delicate, woollen and used to keep warm or as a bed cover.



Fig.14.1.12: Blanket



Fig.14.1.13: Top sheet

3. **Cotton draw sheet:** A piece of fabric that the rubber sheet and is used to absorb and moisture.



Fig.14.1.15: Bottom sheet

2. **Top sheet:** Used to cover the patient in order to provide warmth, made of thick cotton, thermal material.



Fig.14.1.14: Cotton draw sheet

4. **Bottom sheet:** It is a mattress cover.
5. **Rubber sheet:** Used to prevent the bottom sheet from soiling due to patient secretions. It's usually placed over the centre of the bottom sheet.

14.1.2.1 Steps of Bed Making

- **Step 1:** Wash your hands, wear gloves and carry a clean sheet to the patient's room.
- **Step 2:** Greet the patient and inform them that you will be making their bed now. Start by explaining how they can help in the process, or modify the process as per their comforts and needs. Give them privacy, if needed.
- **Step 3:** Shift any chairs/stools away from the bed if there are any.
- **Step 4:** Pull up the support bed rail to ensure that the patient does not fall out of the bed. Adjust the height of the bed to a comfortable level so that you don't strain your back.
- **Step 5:** If the patient is feeling fine then lower the head/top portion of the bed to ensure a wrinkle-free spread.
- **Step 6:** Cover the patient with a cover to prevent them from exposing them to cold air. Fanfold the top layer of the bed sheet and then spread it underneath the cover. Loosen the bed sheet kept at the foot of the bed and remove it
- **Step 7:** If the mattress slides down when raising the head of the bed, then pull it up back. If the patient is capable ask them to hold the head of the bed.



Fig.14.1.16: Cover the patient with a bath blanket

- **Step 8:** Ask the patient to hold the bed rails and, gently, roll the patient to the other side of the bed. To make the patient comfortable, place the pillow under their head.
- **Step 9:** Similarly, remove the lower layer of the bedsheet, one side at a time.
- **Step 10:** Put the clean bed sheet on the bed, keeping the center fold in the center of the bed.
- **Step 11:** Fanfold the clean bed sheet towards the patient, and place the sheet, around 38 cm from the top portion of the bed, with its center fold in the middle of the bed. Then, tuck in the whole edge of the sheet on your nearest side. Fanfold the rest of the sheet towards the patient.



Fig.14.1.18: Place the sheet behind the patient

- **Step 15:** Remove the old pillow cover and put the removed bedsheet and the pillow cover it in the laundry bag. Put a clean cover over the pillow. Place the patient's head on the pillow.
- **Step 16:** Place the clean top sheet over the patient.
- **Step 17:** Now, tuck the top sheet and spread under the mattress at the foot of the bed.

- **Step 21:** Raise the head of the bed to a comfortable position as told by the patient. Ensure the bed rails are raised and the wheels are locked. Observe and assess the patient's body alignment, mental and emotional status.
- **Step 22:** Return the chairs and stools earlier kept away to their original positions. Remove the laundry bag from the room and discard the gloves.



Fig.14.1.17: Fanfold the bottom sheet

- **Step 12:** Roll the patient gently over the dirty and fan folded sheet to the side with the clean bed sheet.
- **Step 13:** Similarity, do the other side of the bed.
- **Step 14:** If the patient is comfortable, help them into a supine position.

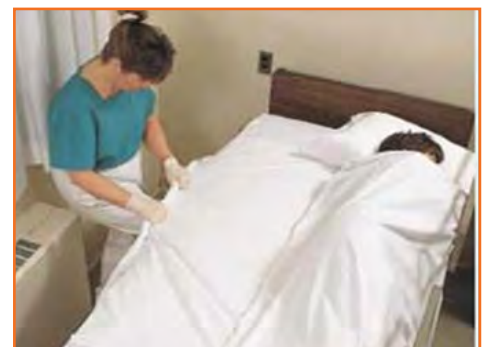


Fig.14.1.19: Place the sheet to other side of bed



- ### Tips
- Make sure the bed is firm, smooth and unwrinkled. Wrinkled bed-sheet can lead to undue pressure points on the patients leading to bed sores.
 - Inspect the mattress and pillows daily of vermin. Destroy them if found in bed.
 - Make adaptations according to climatic differences, individual needs, customs and habits related to the patient.
 - Turn the mattress, air it and make it free from lumps and creases.



Notes



15. Fall Prevention

Unit 15.1 - Fall Prevention



HSS/N 5101, HSS/N 5103
HSS/N 5105, HSS/N 5106
HSS/N 5111, HSS/N 9606

Key Learning Outcomes

At the end of the unit, you will be able to:

- Describe standards for prevention of patient's fall.
- Describe care to be taken to avoid fall in high risk patients.
- Describe measures to be taken to prevent falls.
- Describe action in event of a fall incident.

UNIT 15.1: Fall Prevention

Unit Objectives

At the end of the unit, you will be able to:

- Describe standards for prevention of patient's fall.
- Describe care to be taken to avoid fall in high risk patients.
- Describe measures to be taken to prevent falls.
- Describe action in event of a fall incident.

15.1.1 Fall Prevention

Due to various reasons, patient's falling is a serious problem in the hospital and is used as a quality measure. Some common challenges a due to which the patients are vulnerable to falls in the hospitals are:

- New environment
- Illness
- Surgery
- Bed ridden
- Medications
- Treatments
- Duty of various tubes and catheters

Falls are destructive to the patients and their family members. Further a fall can result in fear of falling in future, downward spiral of reduced mobility, and function loss.

The connection from fall risk nursing evaluation to risk conversation of care team members, to custom-made interruption to avoid risk is yet to be rooted. The aim of the Fall TIPS research study is to root this link. Fundamental findings from the interviews of the patients concluded the Fall TIPS research study suggests that most of the patient fall in the hospitals can be avoided if the patient waits for help. Fall prevention measures requires certain measures such as checking the patient on regular interval of time, ensuring that patient's personal possessions are easily accessible. During the rounds, the flowing 5P check is required:

1. **Pain:** Determine the pain level of the patient. Give the pain killer, if required.
2. **Personal Basic Needs:** Offer help in using the toilet, food and other basic needs.
3. **Position:** Ask and assist the patient in attaining a relaxed position or immobile patient in maintaining skin honour.
4. **Placement:** Ensure that things such as phone, bell and reading material are easily assessable to the patient.
5. **Prevent Falls:** Ask the patient or their family member to turn on the call light whenever the patient needs to move out of bed.



Fig.15.1.1: Patient falls

Importance of Fall Prevention

It supports in clinical decision making. Utilization of a regulated assessment guarantees that key risk factors are determined and executed.

Fall prevention encourages care planning. A good care plan works much better is the specific details about the possible risks that a patient may be at, are clearly defined and mentioned. A GDA needs to be use a special language using which they depict potential risks for the patient.

Assessment of risk factors

Assessing key risk factors include:

- **History of falls:** Patients who have a history of falls are prone to more falls in future.
- **Mobility problems and use of assistive devices:** Those patients who have problem in walking or require a supplementary equipment for mobility are more likely to fall.
- **Medications:** Patients who are on an expansive number of physician endorsed medicines, or patients who have been prescribed medicines which may cause sedation, misperception or orthostatic pulse changes are at a greater risk for falls.
- **Mental status:** Patients who are suffering, or have a history of, from delirium, dementia, or psychosis may be moody or temperamental, which puts them at a risk for falls.
- **Continence:** Patients who have urinary recurrence are always at a greater risk for falls.

Other risks for falls include restricted mobility due to being fastened to gear, such as an IV pole, vision impairment and orthostatic hypotension.



Fig.15.1.2: Fall Risks

15.1.2 Role of GDA in Fall Prevention

In order to mitigate the risk of patient fall a GDA should :

- Identify the patient at risk for falls
- Relocate patient's room closer to nurse's station, if possible.
- Check patient at least every hour.
- Ensure that patient beds are in the lowest position and the upper side rails are upright.
- Offer bathroom visits every 2 hours.
- Reinforce activity limits and safety precautions with patients and family.
- Notify family member to obtain footwear and ambulation equipment from home (i.e. walker, cane) when applicable.
- Assess the need for a physical therapy consultation
- Ensure that the patient is using the proper assistive device to ambulate
- Collaborate with staff members regarding a fall prevention plan.



- In healthcare units following fall prevention guideline need to be adopted:
 - » Familiarize the patient with the environment.
 - » Demonstrate the use of call light to the patient.
 - » Keep the call light within the easy reach of the patient.
 - » Keep all the patient's personal belongings within the easy reach of the patient.
 - » Ensure the handrail in the bathrooms, rooms and hallway are strong enough.
 - » Keep the bed in a low position when the patient is resting and when patient has to move from the bed, raise the bed to a desirable height.
 - » Lock the brakes of the beds.
 - » Lock the wheels of the wheelchair when not in use.
 - » Ensure the patient's footwear should be non-slippery, comfortable and should be well fitted.
 - » Utilize night lights or additional lighting.
 - » Ensure the floor surfaces are dry and clean. In case of spills, clean the floor immediately.
 - » Ensure the care areas of the patients are uncluttered.
 - » Follow safe patient handling practices.



Notes





16. Mortuary Management

Unit 16.1 - Mortuary Management



Key Learning Outcomes



At the end of the unit, you will be able to:

- Learn Managing last offices.
- Packaging dead bodies in case of non communicable and communicable diseases.

UNIT 16.1: Mortuary Management

Unit Objectives



At the end of the unit, you will be able to:

- Carry out last office work in the hospital

16.1.1 Definition of Death

Death affects a person physically, psychologically, emotionally, spiritually, and financially. If the death is abrupt and unexpected, or ongoing and hoped for, there are information and help accessible to address the impact of dying and death.



Fig.16.1.1: A Dead Body

Death is defined as:

1. "Cessation of heart-lung function, or of whole brain function, or of higher brain functions."
2. "Either permanent cessation of circulatory and respiratory functions or permanent cessation of all functions of the whole brain, including the brain stem."

16.1.2 Purpose of the Procedure

The purpose of the procedure is to:

- Assist the sufferer in having a comfortable and peaceful death.
- Prevent injury to the body tissues after death.
- Prevent contamination from drainages while the body is being transferred.
- Prevent physical deformities of the body.
- Relieve mental tension of relatives.
- Console distressed relatives.
- Prevent the other patients in the ward from having traumatic experiences.

16.1.3 Signs of Approaching Death

Dying patients exhibit signs of approaching death. These signs can be seen in the form of changes in:

1. **Facial appearance:** Facial muscle relaxes, cheeks become flaccid, facial structure may change, loss of muscle tone and anaemia.
2. **Sight, speech and hearing:** Sight gradually fails; the pupils fail to react to light. Eyes are sunken and half closed and a film appears over the eyes. Speech becomes difficult, confused, unintelligent and finally impossible. Hearing is thought to be retained longer.
3. **The respiratory system:** Respiration becomes irregular, shallow or very slow, and Sertorius due to the presence of secretions.
4. **The circulatory system:** Circulatory changes cause alterations in the temperature, pulse and respiration. Radial pulse gradually fails.
5. **The gastro-intestinal system:** Hiccoughs, nausea, vomiting, abdominal distension are seen. The gag reflex disappears; the patient feels the inability to swallow.
6. **The genitor-urinary system:** Retention of urine, distention of the bladder, incontinence of urine and stool due to loss of sphincter control.
7. **The skin and muscular-skeletal system:** The skin may become pale, cool and sweat profusely.
8. **The central nervous system:** Reflexes and pain are gradually lost. Patient may be restless due to lack of oxygen and due to raised body temperature, although the body surface is cool.

16.1.4 Care of a Patient Approaching Death Psychological support

There are 5 psychological stages that dying persons pass through. These are:

- Denial
- Anger
- Bargaining
- Depression
- Acceptance

A person approaching death has the following psychological needs: Provide relief from loneliness, fear and depression.

- Maintain security, self confidence and dignity.
- Maintain hope.
- Meet the spiritual needs according to his religious customs.
- Provide a quiet environment.
- Screen the patient's unit to provide privacy.
- If workable, shift the patient to a individual room.
- Position the patient on his side or turn his head to the side to obstruct ambition.
- Remove the blanket to reduce the weight on their body.

- Never leave the patient alone.
- Never say anything near the patient which might hurt them because no one knows how long the power of hearing remains.
- Keep the airways clean by clearing the mucous secretions rattling in the oropharynx with the help of suction.
- Lips and tongue should be moistened with a wet cotton swab. Water should not be poured into the mouth. Perspiration should be wiped away etc.
- Be sympathetic to the patient's relatives and support them at the time of their emotional outbursts and reassure them.

16.1.5 Signs of Clinical Death

The signs of clinical death are as follows:

- Absence of pulse, heart beat and respirations
- Pupils of the eye becoming fixed and non-reactive to light
- Absence of all reflexes.
- Rigor mortis, a stiffening of the body after death, is due to fixation of the muscles. Rigor mortis generally appears in a few hours. Once a person has been announced dead, his body should be taken care properly.

16.1.6 Procedure for Care of Body After Death

The steps for caring for a body after death are as follows:



- **Step 1:** Ascertain that the death is declared and certified by the doctor on duty. Ensure that the necessary forms are filled and signed by the person concerned.
- **Step 2:** Close the eyes immediately, straighten the arms laid at the sides. Straighten the legs. Any dentures that have been removed are to be replaced and the mouth is to be closed. Support the chin with a jaw bandage. The head should be elevated on a pillow.
- **Step 3:** Keep the body in a normal position. The body should be cared for immediately after death and before rigor mortis develops.
- **Step 4:** The body should be cared for with reverence.
- **Step 5:** Remove all the appliances used for the patient i.e. Ryle's tubes, urinary catheter, oxygen catheters, all comfort devices, blankets, drainage tubes and soiled dressings. Adhesive marks are to be removed.
- **Step 6:** Remove ornaments of any type from the dead body: List and entrust it to a close relative and obtain a receipt for delivery of the same. Any other belongings of the patient that was entrusted at the time of admission should also be checked and entrusted to the relatives.
- **Step 7:** The body is bathed, hair combed and dressed in clean clothes. Pack vagina, rectum and nose with gauze or cotton. A perineal pad and diaper is applied to prevent the escape of urine and stool.
- **Step 8:** Place three identification labels - first on the left wrist, on the chest and over the packed body with details of the name, age, sex, ward, bed no., diagnosis, cause of death, complete address, date and time of death.

- **Step 9:** Place hands over the chest and tie the thumbs and wrists together.
- **Step 10:** Tie the toe and ankles together.
- **Step 11:** Place a clean bed sheet under the body. Fold the top of the sheet over the face and shoulders.
- **Step 12:** Hold the bottom end of the sheet over the feet and then cover the body by folding the sheet from the sides and fixing it with tapes and bandages.
- **Step 13:** Place the 3rd identification tag over the sheet. Cover with another clean sheet.
- **Step 14:** In medico-legal cases the concerned authorities (CMO) should be notified and one extra death certificate is prepared by the doctor and sent to the mortuary / police inspector on duty.
- **Step 15:** If the patient was suffering from an infectious disease, the body should be handled with special care to prevent the spread of infection.
- **Step 16:** Ensure that the due payment is updated and paid. Send one copy of the death certificate to the mortuary, one to the admission office and one with a case sheet.
- **Step 17:** The dead body must be dispatched to the mortuary within half an hour after death through the bed-lift. Enter it in the dispatch book, report book and treatment book.
- **Step 18:** After the body is removed from the ward, the unit should be treated as in case of discharge of the patient i.e. fumigation, carbonisation, disinfection, etc.
- **Step 19:** Make a detailed written record of all the activities undertaken in the nurse's record of the patient and also in the nurse's report book. Record time of respiration stopped and death declared with red ink. Complete the case sheets and make an entry in the dispatch book. Special points to remember.
- **Step 20:** If the relatives want to care for the body, allow them to do so. Be kind, courteous and helpful.
- **Step 21:** The body must be transferred from the ward to the mortuary with great care, within an hour after death.
- **Step 22:** No dead body should be handed over to the relatives from the wards.
- **Step 23:** Inform the relatives that:
 - » The body can stay in the mortuary for 48 hours, after which it will be disposed off.
 - » Arrangements for bathing the body are provided in the mortuary.
 - » Arrangements for a funeral van can be made through the enquiry office on payment.
 - » Death certificate can be obtained from the medical record section on written request.

Tips

- Ascertain that the death is declared and certified by the doctor on duty.
- Ensure that the necessary forms are filled and signed by the person concerned.
- Prevent the contamination from drainages while the body is transferred.
- Relieve the mental tension of the relatives and console them.
- Prevent other patient's in the ward from having traumatic experiences.



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17. Special Procedures

Unit 17.1 - Special Procedures

Unit 17.2 - Transporting Specimens



Key Learning Outcomes

To understand the role of GDA during Special Procedure while assisting nurse/physician:

1. Application of heat and cold
2. Administering Oxygen
3. Suctioning
4. Catheterization
5. Enema
6. Specimen collection
7. Feeding through Ryle tube

UNIT 17.1: Special Procedures

Unit Objectives

To understand the role of GDA during Special Procedure while assisting nurse/physician

- Application of heat and cold
- Administering Oxygen
- Suctioning
- Catheterization
- Enema
- Feeding through Ryle's tube

17.1.1 Heat and Cold Application

Both heat and cold can help reduce pain. However, it can be confusing to decide which is more appropriate at any given time. These basic rules may help:

- Use cold for acute pain or a new swollen/inflamed injury.
- Use heat for chronic pain or an injury that is a day or more old.

Purposes of heat applications

- Promote healing & comfort
- Reduce tissue swelling

Results of heat applications

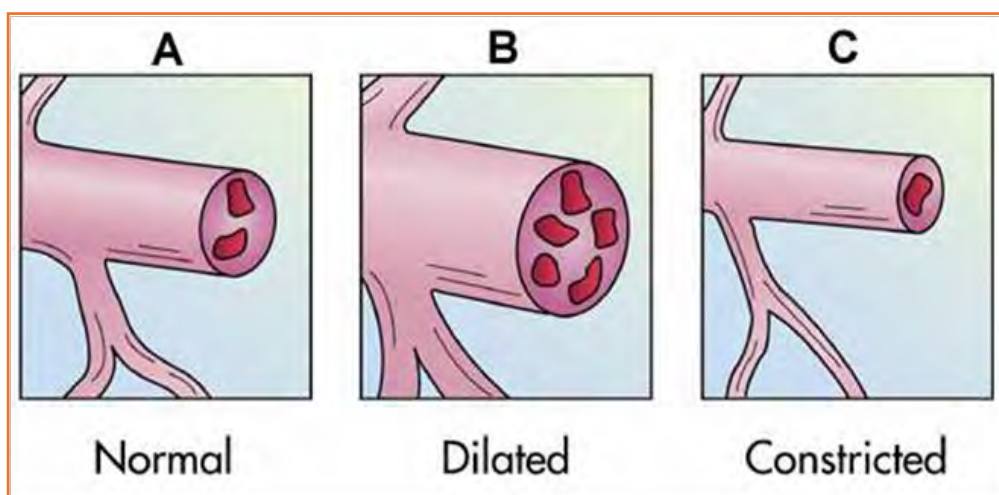


Fig.17.1.1: Results of heat applications

Local Effects of Heat

- Vasodilatation and increases blood flow to the affected area
- Bringing (oxygen, nutrients, antibodies, and leukocytes)
- Promote soft tissue healing
- Used for Patient with (joint stiffness, low back pain)
- Sedative effect
- Increase inflammation
- Relieves pain, relaxes muscles, promotes healing, reduces tissue swelling, decreases joint stiffness
- When applied, blood vessels dilate, causing increased blood flow, increasing O₂ & nutrition to area and removing excess fluid from tissues

Complications

- Burns (pain, excess redness, blisters, pale skin) applied on
- Excessive peripheral vasodilatation
- Drop in blood pressure
- Fainting attack

Systematic effects of heat

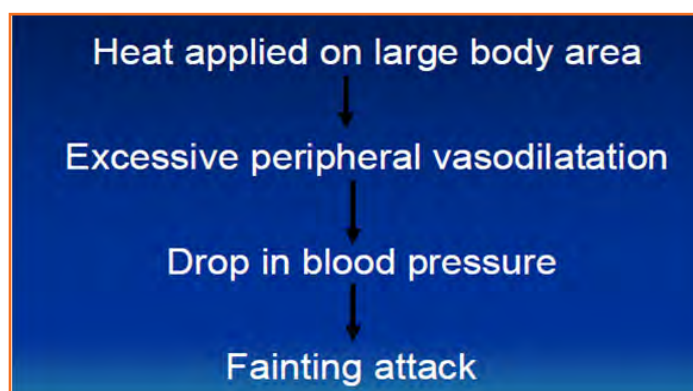


Fig.17.1.2: Systematic effects of heat

Application of Heat and Cold

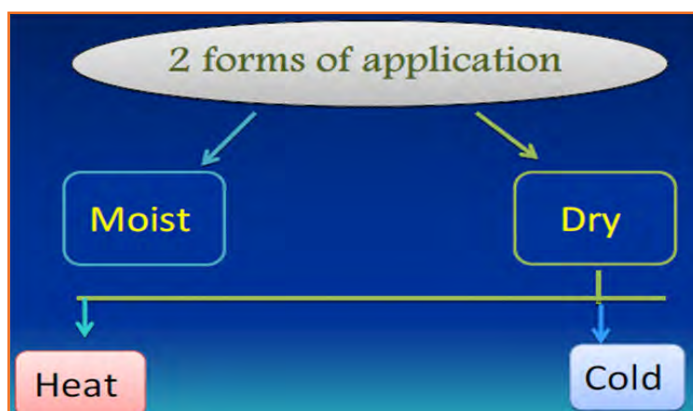


Fig.17.1.3: Application of Heat and Cold

Moist Heat Applications

- Water in contact with skin
- Water conducts heat
- Has greater, faster effects than dry
- Penetrates better
- Hot compresses
- Hot soaks
- Sitz baths

Local effect of cold

- Lowers the temperature of the skin and underlying tissue
- Vasoconstriction
- Decrease capillary permeability
- Slow bacterial growth
- Decrease inflammation
- Local anesthetic effect

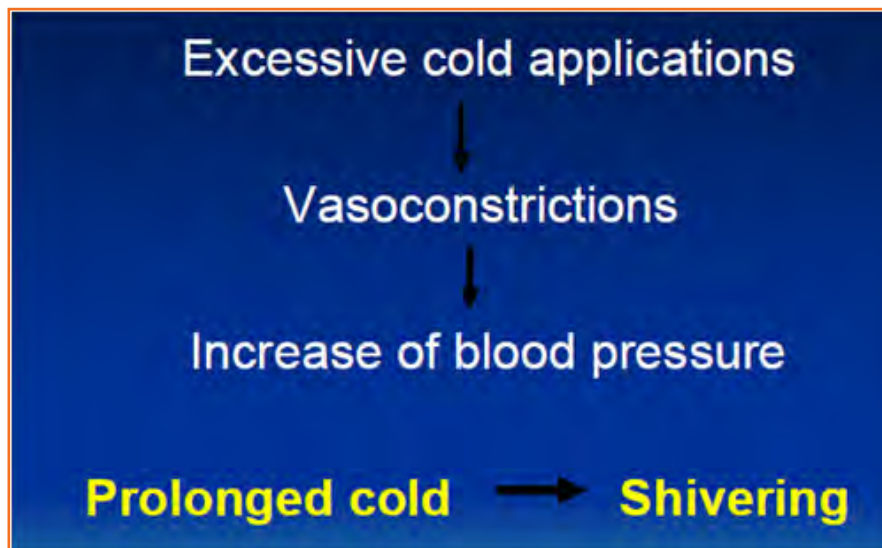
Systematic Effects of Cold

Fig.17.1.4: Systematic Effects of Cold

Cold Applications

- Complications of Pain, burns, blisters, Cyanosis
- Persons at risk
- Fair skinned
- Those with mental or sensory impairments
- High risk for elderly or very young

Contraindications to the use of cold

- Open wound (cold can raise tissue damage by lowering blood flow to an open wound).
- Impaired circulation (cold can further impair nourishment of the tissue).
- Allergy and hypersensitive to cold application.
- Some people react by decrease BP.
- Inflammatory response (swelling, joint pain).

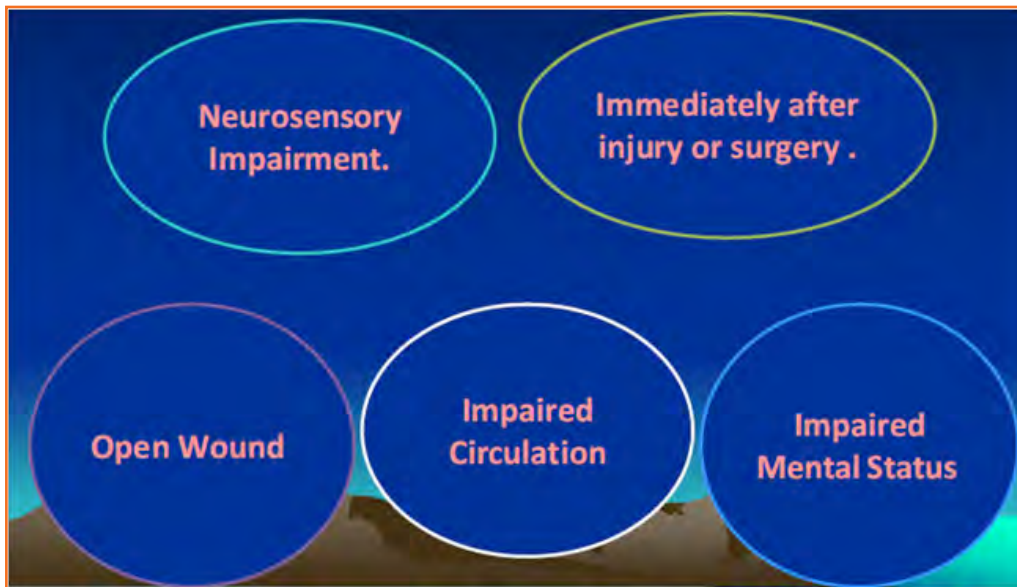


Fig.17.1.5: Contraindications to the use of cold

Contraindications to Use Heat and Cold

Description	Temperature	Application
Very cold	Below 15C	Ice bag
Cold	15-18 C	Cold packs
Cool	18 – 27 C	Cold compresses
Tepid	27 – 37 C	Alcohol sponge bath
Warm	37 – 40 C	Warm bath
Hot	40 – 46 C	Hot soak, hot compresses
Very Hot	Above 46 C	Hot water bag for adult

Fig.17.1.6: Contraindications to Use Heat and Cold

- The first 24 hour after traumatic injury .
- Active hemorrhage .
- Noninflammatory edema.
- Localized malignant tumor .

- Skin disorder.
- Open wound.
- Allergy or hypertensive to cold.

Temperature for hot and cold application

Methods of Applying heat and cold

- Hot water bag (bottle)
- Hot and cold packs
- Electrical Pads
- Ice Bags
- Compresses
- Soak
- Sitz Bath or hip bath
- Cooling Sponge Bath

Steps of heat and cold applications

- Understand the patient's condition.
- Select the temperature on the basis of patient status and agency policy.
- Thoroughly explain the procedure and benefits to the patient.
- Assess patient's status before during and after treatment is performed to prevent injury.
- Document the effects of therapy.

17.1.2 Emergency O₂ Management

Assessing patients

- For critically ill patients, high concentration oxygen should be administered immediately.
- Oxygen saturation, "the fifth vital sign", should be checked by pulse oximetry in all breathless and acutely ill patients (supplemented by blood gases) and the inspired oxygen concentration needs to be recorded on the observation chart with the oximetry result. (The other vital signs are pulse, blood pressure, temperature and respiratory rate).



Fig.17.1.7: Oxygen administration

- Pulse oximetry must be available in all locations where emergency oxygen is used. All critically ill patients should be assessed and monitored using a recognised physiological track and trigger system.

Oxygen administration

- Oxygen should be managed by staff who are trained in oxygen administration.
- The staff should use right devices and flow rates in order to attain the desired saturation range.

- Oxygen should be reduced in stable patients with satisfactory oxygen saturation.
- Oxygen should be crossed off the drug chart once oxygen is discontinued.

17.1.3 Suctioning

Suctioning is a procedure that removes excess secretions from the mouth and throat (oropharynx), from the nose and throat (nasopharynx), and from the windpipe (trachea) using a mechanical aspiration device (Suction machine).

Indications for Suctioning: The need for clearing the airway is evidenced by:

- More frequent or congested-sounding cough
- Visible secretions
- Audible gurgling noise while breathing
- Suspected aspirations of gastric or upper airway secretions

Operating the Suction Machine:

- Plug the suction machine into a grounded outlet.
- Check that the tubing from the machine to the collection jar is on and snug.
- Check that the lid to the collection jar is closed tightly.
- Attach the extension tubing to the collection jar.
- Turn the machine on and kink the extension tubing to block the flow of air. a. If the pressure gauge did not move when kinking the tubing, recheck all of your connections. Look for leaks in the system. The lid may not be closed tightly; a tub may not be on properly or the tube is punctured.
- Look at the pressure gauge. Using the control dial, set the gauge pressure between 15" and 20" of Hg. (for an adult) a. An infant or a child will use less pressure. Consult with your doctor
- After the pressure is set, connect the oral suction device (Yankauer Suction Tip) or suction tube to the suction extension tubing.

Precautions: The GDA who will be taking care of the patient should be well aware about proper suction techniques. They should be trained to understand:

- When it is necessary to suction.
- What type of suctioning is needed (oral vs. nasal tracheal).

They should be trained on when it's necessary to pre-oxygenate, perform normal saline instillations, use of the resuscitator bag to hyper inflate the lungs and so to deep suction.

17.1.4 Catheterization

Catheters are hollow, partially flexible tubes used to collect urine. Catheters come in many sizes and types. Catheters can be made of:

- Rubber

- Plastic (PVC)
- Silicone and Latex

Catheters are usually essential for those patients who can't empty their bladder. In the event that the bladder isn't emptied, urine can prompt and develop pressure in the kidneys. The pressure can lead to kidney failure, which can be risky and may result in permanent damage to the kidneys.

Most of the catheters are essential until the patient recaptures the competency to urinate on their own, which is generally a brief timeframe. Elderly individuals and those with perpetual injury or serious sickness may need to utilize urinary catheters for a longer amount of time and occasionally on a permanent basis.

Applying Catheter

- Collect the equipment.
- Describe the process to the patient.
- Help the patient to attain a supine position, in which the legs should be spread but the feet should be together.
- Ensure you have worn sterile gloves.
- Open the catheterization kit along with the catheter.
- Check whether the patency of the balloon is as expected.
- Cover the catheter's distal portion (2-5 cm) with the lubricant.
- Apply sterile drape.
- Utilizing dominant hand to deal with forceps, wash down peri-urethral mucosa using a cleansing solution. Wash down front to back, inside to out, one swipe per swab, and dispose of swab far from sterile field.
- Using the gloved hand, pick up the catheter. Determine the urinary meatus and then insert the catheter gently 1-2 inches in where the urine is detected. Inflate the balloon with the right quantity of the sterile liquid.
- Pull the catheter gently till the inflated balloon is snugged against the bladder neck. Associate the catheter with the drainage system. Place the catheter to abdomen or thigh, without putting any pressure on the tube.
- Put the drainage bag below the bladder level. Check the function of the catheter, amount, colour, odour and urine quality. Take out the gloves, dispose the equipment properly and wash the hands with an antiseptic. Report the size of the inserted catheter, quantity of water in the balloon, and the patient's response to the process to the nurse or the supervisor.



Fig.17.1.8: Lubricate the catheter

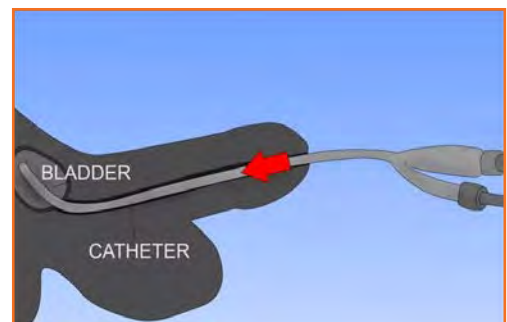


Fig.17.1.9: Put the catheter

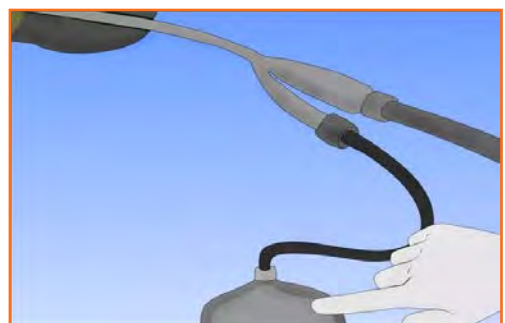


Fig.17.1.10: Inflate the balloon

17.1.5 Ryle's Tube

A nasogastric tube (NG tube) is a unique tube that conveys food and medication to the stomach through the nose. It can be utilized for all feedings or for giving an individual additional calories. It is essential to take great care of the feeding bag and tubing so that they work appropriately. It is additionally vital to take great care of the skin around the nostrils with the goal that it doesn't get irritated.

Flushing the Tube



Flushing the tube will facilitate in the discharge of any formula adhered to the within the tube. After each feeding, flush the tube, or as regularly as your attendant prescribes.



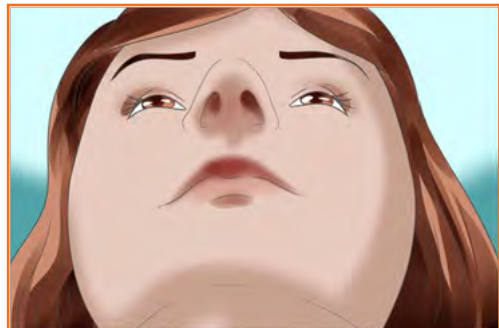
STEP 1: Wash your hands well with soap and water and put on a pair of disposable gloves.



STEP 2: Explain the procedure to the patient.



STEP 3: Position the patient: After the feeding is finished, add warm water to the feeding syringe and let it flow by gravity.



STEP 4: Examine the nostrils.



STEP 5: Measure the tube. Measure the necessary tube length by drawing the NG tubing across the outside of the patient's body.



STEP 6: Lubricate the tube



STEP 7: Insert the tube into the chosen nostril.

Instruct the patient to swallow. If the water does not go through smoothly, try changing positions or attach a plunger to the syringe, and gently push the plunger. Ensure that you do not push too much, too fast.

- Remove the syringe.
- Close the NG tube cap.

Taking Care of the Skin

- Clean the skin around the tube with heat water and a clean washcloth once every feeding. Take away any crust or secretions within the nose.
- If you are removing a bandage or dressing from the nose, loosen it first with a little of mineral oil or alternative lubricant. Then gently take away the bandage or dressing. Afterward, wash the mineral oil off the nose.
- If you notice redness/irritation, try putting the tube into the other nostril.

17.1.6 Enema

An enema is a fluid injected into the lower bowel through the rectum. The commonest form used is as a cleansing enema (soapsuds enema) which is given to release constipation or for bowel cleansing before a medical examination or procedure.

Enema Administration

- Gather your supplies and prepare for enema.

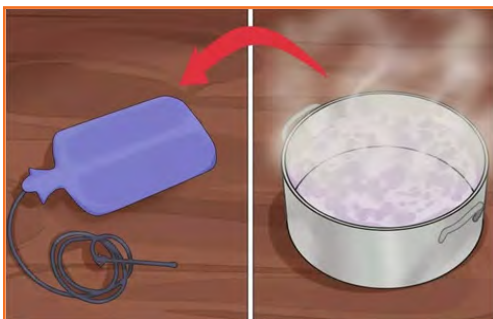


Fig.17.1.12: Filling Enema



Fig.17.1.11: The enema kit

- Fill the enema bag if using.

- Prepare the enema tube.



Fig.17.1.13: Preparing Enema

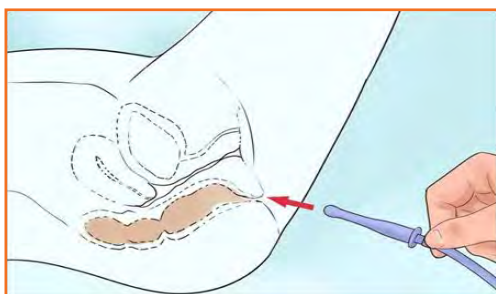


Fig.17.1.14(a): Inserting Enema

- Ask the patient to lie down and insert the enema tube into rectum.



Fig.17.1.14(b): Inserting Enema

- Allow the fluid to enter rectum.
- Wait for all the fluid to enter the rectum and ask assist patient to evacuate.

Different solutions used in enemas:

- Tap water enemas should always use small volumes because the fluid is hypotonic, meaning it will pull electrolytes out of your blood and into the enema, which you then expel.
- A soap-suds enema can be used but only when pure castile soap is used.
- Oil retention enemas are given to help soften the stool in the rectum.
- Powdered milk and molasses is a comfortable enema to use for severe constipation. This can be repeated up to four times in one day.
- Coffee enemas are used to detoxify and cleanse the bowel. Coffee, when administered rectally, stimulates bile production to help eliminate toxins and improve liver activity.



Fig.17.1.15: Tap water enema



Fig.17.1.16: Coffee enemas

Types of enema

The different types of enemas are:

1. Large Enemas

- Purgative enema is given to purge / catharsis (cleanse) and perform evacuation of the rectum, e.g. soap and water enema (500 -1500 ml) (Temperature 37.2°C, one ounce of soap in 500 ml of water).
- Cleansing enema is given for mild cleaning of the bowel, e.g. with normal saline (2 teaspoons of salt in one litre of water).
- Carminative enema is given to relieve distension and expulsion of gases, e.g. Turpentine enema (2 teaspoon/litres of soap and water enema).
- Asafetida enema (2 teaspoon/litres of soap and water enema).
- Anthelmintic enema is given for the expulsion of worms, e.g. hypertonic saline for threadworms (2 teaspoon / 500 ml of water).

2. Small Enemas

- Glycerine enema is prepared by mixing 100 ml of water with 100 ml of glycerine (in the ratio of 1:1)
- Olive Oil / Sweet Oil enema is prepared by mixing 100 ml of water and 100 ml of olive oil / sweet oil.

3. Retention Enema

- As a nutrient enema with glucose (1 oz of glucose / 500 ml of normal saline temperature -40°C).
- Normal saline enema (1 teaspoon of common salt into 500 ml of water) for replacement of fluids in burns, hemorrhage, dehydration etc. (temperature 40° C).

Purposes of an Enema

Enemas are used to:

1. Expel gas and faeces
2. Stimulate peristalsis
3. Administer medication
4. Aid in diagnosis
5. Provide nutrition

Procedure to induce Enema

- Wash your hands and describe the process to the patient.
- Bring the equipment to the bedside and screen the unit.
- Put on clean gloves and position the patient on the left side with the buttocks reclining on the edge of the bed. Remove the pillows. Roll the draw sheet close to the patient.
- Hang the irrigating can on the irrigation stand. It should not be more than 18" from the level of the bed.
- Remove the top bedding except the top sheet. Roll back the patient's clothing towards the waist.
- Connect the rectal tube to the glass connection. Pour fluid into the can. Loosen the screw clip and expel the air by allowing the same solution to run through the tube.
- Lubricate the body part tube tip upto 4". Part the butts with the thumb and four fingers of the left hand, using 2 cotton swabs.

- Insert tube regarding and the flow both together that tube secured in position.
- Encourage the patient to relax and raise the patient to require deep breaths.
- If the patient complains of mild discomfort during the procedure, clamp the tube for a few minutes and then continue slowly. Discontinue the procedure if the patient complains of severe discomfort.
- Clamp the tube before can gets emptied, Grasp the catheter near the anus and withdraw the catheter gently after informing the patient. Disconnect the rectal tube and place it in the kidney tray. Encourage the patient to hold the fluid for another 5 - 10 minutes. Turn the patient on his back and give him a pillow.
- Offer a bedpan and let the patient empty his bowel. Patient could be left alone unless he is too sick. Give a second bed pan and finish the procedure of perinea care.
- Clean and leave the patient dry and comfortable.
- Make sure that the mackintosh is dried of any fluid and pull and tuck the draw sheet.
- Note the patient's reaction, amount, colour and consistency of the outcome and record the same on the chart, with date, time and result.
- Wash all the articles with soap and water and rinse well. Run water through the eye of the tube and make sure that it is cleaned well. Boil the rectal tube for 5 minutes by putting it into boiling water or send it for autoclaving. Reset the tray and keep it ready for the next use.

17.1.7 Elderly Care

Hospitalists look after aged patients regularly, but a few have functional training in geriatric drugs. The aged patients, especially the very aged and delicate ones are at higher risk of functional decline and iatrogenic complications during hospitalization. Further challenges in handling these patients include:

- Dosing medications safely
- Preventing delirium and accidental falls
- Providing adequate pain control.



Fig.12.3.17: Elderly patients care

Ways to improve the care of the hospitalized elderly patient

When people grow old their physiological function decreases. So, while looking after the old people, we should keep the following things in mind:

- **Vision:** Commonly, the old people have low vision. Some of them also have cataract or glaucoma. Prior to any healthcare process or examination, it is necessary to inform them about the same and to ensure they are psychologically prepared.
- **Hearing:** The old people have less hearing ability so, you need to talk in a loud voice with them and to avoid shouting.
- **Touch:** Especially if they have pain as a result of diseases, never overlook their minor response.
- **Skin:** They have ache because of the sicknesses, never ignore their minor reaction. The layer of subcutaneous fat inside the elderly is more diluent than that of adolescents. Their skin furthermore loses elasticity because of lack of hydration.

- **Endocrine:** Elderly people easily get tired or even sick due to diminished endocrine function and decreased metabolism. Be patient when dealing with these elderly.
- **Renal:** To functioning the system, individuals have such incontinence, frequent urination, etc. Assist them if they need toileting and, wait with them.
- **Musculoskeletal:** Obvious changes such as general weakness could easily be seen in this kind of patients. Assist them to move about if necessary. Be patient with their slower motion.
- **Others:** Many old people could still lead a healthy life, on the other hand some may have heart, lung, liver or other diseases. Whatever health condition the elderly may have, we should give appropriate care, attention and assistance to meet their needs.

Old people get tired easily. They may have lessened ability to express. Be patient when communicating with them. Let them finish what they want to say.

17.1.8 Care for Mentally Challenged

- Oral cleanliness is often neglected in adults with mental disorder. Patients who have lessened mobility or incontinence are more probable to chapped skin. Care takers should be guided on apt skin care. Patients with tracheotomy and percutaneous endoscopic gastrostomy (PEG) may have chronic colonization with bacteria such as methicillin-resistant *Staphylococcus aureus*.
- Often patients with physical disabilities develop swallowing challenges, which can result in choking, malnutrition, poor hydration and other such risks. Hypoxemia occurring during oral feedings can be noticed on the patient using heartbeat oximetry.
- People with poor oral skills often struggle in communicating their discomfort that are associated with gastroesophageal reflux disease (GERD).
- Constipation and faecal impaction are commonly found in the persons with mental retardation which may result in unexpected changes in behaviour.
- Menstrual distress can be a cause of disturbance and aggression, including self-injurious conduct. Seizures in people with hindrance are probably going to be extreme, happen as a rule, and be hard to control. Neuromuscular scoliosis is very common among the people with retardation, especially those with cerebral palsy. Bracing is probably not going to be successful in settling this kind of scoliosis. Contractures are likely to develop in those people who can't use lower extremities on their own. However, symptomatic cure can be given by surgical interventions like tendon lengthening, tendon release, osteotomy, etc.
- Osteoporosis is common, among the non-weight bearing patients as a few as 50% of adults with mental retardation have osteopenia or osteoporosis.
- For persons unable to communicate adequately, a change in behaviour may be the first indication of a problem.



Fig.12.3.18: Care for Mentally Challenged

17.1.9 Infectious Patient

The quality of infectious diseases analyzes and treats diseases caused by microorganisms like bacteria, fungi, viruses and parasites. Infectious diseases are very common. Majority of infections are treated in primary Healthcare and patient care or patients' recovers spontaneously through home remedies. In view of the seriousness of the infection, infectious patients that require hospital treatment are treated altogether in the hospitals which are in crusader area. Patients having infection complications and those exhibiting difficult diagnostic and therapeutic challenges, for example, non-specific fever.

- Patients having a difficult, post-operative infections.
- Patients having severe systemic infection like sepsis. Patients having a disorder, like HIV, or from a congenital immunological disorder, like CVID.

Taking care of patients with infectious disease

- Use proper personal protective equipment (PPE).
- Follow proper cleaning and disinfecting procedure.
- Identify and properly isolate infectious disease.
- Wash your hands before and after giving treatment to patient.
- If required don't hesitate to consult a superior or a doctor.

Tips

Before starting any special procedure make sure:

- To wash your hands.
- Explain the procedure to the patient.
- Collect all the necessary equipments and supplies for the required treatment.
- Clean and leave patient in a comfortable position after the treatment.
- Clean and disinfect all the equipment.
- Wash your hands and dispose all the waste properly.

UNIT 17.2: Transporting Specimens

Unit Objectives

At the end of the unit, you will be able to:

- Collect specimen
- Transport patient's samples/specimens

17.2.1 Overview

The most important steps in diagnosis of a disease in a patient is testing a sample of a body tissue or body fluid such as blood, urine or sputum. This sample that is collected to understand the functioning of the body is called a specimen. These specimen are examined in a laboratory in the hospital and the condition is reported to the doctor. A General Duty Assistant must help in collection of these specimens. For this he/she must know the different types of samples and the procedure to manage these specimens. In this chapter you will learn about the different lab specimens and how to manage lab specimens.

17.2.2 Importance of Laboratory Testing

Laboratory (lab) tests facilitates the doctors in diagnosing the medical conditions, plan or check the treatments and monitor the diseases. Laboratories use a variety of methodologies to test the samples that are collected from the patients.

Laboratory scientists follow step-by-step procedures till the test result is obtained. Laboratory procedures are based on well-established scientific principles including biology, chemistry, and physics. The specimens that are normally collected from the patients for testing include:

- Stool, sputum, urine
- Blood (liquid or dry)
- Skin scrapping, tissue material
- Nasal secretions, throat swab
- Pus and other body fluids

Once the samples are collected and delivered in the lab, the lab uses chemicals to understand the presence of any abnormality in the collected specimen. Appropriate analysis is essential in deciding the diagnosis, or identifying the infectious agent, with the goal that suitable and timely treatment can be initiated.

The factors that are taken into consideration before the test results are finalized are: proper collection technique, appropriate storage conditions and gap before reaching laboratory, supportive information and patient details. Correct specimen acquisition and handling is an essential part of achieving a valid and timely laboratory test result. You must assist the nurse or the doctor while the sample is collected and ensure that the sample is delivered to the lab for testing.

- **Right Specimen:** It must be reconfirmed that the specimen that is being collected is the same as ordered by the doctor.

- Right time: Certain blood tests must be arranged at the right time.
- Right patient: The patients identity must be verified before collecting the specimen.
- Right method: The universal precautions and procedure methods must be followed carefully.

17.2.3 Collection of Specimens

The procedures that need to be carried out for collecting the specimens from the patients vary according to the type of the specimen that is collected.

17.2.3.1 Blood Sample Collection

Blood is most frequently obtained by puncturing any peripheral vein. Drawing a blood sample and collecting the same for testing is a skilled procedure and is often carried out by a nurse or lab technicians. Based on the amount of blood needed for testing, the sample is collected from the vein or by needle prick.



Fig.17.2.1: Blood specimen collection

17.2.3.2 Urine Sample Collection

- The purpose of obtaining a urine sample is to find any abnormalities present in the urine.
- The nurse records the normal urine output and checks if the patient has any difficulty in passing urine.
- The urine sample is collected in a sterile container by the patient if the patient is able to move. Once the specimen is obtained, it is sent immediately for testing. If there is delay in sending the specimen, some organisms in the urine may die or, on the other hand, multiply, resulting in a incorrect reading.



Fig.17.2.2: Urine Sample

17.2.3.3 Sputum Specimen

Sputum specimen collection is a procedure designed to collect the salivary secretions from a patient's oral cavity. The sputum samples are usually collected to diagnose infections in the respiratory tract. This procedure should not be performed if the patient is unable to take several deep breaths or cough deeply from the lungs.

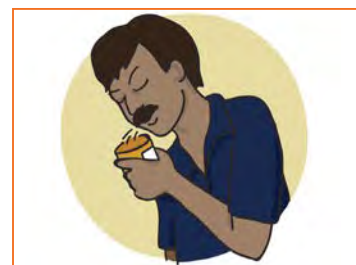


Fig.17.2.3: Sputum Specimen

17.2.3.4 Stool Sample Collection

Stool specimen collection is the process of obtaining a sample of a patient's feces for diagnostic purposes. This procedure is used to test for infectious organisms, mucus, fat, parasites, or blood in the stool.



Fig.17.2.4: Stool specimen

17.2.4 Precautions to be Taken While Collecting Specimens

- Proper specimen collection and handling is crucial in obtaining a valid laboratory test result.
- Specimens should be collected within the correct tubes and containers, properly tagged, and promptly transported to the laboratory.

17.2.5 Precautions to be taken Care While Transporting Samples

- Ensure that trolleys or vehicles are cleaned, with or without disinfection, and check that they are in good working order before use, isolating and reporting any that are not.
- Proper hygiene should be maintained while transporting the samples like use personal protective equipment as per the policy and procedures.
- Ensure that all the things are handed over carefully to the concerned person.

Skills Practical: Write a Note

1. Write a note on the importance of laboratory testing and precautions to be taken while collecting specimens.

Tips

- Understand the different types of specimen
- Help the nurse in transferring the specimen



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18. Role of a GDA in Sanitation, Safety and First-Aid

Unit 18.1 - Safe Working Environment

Unit 18.5 - First Aid



HSS/N 9606
HSS/N 5110

Key Learning Outcomes

At the end of the unit, you will be able to:

- Describe common emergency conditions and what to do in medical emergencies.
- Develop understanding and precautions to ensure self safety.
- Provide care to the patients while moving.
- Demonstrate the use of protective devices (restraints, safety devices).
- Practice safe methods while using medical gases in hospital (if any).
- Describe basics of first aid.

UNIT 18.1: Safe Working Environment

Unit Objectives



At the end of the unit, you will be able to:

- Handle hazardous situations safely.

18.1.1 Overview

Ensuring the safety of each patient in a hospital is one of the most important aspects of patient care. It is impossible to prevent accidents completely. However, there are ways to prevent accidents from occurring that may cause injury to the patient or Healthcare personnel and the unnecessary loss of equipment.

18.1.2 Promoting a Safe Working Environment

To promote a safe working environment, you need to know your organisation's health, safety and security procedures and follow them while you work. Before you begin work always:

- Report anything that might pose a health and safety risk.
- Work as per your role and responsibilities in health and safety.
- Examine the areas wherever you're employed and any equipment you utilize to make sure that they are safe.
- Take account of your patient's needs and selections while caring about your own safety and the safety of patients, staff and others when working.

18.1.3 How to Reduce Risk

To reduce risk, you must:

- Make sure that your own health and hygiene does not pose a risk to others.
- Make sure that your seniors know where you are.
- Check for health, safety and security risks when working and report if you see any hazards.
- Report strangers seen loafing around the hospital.
- Use approved procedures when carrying out work that could be dangerous including:
 - » Correct moving and handling techniques.
 - » Appropriate hygiene procedures.
 - » Correct protective clothing for the situation, environment and activities.
 - » Storing equipment and materials and dealing with spillages and getting rid of waste.

- • Take immediate and appropriate action to deal with emergencies, including:
 - » Security problems
 - » Accidents
 - » Fire
- Use your skills and experience until appropriate help arrives: You must:
 - » Call for the appropriate help.
 - » Continue to provide help until someone who is qualified to deal with the emergency is available.
 - » Support patients and others including family carers who may be affected by the emergency.
 - » Record and report incidents and emergencies accurately and fully in line with your organisation's policies.

18.1.4 Hospital Electrical Safety Measures

Follow hospital electrical safety measures by doing the following:

- Use electrical equipment for the intended purpose only.
- Test all tiny appliances before use to see that they are in smart operating order. guarantee periodic service checks of all electrical equipment.
- Ensure that televisions, phones, radios, hair dryers, electric shavers, and other electrical equipment are kept away from water sources.
- Remove a plug by holding the plug and not cord.
- Do not bend electric cords as they may break.
- Do not use faulty equipment. If an equipment overheats, gives a shock or an odour during use, remove it from the area.

18.1.5 Hospital Fire Safety Measures

Hospital fire safety measures are very important and must always be followed. Take a look at some of the important hospital fire safety measures:

1. Despite the use of fire retardant material, and compliance with fire regulations, fires still occur. Healthcare facilities should have regular fire drills so that all personnel know exactly what to do.
 - » Healthcare personnel should be trained and drilled in:
 - » Fire prevention
 - » Location and use of fire alarms
 - » Location and use of fire extinguishers
 - » Location of emergency exits
 - » Evacuation procedures.

2. Oxygen supports combustion. Post signs to show that oxygen is in use where applicable. If a patient is on oxygen for his treatment, ensure that the patient, their roommates, and visitors know that smoking is prohibited.
3. If a fire occurs, you need to:
 - » Activate the fire alarm procedures.
 - » Turn off oxygen, lights, and any electrical equipment in the vicinity of the fire.
 - » Remove patients who are in immediate danger.
 - » Notify the hospital “switchboard” of the location of the fire.
 - » Close windows and doors to reduce ventilation.
 - » Using the fire extinguisher, attempt to extinguish the fire.
 - » Return patients who are not endangered to their rooms.
 - » Post a guard to direct the fire department.

18.1.6 Hospital Environment Safety Measures

Safety measures to be followed for patient care are:

1. Identify patients at risk for injury. Those at special risk include:
 - » Patients with impaired vision or hearing.
 - » Elderly or confused patients.
 - » Patients with a history of falls.
 - » Patients with reduced mobility (if on wheelchairs, using walkers, or partially paralyzed).
 - » Patients with a history of substance abuse.
 - » Patients getting the medication that obstructs with reasoning or motor functions.
2. Protect the patients at risk for injury. Prevent falls by:
 - » Putting the bed in a lower position.
 - » Raising the side rails up when the patient is not getting any bedside care.
 - » Suggesting the patient to wear a low-heeled well fitted shoes while walking.
 - » Ensuring that anti slippery strips or mats are tacked at the bottom of bathtubs and the shower floors.
 - » Ensuring that bathtubs have stiff handrails and shower stool is in place when needed.
 - » Warning the patients and their visitors when the floors are wet and slippery. Additionally check that signs are posted.
3. Prevent scalds and burns by:
 - » Putting tea, coffee, soup and other hot liquids where the patient can reach them effortlessly and securely.
 - » Assisting the patient when he cannot safely control the temperature of water.
 - » Carefully following policy when using hot-water bags or heating pads. Because of the danger of burning patients, many Healthcare facilities do not allow their use.

18.1.7 Medical Emergencies

Everyone plans for emergencies. That is the reason why we keep a first aid kit with ourselves. At work, however one is exposed to a lot of stress and physical activity. This could lead to certain medical emergencies. It's better to be prepared with the first aid measures and knowledge of implementing them on ourselves and on others. This module equips you with that information. Pay attention to these medical emergency procedures to understand how to conduct you in these crucial movements. Pay attention during these sessions.

You might be able to save your own and your friend lives.



Fig.18.1.1: Medical Emergency

18.1.7.1 Dealing with Medical Emergency

A medical emergency is an accidental injury or a medical crisis that is severe. These could be situation where:

- The person is not breathing
- Stroke or heart attack
- Severe bleeding
- Shock
- Poisoning
- Burns

A medical emergency requires your immediate attention, sometimes even before you call emergency services for help.

It is crucial that you know the Emergency Medical Service (EMS) number, for your own safety and the safety of others.

DO Not

- Give the victim anything to eat or drink.
- Hold the victim.
- Splash or pour any liquid on the victim's face.
- Shift the victim to another place (unless it is the only option to safeguard the victim from the injury).

Bleeding

- Put pressure to the wound with a pressure bandage. Raise the wounded portion to slow the bleeding.
- Pressure the associated points if necessary then apply an additional pressure to reduce the bleeding.

Fainting

- Fainting is a small loss of consciousness which is caused by a momentary reduction of the blood flow to the brain.
- A small loss of consciousness can cause the person to fall.
- A very slow pulse.
- Cold skin with sweat and pale appearance.

Causes of fainting:

- Taking in too little quantity of foodstuff and liquids (dehydration).
- Low BP.
- Deprivation of sleep.
- Fatigue.

First Aid for Fainting:

- Place the victim lying on his/her back and raise his/her legs above the heart level.
- Check the victim's airway to ensure it is clear.
- Check for the indications of breathing, coughing, or movement.
- Loosen clothing (neck ties, collars, belts etc.).
- If consciousness is not regained within one minute Call EMS.

Shock

Shock occurs with the failure of the circulatory system due to which insufficient oxygen reaches the tissues. If this condition is not treated immediately, important organs can fail, which can ultimately lead to death. Fear and pain makes effect of shock worse.

First Aid for shock:

- Place the victims resting down (if feasible).
- Raise the legs 10-12 inches, unless you doubt for a back injury or broken bones.
- Cover the victim to preserve the body temperature.
- Give the victim room for fresh air.
- If victim wants to vomit then- position him/her on his/her left side.
- Loosen restrictive clothing.

Muscle Cramps

- Stretch out the cramped muscle to neutralize the cramp.
- Give massage to the cramped muscle rigidly.
- Apply hot water bottle to the affected area.
- Seek medical help if the cramp continues.
- Avoid unnecessary movements and activities which can cause pain.
- Apply some ice which will help in reducing pain and swelling.
- Apply light pressure with an elastic wrap or a bandage which can also help in reducing the swelling.
- Raise the cramped limb at the level of the heart which further reduces pain and swelling.

Fractures

A fracture is a break or crack in the continuity of the bone

Dislocation

A dislocation is the displacement of one or a lot of bones at a joint. it usually happens in the shoulders, elbow, thumb, fingers and also the lower jaw.

First Aid for Dislocations & Fractures:

- Immobilize the effected part.
- Stabilise the effected part
- Use a cloth as a sling.
- Use board as a sling.
- Carefully transfer the victim on a stretcher.
- Call a doctor.

Skills Practical: Safety Measures 

1. Make groups of four each. Write on what safety measures you should take in the situations:
 - » Electrical Safety
 - » Fire Safety
 - » Environment safety
2. You have ten minutes to prepare your thoughts.

Tips 

- Understand the importance of safety measures
- Understand how to promote a safe working environment

Exercise 

1. Explain electrical safety measures.

.....

.....

2. Explain what needs to be done to maintain fire safety measures.

.....

.....

UNIT 18.2: First Aid

Unit Objectives 

At the end of the unit, you will be able to:

- Apply first aid on an injured person.
- Understand the procedures of doing CPR .

18.2.1 First Aid

First aid is the assistance given to a person experiencing an unexpected illness or injury to save life, prevent the condition from worsening, or to promote recovery.

There are numerous circumstances which may require first aid, and numerous nations have legislation, regulation, or guidance which specifies a basic level of first aid provision in specific conditions. This can grasp specific training or equipment to be procurable within the work zone, (for example, an Automated External Defibrillator).

The scope of specialist first aid cover at a public function, or important first aid coaching among learning institutes. First aid, in any case, doesn't basically require any specific equipment or past data, and may include improvisation with materials offered at the time, typically by undisciplined people



Fig.18.2.1: First aid Pyramid

Vital Signs	Good	Poor
Heart Rate	60-100 beats per minute	Less than 60 or greater than 100 beats per minute
Respirations	14-16 breaths per minute	Less than 14 breaths per minute
Skin	Warm, pink and dry	Cool, pale and moist
Consciousness	Alert and orientated	Drowsy or unconscious

Fig.18.2.2: Vital Signs

Awareness	Assessment	Action	Aftercare
<ul style="list-style-type: none"> Observe Stop to Help 	<ul style="list-style-type: none"> Assess what is required to be done Ask yourself, 'Can I do it?' 	<ul style="list-style-type: none"> Do what you can Call for expert medical help Take care of your and the bystander's safety 	<ul style="list-style-type: none"> Once you have assisted the victim, stay with him/her till expert care arrives

Fig.18.2.3: Four A's of First Aid

While delivering First Aid always remember:

- Prevent deterioration.
- Act swiftly, deliberately and confidently.
- Golden Hour – First 60 minutes following an accident.
- Platinum Period – First 15 minutes following an accident.
- Prevent shock and choking.
- Stop bleeding.
- Loosen victim's clothes.
- Regulate respiratory system.
- Avoid crowding/over-crowding.
- Arrange to take victim to safe place/hospital.
- Attend to emergencies first with ease and without fear.
- Do not overdo. Remember that the person giving first aid is not a doctor.

Injury	Symptom	Do's	Don'ts
Fracture	<ul style="list-style-type: none"> Pain Swelling Visible bone 	<ul style="list-style-type: none"> Immobilise the affected part Stabilise the affected part Use a cloth as a sling Use board as a sling Carefully Transfer the victim on a stretcher 	<ul style="list-style-type: none"> Do not move the affected part Do not wash or probe the injured area
Burns (see Degrees of Burn table)	<ul style="list-style-type: none"> Redness of skin Blistered skin Injury marks Headache/seizures 	<ul style="list-style-type: none"> In case of electrical burn, cut-off the power supply In case of fire, put out fire with blanket/coat Use water to douse the flames Remove any jewellery from the affected area Wash the burn with water 	<ul style="list-style-type: none"> Do not pull off any clothing stuck to the burnt skin Do not place ice on the burn Do not use cotton to cover the burn

Bleeding	<ul style="list-style-type: none"> • Bruises • Visible blood loss from body • Coughing blood • Wound / Injury marks • Unconsciousness due to blood loss • Dizziness • Pale skin 	<ul style="list-style-type: none"> • Check victim's breathing • Elevate the wound above heart level • Apply direct pressure to the wound with a clean cloth or hands • Remove any visible objects from the wounds • Apply bandage once the bleeding stops 	<ul style="list-style-type: none"> • Do not clean the wound from out to in direction • Do not apply too much pressure (not more than 15 mins) • Do not give water to the victim
Heat Stroke	<ul style="list-style-type: none"> • High body temperature • Headache • Hot and dry skin • Nausea/Vomiting • Unconsciousness 	<ul style="list-style-type: none"> • Move the victim to a cool, shady place • Wet the victim's skin with a sponge • If possible apply ice packs to victim's neck, back and armpits • Remove any jewellery from the affected area • Wash the burn with water 	<ul style="list-style-type: none"> • Do not let people crowd around the victim • Do not give any hot drinks to the victim
Unconsciousness	<ul style="list-style-type: none"> • No movement of limbs • No verbal response or gestures • Pale skin 	<ul style="list-style-type: none"> • Loosen clothing around neck, waist and chest • Check for breathing • Place the victim's legs above the level of heart • If victim is not breathing, perform CPR 	<ul style="list-style-type: none"> • Do not throw water or slap the victim • Do not force feed anything • Do not raise the head high as it may block the airway

Fig.18.2.4: First Aid for different types of injuries

1st Degree Burn	2nd Degree Burn	3rd Degree Burn	4th Degree Burn
Will recover itself in a few days. Action Required: Place under running water.	Serious but recovers in a few weeks. Action Required: Place clean wet cloth over the burnt area.	Very Serious and will require skin grafting. Action Required: Place a clean dry cloth over the burnt area.	Extremely Serious and requires many years with repeated plastic surgery and skin grafting, is life threatening. Action Required: Leave open and prevent infection.

Fig.18.2.5: Degree of Burns

18.2.2 Splints and Aids of Torso

A splint is a support or a bandage used to immobilize a broken bone. Splints can be made using sticks or boards. However, for some injuries, a splint does not work and the only option is to tie that body part close to the body.

18.2.2.1 Splints

While applying a splint, do not try to fix or straighten the break. This may exclusively cause an additional injury or pain. Rather, just apply the splint to the break the way it is. When using rigid material

When using rigid material

- Always use sufficiently long things to reach the joints behind the break. For example, splinting a forearm, fabric should be sufficiently long to touch both the wrist joint and the elbow. This helps in keeping the fabric in place and keeps an unnecessary amount of pressure from being connected to the injury.
- Always put cushioning in between the rigid material and the body to make the victim comfortable. Tie knots between the rigid material and the body (in mid-air) once feasible. This will makes them simpler to loosen. In the event that this can be inconceivable, tie knots over the rigid material.
- To support the forearm, envelope the split with rigid material and adequately bandage to the arm with wide fabric strips. A daily paper or magazine, twisted into a "U" shape, works okay. Splint the wrist joint within the similar approach. The entire forearm needs to be immobilized.
- In order to splint the elbow, utilize enough rigid material to make a trip from the armpit to the hand. The whole arm should be immobilized.



Fig.18.2.6: Splint the Forearm



Fig.18.2.7: Splint the Wrist

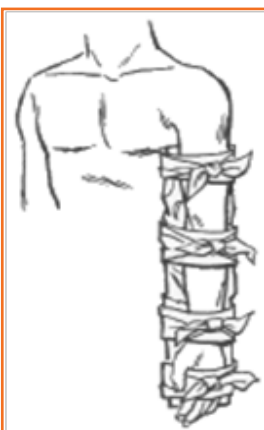


Fig.18.2.8: Splint the Elbow

- Try not to plan to fix or end the elbow; support it in position. In order to splint the upper leg, utilize long things of rigid material which will reach from the lower leg (ankle) joint to the armpit. Over the hips, tie long straps round the torso to keep the top of the splint in place.



Fig.18.2.9: Splint the Upper Leg

- To splint the lower leg, use rigid material long enough to travel from the knee to the foot. The foot ought to be immobilized and unable to turn. Make sure to use a lot of cushioning, particularly round the ankle.



Fig.18.2.10: Splint the Lower Leg

18.2.3 Bleeding

- Severe bleeding involves loss of large amount of blood.
- This may occur externally through natural openings, like mouth.
- A cut on the skin too can lead to bleeding.
- Internal bleeding occurs due to an injury to blood vessel.

Causes

- Accidents/Falls
- Blow to the head
- Injuries, like scalp wounds
- Tooth Extraction
- Certain medications
- Illnesses like
 - » Hemophilia
 - » Scurvy
 - » Cancer
 - » Thrombocytopenia
 - » Aplastic Anemia
 - » Leukemia
 - » Hemorrhage
 - » Peptic Ulcer
 - » Platelet Disorder
 - » Liver Disease
 - » Septicemia

Symptoms

- Discharge of blood from a wound
- Bruising



Fig.18.2.11: Bleeding

- Blood in stool/urine
- Blood coming from other areas, like mouth/ear

Treatment

- Wash hands well before administering to patient.
- Wear synthetic gloves.
- Make the victim lie down.
- Slightly elevate the legs.
- If possible keep the affected area elevated.
- Remove any obvious debris/particle.
- Apply direct pressure using clean cloth/bandage.
- Use hand if cloth is not available.
- Apply pressure continuously for at least 20 minutes.
- Do not remove the cloth to check the bleeding.
- Hold the bandage in place using an adhesive tape.
- If bleeding seeps through bandage, do not remove it.
- Add extra bandage on top of the first one.
- Apply direct pressure on the artery if necessary.
- The pressure points for arm--below arm- pit/above elbow.
- For leg--behind knee/near groin.
- Squeeze the artery keeping finger flat.
- Continue applying pressure on the wound.
- Once bleeding stops immobilize the affected part.

If bleeding does not stop

If bleeding occurs through nose, ears etc.:

- Coughing up blood
- Vomiting
- Bruising/deep wounds
- Abdominal tenderness
- Fracture
- Shock

Steps To Avoid

- Do not try to replace a displaced organ.
- Just cover the wound with a clean cloth.
- Do not try to remove an embedded object.



Fig.18.2.12: Wash your hands



Fig.18.2.13: Clean the wound



Fig.18.2.14: Immobilize the effected part



- First aid and its vital signs.
- First aid for different types of torso.
- Splints and aids of torso.



Notes





19. Infections Control and Prevention

Unit 19.1 - Prevent and control infection

Unit 19.2 - Handling and Cleaning of Equipments



Key Learning Outcomes

At the end of the unit, you will be able to:

- Identify the deviation from normal health.
- Explain Hospital borne infections.
- Explain practices to curb the disease.

UNIT 19.1: Prevent and Control Infection

Unit Objectives



At the end of the unit, you will be able to:

- Control infections effectively.
- Follow infection control policies and procedures.

19.1.1 Infection Control

Controlling infections in hospitals, nursing homes, assisted living homes and other places where healthcare is provided is very important. This is the first step to stop the spread of infection, or germs, to patients, residents, staff and visitors.

One can help control infections by doing special things in these areas:

- **Equipment and supplies:** We must use sterile dressings on open skin surfaces to prevent infection. We must also keep patient equipment and supplies clean in order to prevent the spread of germs.
- **The environment:** We can all help to keep the patients' rooms clean and sanitary. Clean rooms and a clean hospital or nursing home spread fewer germs.
- **Our work practices:** The GDAs must make infection control a part of everything they do. We must wash our hands while we work in order to stop the spread of germs from one person to another. Our own state of health: Healthcare workers who come to work with a cold or flu can spread it to their patients. We must get enough rest, have a good diet and take the hepatitis B shot so that we can stay well and work without harming the ones we care for. We should also stay home when we have a bad cold, flu or another illness that our patients can catch from us.
- **Our patients' and residents' state of health:** Many older people and those with a history of breathing problems should get pneumonia and flu vaccines to protect them against these common illnesses.

19.1.2 Need for Infection Control

Infections are a big problem in hospitals and nursing homes for many reasons. The reasons are:

- Germs are very tiny and cannot be seen. We do not know when we are spreading germs as cannot see them.
- People in hospitals and nursing homes are at great risk of getting an infection as these, infections can spread very quickly in hospitals and nursing homes.
- Infections cause deaths, longer lengths of stay and they cost a lot of money.

Harmful germs that can make people ill are called pathogens, which are the cause for infections and diseases. They can typically cause wound infections, colds, pneumonia, AIDS/HIV and other diseases.

Infections spread very quickly in hospitals and other healthcare places for a couple of reasons because people in hospitals are ill and very often weak.

People in hospitals and nursing homes are also at risk for getting infections because they all live together in one area, rather than their own homes. Germs and disease can spread very quickly from one sick patient or resident to another when people live in a large group. Our patients are also at risk for infection because they may have a weak and poor immune system. A disease, like AIDS/HIV, common cold or flu, some medications old age and being an infant can cause this weakness.

It is necessary to maintain special infection control in areas where there are infants, old people and very ill people. Some of these areas are:

- Labour and delivery room
- Infant nursery
- New mother's area
- ICU
- Kidney areas
- Surgical areas
- Operating rooms

19.1.3 The Cycle of Infection: How Infection Spreads

Nobody can prevent germs from spreading as they spread when you cough, sneeze or when you have a draining wound. However, using measures such as tissues can lessen the extent of their spread.

We can also perform various sanitation and hygienic tasks to ensure that the spread of germs is controlled, such as

- Wash hands thoroughly before and after assisting any patient.
- Wash hands thoroughly before and after assisting a doctor or nurse in a procedure.
- Use gloves to handle items that may be infected with germs.
- Avoid touching dirty linen and keep clothes clean.

19.1.4 Infection Control Measures

- Follow infection control and standard precautions procedures.
- Handle hazardous waste properly.
- Handle sharps properly.
- Keep yourself healthy.
- Keep your patients healthy.
- Wash your hands properly.

19.1.5 Standard Precautions

GDAs should follow certain safety precautions to ensure that the infection is not caught and further spread when assisting a patient, especially while handling body fluids such as:

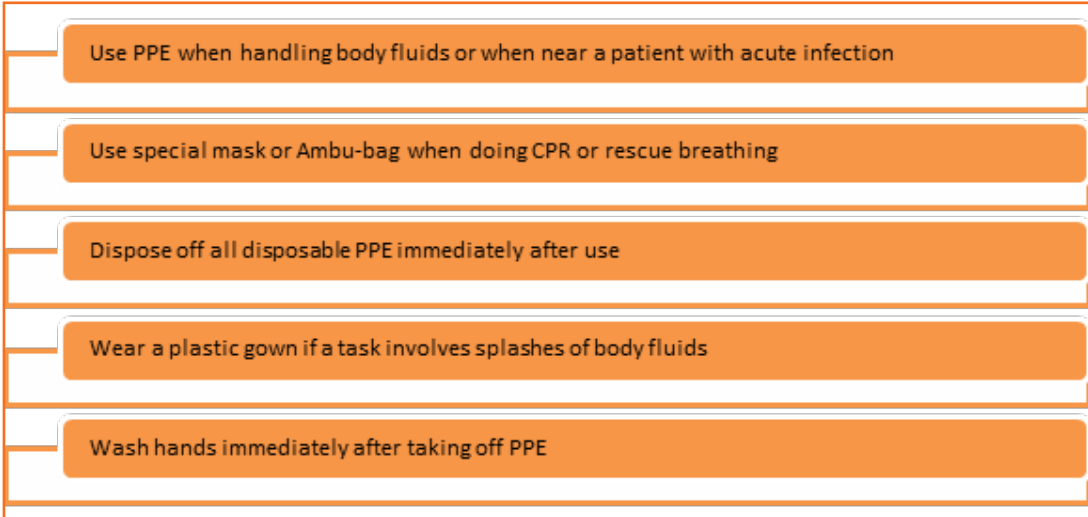
Some examples of body fluids are:

- Blood
- Faeces
- Wound drainage
- Secretions from the nose
- Saliva
- Sputum
- Tears
- Urine
- Vomit
- Breast milk
- Fluids taken from lungs, the abdomen, the spinal area, etc.

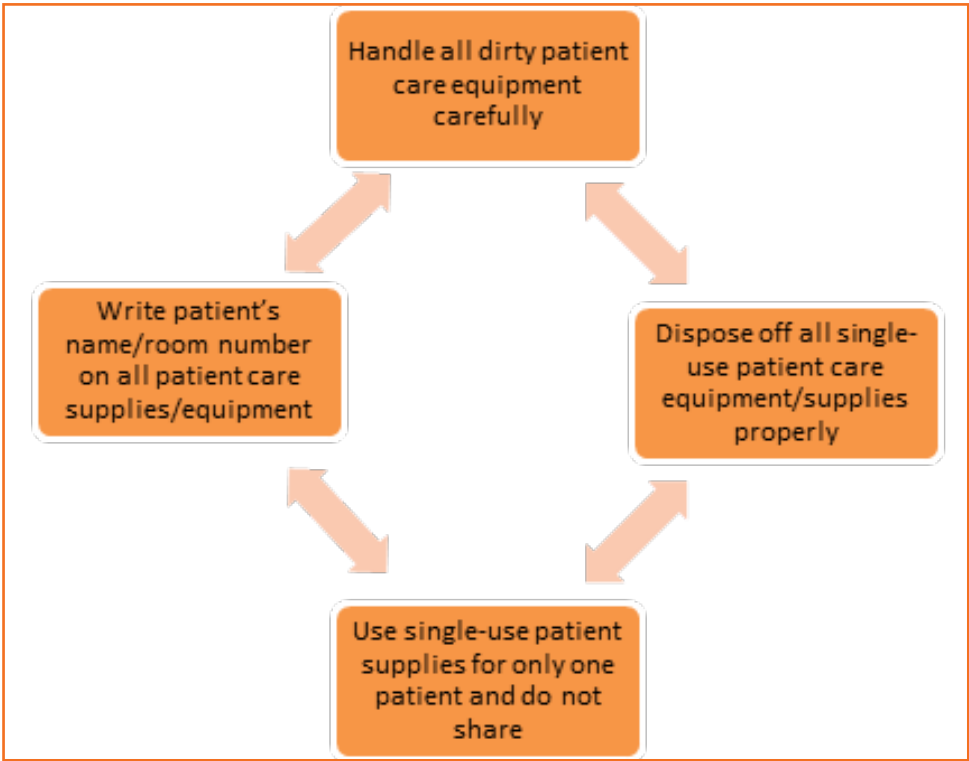
Standard Precautions Practices - Hand Washing Procedure

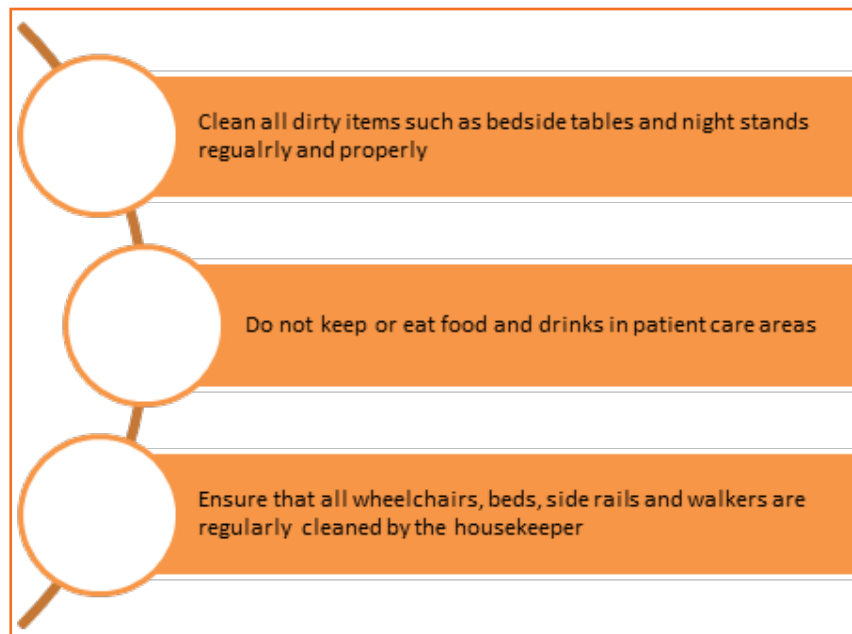
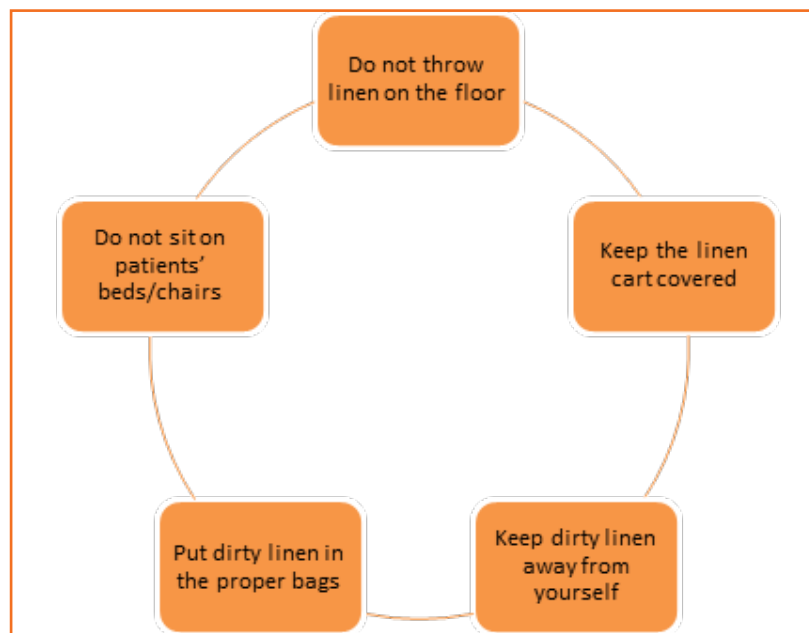


Standard Precautions Practices - Masks, Eye Protection and Face Shields



Standard Precautions Practices - Patient Care Equipment and Supplies



Standard Precautions Practices - Environmental Control**Standard Precautions Practices – Linen, Patients' Beds and Chairs**

19.1.6 Transmission Precautions

When a person has an infection which is difficult to control, then in such cases special transmission precautions are used in addition to standard precautions. For instance, a person with tuberculosis needs special transmission precautions. Such patients are typically kept in a private rooms.

There are three types of precautions:

1. **Airborne:** For example, a person with TB would need this kind of precaution, in a private room with proper signage outside the room. Special precautions include wearing a mask, NEPA mask, when entering the room. Another set of patients who need such precautions are people with mumps or flu.
2. **Droplet**
3. **Contact:** For example, a person with a severe wound or infection would need this kind of precaution. Special precautions include wearing a gown, gloves and a mask when entering the room. You must also wash your hands using a special type of soap after being in the room of such patients.

Special Waste Handling

In order to prevent infections from spreading, throw away all body fluids and trash or waste. You must also throw away gowns, gloves, masks, bandages and other items, except sharps, in a special red bag, which means this bag has hazardous waste.

Safe Handling of Sharps

You should dispose off sharps, such as needles using hard puncture proof red containers, as these sharps are hazardous waste.

Keeping Yourself Healthy

When you are healthy, you can fight infections and your patients are not prone to catching infection from you.

To keep healthy:

- Rest sufficiently
- Eat a healthy diet
- Exercise regularly
- Ensure you are not stressed
- Get a hepatitis B, flu, pneumonia shot if you have not already had one

Keeping Your Patients and Residents Healthy

Nursing assistants and other healthcare providers can work together to keep their patients and residents as healthy as possible. You can help them to:

- Get a good diet
- Get plenty of fluids
- Get enough sleep and rest
- Manage their stress
- Get their flu, pneumonia or hepatitis B shots
- Stay away from infections and other sick people, as much as possible

19.1.7 Role of GDA in Infection Control

- Puncture wounds need to be washed immediately and made to bleed.
- If contamination occurs, wash the area immediately.
- Splashes on the nose/mouth should be washed with water.
- Eye splashes need irrigation using clean water, saline, or a sterile irritant.
- Needle stick/sharp injuries pose a risk for getting blood born infection such as AIDS, HCV, HBV and others. Sharp injuries must be reported and notified immediately.
- Reusable sharps should be handled by avoiding direct touching.
- Know the significance of antibiotic resistant organisms seen in hospitals.
- Know how surveillance for hospital acquired (nosocomial) infections is performed and the significance of surveillance data.
- Cleaning & decontamination of equipment: protective barriers must be worn.

19.1.8 Bed Sores

Bedsore or pressure sores/ ulcers are injuries to the skin and its underlying tissues caused due to continued pressure on the skin. Bedsore are often a result of acute bed rest that makes the skin that covers the bony areas of the body, such as the heels, ankles, hips and tailbone, sore and tender.

Stage I

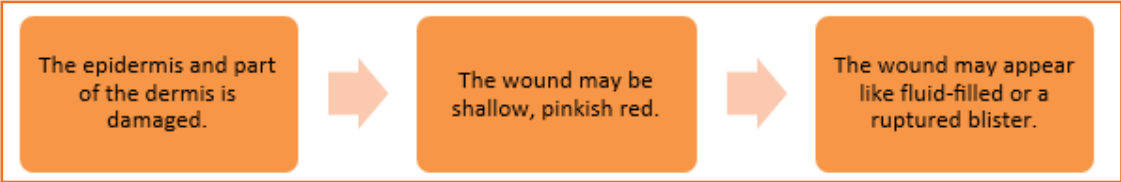
The beginning stage of a pressure sore has the following characteristics:

- The skin is un broken.
- The skin appears red on people with lighter skin color.
- On people with darker skin, the skin may show discoloration.
- The site may be tender, painful, firm, soft, warm or cool compared with the surrounding skin.

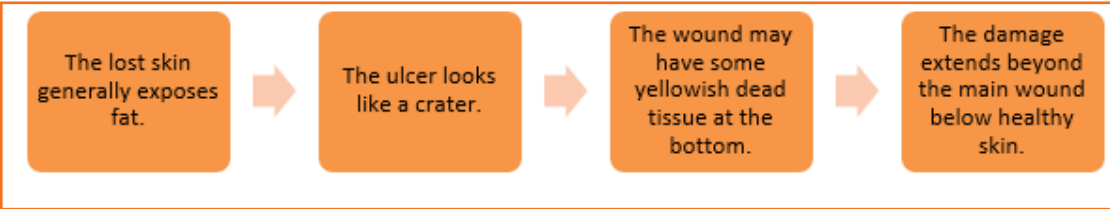


Fig.19.1.1: Bedsore

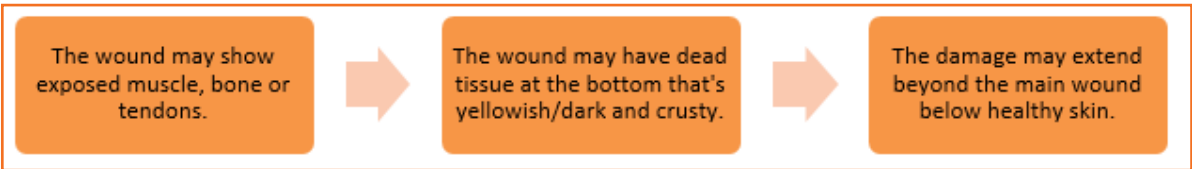
Stage II



Stage III



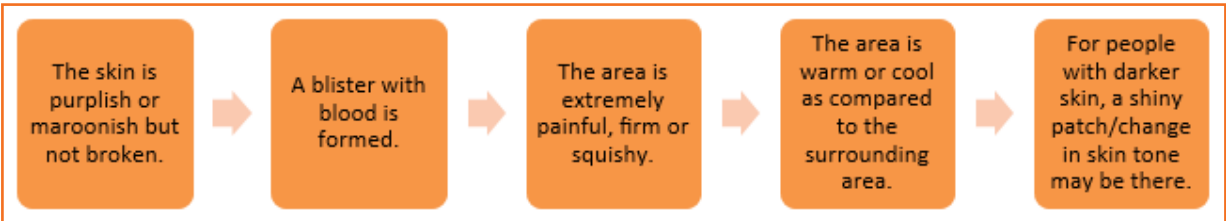
Stage IV



Unstageable

A pressure ulcer is unstageable if its surface is covered with yellow/brown or black dead tissue.

Deep tissue injury



Common sites of pressure sores

For people who use a wheelchair, pressure sores often occur on skin over the following sites:

Tailbone or buttocks	Shoulder blades and spine	Back of arms and legs where they rest against the chair	Back or sides of the head
Rim of the ears	Shoulders or shoulder blades	Hip, lower back or tailbone	Heels, ankles and skin behind the knees

Treating bed sore

- Check for skin discoloration, especially the lower back, tailbone, foot heel, hips, buttocks, knees, back of the head, elbows and ankles
- Check for bleeding or other fluids.
- Take patient's condition into account.
- Determine the seriousness of the bedsores.

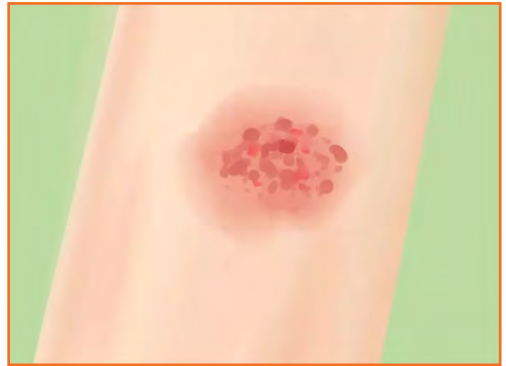


Fig.19.1.2: Skin discoloration

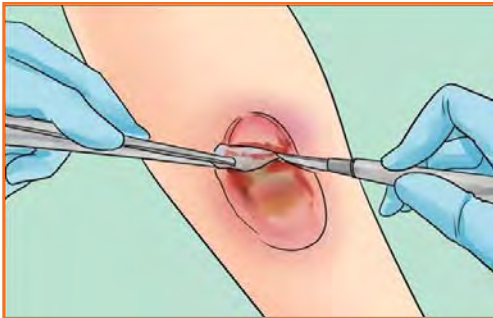


Fig.19.1.3: Cleaning Wound

- Keep the skin clean.
- Clean and dress wounds.

- A wound should be cleaned and wrapped with fresh dressing. A wound may be watered with saline solution to clean it before redressing.
- Get a debridement procedure.



Fig.19.1.4: Dressing the Wound

Tips

- Microorganisms are spread through:
 - » Contact transmission (direct or indirect)
 - » Droplet transmission
 - » Airborne transmission
 - » Vehicle transmission
 - » Vector-borne transmission
- Ways to control infection includes:
 - » Hand Hygiene
 - » Personal Protective Equipment (PPE)
 - » Chemical Disinfection and Sterilization

Exercise 

- 1. What is infection control?
.....
.....
- 2. List down the areas which are to be maintained as infection free in hospitals.
.....
.....
- 3. Describe the transmission precaution.
.....
.....

UNIT 19.2: Handling and Cleaning of Equipments

Unit Objectives



At the end of the unit, you will be able to:

- Clean equipments under supervision

19.2.1 Overview

After a medical procedure, a device is contaminated. Any debris/stain/germ left on the device needs a thorough cleaning process otherwise it poses a risk to the next patient. Therefore, it is important to ensure a thorough cleaning process. Significant risks have been associated with inadequate or improper cleaning. These risks include healthcare-associated infections (HAIs) due to the presence of residual soil and / or improper disinfection or sterilisation and damage to the medical device.

19.2.2 Damage to Medical Devices

A medical device can get damaged by recurring use of cleaning solutions or medical dirt that are not removed properly. However, using cleaning solutions which are not meant for cleaning a specific device may cause further damage. The damage may be a stain, pit or corrosion, clouding and inadequate function due to accumulation of rubbles. To ensure that the devices are cleaned properly and do not carry any risk, use appropriate cleaning solutions and methods.

19.2.3 Basic Components of Cleaning Solutions

It is essential that associate degree appropriate cleaning solution be chosen, and that it ought to be used properly to assure perfect cleaning of medical devices. To do this, an understanding of the essential components of cleaning solutions is needed. solely those cleaning solutions that are specifically developed and tagged for use on medical devices should be employed in reprocessing.



Fig.19.2.1: Cleaning Solutions

19.2.4 Common Types of Cleaning Solutions

The common types of cleaning solutions are:

- Water

- Surfactant
- Detergent
- Buffer
- Amylase Enzyme
- Chelating Agents
- Cellulose Enzyme
- Lipase Enzyme
- Protease Enzyme

19.2.5 Factors for the Effective Use of Cleaning Solutions

For a cleaning solution to be effective, the factors that are involved are:

1. Personnel diligence
2. Proper preparation
3. Quality of the water used
4. Appropriate use of personal protective equipment (PPE)
5. Adherence to guidelines and manufacturer's directions for use

19.2.6 Care of Hospital Articles

Purpose

- To remove dirt, dust and to get a clean polished surface.
- To remove micro-organisms and to get the breeding place destroyed.
- To prolong the life of articles and use clean stored articles at any time.

Cleaning of Rubber Goods

Air cushion:

- Clean the outside with soap and water.
- Dry the outside and dust it with dusting powder (French chalk).
- Inflate the air cushions slightly to prevent the inner surfaces from sticking together.

Rubber mackintosh

- Spread the mackintosh on a flat surface like a table and wet it using cold water.
- Rub the top side with soap and water using either a clean cloth or towel.
- Then, turn the other side and again use soap and water to clean it.
- Wash both surfaces under running water.



Fig.19.2.2: Cleaning of Rubber Goods

- Remove stains using an appropriate method.
- Use 5% savlon for disinfection.
- Hang it on a horizontal cylindrical pole in the shade to dry. Spread it without wrinkles.
- Powder both surfaces when absolutely dry, with French chalk powder.
- Store it while keeping them flat or rolled but never folded, taking care to see that the two mackintosh surfaces do not stick together but are separated by old linen or paper. Store it in a dark cool place.



Fig.19.2.3: Cleaning of Mackintosh



Fig.19.2.4: Cleaning of Mackintosh

Hot water bottle, Ice-collar, Ice cap

- Empty them immediately after use.
- Wash and dry like other rubber goods.
- Hang the bags upside down to drain the water.
- Powder the outer surface when absolutely dry with French chalk powder.
- Inflate them with air before storing.

Rubber gloves

- Wash on the hands just before they are removed, to prevent adherence of blood and other organic materials.
- Wash using soap and cold water, first on the outside, then invert and clean the inner surface.
- Rinse well with water both inside and outside as described above.
- Fill the gloves with air and submerge them in water to detect holes. Discard torn gloves.
- Hang them to dry. When the outer side is dried, then turn it inside out to dry.
- Powder them both inside and outside when dry.
- Pack in pairs of the same size, right and left gloves in a glove wrapper. A small lump of French chalk wrapped in a gauze piece is kept in the cuff of the gloves / packet of the bag. It is for powdering the hands.
- Send for autoclaving in a drum or packet.



Fig.19.2.5: Cleaning of Rubber gloves

Rubber tube / Catheter, Rectal tube, Flatus tube, Ryles tube

- Wash in running water after use, holding the eye upwards and allowing the water to run through.
- Using a swab stick remove organic matter which may be lodged at the eye end.
- Clean with soap and warm water to remove the dirt and grease.

- Wash them again with running water.
- Autoclave them before use.

Enamel Ware

- **Bedpan:**
 - » Clean it with soap and water and scrub with a brush.
 - » Disinfect the bed pan by soaking it in 1% polar solution.
 - » Let it dry on the bed pan rack for its next use.
- **Urinal:**
 - » To be cleaned in the same way as the bed pan.
- **Sputum mug:**
 - » Same as the other enamel wares.
- **Other enamel wares like tray, jug, kidney tray etc.:**
 - » All the enamel ware is to be cleaned with vim or soap and water and dried.

Glassware

- Rinse under running cold water to remove any organic matter.
- Wash under running water and dry it.

Sharp instruments

- Handle sharp instruments carefully to avoid self injury and blunting of sharp edges and avoid exposing them to high temperatures and moisture.
- Wash them with soap and under running water. Dry with a clean cloth.
- Sterilise sharp instruments by immersing in glutaraldehyde solution 2% or autoclaving (instruments should be absolutely dry before immersing in glutaraldehyde as presence of water can cause rusting of instruments and dilution of the disinfectant).

Stainless Steel goods

- Wash with soap and water, dry them with a clean cloth and store.

Linen

- Do not mix the linen of an infected patient with another's linen. It must be disinfected first by soaking it in disinfectant lotions i.e. carbolic lotion (1: 60), polar solution 1% for 30 minutes and then sent to the laundry.
- Use a laundry bag. Do not place the used linen on the floor.
- Clean linen received from laundry should be kept in order in the cupboard.
- Stock should be checked periodically. In case of loss it should be reported immediately.
- Prevent linen from being taken home by patients on discharge.
- Prevent staining of linen during procedures, by using appropriate protective agents (tincture benzoin, Mercurochrome, Iodine etc).
- Do not use torn linen, it should be sent for mending.
- Put the hospital identification mark on the new linen.

Blankets

- Get the used blankets dry cleaned / sun dried.
- Protect blankets from moth infestation by using naphthalene balls while storing.

Mattress and Pillows

- Protect the mattress and pillows from being spoiled, wet and stained by using proper protective devices.
- Sun-dry used mattress and pillows before using them for the next patient.

Furniture

- Dust wooden furniture with a damp duster.
- Clean it with soap and water if necessary.
- Keep it dry.
- Wooden furniture requires polishing periodically.
- Clean steel furniture with a dry duster.
- Keep it dry to prevent rusting.
- Treat against white ants with pesticides.
- When broken, it should be replaced / repaired.

Tips

- Clean equipment under supervision.
- Different types of cleaning solution.
- Care of hospital articles.

Skills Practical: Chart Making

1. Make pairs in the class.
2. Write about the basic cleaning solutions and caring of the hospitals articles.
3. Present your chart to the whole group.



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This image shows a full page of white paper with horizontal blue or grey ruling lines. The lines are evenly spaced and run across the width of the page, typical of notebook paper. There are no margins, text, or other markings on the page.



20. Institutional Emergencies, Fire Safety and Security

Unit 20.1 - Maintain Workplace Health and Safety



Key Learning Outcomes

At the end of the unit, you will be able to:

- Learn actions to be initiated in case of fire.
- Describe how to use fire extinguisher.
- Understand suspicious behaviour of individuals and tracking the same.

UNIT 20.1: Maintain Workplace Health and Safety

Unit Objectives



At the end of the unit, you will be able to:

- Ensure own personal health and safety, and that of others in the workplace through precautionary measures.
- Identify and correct risks like illness, accidents, fires or any other natural calamity safely and within the limits of individual's authority.
- Identify the people responsible for health and safety in the workplace, including those to contact in case of an emergency.

20.1.1 Introduction

Emergency evacuation is needed when staying within the building is not safe anymore. Every organization has an evacuation procedure. Every organization has a safe place within the organization compound or outside the organization compound where all employees are expected to assemble in case of an emergency evacuation. The team leader guides the team and takes them to a safe place. It is very important in these cases, to assemble at the safe area immediately.

If you do not reach the safe area on time, the team leader who is responsible for your safety will send someone to look for you. This will put the other person's life in danger.

Conditions for Evacuation

Emergencies which require evacuation include:

- Fires
- Explosions
- Floods
- Earthquakes
- Hurricanes
- Tornadoes
- Toxic material releases
- Civil disturbances
- Workplace violence

Every company has:

- **An evacuation policy.** All the TLs are responsible for informing their employees about it. When the TL is informing you about these details, pay attention. This negligence could cost lives.
- **A designated place for emergencies.** Ensure that you know where it is.
- **A “buddy system” for individuals with special needs or disabilities.** If you are a buddy to someone, ensure that your buddy is safely out of the premises with you.



Fig.20.1.1: Wellness at work (Sign)

- **Floor plans with evacuation routes in work areas.** Ensure that you understand it so that you can use it in time of need.
- **Assembly areas.** These are the areas where you are required to assemble after evacuation.
- **Periodic evacuation drills.** Ensure that you pay attention during those drills. You need to save your life and you can be helpful in saving someone else's life too.

20.1.2 Mock Drills/ Evacuations

Plans made for fire safety and evacuation outline the duties and responsibilities of the staff, to be carried out at the time of emergencies. Regular training requires to be given to the staff to ensure that they are aware of these responsibilities. The staff personnel can exhibit awareness of their duties and responsibilities during fire drills. Under simulated fire circumstances, they are able to show their skill in defend-in-place strategies and efficiency in using the fire safety features and egress features of the facility. Fire drills not only test the capability of the staff to respond appropriately during emergencies but also evaluate the efficacy of the evacuation plans and staff training programs.

The issues detected during the fire drills need to be analyzed and addressed. These issues could be either due to a fault in the safety plan or due to lack of staff training. Appropriate measures need to be then taken to work towards a smoother evacuation plan.

The two main features of a plan for fire preparedness are:

- A plan for emergency action, which specifies what should be done when a fire occurs
- A plan for fire prevention, which explains what should be done to prevent a fire from happening

You need to participate in fire drills arranged by the organization for your personal safety and also for other's safety. These drills help you in understanding the safety signage and action plan of the organization in case of a fire.



Fig.20.1.2: Emergency signs in case of fire

Tips

- Call for the appropriate action to deal with the emergencies including fire, security and accidents.
- Call for the appropriate help.
- Continue to provide help until someone who is qualified to deal with the emergency is available.
- Support patient and others including family caregivers who may be affected by the emergency.
- Record and report emergencies as per the organisational policy.



21. Emergencies in Healthcare and Response to Patient Call

Unit 21.1 - Emergencies in Healthcare and response to patient call



HSS/ N 5112
HSS/ N 5110

Key Learning Outcomes

At the end of the unit, you will be able to:

- Describe emergencies in Hospital and general conditions.
- Know the Hospital Emergency Codes.

UNIT 21.1: Emergencies in Healthcare and Response to Patient Call

Unit Objectives

At the end of the unit, you will be able to:

- Describe emergencies in Hospital and general conditions.
- Know the Hospital Emergency Codes.

21.1.1 Emergencies in a Hospital

The Emergency Department is there specially for emergencies. After arriving at the Emergency Department of a facility, all patients have to register themselves at the desk. They are then attended by a Triage Nurse who checks their medical condition. Patients are treated in the order of the criticality of their condition with the more gravely ill being treated first. Efforts are made to inform the patients about waiting times.

Acute Medical Admission Unit (AMAU)

- The AMAU is a stay unit available for a short duration for the seriously ill patients from the Emergency Department at all hours and all days of a week.
- When a patient comes to the AMAU, assessment is done by someone from the Medical or Nursing Team. They determine the special care the patient needs for a prompt treatment of the illness.
- A personalized care plan is designed having provision for quick access to various investigations and assessments by a consultant or a specialist.
- AMAU is just a short stay unit, which implies that the patient might be shifted to the specialty ward for the rest of the stay at the hospital.

Some common emergencies in hospitals

- **Children Fever:** Fever is the major cause for the children arriving at the emergency room. Fever along with the symptoms related to it, such as a cough, cold or sinus congestion are also prevalent. In addition, children suffering from high fever and having a history of fever-induced seizure or some other medical problem also add to the number.
- **Various injuries:** Injuries such as strains and sprains are the primary reason for the visits to the emergency room by both adults and children. People also come with complaints of fractures, bruises and open injuries. Majority of these injuries occur due to road accidents, falls and other accidents. Head and neck injuries are common in the emergency room.
- **Chest Pain:** Chest pain or discomfort in the chest area is another prominent reason for the patients to visit the emergency department. Patients having a history of heart attack or other heart issues, as well as the ones who recently started showing cardiac problem symptoms, both come in this category. The symptoms of cardiac issues are pain in the upper back, discomfort in the chest area, pain in the arm or breathlessness.
- **Abdominal Pain:** In 2005, there were 1.7 million visits to the emergency room due to abdominal pain.

Abdominal complaints generally include discomfort or pain in the abdominal region, cramps or spasms. These complaints can be accompanied by diarrhea or constipation.

- **Back Pain:** Patients with back pain, who come to the emergency room, usually have a history of injuries to the back or the spine. However, patients who have currently started experiencing symptoms of back pain, from either a traumatic situation or a work-related injury, also visit the emergency room.
- **Shortness of Breath:** Another common reason for emergency room visits by adults and children is breathlessness or trouble in breathing. Patients with respiratory disorders, such as chronic obstructive pulmonary disorder or asthma are more than those with a recent onset of breathing problems, including children having asthma and pneumonia.

21.1.2 Emergencies in Fire Burn

A burn is a wound to the flesh which could have happened due to heat, chemicals, friction or electricity. These injuries vary in severity by degrees. Except first degree burns, most of these need immediate medical attention for appropriate treatment.

The patients with burns have the same priorities with regard to treatment as all other critical patients. The process of treatment involves the following steps:

Assessment

- Inspect the airway
- Check the breathing: be careful of intake of breath and doing compromise for providing quick airway
- Check the circulation: fluid replacement necessity
- Inspect the disability: the compartment syndrome
- Check the exposure: the area affected by the fire in percentage

Important management points:

1. First step is to stop the burning
2. Then ABCDE process should be followed
3. The percentage area of burn should be determined
4. There should be good access to IV and provision for fluid to be replaced promptly

The severity of the burn is determined by:

- The surface area affected by the fire
- The depth to which the skin has burned

Depth of burn

The depth of the burn needs to be checked before beginning the treatment for the wound. There are three kinds of burns as given below:

Depth of burn	Characteristics	Cause
First degree burn	<ul style="list-style-type: none"> • Erythema • Pain • Absence of blisters 	<ul style="list-style-type: none"> • Sunburn

Second degree (Partial thickness)	<ul style="list-style-type: none"> • Red or mottled • Flash burns 	<ul style="list-style-type: none"> • Contact with hot liquids
Third degree (Full Thickness)	<ul style="list-style-type: none"> • Dark and leathery • Dry 	<ul style="list-style-type: none"> • Due to fire • Due to electricity or lightning • Due to exposure to extremely hot liquids or things for long time

Fig.21.1.1: Depth of burn

Serious burn requiring hospitalization

- Burns exceeding 15% for an adult
- Burns exceeding 10% for a child
- Burns suffered by very small children, aged or the infirm
- Burns in particular regions: face, hands, feet or perineum area
- Burns in the circumferential area – Injury at the time of Inhalation
- Related trauma or considerable pre-burn illness such as diabetes

Treating Burns

- First aid should be given
- If the patient reaches the health facility without having availed first aid, wet the burnt area properly using cool water and discard the burnt clothing
- If the area affected by the fire is small, dip it in cold water for some time to alleviate the pain and reduce tissue damage.
- If the burnt area is huge, apply cool water, use clean wraps around the burned area or to the whole body to prevent hypothermia
- The first 6 hours after the injury are important, especially for severe burns. Transfer the patient to a hospital as quickly as possible.

Initial treatment

- The treatment should be focused on, sterilizing the burnt area first and then quick healing and keeping infection at bay.
- Treat the wound with tetanus prophylaxis for all types of burns.
- Debride all bullae except for minor burns.
- Then, clean the wound using 0.25% (2.5 g/litre) chlorhexidine solution or 0.1% (1 g/litre) cetrimide solution. Other water based antiseptic choices are also there.
- Refrain from using alcohol-based solutions.
- Soft and careful scrubbing will get rid of the loose necrotic tissue. Administer lightly a layer of an antibiotic cream such as silver sulfadiazine.
- Using appropriate gauzes such as petroleum gauze and dry gauze, dress the burn properly.

Treat burned hands with special care to preserve function

- Cover the hands with silver sulfadiazine and put them in loose gloves/bags and tighten at the wrist with a bandage;
- Elevate the burnt hands for initial 48 hours, and then begin hand exercises;
- Try and remove the gloves/bag at least once a day and then bathe the hands, inspect the burn and then reapply silver sulfadiazine and the gloves;
- If needed, consider getting skin grafting treatment by a specialist.

21.1.3 Hospital Emergency Codes

Hospital emergency codes are utilized in hospitals all over the world to alert the staff about the various emergencies. The purpose of the codes is to give important information swiftly and with least misunderstanding to the staff, while avoiding stress and panic from spreading amongst the visitors at the hospital. These emergency codes may be displayed on placards all over the hospital, or printed on the identification badges of the employees for easy reference.



Fig.21.1.2: Hospital Emergency Codes

- Fire – Red
- Adult medical emergency- Blue
- Paediatric medical emergency- White
- Infant abduction- Pink
- Child abduction- Purple
- Bomb threat- Yellow
- Combative person- Gray
- Person who has a weapon - Silver
- Hazardous material spill/release- Orange
- Internal disaster- Triage internal
- External disaster- Triage external

- ### Tips
- Examine the area where you work and the equipment you use are safe and meet your organisation's health and safety policies.
 - Remove any threat to health and safety of staff and patient.
 - Report health and safety issues to the concerned people
 - Check that the people who are at your workplace have a right to be there.



Notes





22. IT Skills

Unit 22.1 - Introduction to Computer

Unit 22.2 - MS Word

Unit 22.3 - MS Excel

Unit 22.4 - Internet Concepts



Key Learning Outcomes

At the end of the unit, you will be able to:

- Acquire basic computer skills.
- Use MS Office (MS Word, MS PowerPoint and MS Excel).
- Use IT Skills at work.
- Get basic knowledge of internet concepts.

UNIT 22.1: Introduction to Computer

Unit Objectives



At the end of the unit, you will be able to:

- Acquire basic computer skills.
- Know the different parts of computer.
- know the Advantages of Computers.
- Learn the keyboard's general commands and use of keys.

22.1.1 What are Computers?

Computer is the greatest technology of all times. An innovative electronic device that takes raw data as input from the user and processes these data under the control of set of instructions which is called program, to give the result the output. The first fully electronic computers, announced in the 1940s, were huge machines. The computer of today's time is thousands of times faster and in any size you want. They can fit on your desk, on your lap, or even in your pocket. Computers work through an interface of hardware and software.

Computers work through an interaction of hardware and software.

- **Hardware = Internal Devices + Peripheral Devices:** All concrete parts of the computer (or everything that we can touch) are known as hardware. The most significant piece of hardware is a tiny quadrangular chip inside the computer called the central processing unit (CPU), or microprocessor. It's the "brain" of the computer—the part that interprets instructions and performs calculations. Hardware items such as your monitor, keyboard, printer, mouse and other components are often called hardware devices.
- **Software = Programs:** Software provides "intelligence" to the computer. Software refers to the instructions, or programs, that tell the hardware what to do. A word-processing program that you can use to write letters on your computer is a type of software. The operating system (OS) is software that manages your computer and the devices linked to it. Windows is a well-known operating system.

22.1.2 Advantages of Computers

Compared to conventional systems, computers offer many notable benefits. The main benefits offered by computers are as follows:

- High Accuracy
- Superior Speed of Operation
- Large Storage Capacity
- User-friendly Features
- Portability
- Platform independence
- Economical in the long term

22.1.3 Motherboard

The motherboard is the main element inside the case. It is a large rectangular board with combined circuitry this connects the several parts of the computer as the CPU, RAM, Disk drives (CD, DVD, Hard disk or any others) as well as any other peripherals linked via the ports or the expansion slots. Components directly attached to the motherboard include the following.

The central processing unit (CPU)

The central processing unit (CPU) performs most of the calculations that allow a computer to function and is sometimes referred to as the “brain” of the computer. It is usually cooled by a heat sink and fan.

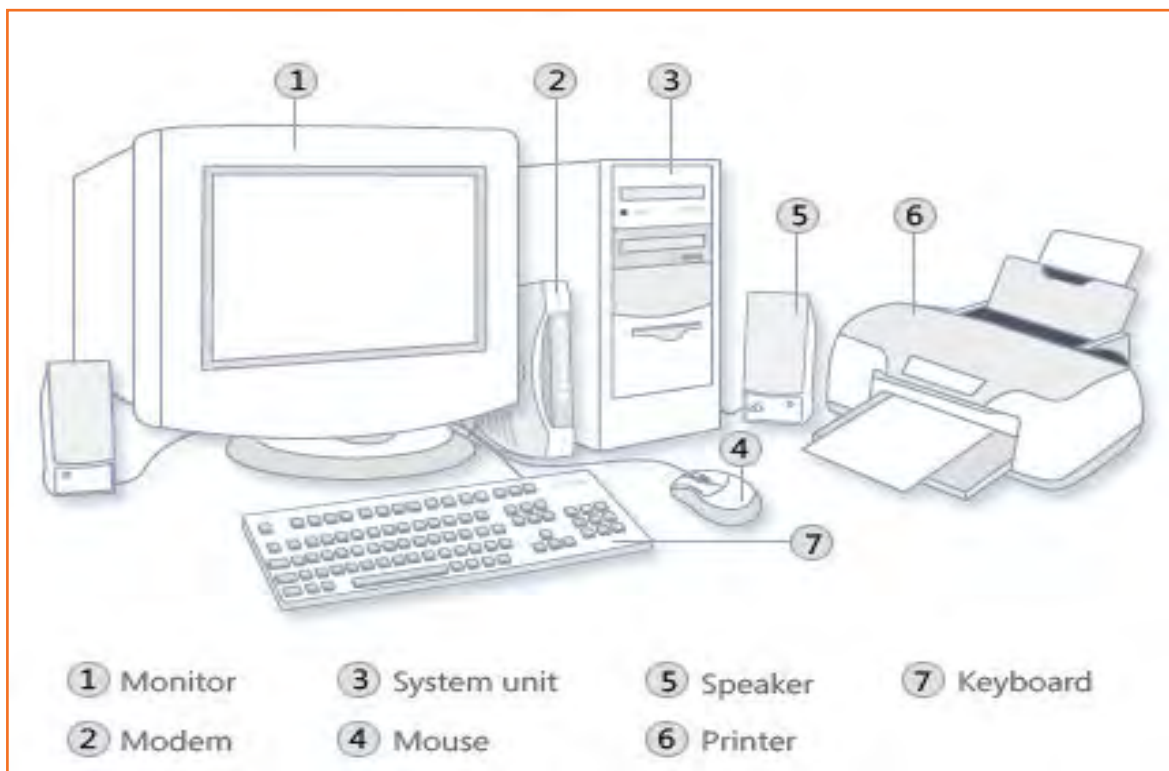


Fig.22.1.1: Parts of a Computer

The chip set

The chip set aids communication between the CPU and the other components of the system, including main memory.

RAM (Random Access Memory)

RAM (Random Access Memory) stores all running processes (applications) and the current running OS.

The BIOS

The BIOS includes boot firmware and power management. The Basic Input Output System tasks are handled by operating system drivers.

Internal Buses

Internal Buses connect the CPU to various internal components and to expansion cards for graphics and sound.

22.1.4 Tools and Parts of an Operating System

Windows XP is a personal computer operating system created by Microsoft as part of the Windows NT family of operating systems. Basically it lets you use different types of applications or software on the operating system. For example, it allows you to use a word processing application to write a letter and a spread-sheet application to track your financial information. Windows XP is a graphical user interface (GUI).

Learn more about Windows XP by exploring it

There are various versions of Windows, when you install any version of Windows on your operating system it is called 'upgrade' your system. Below are the images of different versions of windows for your more clarity.



Fig.22.1.2: Windows XP Desktop

Desktop: The desktop is your work surface in place of a physical workspace at home or work. It is the screen you see once your computer has finished booting up and you are ready to get started.

Wallpaper (Desktop Background): The image on your desktop is called Wallpaper or Desktop Background

Icons: The small pictures are shortcuts to programs called icons. Double-click icons to start a program. Clicking the Start button also shows a list of programs and other options on the computer.

Taskbar: The blue bar across the bottom of the screen is called the Task Bar.

System Tray: It is an area where you can access programs that are running in the background. The more programs you have in this area, the longer it takes for the computer to boot up. The system tray of a desktop area has icons as shown in the image to indicate which programs are currently running in the background. Once you single click on the left-facing arrow button you would be able to open and see what else is there.

Volume Controls: The speaker icon will open the volume controls. Once you do the single click on an icon you can make a quick volume change. Click and drag on the bar to raise or lower the overall volume, or click in the check box to mute all sound as shown in the picture.

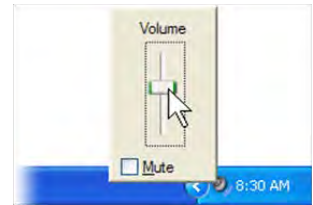


Fig.22.1.3: Volume Control

To view sound settings, right click on the sound icon in task bar and left click on open volume control or double click on the sound icon. To change the volume settings,

click and move the volume bars up and down in specific categories. To set volume balance, click and move balance bars right and left. To mute, click the check box below the volume categories.

Some other taskbar icons are shown here:

You can add or delete Icons or Desktop Shortcuts from the Desktop area.

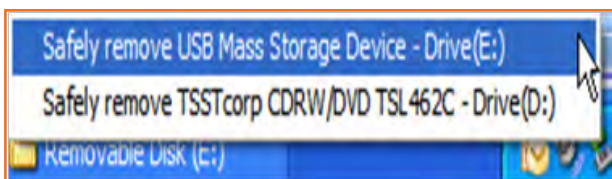


Fig.22.1.4: Removing USB Storage

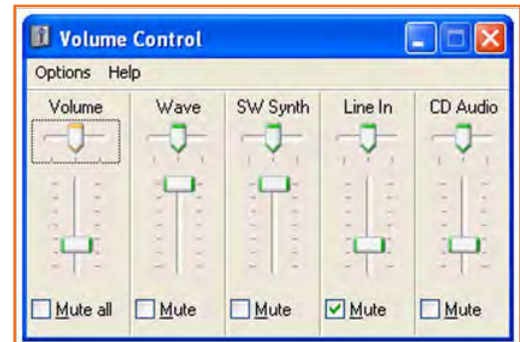


Fig.22.1.5: Volume Control



Fig.22.1.6: USB Storage Icon

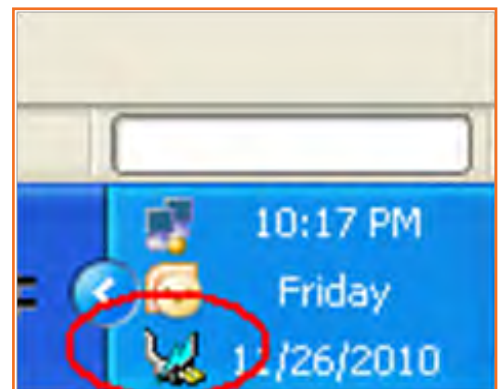


Fig.22.1.7: Charging the System

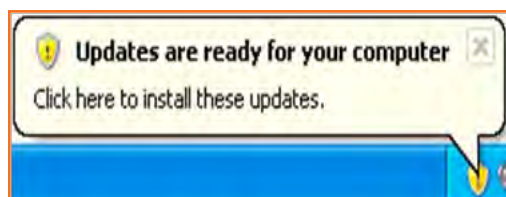


Fig.22.1.8: Windows Updates Icon

22.1.5 Add or Remove Desktop Icons

To add an Icon:

- **Step 1:** Click on the *Start* button.
- **Step 2:** Put your mouse over *All Programs*. A menu will appear with all of your programs.
- **Step 3:** Go to the program that you want to create a shortcut for and *Right-click* on it. A menu will appear.

- **Step 4:** Point to *Send To*.
- **Step 5:** Left click on *Desktop (create shortcut)*.

To remove an icon:

- Left click on the icon.
- Hit the *Delete* button on your keyboard.
- When your computer asks if you are sure you would like to delete this program, click on the *Delete Shortcut* button. The window that popped up is called a Dialog Box.



Fig.22.1.9: Deleting a Desktop Shortcut

Dialogue box: A dialog box is window that appears once your

pc encompasses a question for you. Generally a dialog box appears just to tell you something. You must click on the OK button to acknowledge that you simply have scan the message before you'll be able to continue. For example:

- **Step 1:** Double click on the *My Documents* folder on the desktop.
- **Step 2:** Locate the folder titled *Travel Class*, and right click on it.
- **Step 3:** Left click on *Rename*.
- **Step 4:** Type *eBay* and press the enter key on the keyboard.
- **Step 5:** A dialog box will appear to inform you that you cannot rename the folder to "eBay" because an item by that name already exists.

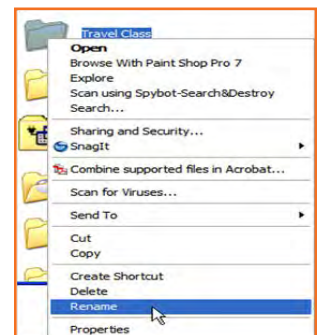


Fig.22.1.10: Renaming a Folder

22.1.6 Create a Folder

Some individuals wish to keep folders on their desktop to keeping vital files in. (You might also use the My Documents folder for this purpose.)

- **Step 1:** Find an empty area on your desktop with no icons or windows in the way.
- **Step 2:** Right click on the empty space.
- **Step 3:** Point to *New*. (You do not need to click.)
- **Step 4:** In the menu that pops out, left click on *Folder*.
- **Step 5:** Your new folder has been created and is waiting for a name. *Don't click!* Just start typing to give the folder a name.
- **Step 6:** When finished, hit the enter key on the keyboard or click beside the folder. Your new folder is ready to receive files.

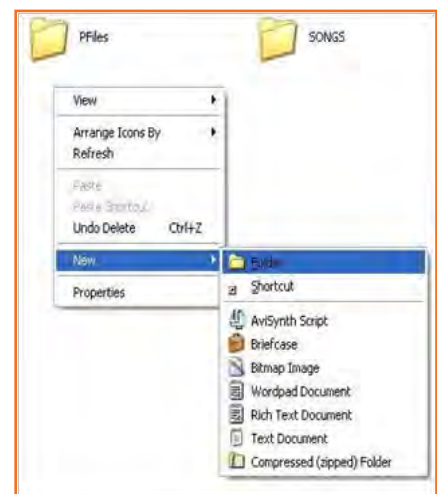


Fig.22.1.11: Making a New Folder

22.1.7 The Keyboard

A computer keyboard is very much like a typewriter keyboard, but it has some extra keys.



Fig.22.1.12: A SimpleComputer Keyboard

The ESC key in the upper left corner will close any menus you have opened but do not want to select an item from. (Try opening the Start menu and then click on the Esc key.)



Fig.22.1.13: Esc Key

The Function keys along the top of the keyboard each have special uses, often in conjunction with the ALT or CTRL keys, depending on the program you are using. F1 usually open the program's Help options. It is different for every program.



Fig.22.1.14: The Function keys

In the bottom left corner are three keys unique to the keyboard – CTRL, Windows, and ALT:

The CTRL key is used in conjunction with other keys to perform various functions. (CTRL +P will open the print window when in Microsoft Word.)

The Windows key works like pressing the Start button on the screen.

The ALT key is another helper key used in conjunction with other keys.

The Caps Lock key is used in typing. Pressing this key once will make all letters you type CAPITALIZED. Press the Caps Lock key again to turn off this feature.

The Shift key is used in typing to make one capital letter. To capitalize a letter, press the Shift key and hold it down, then press the letter you want capitalized. Release the Shift key and continue to type.

Page Up and **Page Down** move the cursor through a document page by page, either up or down.

The Arrow keys help you move the cursor around the screen (when using a program like Microsoft Word) or across a line of text when typing in a text box.

The Insert key is used when typing to type over words you have already typed.

The Delete key is used to remove text you have typed that is to the right of the cursor or to send selected items to the Recycle Bin.

Pressing the **Home key** sends your cursor to the beginning of a line of text. Pressing the End key sends the cursor to the end of a line.

To the right of the spacebar you see another **Alt key, Windows key, and Ctrl key**. Notice the new Application key. Pressing this key is the same as pressing the right mouse button (right clicking).

The Backspace key is used to remove text you have typed that is to the left of the cursor.

The Enter key gives a new line (like a carriage return) when you are typing. At other times the Enter key works like a left mouse click.

22.1.8 Common Windows Commands

One feature of Windows is that there are usually many ways to perform an action. This table shows the Windows Command, with the Menu, Keyboard and Toolbar ways to tell the computer to perform that action.

Key	Description
Alt + F	File menu options in current program
Alt + E	Edit options in current program
Alt + Tab	Switch between open programs
F1	Universal Help in almost every Windows program
F2	Rename a selected file
F5	Refresh the current program window
Ctrl + N	Create a new, blank document in some software programs
Ctrl + O	Open a file in current software program
Ctrl + A	Select all text
Ctrl + B	Change selected text to be Bold
Ctrl + I	Change selected text to be in Italics
Ctrl + U	Change selected text to be Underlined
Ctrl + F	Open find window for current document or window
Ctrl + S	Save current document file
Ctrl + X	Cut selected item
Shift + Del	Cut selected item
Ctrl + C	Copy selected item
Ctrl + Ins	Copy selected item
Ctrl + V	Paste
Shift + Ins	Paste
Ctrl + K	Insert hyperlink for selected text
Ctrl + P	Print the current page or document
Home	Goes to beginning of current line
Ctrl + Home	Goes to beginning of document
End	Goes to end of current line
Ctrl + End	Goes to end of document

Shift + Home	Highlights from current position to beginning of line
Shift + End	Highlights from current position to end of line
Ctrl + Left arrow	Moves one word to the left at a time
Ctrl + Right arrow	Moves one word to the right at a time
Ctrl + Esc	Opens the START menu
Ctrl + Shift + Esc	Opens Windows Task Manager
Alt + F4	Close the currently active program
Alt + Enter	Open the Properties for the selected item (file, folder, shortcut, etc.)

Fig.22.1.15: Common Window Commands

This image shows a single sheet of white paper with horizontal blue ruling lines. The lines are evenly spaced and run across the width of the page. There are no margins, text, or other markings on the paper.

UNIT 22.2: MS Word

Unit Objectives

At the end of the unit, you will be able to:

- Learn the basic concept and practice MS-Word.

22.2.1 Concepts of word processing - MS Word

Most people who use a computer daily use word processing skills. word processing skills enable us to prepare text documents like letters, memos, and different correspondence. most up-to-date word processing software package permits us to create text documents that embody photos and drawings.



Fig.22.2.1: MS Word Icon

22.2.2 Creating a Word Document

Once the document that has opened, type a short paragraph of why you are taking this mini- session. for example, are you new to Microsoft Word 2007 or are you up your software your skills? keep in mind to purposely misspell some words. Later in the session you'll use this paragraph to learn the way to spell check and use basic Word 2007 functions.

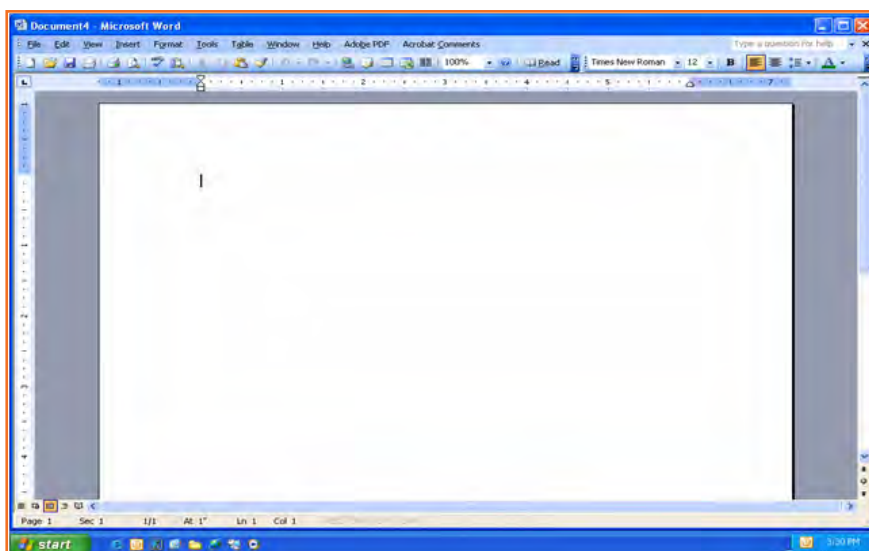


Fig.22.2.2: MS Word Window

The above image shows components of the Word window, that also contains a document in the window. This view displays rulers at the top and along the left aspect that indicate the size of the page.

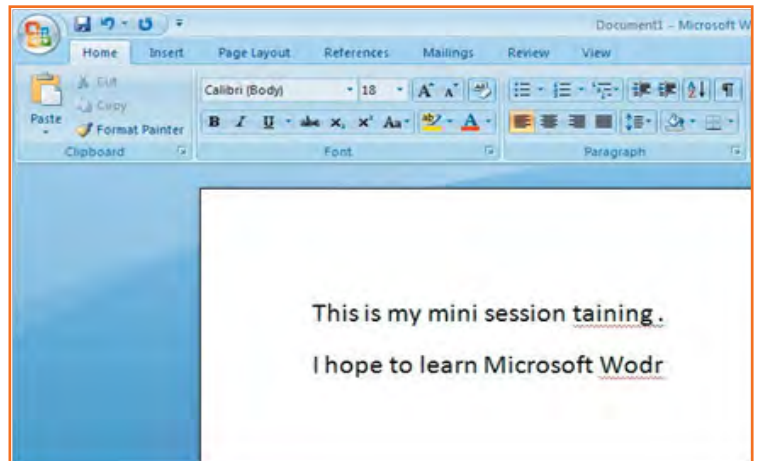


Fig.22.2.3: Writing Text in MS Word Window

22.2.3 Saving a Document

A Command is used for a first-time save or if you have created revisions to a document and want to replace the previous version with the new revised document. Use the 'Save as' command to save a revised document to a new name, so keeping the original as it was before revisions or to save a copy of a document in a different folder.

- **Step 1:** Save your document in the "My Documents" folder.
- **Step 2:** In the 'File Name' box enter the document name.
- **Step 3:** Check to make sure in the 'Save As Type' box the word document is (*.docx.)*.



22.2.4: Saving the Document

22.2.4 Change Font Type and Size

As shown within the image below, the document that you have just created, you are currently going to format the font size and type different fonts and sizes can offer character to words in your document i.e. once you are creating your resume, you use bold as an 'eye-catcher' also, font size affects word characteristics.

1. **Step 1:** Highlight the text you wish to change the font and size for; in this practice highlight your name.
2. **Step 2:** Click on the font menu, select Theme font for e.g. Arial Black and then select the size of the font (let's say 16) as shown in the image below.

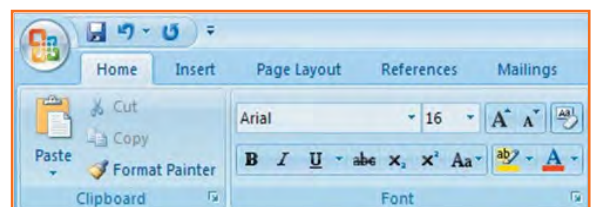


Fig.22.2.5: Change Font Type and Size

3. Now click on SAVE in the Quick Access Toolbar to save your document (Refer to the second picture below, for saving your document).

22.2.5 Lists

Lists enable you to format and organize text with numbers, bullets, or in an outline. Instead of using numbers for steps, an outline list is used to show an example of a type of number lists.

22.2.5.1 Bulleted and Numbered Lists

Bulleted lists have bullet points, numbered lists have numbers, and outline lists combine numbers and letters depending on the organization of the list.

How to add list to the existing text?

1. **Step 1:** Select the text you wish to make a list.
2. **Step 2:** Click a bulleted or numbered lists button from the paragraph tab on the home tab.

Now, to create a new list in your document, place your cursor where you want the list to begin. Click a bulleted or numbered lists button and start typing.

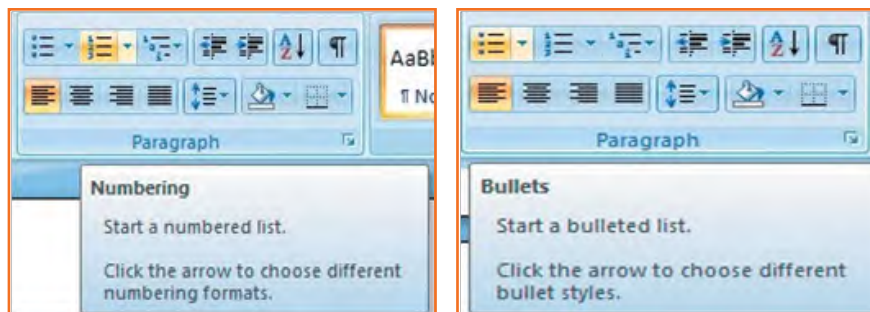


Fig.22.2.6: Bulleted and Numbered Lists

22.2.5.2 Formatting Lists

1. **Step 1:** The bullet image and numbering format can be changed by using the bullets or numbering dialog box.
2. **Step 2:** Select the entire list to change all the bullets or numbers, or place the cursor on one line within the list to change a single bullet.
3. **Step 3:** Right click once.
4. **Step 4:** Click the arrow next to the bulleted or numbered list.
5. **Step 5:** Now, select a bullet or numbering style.

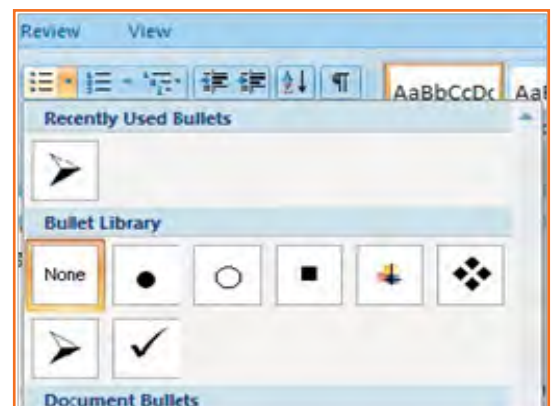


Fig.22.2.7: Formatting Lists

22.2.6 Spelling and Grammar

There are many features to help you proof-read your document these features include:

- Spelling and Grammar
- Thesaurus
- AutoCorrect
- Default Dictionary
- Word Count

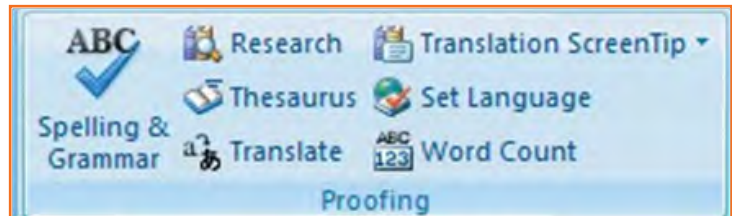


Fig.22.2.8: Spelling and Grammar

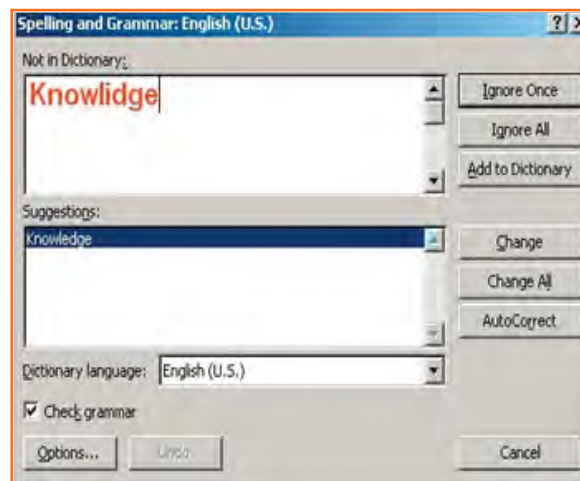


Fig.22.2.9: Spelling and Grammar Dialog Box

The most common feature used is the spelling and grammar checker tool. To check the spelling and grammar of your document:

1. **Step 1:** Place the cursor at the beginning of the document or the beginning of the section that you want to check.
2. **Step 2:** Click the 'Review' Tab on the Ribbon.
3. **Step 3:** Click 'Spelling & Grammar' on the Proofing Group.

Note: Any errors will display a dialog box that permits you to choose a additional appropriate spelling or phrasing. Go through the spelling and grammar checker to correct any spelling errors you may have created in your document. Once the spelling and grammar checker has completed, you will see a dialog box that notifies you 'The spelling and grammar check is completed'.

To count words in one selection, you can select the words you want to count. The status bar displays the number of words in the section for e.g. 50/1,200 means that the section accounts for 50 words out of the total number of 1200 in the document.

Note: To select the sections of text that are not next to each other, select the first section and press hold down CRTL (from the keyboard) and select the additional section.

22.2.7 Inserting an Image and Table

- Step 1:** Place the insertion point at the location where the image has to be placed in the document.
- Step 2:** Select Insert tab>> illustrations gallery.
- Step 3:** Now select *Insert picture*.
- Step 4:** Navigate to the appropriate location where the image is stored.
- Step 5:** Now select the appropriate image which you want to insert in the document by doing a double click on the image.

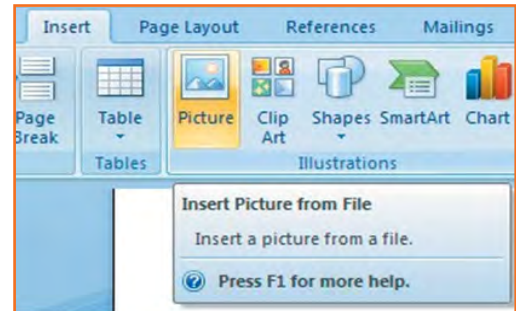


Fig.22.2.10: Inserting an Image

Similarly, now let's see how to insert a table in a word document

The table feature can be used to organize data into rows and columns without having to set tabs. Tables can even be used to produce forms and side by side paragraphs. A table consists of vertical columns and horizontal rows, the inter-section of these rows and columns produce cells. A cell is every individual square in which you'll be able to enter text. The tab key advances the pointer to next cell (Shift + tab) it moves the pointer backward within a table.



Fig.22.2.11(a): Inserting a Table

Steps below would make it much easier for you to understand how to create a table:

- Step 1:** Place the insertion point at the desired location on your word document.
- Step 2:** From the bar select Insert tab>>tables gallery.
- Step 3:** Now select insert table.
- Step 4:** Enter desired no. of columns and rows at insert table dialog box.
- Step 5:** Now select AutoFit behavior.
- Step 6:** Click OK.

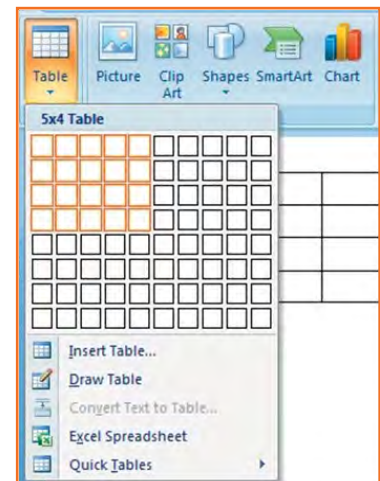


Fig.22.2.11(b): Inserting a Table

22.2.8 Printing the Word Document

- Step 1:** Click the 'Home' key, select 'Print', and then 'Print' again.
- Step 2:** Choose the printer you will be printing from (Black & White, or Color printer).
- Step 3:** Once you have selected the printer of your choice, reassure to check if you have selected the right and the complete document for printing.
- Step 4:** Once all above steps are performed, select 'OK' to print your work.
- Step 5:** Now that your document is ready and has been printed as well, let's see how can we close and exit this word document completely.

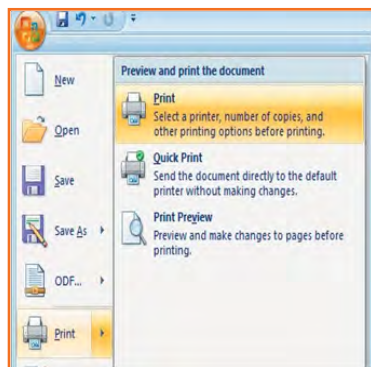


Fig.22.2.12: Printing Options

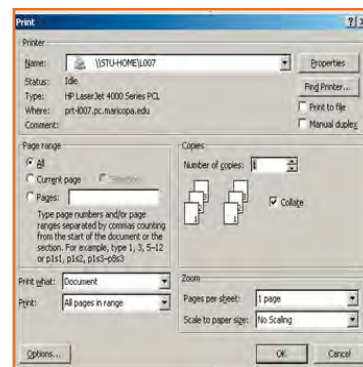


Fig.22.2.13: Printing Dialog Box

22.2.9 Closing and Exiting Microsoft Word

It's always good to reassure that your word file has been saved before closing or exiting the word.

Note: Closing word would only close the current document however the word would remain open.

Exiting word would exit the program completely. (You may not have to follow this, it basically depends on what MS word you are having in the system).

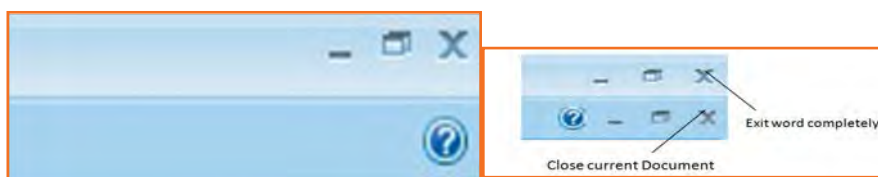


Fig.22.2.14: Closing MS Word

UNIT 22.3: MS Excel

Unit Objectives



At the end of the unit, you will be able to:

- Practice and work on MS-Excel.

22.3.1 Introduction

MS Excel stands for - Microsoft Excel is one of the most popular electronic spreadsheet applications supported by both Mac and PC platforms. As with a paper spreadsheet, you can use Excel to organize your data into rows and columns and to perform mathematical calculations.

MS Excel helps in:

- Managing data online
- Creating visually persuasive charts, and thought-provoking graphs.
- Creating and expense reports.
- Building formulas and editing them.
- Balancing a checkbook.

This tutorial helps you how to create an Excel spreadsheet.

Before you begin creating spreadsheets in Excel, you may want to set up your Excel environment and become familiar with a few key tasks and features such as how to minimize and maximize the Ribbon, configure the Quick Access toolbar, switch page views, and access your Excel options.



Fig.22.3.1: MS Excel Icon

22.3.2 Exploring the Excel Environment

The tabbed Ribbon menu system is however you navigate through excel and access the assorted excel commands. If you have used previous versions of excel, the Ribbon system replaces the traditional menus. on top of the Ribbon in the upper-left corner is the Microsoft office Button. From here, you'll access important options like New, Save, Save As, and Print. By default, the short Access Toolbar is pinned next to the Microsoft office Button and includes commands like Undo and Redo.

At the bottom-left space of the spreadsheet, you will notice worksheet tabs. By default, 3 worksheet tabs appear each time you create a new book. On the bottom-right space of the spreadsheet you will find page view commands, the zoom tool and the horizontal scrolling bar.

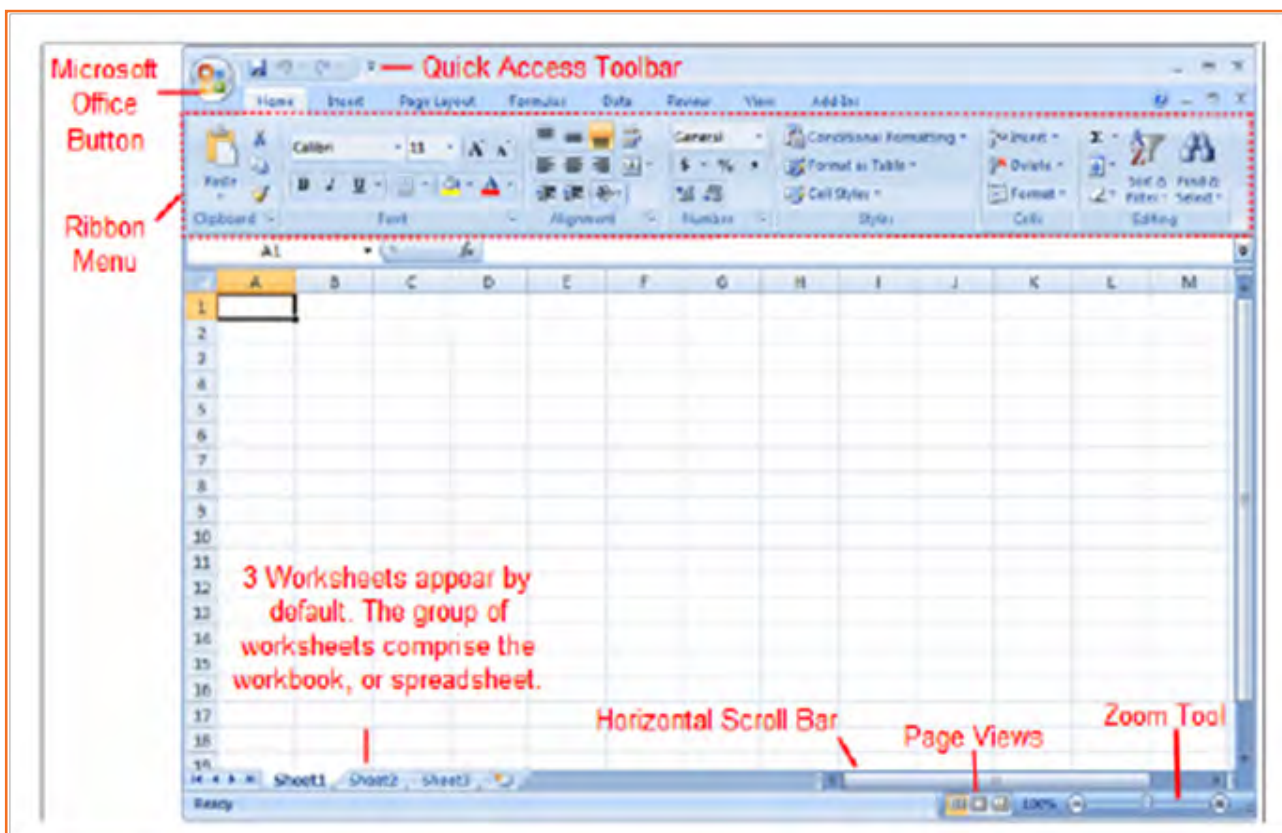


Fig.22.3.2: MS Excel Window

22.3.3 Create a New Blank Workbook

- **Step 1:** Left-click the *Microsoft Office Button*.
- **Step 2:** Select *New*. The New Workbook dialog box opens, and Blank Workbook is highlighted by default.
- **Step 3:** Click *Create*. A new, blank workbook appears in the window.

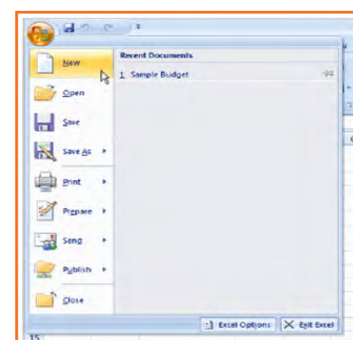


Fig.22.3.3: Creating New Workbook

22.3.4 Insert Text

- **Step 1:** Left-click a cell to select it. Each rectangle in the worksheet is called a cell. As you select a cell, the cell address appears in the Name Box.
- **Step 2:** Enter text into the cell using your keyboard. The text appears in the cell and in the formula bar.

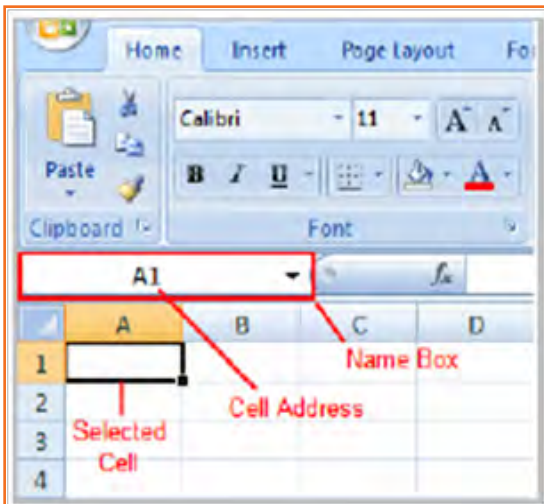


Fig.22.3.4: About Cell Address and Name

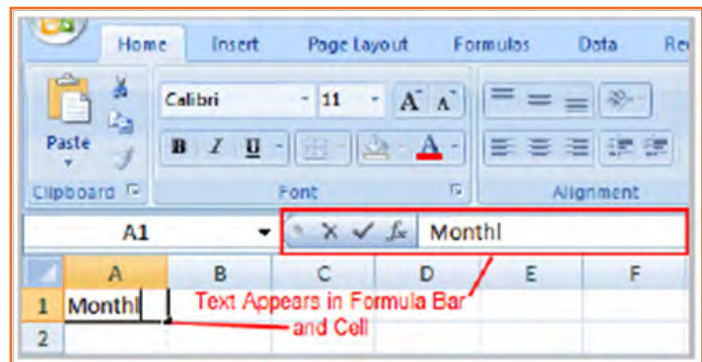


Fig.22.3.5: Writing Text in Spreadsheet

22.3.5 Cell Addresses

Each cell contains a name, or a cell address, based on the column and row it is in. for example, this cell is C3 since it is wherever column C and row 3 intersect.

You can also select multiple cells at the same time. a group of cells is known as a cell range. instead of a single cell address, you will refer to a cell range using the cell addresses of the first and last cells in the cell range, separated by a colon. as an example, a cell range that included cells A1, A2, A3, A4, and A5 would be written as A1:A5.

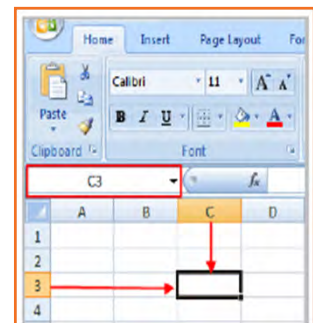


Fig.22.3.6: Cell Addresses

Edit or Delete Text



- **Step 1:** Select the cell.
- **Step 2:** Press the Backspace key on your keyboard to delete text and make a correction.
- **Step 3:** Press the Delete key to delete the entire contents of a cell.

You can also make changes to and delete text from the formula bar. Just select the cell and place your insertion point in the formula bar.

To Modify the Row Height:



- **Step 1:** Position the cursor over the row line you want to modify, and a double arrow will appear.
- **Step 2:** Left-click the mouse and drag the cursor upward to decrease the row height or downward to increase the row height.
- **Step 3:** Release the mouse button.

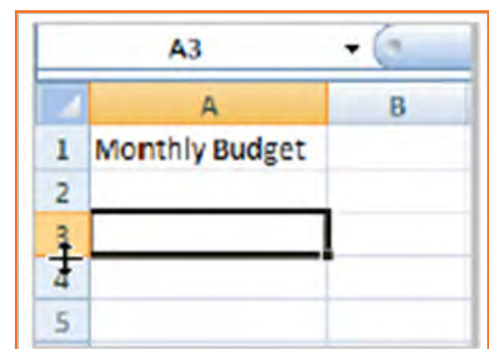


Fig.22.3.7: Row Height

To Insert Rows:

- **Step 1:** Select the row below where you want the new row to appear.
- **Step 2:** Click the Insert command in the Cells group on the Home tab. The row will appear.
- **Step 3:** The new row always appears above the selected row.

Make sure that you select the entire row below where you want the new row to appear and not just the cell. If you select just the cell and then click Insert, only a new cell will appear.

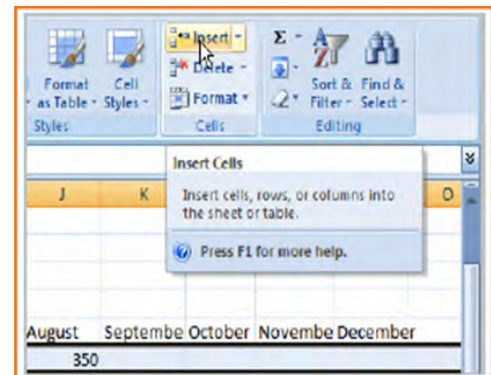


Fig.22.3.8: Inserting Row

To Insert Columns:

- **Step 1:** Select the column to the right of where you want the column to appear.
- **Step 2:** Click the Insert command in the Cells group on the Home tab. The column will appear.

The new column continually appears to the left of the selected column. for example, if you wish to insert a column between september and october, choose the october column and click on the Insert command.

Make sure that you select the complete column to the right of where you want the new column to appear and not just the cell. If you choose simply the cell and then click Insert, only a new cell can appear.

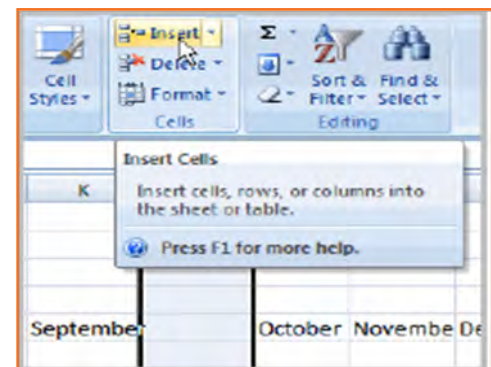


Figure: 7.3.Fig.22.3.

To Delete Rows and Columns:

- Select the row or column you'd like to delete.
- Click the Delete command in the Cells group on the Home tab.

22.3.6 Formatting

Once you have entered information into a spreadsheet, you will need to be able to format it.

To Format Text in Bold or Italics:

- **Step 1:** Left-click a cell to select it or drag your cursor over the text in the formula bar to select it.
- **Step 2:** Click the Bold or Italics command.

You can select entire columns and rows, or specific cells. to select the entire column, simply left-click the column heading, and the entire column can appear as selected. to select specific cells, simply left-click a cell and drag your mouse to select the opposite cells. Then, release the mouse button.



Fig.22.3.10: Formatting Text

To Format Text as Underlined:



- **Step 1:** Select the cell or cells you want to format.
- **Step 2:** Click the drop-down arrow next to the Underline command.
- **Step 3:** Select the Single Underline or Double Underline option.

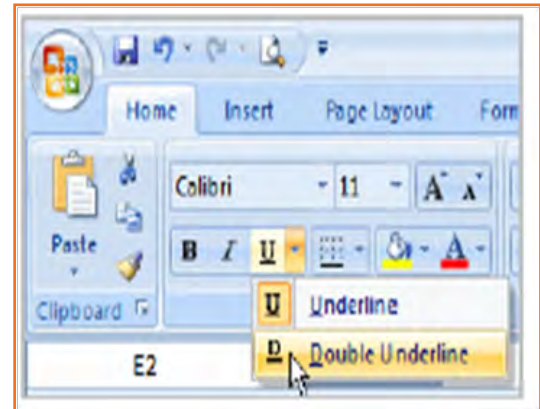


Fig.22.3.11: Underlining Text

To Change the Font Style:



- **Step 1:** Select the cell or cells you want to format.
- **Step 2:** Left-click the drop-down arrow next to the Font Style box on the Home tab.
- **Step 3:** Select a font style from the list.

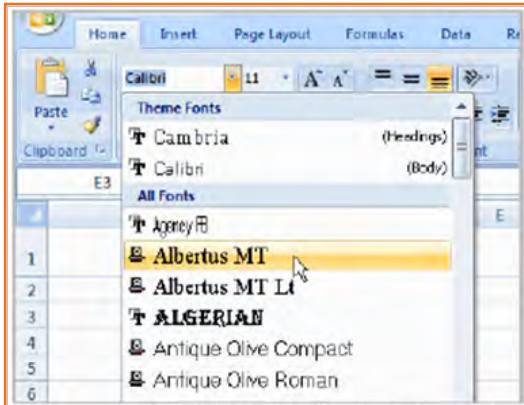


Fig.22.3.12: Changing Font Style

To Change the Font Size:



- **Step 1:** Select the cell or cells you want to format.
- **Step 2:** Left-click the drop-down arrow next to the Font Size box on the Home tab.
- **Step 3:** Select a font size from the list.

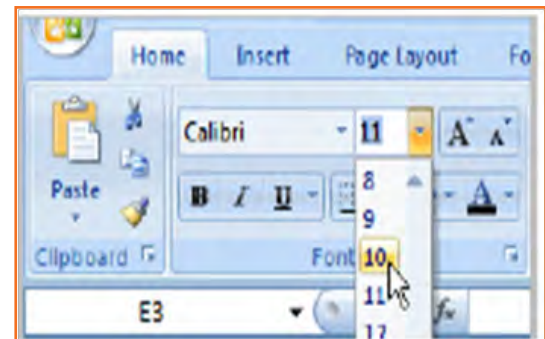


Fig.22.3.13: Changing Font Size

To Change the Text Color:



- **Step 1:** Select the cell or cells you want to format.
- **Step 2:** Left-click the drop-down arrow next to the Text Color command. A color palette will appear.
- **Step 3:** Select a color from the palette.

OR

- **Step 1:** Select More Colors. A dialog box will appear.
- **Step 2:** Select a color.
- **Step 3:** Click OK.

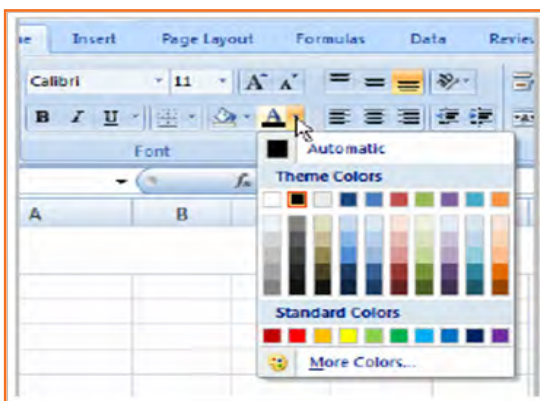


Fig.22.3.14: Changing Font Colour

To Add a Border:

- **Step 1:** Select the cell or cells you want to format.
- **Step 2:** Click the drop-down arrow next to the Borders command on the Home tab. A menu will appear with border options.
- **Step 3:** Left-click an option from the list to select it.

You can change the line style and color of the border.

To add a Fill Color:

- **Step 1:** Select the cell or cells you want to format.
- **Step 2:** Click the Fill command. A color palette will appear.
- **Step 3:** Select a color.

OR

- **Step 1:** Select More Colors. A dialog box will appear.
- **Step 2:** Select a color.
- **Step 3:** Click OK.

You can use the fill color feature to format columns and rows, and format a worksheet so that it is easier to read.

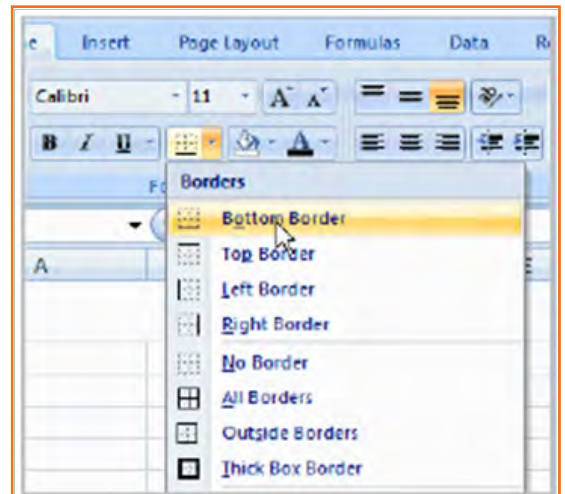


Fig.22.3.15: Adding Border to Cells

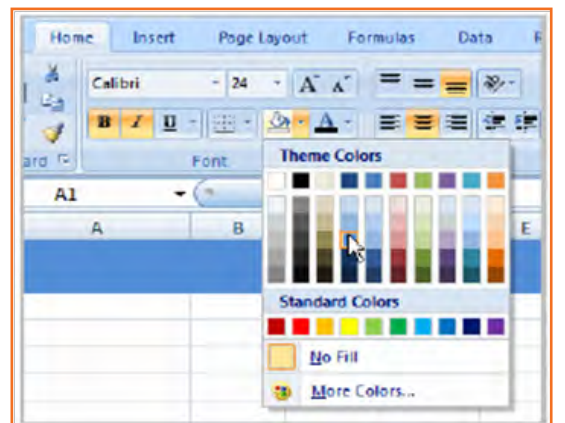


Fig.22.3.16: Filling Colour to Cells

To Format Numbers and Dates:

- **Step 1:** Select the cell or cells you want to format.
- **Step 2:** Left-click the drop-down arrow next to the Number Format box.
- **Step 3:** Select one of the options for formatting numbers.

By default, the numbers appear in the General category, which means there is no special formatting.

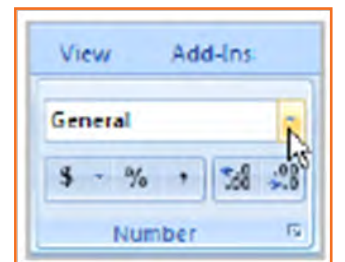


Fig.22.3.17: Text Formats

22.3.7 Calculations and Analysis

Excel could be used to calculate and analyze numerical data; however, you need to know how to write formulas to maximize Excel's strength. A formula is an equation perform a calculation using cell values in the worksheet.

To Create a Simple Formula that Adds Two Numbers:



- **Step 1:** Click the cell where the formula will be defined (C5, for example).
- **Step 2:** Type the equals sign (=) to let Excel know a formula is being defined.
- **Step 3:** Type the first number to be added (e.g., 1500).
- **Step 4:** Type the addition sign (+) to let Excel know that an add operation is to be performed.
- **Step 5:** Type the second number to be added (e.g., 200).
- Press Enter or click the Enter button on the Formula bar to complete the formula.

	A	B	C
1			
2			
3	Primary Job	\$1,500.00	\$1,799.00
4	Part-time Job	\$200.00	\$250.00
5	Total Income	=1500+200	\$2,049.00

Fig.22.3.18: Creating Formulas

To Create a Simple Formula that Adds the Contents of Two Cells:



- **Step 1:** Click the cell where the answer will appear (C5, for example).
- **Step 2:** Type the equals sign (=) to let Excel know a formula is being defined.
- **Step 3:** Type the cell number that contains the first number to be added (C3, for example).
- **Step 4:** Type the addition sign (+) to let Excel know that an add operation is to be performed.

	A	B	C	D
1				
2				
3	Primary Job	\$1,500.00	\$1,799.00	
4	Part-time Job	\$200.00	\$250.00	
5	Total Income	=C3+C4	\$2,049.00	
6				

Fig.22.3.19: Summation of Two Cells

	A	B	C	D
24	Credit			
25	Visa	8/5/2008	\$75.00	\$0.00
26	Mastercard	8/5/2008	\$37.42	\$23.51
27	Discover	8/5/2008	\$30.52	\$30.00
28	Store Credit Card	8/5/2008	\$87.56	\$66.79
29	Total		\$1,397.42	\$1,397.42
30	Remaining		=C5-	\$1,397.42
31				

Fig.22.3.20: Difference of Two Cells

- **Step 5:** Type the cell address that contains the second number to be added (C4, for example).
- **Step 6:** Press Enter or click the Enter button on the Formula bar to complete the formula.

To Copy and Paste Cell Contents:



- **Step 1:** Select the cell or cells you wish to copy.
- **Step 2:** Click the Copy command in the Clipboard group on the Home tab. The border of the selected cells will change appearance.
- **Step 3:** Select the cell or cells where you want to paste the information.
- **Step 4:** Click the Paste command. The copied information will now appear in the new cells.

To select more than one adjoining cell, left-click one of the cells, drag the cursor until all the cells are selected, and release the mouse button.

The copied cell will stay selected until you perform your next task, or you can double-click the cell to deselect it.

To Cut and Paste Cell Contents:



- Step 1:** Select the cell or cells you wish to cut.
- Step 2:** Click the Cut command in the Clipboard group on the Home tab. The border of the selected cells will change appearance.
- Step 3:** Select the cell or cells where you want to paste the information.
- Step 4:** Click the Paste command. The cut information will be removed from the original cells and now appear in the new cells.

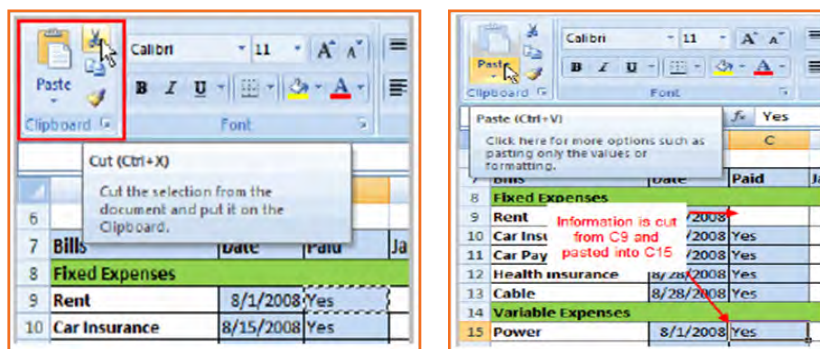


Fig.22.3.21: Cut and Paste Cell Contents

To View the Spreadsheet in Print Preview:



- Step 1:** Left-click the Microsoft Office Button.
- Step 2:** Select Print.
- Step 3:** Select Print Preview. The spreadsheet will appear in Print Preview view.

Click the Close Print Preview button to return to the Normal View.

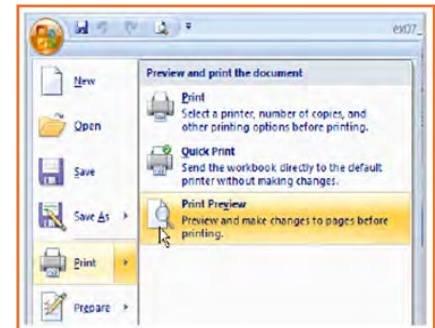


Fig.22.3.22: Print View of Spreadsheet

Exploring Print Preview:

Once you are in Print Preview, you can access many of the same features that you can from the Ribbon; however, in Print Preview you can see how the spreadsheet will appear in printed format.

To Modify Margins, Column Width, or Row Height While in Print Preview:

- Step 1:** Click the Print Preview command on the Quick Access toolbar, or select Print Preview from the Microsoft Office Button menu. The spreadsheet opens in print preview mode.
- Step 2:** Move your cursor over one of the black margin markers until a double arrow appears.
- Step 3:** Left-click and drag the marker to the desired location. The change will be reflected in the spreadsheet.

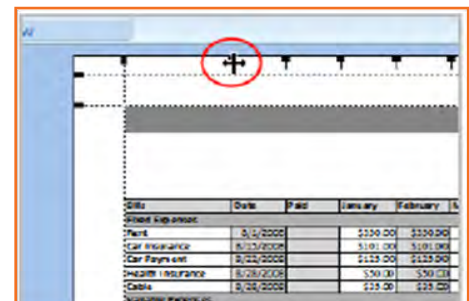


Fig.22.3.23: Print Preview

To Modify Margins:

- **Step 1:** Select the Page Layout tab.
- **Step 2:** Left-click the Margins command.
- **Step 3:** Choose one of the predefined settings or enter custom margins.

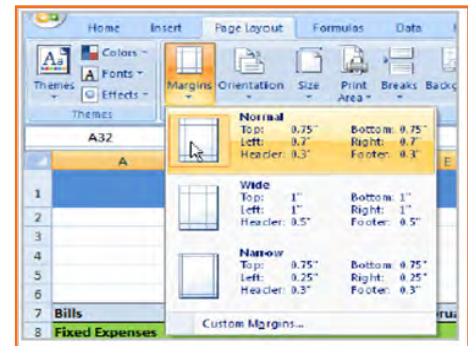


Fig.22.3.24: Modifying Margins

22.3.8 Change Page Orientation

- **Step 1:** Select the Page Layout tab.
- **Step 2:** Left-click the Orientation command.
- **Step 3:** Select either Portrait or Landscape.

Portrait orients the page vertically, while Landscape orients the page horizontally.

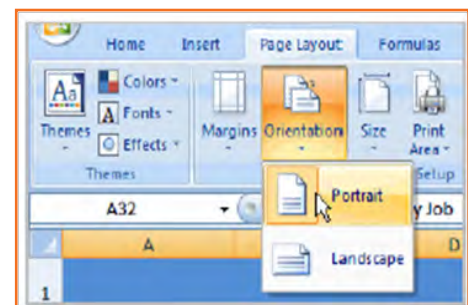


Fig.22.3.25: Page Orientation

To Change the Paper Size:

- **Step 1:** Select the Page Layout tab.
- **Step 2:** Click the Size command.
- **Step 3:** Select a size option from the list.

To Print from the Microsoft Office Button:

- **Step 1:** Left-click the Microsoft Office Button.
- **Step 2:** Select Print. The Print dialog box appears.
- **Step 3:** Select a printer if you wish to use a printer other than the default setting.
- **Step 4:** Click Properties to change any necessary settings.
- **Step 5:** Choose whether you want to print specific pages, all of the worksheet, a selected area, the active sheet or the entire workbook.
- **Step 6:** Select the number of copies you'd like to print.
- **Step 7:** Click OK.

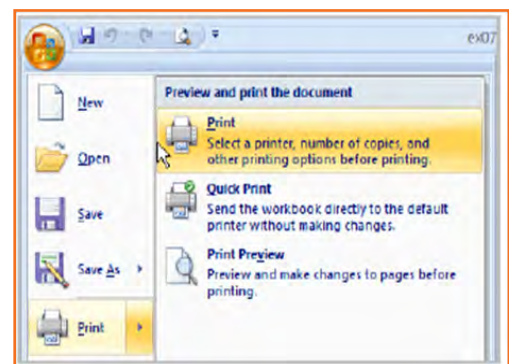


Fig.22.3.26: Printing the Sheet

22.3.9 Excel's Different Functions

There are many different functions in Excel 2007. Some of the more common functions include:

Statistical Functions:

- SUM - adds a range of cells together.
- AVERAGE - calculates the average of a range of cells.
- COUNT - counts the number of chosen data in a range of cells.
- MAX - identifies the largest number in a range of cells.
- MIN - identifies the smallest number in a range of cells.

Financial Functions:

- Interest Rates
- Loan Payments
- Depreciation Amounts

Date and Time functions:

- DATE - Converts a serial number to a day of the month.
- Day of Week.
- DAYS360.
- TIME - Returns the serial number of a particular time.
- HOUR - Converts a serial number to an hour.
- MINUTE - Converts a serial number to a minute.
- TODAY - Returns the serial number of today's date.
- MONTH - Converts a serial number to a month.
- YEAR - Converts a serial number to a year.

You don't have to memorize the functions but should have an idea of what each can do for you.

To Calculate the Sum of a Range of Data Using AutoSum:



- **Step 1:** Select the Formulas tab.
- **Step 2:** Locate the Function Library group. From here, you can access all the available functions.
- **Step 3:** Select the cell where you want the function to appear. In this example, select G42.
- **Step 4:** Select the drop-down arrow next to the AutoSum command.
- **Step 4:** Select Sum. A formula will appear in the selected cell, G42.
- **Step 5:** This formula, =SUM(G2:G41), is called a function. AutoSum command automatically selects the range of cells from G2 to G41, based on where you inserted the function.
- **Step 6:** Press the Enter key or Enter button on the formula bar. The total will appear.

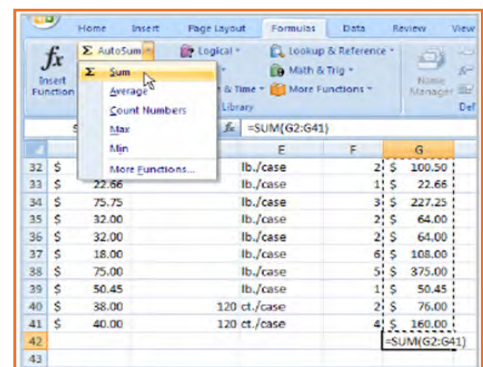


Fig.22.3.27: Using AutoSum Function

UNIT 22.4: Internet Concepts

Unit Objectives

At the end of the unit, you will be able to:

- Understand the internet concepts.

22.4.1 How to create your E-mail account (Outlook)

You can create a new or additional Outlook account by following the same account creation wizard. You can follow the steps listed below to configure your Microsoft Outlook Express email client to work with your email account:

- **Step 1:** Open Outlook Express and select Tools E-mail Accounts from the main menu. The E-mail Accounts wizard will appear.
- **Step 2:** Click Add a new e-mail account. Click Next.
- **Step 3:** Select the server type. Most ISPs and webmail services use POP3 servers. Click Next.
- **Step 4:** Enter your Name.
- **Step 5:** Enter your E-mail Address.

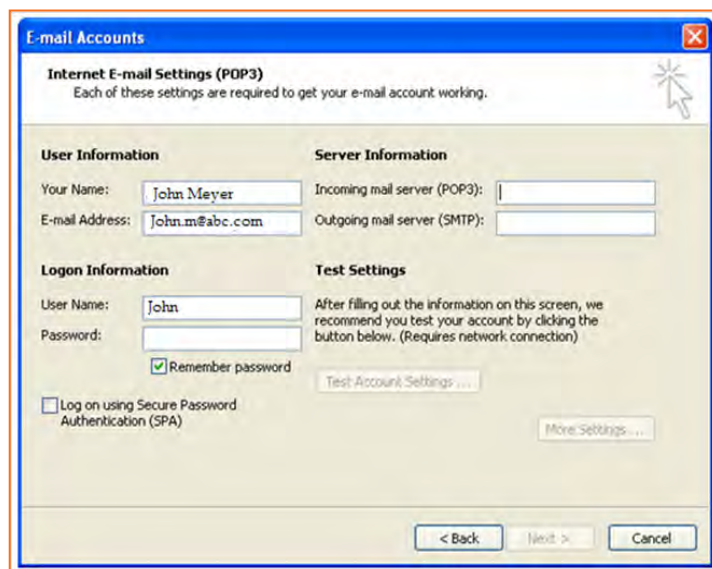


Fig.22.4.1: Setting up Outlook Account

- **Step 6:** Enter the incoming mail server and outgoing mail server information you obtained from your ISP or webmail service.
- **Step 7:** Enter your user name if it is different from the user name that automatically appears in the wizard form.

- **Step 8:** Enter your password.
 - **Step 9:** Click Test Account Settings to test the information you entered in the wizard and confirm that it is valid.
 - **Step 10:** Click Next.
 - **Step 11:** Click Finish.
- Note:** If you do not have an Outlook email account, you can select Microsoft Office Outlook from your computer's Start menu. The wizard will open, and you can follow the steps above to create an Outlook account.
- Congratulations you have successfully configured your e-mail account!!***

Congratulations you have successfully configured your e-mail account!!





23. Soft Skills And Communication Skills

Unit 23.1 - Soft Skills And Communication Skills



HSS/N/9607
HSS/N/5107, HSS/N/9603,
HSS/N/9604, HSS/N/9605

Key Learning Outcomes

At the end of the unit, you will be able to:

- Understand Art of Effective Communication.
- Able to handle effective Communication with Patients and their Family.
- Able to handle effective Communication with Peers/ colleagues using medical terminology in communication.
- Learn basic reading and writing skills.

UNIT 23.1: Soft Skills And Communication Skills

Unit Objectives

At the end of the unit, you will be able to:

- Communicate appropriately with co-workers
- Gain knowledge about the language skills
- Respond to patient's call

23.1.1 Overview

It is important to know the need of correct and effective communication. As a General Duty Assistant, you need to be aware of the varied styles in which people often communicate. You would also need to know how well you interact with your patients and the people around you will entirely depend on how well you communicate.

23.1.2 Definition of communication

The transmitting or exchanging the information by talking, composing, or utilizing some other medium. It likewise implies sending or receiving information via phone lines or PCs. Communication is a two-way mechanism for exchanging ideas and information that brings changes in human behaviour. Communication is an interactive system — a series of ever changing, ongoing transactions between individuals in the environment.

Verbal Communication

We use words when we speak or write. This is verbal communication.

Spoken verbal communication includes:

- Face to face communication
- Speech
- Conversation on the phone
- Voice chat over internet

Written verbal communication includes:

- Writings found in newspapers,
- E-mails,
- Memos,
- Bulletins,
- Handouts



Fig.23.1.1: communication

Non-verbal Communication

Non-verbal communication means communicating without the use of speech or the written word. This form of communication includes the use of body language of a person.

Example of non-verbal communication are:

- Body postures
- Tone of voice
- Gestures and touch
- Facial expressions
- It can also be in the form of pictorial representations, signboards, or even photographs, sketches and paintings.



Fig.23.1.2: Non-verbal Communication Signs



Fig.23.1.3: Formal Communication

Formal Communication

- Formal communication is concise and straight, official, always precise and has a stringent and rigid tone to it.
- It follows the lines of authority.

Informal Communication

Informal communication is also known as grape-vine communication. It does not have any fixed rules and standards. Informal conversations need not have limitations of time, place or even subjects. Examples of informal communication are gossip circles, family, friends etc.



Fig.23.1.4: Informal Communication

23.1.3 Communication Process

Communication which is the basis of human interaction is a complex process. It has the following main components:

- Sender
- Messages
- Receiver
- Feedback
- Context

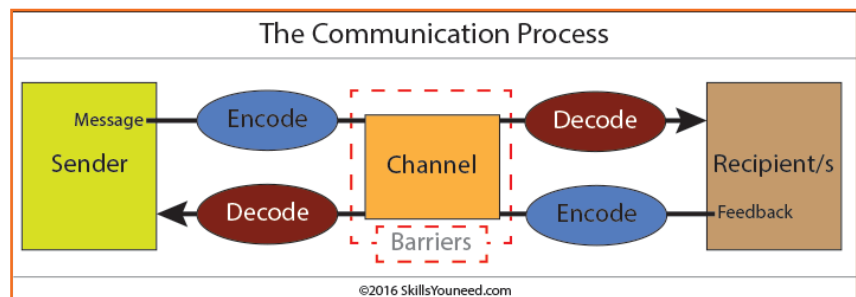


Fig.23.1.5: Communication Process

Some Factors Influencing Communication

Some factors that influence communication are:

- Attitude
- Socio-cultural or ethnic background
- Past experiences
- Knowledge of subject matter
- Ability to relate to other's interpersonal perception
- Environmental factors
- Emotional status

Barriers to Communication

Communication may often fail due to the following reasons:

- **Physiological barriers:** Difficulties in hearing, expression.
- **Psychological barriers:** Perception, distrust, emotion, preconception, past experience.
- **Semantic barriers:** Jargon, language.
- **Environmental barriers:** Noise, distance, congestion.
- **Socio-cultural background:** Age, gender, interest, knowledge.
- **Organisational barriers:** Unclear planning, structure, information overload, timing, technology, status difference.



Fig.23.1.6: Barriers to Communication

23.1.4 Effective Communication

Effective communication means how effectively you pass a message so that it is received and understood by a person exactly the way you wanted it to. You often would need to send, receive, and process a huge number of messages every day.



Fig.23.1.7: Effective Communication

Effective communication can improve relationships with co-workers and patients at the hospital. Communicating effectively with co-workers is important to ensure continued and reasonable quality of patient care.

23.1.4.1 Seven C's of Effective Communication

The 7 C's of communication are important as they give a checklist for making sure that your communication with the co-workers is so effective that your co-workers get your message. According to the 7 C's, communication needs to be:

1. Clear
2. Concise
3. Concrete
4. Correct
5. Coherent
6. Complete
7. Courteous

Clear

When talking to someone, be clear and concise about the message you want to convey. For e.g. instead of saying "The patient's condition is not well, maybe there is some problem with breathing or some problem with pulse rate, or any other reason.", you can say "The patient condition is not well due to increase breathing rate."

Concise

Always keep your communication short and sweet. Stick to your point and keep it brief. For e.g. instead of saying "We are thinking to provide medical care for the patient in ward 101. He has some problem with the bed settings. We need to rectify it. He needs more elevated settings at the head side." One can say that, "Patient in ward 101 needs elevated head side settings in his bed."

Concrete

Be specific, so that the receiver understands your message clearly. Your message should be definite and sensible. For e.g. "Report for duty in ward no. 16 at 6.00 am sharp."

Correct

When you communicate be true to the facts. Always use appropriate words that a person can understand easily. Avoid using slang or too many technical words. For e.g.: "The IV fluid is inserted in the body of the patient". Here the IV fluid is not generally used in the day-to-day life, more commonly used word is drip.

Coherent

What you communicate with your words should be meaningful. Make sure you don't speak too fast or repetitive. Let your communication be logical.

Complete

Make sure that your entire communication as a whole is complete. The person who receives the message should know exactly what to do. Make sure that you have included all the relevant information in the message.

Example, when telling a colleague about transferring a patient from one place to another you need to give complete information regarding the same. By complete information here it would mean the number of the ward, the bed on which the patient has to be transferred, whether the patient has to be taken on a wheel chair or a bed etc.

Courteous

Always be respectful to others while communicating. Do not use rude and impolite language in your speech. Use a friendly approach while conveying a message. Be Courteous friendly, open, and honest.

23.1.5 Language Skills

Language skills comprises of Listening, Speaking, Reading and Writing Skills. For a General Duty Assistant working in a hospital, it is important that he/she is well versed with the LSRW skills. So let's know about it one by one and its importance for the given job role.

23.1.6 Listening Skills

Listening is the ability to correctly receive and understand messages during the process of communication. Listening is critical for effective communication. Without effective listening skills, messages can easily be misunderstood. This results in a communication breakdown and can lead to the sender of the message and the receiver becoming frustrated or irritated. Remember that listening is not the same thing as hearing. Hearing just refers to sounds that you hear. Listening is a whole lot more than that. To listen, one requires focus. It means not only paying attention to the story, but also focusing on how the story is relayed, the way language and voice is used, and even how the speaker uses their body language. The ability to listen depends on how effectively one can perceive and understand both, verbal and non-verbal cues. How attentively you listen has a key impact on your job efficiency and on the quality of your realtions with the customers.

How well you listen has a major impact on your job effectiveness and on the quality of your relationships with the customers.

We listen:

- To obtain information
- To understand
- To learn

Importance of listening for your job role

A general duty assistant is the person who is the closest to the patient. The patients may have some thought or problem regarding their health condition or any other personal concern. The job of the general duty assistant is to listen to the concerns of a patient. And it's not only about hearing, it's about listening effectively.

Guidelines for effective listening

If you try and follow these guidelines while listening, you will become a better listener.

- **Do not talk:** We all have two ears yet just a single mouth. Try not to talk, in spite of the fact that you may need to clarify. Do as such just when the other individual has finished speaking
- **Listen carefully:** Keep all the other things out of mind and just Pay attention towards the speaker
- **Put the speaker at ease:** Comfort the speaker to feel free to speak, especially in your case it would be the patient. It may also be your colleague or superior. Keep in mind their necessities and concerns. Gesture or use different signals or words to urge them to proceed.
- **Remove distractions:** Focus on what is being said: don't do other activities such as scribbling on paper,

shuffling papers, arranging your desk, looking out of the window, etc. Avoid unnecessary interruptions.

- **Empathize:** Try to understand the other person's perspective. Look at issues from their perspective. Let go off fixed ideas or views.
- **Be patient:** A pause, even a long pause, does not necessarily mean that the speaker has finished. Never finish a sentence for someone.
- **Avoid bias:** Try to be neutral. Do not get irritated or get biased due to the person's behavior or mannerisms.
- **Listen to the tone:** Volume and tone of voice, both add to what someone is saying.
- **Listen for ideas:** Not just words: You need to understand the whole topic, not just remote phrases and ideas.

Watch and Observe non-verbal communication:

- nd gestures, expressions, and eye movements can all be important. This will be useful while interacting directly with your friends, colleagues and superiors.

23.1.7 Speaking skills

Speaking is the most important skill required in the professional environment. How successfully a message gets conveyed depends entirely on how effectively you are able to get it through. An effective speaker is one who enunciates properly, pronounces words correctly, chooses the right words and speaks at a pace that is easily understandable.

Importance of speaking for your job role

As a General Duty Assistant, it is very important to be effective at speaking. So, how you speak to the patients creates an image in the mind of the patient. You have to speak politely with the patient so that they do not get hurt. But if you want to give some instructions to the patients without hurting them, you have to speak effectively. Practice is the key for effective speaking.

Components of Speaking Skills

The important components of speaking skills are:

- Tone
- Comprehension
- Grammar
- Vocabulary
- Pronunciation
- Fluency
- Body language
- Rate of Speech

Tone: Tone includes the volume you use while speaking, the level and the type of feeling or emotion that you convey and the emphasis that you put on the words that you select. If you speak with lack of energy and in a monotonous tone, then certainly the patient will get bored.

Awareness: For the verbal communication, it surely needs a subject to respond, to speak and to commence it.

Grammar: It is required that you speak a correct sentence in the conversation. The usage of grammar is mandatory to learn in the correct way to gain expertise in the language in both verbal and written form.

Vocabulary: One can't convey adequately or express their thoughts both oral and written form if they don't have adequate vocabulary. Without an adequate vocabulary nothing can be passed on.

Pronunciation: Pronunciation is the best approach to speak clearer language when you talk. It manages the phonological procedure that refers to the part of a grammar made up of the components and rule that decide how change and pattern in a language sounds. Pronunciation is the knowledge of learning about how the words in a specific language are produced clearly when individuals speaks.

Fluency: It is the one's ability to speak fluently and accurately. Fluency means speaking at a normal speed without hesitation, repetition and self-correction. To be fluent it's important, that you don't use fillers like "you know", "I mean", "ums", "ers", "aaahhhh", etc.

Body language: Body language means communicating through body posture, gestures, facial expressions and tone of voice. Body language must be in sync with your words; otherwise it is likely to confuse the customers. Positive body language is important in supporting your words and ensuring that your message is understood correctly.

Rate of speech: A slow rate of speech makes the conversation disinteresting. Speak at a moderate pace and with appropriate volume. A general duty assistant should match his rate of speech with that of the patient.

As a General Duty Assistant, in order to demonstrate effective oral communication (listening and speaking skills) you should:

- Listen patiently and give answer to the questions that patient have.
- Convey the observations to the nurse. When you see any abnormality or unusualness in the patient's condition, inform directly to the concerned person.
- Discuss the process with the patient and to make him/ her feel comfortable while performing daily activities like grooming, bathing, elimination, transporting etc.

23.1.8 Reading Skills

Reading requires the skills of decoding and understanding the written message. Decoding and understanding the written language are the required skills for an effective reading.

Therefore reading is a complicated skill.

Importance of reading skills

Good reading skills help you to comprehend ideas, follow arguments, and detect implications. You can make out your exact task if you can read the documents detailing your roles and responsibilities. As a general duty assistant, you need to:

- Read thoroughly and follow the instructions specified in the patient file.
- Read the instructions given by a doctor/nurse and interpret it accurately and then cross check with the ward nurse/supervisor for correct understanding. For e.g. If a patient is asked to move from one place to another, you have to make sure that the patient is transferred to the right place.

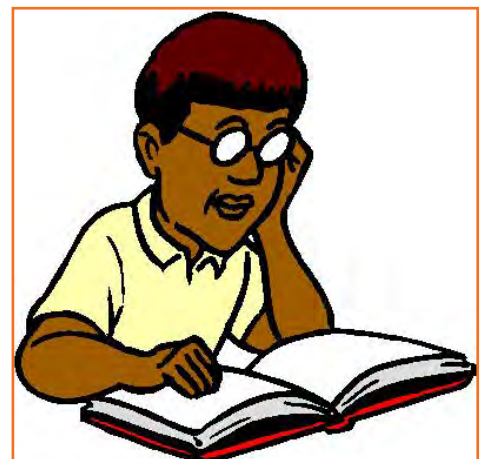


Fig.23.1.8: Reading

23.1.9 Writing Skills

Written communication is the form of communication which is transmitted through words. Effective writing skills are required to write documents such as reports, letters, memos and emails. Written communication is more important than oral communication because it creates a permanent record of one's work, and it can be referred to at any point of time. Only practice can perfect the writing skill.

Importance of writing skills

As a general duty assistant you will be using your writing skills in assisting nurses in recording the observation. At suitable times you will be needed to mark the template as per the observation.

23.1.10 Responding to a Patient's Call

The main aim of responding to call bell is to ensure that if the patient needs something, then his need is fulfilled immediately. Immediate responding to call bell is crucial for the patient's wellbeing and overall satisfaction.

"If we can anticipate patients' needs before they use their call bells, then we'll have fewer interruptions on our rounds, and patient satisfaction will increase."

Common reasons for call bell frequency

The top 3 reasons patients use call bell are to:

1. Request daily living needs, such as bathroom assistance, drinking water or turning off the light or an extra blanket.
2. Report pain or request pain medication.
3. Report unusual monitor noises.

The following points must be considered by a GDA while responding to a call bell:

- Immediately communicate with the nurse if the call is for a medical need. Take appropriate actions if the call is non medical, to make the patient comfortable.
- In any case the GDA should courteously and politely meet the patient demands.

A viable approach to decrease call bell frequency is to eliminate the reason behind call bell in the first go.

- Hourly nursing rounds to discover and address patients' issues are a proof based strategy that can reduce the dependency on call bells. The rounder which can be a nurse, a nursing assistance, a nurse's aide or a nursing technician, has to take some specific actions After entering the patient's room, the rounder must distinguish him or herself by name, tell the patient that he or she is there to do rounds, and to: Ensure that the call bell is within the reach of the patient.
- Place the telephone within the s reach of the patient.
- Place the TV remote control and bed light switch within the reach of the patient.
- Place the bedside table next to the patient's bed.
- Assess the pain level of the patient. (if the patient is experiencing pain, the RN is contacted immediately).
- Offer toileting help.
- Assess the patient's position and comfort and ask if the patient is comfortable or needs to be repositioned.
- Put the tissue box and drinking water within the patient's reach.

- Put the trash can next to the bed.
- Prior to leaving the room, ask, "Is there anything I can do for you before I leave? I have time while I am here in the room."
- Tell the patient that a member of the nursing staff will be back in the room in an hour to make round again.

Tips

Healthcare professional should use clear model of communication:

- C-Connect:
 - » Acknowledge immediately
 - » Use patient's name
 - » Establish eye contact and smile
- L-Listen:
 - » Maintain eye contact
 - » Use listening techniques
 - » Don't interrupt
 - » Repeat information for accuracy
- E-Explain:
 - » Describe what is going to happen
 - » Answer questions with patience
 - » Speak slowly: repeat as necessary
- A-Ask:
 - » Is anything else I can do

Skills Practical: Communication Skills

1. You have to tell your colleagues that a certain patient has to be shifted from the general ward to a private ward. Use the 7 Cs of communication to pass on this information.



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