

## COURSE OF INSTRUCTIONS IN PARA-MEDICAL TRAINING ON MOBILITY ASSISTANCE & EMERGENCY RESPONSE



A Government-Recognized Charitable Institute Skilling In-Service Candidates from Armed Forces, Para-Military Forces (CRPF, ITBP) and Renowned National & International Organizations



# INSTITUTE OF PUBLIC HEALTH & HYGIENE NEW DELHI (INDIA)



### FIVE DECADES OF TRANSFORMING GLOBAL HEALTHCARE

- Founded in July 1976 by (Lt.) Dr. S.S. Joshi, IPH&H aimed to create an inclusive educational institution for individuals from diverse backgrounds. This co-educational establishment has become a symbol of hope and opportunity, serving students from various cultures. The founder's visionary approach was evident from the start, with early community engagement initiatives addressing significant social challenges.
- With modest beginnings, IPH&H has grown into the nation's leading Paramedical and Allied Health Education Institute, celebrating 50 years of excellence and community service. The institute focuses on life skills training for the healthcare industry, improving employability for young individuals, especially those from disadvantaged backgrounds and school dropouts.
- The Institute of Public Health & Hygiene in New Delhi has played a key role in improving the national healthcare ecosystem. It contributed to the National Initiative for Allied Health Sciences, analyzing the Allied Health Ecosystem and creating a strategic roadmap for enhancing healthcare human resources, executed by the Ministry of Health & Family Welfare.
- Since its establishment, the Institute has been serving as a Pre-Release Training Centre for the Ministry of Defence, providing specialized training for armed forces personnel. It is also launching training programs for the Central Reserve Police Force (CRPF) in First Aid, Medical Laboratory Technology, and X-Ray & ECG Technician training. Additionally, the Institute offers specialized services in allied health to various organizations, including Indian Airlines.
- The Institute offers extensive training programs for in-service personnel at Northern Railway Hospitals under the Ministry of Railways, Government of India, equipping them with essential skills for various railway positions. Additionally, it trains representatives from several State Governments, including Nagaland, Manipur, Mizoram, Assam, Madhya Pradesh, Sikkim, and Meghalaya, as well as the Chandigarh Administration, Ladakh Hill Council, and North Eastern Hill Council, ensuring a wide range of governmental entities benefit from its programs.
- IPH&H offered vital Community Health-Care Services to enhance local well-being. It launched Free Rural Mobile Health Services for underserved areas and established a Free Rural Community Public School for primary education. The institute also initiated Immunization Programs for vulnerable groups, Rehabilitation Services for the Disabled, and HIV/AIDS Awareness Programs to educate communities, showcasing its commitment to public health.

### COURSE OF INSTRUCTIONS IN PARA-MEDICAL TRAINING ON MOBILITY ASSISTANCE & EMERGENCY RESPONSE

#### • DURATION OF THE COURSE

(Assessment will be conducted on the conclusion of the program)

MEDIUM OF INSTRUCTIONS

#### • WHY IS WHEELCHAIR SKILLS TRAINING IMPORTANT?

Training in wheelchair skills is crucial as it improves mobility and engagement for individuals undergoing rehabilitation. Research underscores the considerable benefits associated with proficient wheelchair usage, highlighting its importance as a vital therapeutic instrument. The World Health Organization supports the training of caregivers in wheelchair management to address challenges and optimize advantages, which is the central theme of this Handbook. Overall, the Wheelchair Skills Training course aims to create well-rounded individuals who are not only skilled in the technical aspects of wheelchair use but also deeply committed to advocating for the rights and dignity of those with disabilities.

### • SCOPE OF THE HANDBOOK

This Handbook aims to assist individuals of all ages, including those who utilize wheelchairs for various reasons, across diverse environments. It does not cover the maintenance and repair of wheelchairs. The skills presented within the Handbook vary from fundamental to advanced levels.

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Hindi/English

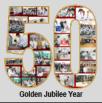
16 Hrs.







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### COURSE OF INSTRUCTIONS IN PARA-MEDICAL TRAINING ON MOBILITY ASSISTANCE & EMERGENCY RESPONSE

### DAY 1st

Sl. No.	Торіс	Time	Resource Person
1.	<ul> <li>UNIT - 1</li> <li>Introduction</li> <li>Basic anatomical Movements &amp; Positioning Terminologies</li> <li>Kinetics of joints and Movements</li> <li>Basic Medical Terminologies</li> </ul>	09.30 AM - 11:00 AM	DR. MEENAKSHI
2.	<ul> <li>Unit- 2</li> <li>Basics of Personal Hygiene</li> <li>Develop understanding &amp; procedures of Hand Hygiene</li> <li>Appropriate of Hand Washing</li> <li>Care of eyes, nose, ears, hands, feet, mouth, skin, hair etc.</li> </ul>	11.30 AM - 01.00 PM	MRS. ASHA NADAR
3.	LUNCH BREAK	01:00 PM - 01:30PM	
4.	<ul> <li>Unit - 3</li> <li>Health Assessment &amp; Vital Signs</li> <li>Various Method of Physical Examination.</li> <li>Inspection, Palpation, Percussion, Auscultation Inspection, Palpation, Percussion, Auscultation</li> <li>Measure Record and Interpret Alterations in Body Temperature, Pulse, Respiration and Blood Pressure.</li> </ul>	1:30PM to 3:00PM	MS. NEELAM
5.	<ul> <li>Unit- 4</li> <li>Infection control</li> <li>Definition, types of Infection, Modes of Transmission, Preventive measures, Sterilization Techniques.</li> <li>Personal protective equipment types, uses and techniques of wearing and removing</li> </ul>	03:00 PM – 04:00PM	MRS. RUCHI BHATNAGAR





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### COURSE OF INSTRUCTIONS IN PARA-MEDICAL TRAINING ON MOBILITY ASSISTANCE & EMERGENCY RESPONSE

### DAY 2<sup>nd</sup>

Sl. No.	Торіс	Time	Resource Person
1.	Unit5 Positioning & Patient Mobilization	9:30AM - 11:00AM	MS. SEEMA &
	<ul> <li>Explain Various Types of Positions and Postures</li> <li>Learn Various Kinds of Means Available for Transferring Patients</li> <li>Understand Usage of Wheelchair, Stretcher, Shifting of Patient in Special Situations</li> <li>Describe Care While the Patient Is Walking or Using Assisted Devices.</li> <li>Standards for prevention of Patient's Fall</li> <li>Care to be taken to avoid fall in high risk patient</li> <li>Describe action in event of Fall Incident</li> </ul>	& 11:00AM- 12:00 NOON	MS. MEGHA
2.	<ul> <li>Unit- 6</li> <li>Basic Medical Emergencies &amp; Handling</li> <li>Respiratory distress, anxiety attack, epistaxis, Cyanosis, bruise, convulsions &amp; Management</li> </ul>	12:00 P M- 01:00 PM	MS. NEELAM
3	LUNCH BREAK	01:00PM- 01:30 PM	
3.	Unit- 7 Demonstration of CPR	01:30 PM – 03:00PM	
4.	<ul> <li>Unit- 8</li> <li>Art of Effective Communication</li> </ul>	03:00 PM- 04:00 PM	MS. RUCHIKA





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UNIT-1

### COURSE OF INSTRUCTIONS IN PARA-MEDICAL TRAINING ON MOBILITY ASSISTANCE & EMERGENCY RESPONSE

- Introduction
- Basic anatomical Movements & Positioning Terminologies
- Kinetics of joints and Movements
- Basic Medical Terminologies

#### INTRODUCTION

An introduction to wheelchair attendant studies and its connection to the human body provides an insight on understanding of better patient care in the healthcare facilities. Wheelchair attendant studies focus on the skills and knowledge required to safely and effectively assist individuals with mobility impairments who use wheelchairs. This field of study is essential for promoting independence, dignity, and accessibility for people with disabilities. Importance of Wheelchair Attendant Studies:

Safety: Proper training and knowledge are crucial to prevent injuries and accidents when assisting individuals with mobility impairments.

Dignity and Independence: Wheelchair attendants play a vital role in promoting autonomy and self - esteem for individuals with disabilities.

Accessibility: Wheelchair attendants help ensure that individuals with mobility impairments have access to public spaces, transportation, and healthcare services

#### IMPORTANCE

By studying wheelchair attendant studies, individuals can gain the necessary skills and knowledge to provide high-quality care and support to individuals with mobility impairments, promoting independence, dignity, and accessibility. To understand it better their is a need to understand human body and related medical terminologies. Here are the 6 key topics in Wheelchair Attendant Studies explained briefly With medical terminologies.

- 1. Wheelchair types and features: Understanding different types of wheelchairs, their parts, and features to ensure safe and proper use.
- 2. Transfer techniques and safety protocols: Learning safe methods for transferring individuals from wheelchairs to other surfaces, such as beds or toilets.
- 3. Posture and positioning: Understanding how to properly position individuals in wheelchairs to prevent pressure sores, promote comfort, and maintain posture.
- 4. Mobility aids and equipment: Familiarity with various mobility aids, such as walkers, canes, and lifts, to assist individuals with mobility impairments.
- 5. Communication and interpersonal skills: Developing effective communication and interpersonal skills to interact with individuals with mobility impairments, their families, and healthcare professionals.
- 6. Emergency procedures and first aid: Knowing how to respond in emergency situations, such as falls or medical emergencies, and providing basic first aid when needed.



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# KEY TOPICS IN WHEELCHAIR ATTENDANT STUDIES WITH MORE DETAIL:

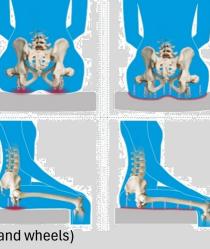
- Wheelchair types and features:
- Manual wheelchairs (standard, lightweight, and sports)
- Power wheelchairs (front-wheel drive, rear-wheel drive, and all-wheel drive)
- Specialty wheelchairs (pediatric, bariatric, and tilt-inspace)
- Wheelchair components (frames, seats, backrests, armrests, and wheels)
- Transfer techniques and safety protocols:
- Safe transfers from wheelchair to bed, toilet, shower, or car
- Proper lifting techniques (mechanical lifts, slide boards, and manual lifts)
- Safety protocols for falls, drops, and accidents
- Use of transfer equipment (transfer belts, slide boards, and lift slings)

### **POSTURE AND POSITIONING:**

- Proper seating and positioning techniques
- Use of wheelchair accessories (cushions, backrests, and footrests)
- Maintaining proper posture and alignment
- Preventing pressure sores and skin breakdown.

### **Basic Anatomical Terms:**

Anatomical terms are used to describe the structure and organization of the human body. They can be broken down into several categories:





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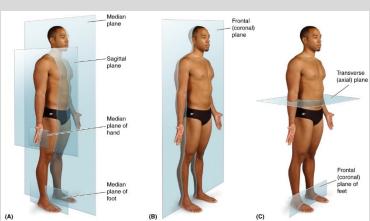
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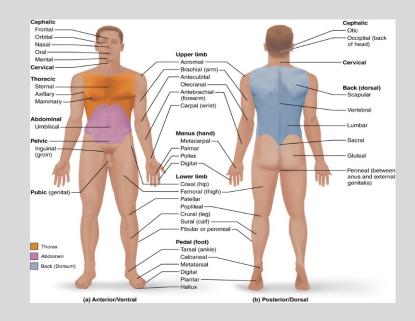
### 1. BODY PLANES:

- Sagittal plane: divides the body into left and right portions
- Frontal plane: divides the body into anterior and posterior portions

### 2. BODY REGIONS :

- Cephalic: Head region
- Cervical: Neck region
- Thoracic: Chest region
- Abdominal: Abdominal region
- Pelvic: Pelvic region
- Upper limb: Arm region
- Lower limb: Leg region
- Limb: Leg region



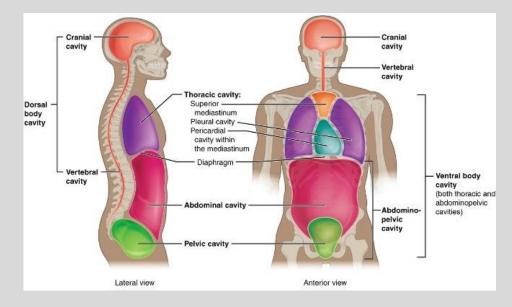




### COURSE OF INSTRUCTIONS IN PARA-MEDICAL TRAINING ON MOBILITY ASSISTANCE & EMERGENCY RESPONSE

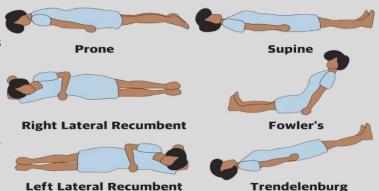
### 3. BODY CAVITIES :

- Cranial cavity: contains the brain
- Thoracic cavity: contains the heart and lungs
- Abdominal cavity: contains the digestive organs
- Pelvic cavity: contains the reproductive organs



### 4. ANATOMICAL POSITION:

- Anatomical position: standing upright with feet shoulder-width apart and arms at the sides. Here are some other anatomical positions:
- Prone position: lying on the stomach
- Supine position: lying on the back
- Lateral position: lying on the side
- Fowler's position: sitting up with knees bent and feet flat
- Trendelenburg position: lying on a tilted surface with head lower than feet.
- ii. Lithotomy position: lying on the back with legs raised and supported.



These positions are often used in medical and healthcare settings to facilitate examinations, procedures, and patient care.



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### COURSE OF INSTRUCTIONS IN PARA-MEDICAL TRAINING ON MOBILITY ASSISTANCE & EMERGENCY RESPONSE

### 5. BREAKDOWN OF MEDICAL PROCEDURES AND DIAGNOSTIC TERMS :

- Prefixes:
- i. Hyper-: excessive or above normal
- ii. Hypo: below normal or deficient
- iii. Dys: abnormal or difficult
- iv. Meta: beyond or changed
- v. Neo: new or abnormal growth
- Roots:
- i. Cardi: heart
- ii. Neur: nerve
- iii. Pulm: lung
- iv. Gastr: stomach
- v. Neph-: kidney

- Suffixes:
- i. itis: inflammation
- ii. osis: condition or disease
- iii. algia: pain
- iv. emia: blood condition
- v. oma: tumor
- Examples:
- 1. Hypertension (hyper- + tension = high blood pressure)
- Diabetes mellitus (dia- + betes + mellitus = sweet urine disease)
- Osteoporosis (osteo- + por- + -osis = bone disease with porous bones)
- Leukemia (leuk- + -emia = white blood cell disease)

- Prefixes:
- i. Anti: against
- ii. Pro: for or promoting
- iii. Hypo: below normal
- Suffixes
- i. Cide: killing
- ii. Static: stopping or stabilizing
- iii. Lytic: breaking down
- iv. Gnic: producing
- Roots
- i. Analges: pain relief
- ii. Antibiot: against microorganisms
- iii. Anticonvuls: against seizures
- iv. Cardio: heart

- Examples :
- Antibiotic (anti- + biot- = against microorganisms)
- 2. Analgesic (analges- + -ic = pain relief)
- Anticonvulsant (anticonvuls- + -ant = against seizures)
- 4. Hypoglycemic (hypo- + glyc- + -emic = below normal blood sugar)





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### COURSE OF INSTRUCTIONS IN PARA-MEDICAL TRAINING ON MOBILITY ASSISTANCE & EMERGENCY RESPONSE

### BREAK DOWN MEDICAL PROCEDURE AND DIAGNOSTIC TERMS:

- Prefixes :
- i. Endo: within or inside
- ii. Exo: outside or external
- iii. Trans: through or across
- iv. Cysto: bladder

- Suffixes :
- i. Scopy: visualization
- ii. tomy: incision or cutting
- iii. graphy: imaging or recording
- iv. lysis: breaking down

- Roots:
- i. Cardio: heart
- ii. Neuro: nerve
- iii. Gastro: stomach
- iv. Pulmo: lung
- v. Endoscopy (endo- + -scopy = visualization within)
- vi. Electromyography (electro- + myo- + -graphy = recording muscle electricity)
- vii. Cardiotomy (cardio- + -tomy = heart incision)
- viii. Pulmonary function test (pulmo- + -ary = lung function test)
- Diagnostic Imaging :
- i. CT scan (Computed Tomography)
- ii. MRI: (Magnetic Resonance Imaging)
- iii. Ultrasound
- iv. X-ray

- Medical Procedures:
- i. Biopsy : (examining tissue sample)
- ii. Catheterization : (inserting tube into body cavity)
- i. Laparoscopy : (visualizing abdominal cavity)
- ii. Surgery :(manual or instrumental treatment)
- Anatomical movements & Positioning: Here are the different types of anatomical movements and positioning:
- i. Flexion: bending or decreasing the angle between bones
- ii. Extension: straightening or increasing the angle between bones
- iii. Abduction: moving away from the midline of the body
- iv. Adduction: moving towards the midline of the body
- v. Rotation: turning around a central axis
- vi. Circumduction: moving in a circular motion
- vii. Pronation: rotating the forearm so the palm faces downwards
- viii. Supination: rotating the forearm so the palm faces upwards
- ix. Eversion: rotating the ankle so the sole faces outwards
- x. Inversion: rotating the ankle so the sole faces inwards





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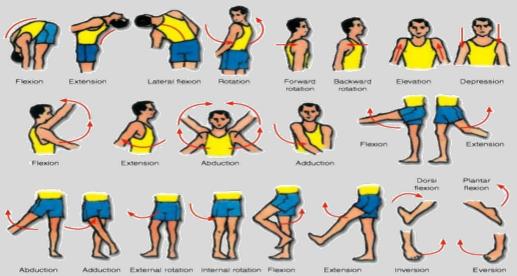
- 6. MOVEMENTS OF THE JOINTS: Joints are meeting point of two bones that allows movement and locomotion:
- **BALL-AND-SOCKET JOINT**: allows for flexion, extension, abduction, adduction, rotation, and circumduction (e.g., shoulder joint)
- 1. Hinge joint: allows for flexion and extension (e.g., elbow joint)
- 2. Pivot joint: allows for rotation (e.g., neck joint)
- 3. Gliding joint: allows for sliding movement (e.g., wrist joint)

### • MOVEMENTS OF THE SPINE:

- 1. Flexion: forward bending
- 2. Extension: backward bending
- 3. Lateral flexion: sideways bending
- 4. Rotation: twisting

### • MOVEMENTS OF THE LIMBS:

- 1. Shoulder movements: flexion, extension, abduction, adduction, rotation, and circumduction
- 2. Elbow movements: flexion and extension
- 3. Wrist movements: flexion, extension, abduction, and adduction
- 4. Finger movements: flexion, extension, abduction, and adduction
- 5. Hip movements: flexion, extension, abduction, adduction, rotation, and circumduction
- 6. Knee movements: flexion and extension
- 7. Ankle movements: flexion, extension, abduction, and adduction
- 8. Toe movements: flexion, extension, abduction, and adduction. These are the basic anatomical movements and terminologies. Understanding these concepts will help describe and analyze human movement.





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### COURSE OF INSTRUCTIONS IN PARA-MEDICAL TRAINING ON MOBILITY ASSISTANCE & EMERGENCY RESPONSE

### SOME FIRST AID & ANATOMICAL TERMS :

- Prefixes:
- i. Endo: within or inside
- ii. Exo: outside or external
- iii. Trans: through or across
- iv. Cysto: bladder

- Suffixes:
- i. Scopy: visualization
- ii. Tomy: incision or cutting
- iii. Graphy: imaging or recording
- iv. Lysis: breaking down

- Roots:
- i. Cardio: heart
- ii. Neuro: nerve
- iii. Gastro: stomach
- iv. Pulmo: lung

### • FIRST AID TERMS :

- i. CPR: cardiopulmonary Resuscitation
- ii. AED: Automated External Defibrillator
- iii. Wound cleaning: cleaning and disinfecting a wound
- iv. Triage: sorting and prioritizing patients based on severity of injury
- v. Splinting: immobilizing a broken bone or injured limb
- vi. Burn care: treating burns with cooling, cleaning, and dressing
- Examples:
- i. Endoscopy (endo- + -scopy = visualization within)
- ii. Electromyography (electro- + myo- + -graphy = recording muscle electricity)
- iii. Cardiotomy (cardio- + -tomy = heart incision)
- iv. Pulmonary function test (pulmo- + -ary = lung function test)



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UNIT - 2

### COURSE OF INSTRUCTIONS IN PARA-MEDICAL TRAINING ON MOBILITY ASSISTANCE & EMERGENCY RESPONSE

- Basics of Personal Hygiene
- Develop understanding & procedures of Hand Hygiene
- Appropriate of Hand Washing
- Care of eyes, nose, ears, hands, feet, mouth, skin, hair etc.

### DEFINITION

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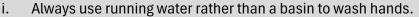
Handwashing is the process of cleaning hands using water with or without soap to remove dirt, germs, and other harmful substances. It is the most effective way to reduce the spread of infectious diseases.

Hand hygiene is a fundamental and crucial method for preventing and controlling illnesses. Regular and proper handwashing is one of the most efficient ways to prevent infections.

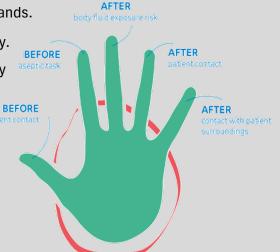
### **KEY TERMS**

- i. Hand hygiene A general term that includes handwashing, antiseptic handwashing, antiseptic hand rub, and surgical hand antisepsis.
- ii. Handwashing Cleaning hands with water and regular (non-antibacterial) soap.
- iii. Antiseptic handwash Handwashing with water and antibacterial soap to remove or kill microorganisms.
- iv. Surgical hand antisepsis Also known as surgical hand scrub; ensures that hands are as free of bacteria as possible before a sterile procedure.

### **CONCEPTS AND PRINCIPLES OF HAND HYGIENE**

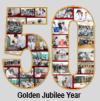


- ii. Use soap, preferably antibacterial soap when necessary.
- Rub hands together for at least 30 seconds to effectively remove germs.
- iv. Jewelry and long nails can harbor bacteria;
   fingernails should be kept short. Rings should ideally
   be removed to prevent microbial buildup underneath.
- v. Use disposable paper towels instead of cloth towels for hand drying.





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UNIT - 2

### COURSE OF INSTRUCTIONS IN PARA-MEDICAL TRAINING ON MOBILITY ASSISTANCE & EMERGENCY RESPONSE

- vi. Soap dispensers should be used until fully empty before refilling.
- vii. The faucet is considered contaminated; turn it off using a paper towel if no sensor or foot pedal is available.

### PURPOSES OF HAND HYGIENE

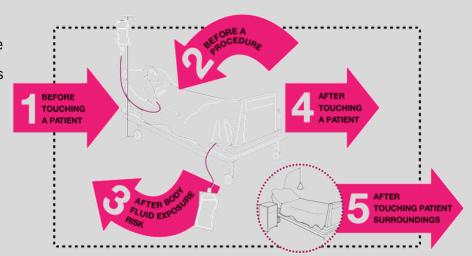
- Prevent infections and illnesses.
- Reduce the spread of harmful microorganisms.
- Maintain overall health and hygiene standards.

### **TYPES OF HAND HYGIENE**

- i. Regular Handwashing Uses water and non-antimicrobial soap to remove soil and transient bacteria.
- ii. Antiseptic Handwash Uses antibacterial soap (e.g., chlorhexidine, iodine, iodophors, chloroxylenol [PCMX], and triclosan) to eliminate transient microorganisms and reduce resident flora.
- iii. Antiseptic Hand Rub Uses an alcohol-based hand rub to disinfect hands without water.
- Surgical Hand Antisepsis Uses water and antibacterial soap to eliminate transient microorganisms and reduce resident flora, performed for 2 to 6 minutes before surgical procedures.

### INDICATORS OF HAND HYGIENE (WHO'S FIVE MOMENTS FOR HAND HYGIENE)

- Before touching a patient
- Before an aseptic procedure
- After exposure to body fluids
- After touching a patient
- After touching the patient's surroundings





### COURSE OF INSTRUCTIONS IN PARA-MEDICAL TRAINING ON MOBILITY ASSISTANCE & EMERGENCY RESPONSE

### • SUPPLIES NEEDED FOR HANDWASHING

- i. Soap or detergent
- ii. Warm running water
- iii. Disposable paper towels
- iv. Alcohol-based hand rub (optional)
- v. Additional tools: antiseptic cleaner, fingernail brush, plastic cuticle stick (if necessary)

### HAND HYGIENE PROCEDURES

- i. Antiseptic Hand Rub (Alcohol-Based Hand Sanitization.
- ii. Remove all jewelry.
- iii. Dispense the recommended amount of alcohol-based hand rub into cupped hands.
- iv. Rub palms together.
- v. Place the right palm over the left dorsum and vice versa with interlaced fingers.
- vi. Rub palms together with interlaced fingers.
- vii. Rub the backs of fingers against the opposing palms with fingers interlocked.
- viii. Rotate the left thumb in the right palm and vice versa.
- ix. Rotate fingertips of the right hand in the left palm and vice versa.
- x. Continue rubbing hands until completely dry before resuming patient care.

### • ANTISEPTIC HANDWASH (CLEAN TECHNIQUE)

- i. Gather necessary supplies and stand in front of the sink.
- ii. Wet hands and wrists with warm water, keeping hands lower than elbows.
- iii. Apply soap, covering all hand surfaces.
- iv. Use firm circular motions to wash palms, backs of hands, fingers, knuckles, wrists, and forearms for at least 30 seconds.
- v. Rinse hands thoroughly with water flowing towards fingertips.
- vi. Pat hands dry using a paper towel, starting from fingers and moving towards forearms.
- vii. Use another clean paper towel to turn off the faucet if no sensor or foot pedal is available.

### • SURGICAL HAND ANTISEPSIS (STERILE TECHNIQUE)

- i. Remove all jewelry.
- ii. Wet hands with warm sterile water.
- iii. Apply antibacterial soap (e.g., povidone-iodine or chlorhexidine).
- iv. Use a nail file to clean under fingernails.
- v. Scrub the backs and fronts of hands, fingers, and spaces between fingers for at least four minutes.
- vi. Keep hands elevated above elbows to prevent contamination.
- vii. Rinse from fingertips to elbows using flowing sterile water.
- viii. Enter the operating area while keeping hands above elbows.
- ix. Dry hands and arms with a sterile towel, following aseptic technique.



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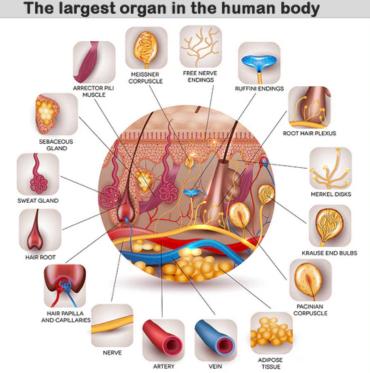
### COURSE OF INSTRUCTIONS IN PARA-MEDICAL TRAINING ON MOBILITY ASSISTANCE & EMERGENCY RESPONSE

### CARE OF EYES, NOSE, EARS, HANDS, FEET, MOUTH, SKIN, HAIR ETC.

### SKIN CARE

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- i. The Skin: The Body's Largest Organ
- ii. The skin is the largest organ of the body and serves as the body's first line of defense against illness. When intact, the skin prevents microbes from entering and causing infections. It acts as a natural protective covering and consists of two main layers:
- iii. Layers of the Skin
- iv. Epidermis (Outermost Layer)
- v. Composed of both living and dead cells.
- vi. Living cells constantly replace the dead cells that flake off.
- vii. Contains pigment-producing cells, which determine skin color.
- viii. Has few nerve endings and no blood vessels, making it less sensitive than the dermis.
- ix. Dermis (Innermost Layer)
- x. Made up of connective tissue, providing structure and elasticity.
- xi. Contains blood vessels, nerve endings, sweat glands, oil glands, and hair follicles.
- xii. Sweat glands regulate body temperature by releasing sweat, which cools the body when it evaporates.
- xiii. Oil glands produce sebum, which travels to the epidermis, keeping the skin moisturized and preventing dryness.



THE SKIN



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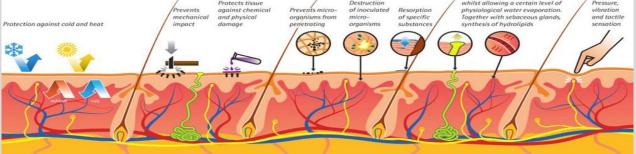
### FUNCTIONS OF THE SKIN

- i. Protection: Acts as a barrier against harmful substances, germs, and injuries.
- ii. Prevention of Water Loss: Helps retain body moisture and prevents dehydration.
- iii. Sensory Perception: Contains nerve endings that detect pressure, touch, temperature, and pain, helping protect the body from harm.
- iv. Temperature Regulation: When the body is too hot: Blood vessels dilate (widen), allowing more blood to reach the skin's surface, where heat is released through sweat evaporation.
- v. When the body is too cold: Blood vessels constrict (narrow), reducing blood flow to the skin to preserve heat.
- vi. Storage of Nutrients: Stores water and lipids (fats), essential for maintaining skin health and function.

Skin plays an important role in maintaining body temperature by continuous sweat evaporation. Sweat is made to loose heat from body when desired. Vitamin D is manufactured within the skin as a result of the action of sunlight. Skin gives information like pain, heat and cold after perception of touch. Hence, care must be taken for its proper maintenance :

• Regular cleaning of the skin is desirable as it removes sebum, sweat, dead skin, dirt, cosmetics and some bacteria .

#### **SKIN** Protection from environment FUNCTION Prevents penetration Perception Skin is Temperature regulation Identification waterproof, protective, Communication Wound repair and Absorption and excretion adaptive Production of vitamin D ng a certain level o





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- Regular bathing with soap and cold water during hot humid climate is essential but in winter days more bathing cause itching and dryness of the skin, so bathing with slight warm water is preferred.
- Usually at puberty boys and girls suffer from acne, problems which bring disfigurement in their appearance. They are advised not to squeeze the papuls and to remove the seed as it may cause infection. Acne can be improved by enough sleeping, exercise, avoiding irritants and food like chocolate, nuts, sea foods, fried foods, sweet and spicy foods. The face should be thoroughly rinsed with water.
- Improper care of the skin leads to bacterial infections and cause boils and warts. During saving in saloon by infected razors, fungal and bacterial infections are likely to invade the healthy persons. Similarly, warts can be removed by freezing or by electric sparks or the old method of rubbing them with horse tails.
- Loss of pigmentation of the skin results in white patches over forehead, cheeks, chin or any part of the body. Exposure of the skin to sunlight and use of irritants are often effective in repigmentation of the skin. Both oral medicines and ointment will also be helpful.
- The skin is attacked by fungal infections. The marks of the infections are ring shaped, hence it is called ring worm. It affects the sides of the groin, scalp, foot and nails. It spreads rapidly from one person to another. During that moment the child should not be allowed to attend the school and his dress materials are to be boiled with caustic soda.
- Among all the skin diseases, scabies is most prominent. This is due to a particular mite infestation of the skin. It can be treated by the application of the ointment benzyl benzoate.
- Another condition of the skin is eczema. The area is itchy or non itchy. There is inflammation of the skin. So, to get rid of it we should keep the skin well hydrated and away from woolen and synthetics as sweating makes it worse, it is better to stay in a cool environment.
- Anti allergic medicines and steroid ointment can be effective.
- Leprosy is a contagious disease which appears as patches on the skin. It is caused by bacteria. The patch is either paler than normal skin colour or reddish. Margins of the patch are generally well demarcated from the surrounding skin. So, if the patches appear on the skin, the person should get examined by a physician. There may be ulcers in foot and nose. These cases are infective and are to be isolated.
- Moles and tumors may be present on the skin. Moles are harmless and rarely become cancerous. Therefore, any mole which appears later in the body or one which changes in size rapidly tending to bleed, needs to be shown to the skin specialist. Likewise, tumors are overgrowths which rapidly appear on the skin.
- To keep the skin in proper order, regular washing of hands and face before eating and after using the lavatory is necessary. Cold baths like swimming and sea bathing are taken for their tonic effects. Use of special creams having a protective function to protect the hands of the housewife or those engaged on jobs requiring immersion of the hand in water, chemical substances or grease oil is advisable.



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### MOUTH CARE

### **ORAL HYGIENE AND ITS IMPORTANCE**

The condition of our teeth, tongue, and gums reflects our overall health and hygiene practices. Stains from substances like pan and tobacco are easily noticeable and indicate poor oral habits. Additionally, bad breath (halitosis) is often a sign of inadequate dental hygiene.

**CAUSES OF HALITOSIS:** Halitosis occurs due to the breakdown of cells and the growth of certain bacteria that produce foul odors. Common causes include:

- i. Poor oral hygiene leading to bacterial buildup.
- ii. Tooth decay and gum infections.
- iii. Oral tumors or other underlying health conditions.

### THE IMPORTANCE OF ORAL HYGIENE

- i. A bright and healthy smile is often one of the first things people notice. Maintaining healthy teeth and gums is not only essential for aesthetics but also plays a crucial role in overall well-being.
- ii. Brushing twice a day—in the morning and before bed—is essential for maintaining proper oral hygiene. While most people brush their teeth in the morning as part of their daily routine, many neglect to do so before sleeping. However, brushing at night is equally, if not more, important.
- iii. During sleep, the mouth remains closed for 7 to 8 hours, creating an environment where bacteria thrive. Food particles left on the teeth and gums decompose, leading to bacterial growth, bad breath, and potential tooth decay.

### PREVENTING ORAL HEALTH ISSUES

### TO MAINTAIN OPTIMAL ORAL HEALTH:

- i. Brush your teeth before bedtime to prevent bacterial buildup overnight.
- ii. Ensure that no food particles remain in the mouth after eating or drinking.
- iii. Use fluoride toothpaste and a soft-bristled toothbrush for effective cleaning.
- iv. Floss daily to remove plaque and debris from between teeth.
- v. Stay hydrated and maintain a balanced diet to support gum health.
- vi. By following these simple practices, one can maintain fresh breath, strong teeth, and healthy gums, contributing to overall oral and general health.
- vii. Mouth care or so call oral hygiene does the following:
- viii. Keeps the mouth and teeth clean .
- ix. Prevents mouth odours and infections .
- x. Increases comfort.
- xi. Makes food taste better .
- xii. Reduces the risk for cavities and periodontal disease

Poor oral hygiene leads to the accumulation of both plaque and tartar, which are substances that contain saliva, microbes, and other substances and cause tooth decay (cavities). Tartar is a



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a hardened form of plaque that accumulates at the gum line near the tooth's neck and causes periodontal disease, which is characterized by red, swollen, and easily bleeding gums. As the disease worsens, bone is destroyed and teeth become loose, which is another common cause of tooth loss.

Illness, disease, and some drugs often cause the following problems:

- A yellowish coating on the tongue and in the mouth;
- Redness and swelling on the tongue and in the mouth; A terrible taste in the mouth.
- Another common condition is dry mouth, which is brought on by anxiety, smoking, dehydration, and oxygen deprivation.

#### EYE CARE DEFINITION

Eye care refers to the practices and techniques used to maintain eye health, prevent eye infections, and ensure clear vision. It involves regular hygiene, protective measures, medical check-ups, and lifestyle habits that contribute to optimal eye function.

### TERMS

- i. To understand eye care better, familiarize yourself with these terms:
- ii. Ophthalmology – A branch of medicine that deals with eye diseases and treatments.
- iii. Conjunctiva The thin membrane covering the eye's surface and inner eyelids.
- iv. Cornea The transparent outermost layer of the eve that helps focus light.
- Tear Film A layer of moisture that protects and nourishes the eye. ٧.
- Refractive Errors Vision issues such as myopia (nearsightedness), hyperopia vi. (farsightedness), and astigmatism.
- vii. Dry Eye Syndrome A condition where the eyes do not produce enough tears for lubrication.

### **CONCEPTS**

Principles and concepts surrounding eye care include:

- i. Regular cleaning of the eye area prevents infections and irritations.
- Protection from UV rays, dust, and chemicals is essential for maintaining eye health. ii.
- Excessive screen time can lead to digital eye strain, requiring frequent breaks. iii.
- Proper hydration and nutrition support healthy eyes and prevent dryness. iv.
- Contact lenses should be cleaned and replaced according to recommended guidelines. ٧.
- vi. Regular eye check-ups help in early detection of vision problems.

### **PURPOSES**

The purposes of eye care are:

- i. To maintain clear vision and prevent visual impairments.
- To protect eyes from infections, injuries, and environmental damage. ii.
- iii. To ensure comfort and reduce strain from digital devices.
- iv. To prevent eye diseases such as glaucoma, cataracts, and conjunctivitis.



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### **TYPES OF EYE CARE**

Different aspects of eye care include:

- i. Daily Hygiene: Cleaning the eyes, removing debris, and avoiding eye rubbing.
- ii. Protective Measures: Wearing sunglasses, using protective eyewear in hazardous environments.
- iii. Medical Eye Care: Regular check-ups, using prescribed eye drops or medications.
- iv. Nutrition for Eye Health: Consuming foods rich in Vitamin A, Omega-3, and antioxidants.
- v. Proper Screen Usage: Following the 20-20-20 rule (every 20 minutes, look 20 feet away for 20 seconds).

### INDICATORS OF EYE HEALTH

- i. Signs of good eye health include:
- ii. Clear vision without strain or blurriness.
- iii. No excessive dryness, redness, or irritation.
- iv. Proper tear production and lubrication.
- v. No frequent headaches related to vision problems.
- vi. No sensitivity to light or recurring infections.

### SUPPLIES NEEDED FOR EYE CARE

To properly care for the eyes, the following materials may be needed:

- i. Clean water for rinsing
- ii. Sterile saline solution
- iii. Soft cotton pads or tissues
- iv. UV-protected sunglasses
- v. Lubricating eye drops
- vi. Prescribed eyeglasses or contact lenses
- vii. Protective goggles (for specific work environments)

### PROCEDURES

- i. Daily Eye Hygiene
- ii. Wash hands thoroughly before touching the eye area.
- iii. Use a clean, damp cotton pad to wipe the eyes gently from inner to outer corners.
- iv. Avoid rubbing the eyes to prevent irritation.
- v. Ensure contact lenses are cleaned and stored properly.
- vi. If using eye drops, follow the recommended dosage and application technique.
- vii. Emergency Eye Care (For Foreign Particles or Irritants)
- viii. Avoid rubbing the eye to prevent further damage.
- ix. Rinse the eye with clean, lukewarm water or sterile saline solution.
- x. Blink repeatedly to encourage the removal of the irritant.
- xi. If discomfort persists, seek medical attention.



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# HAIR CARE

Hair care refers to the cleaning, conditioning, and maintenance of scalp and hair health to ensure strong, smooth, and damage-free hair. It includes proper washing, nourishment, protection, and styling practices.

### TERMS

Key terms in hair care include:

- i. Scalp Health The condition of the skin on the head, affecting hair growth and strength.
- ii. Sebum The natural oil produced by the scalp that helps moisturize hair.
- iii. Split Ends The fraying of hair tips due to damage and dryness.
- iv. Keratin A protein that makes up the structure of hair strands.
- v. Dandruff Flaky, dry skin that sheds from the scalp.
- vi. Hair Follicle The root structure in the scalp from which hair grows.

### CONCEPTS

Principles and concepts surrounding hair care include:

- i. Regular washing removes dirt, oil, and product buildup from the scalp.
- ii. Proper hydration and nourishment strengthen hair strands and prevent damage.
- iii. Using heat styling tools excessively can lead to hair breakage and split ends.
- iv. Natural oils from the scalp play a key role in maintaining healthy hair.
- v. Overuse of chemical treatments (dyes, relaxers) weakens hair structure.

### PURPOSES

The purposes of hair care are:

- i. To maintain cleanliness and scalp hygiene.
- ii. To prevent hair damage, breakage, and excessive hair loss.
- iii. To ensure smooth, shiny, and manageable hair.
- iv. To promote hair growth and strength.

### **TYPES OF HAIR CARE**

Different aspects of hair care include:

- i. Cleansing: Regular washing with mild shampoos to remove dirt and oil.
- ii. Conditioning: Using hair conditioners or masks to restore moisture.
- iii. Scalp Care: Treating dandruff, itchiness, and maintaining scalp health.
- iv. Protective Styling: Minimizing heat exposure and avoiding tight hairstyles that cause tension.
- v. Trimming: Regularly cutting off split ends to maintain hair health.

### INDICATORS OF HEALTHY HAIR

- i. Signs of good hair health include:
- ii. Soft, smooth texture without excessive dryness.



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- iii. Minimal hair shedding and breakage.
- iv. No excessive dandruff or scalp irritation.
- v. Even growth and natural shine.
- vi. No frequent split ends or tangles.

### SUPPLIES NEEDED FOR HAIR CARE

To properly care for hair, the following materials may be needed:

- i. Mild shampoo and conditioner
- ii. Wide-tooth comb or detangling brush
- iii. Natural oils (e.g., coconut oil, argan oil)
- iv. Heat protectant spray
- v. Hair masks or deep conditioners
- vi. Microfiber towel for drying.

### PROCEDURES

- i. Regular Hair Washing
- ii. Wet hair thoroughly with lukewarm water.
- iii. Apply a small amount of shampoo, focusing on the scalp.
- iv. Massage the scalp gently with fingertips to remove dirt and oil.
- v. Rinse thoroughly with clean water.
- vi. Apply conditioner to the mid-lengths and ends of hair.
- vii. Leave the conditioner on for a few minutes before rinsing.Deep Conditioning Treatment (For Dry or Damaged Hair)
- viii. Apply a deep conditioner or hair mask to damp hair.
- ix. Cover hair with a shower cap for better absorption.
- x. Leave on for 15-30 minutes.
- xi. Rinse with lukewarm water.
- xii. Let hair air-dry or use a heat protectant if blow-drying.

### SCALP CARE (FOR DANDRUFF OR ITCHY SCALP)

- i. Use an anti-dandruff shampoo containing zinc pyrithione or salicylic acid.
- ii. Massage the shampoo into the scalp for 2-3 minutes before rinsing.
- iii. Apply a soothing scalp serum or oil if needed.
- iv. By following these detailed eye and hair care guidelines, individuals can maintain optimal hygiene and overall health for their eyes and hair.

### INFECTION CONTROL

Infections are caused by microorganisms like viruses, bacteria, fungi, and parasites. These infections can spread from person to person, from animals to humans, or through contaminated objects.

Definition, types of Infection, Modes of Transmission, Preventive measures, Sterilization Techniques.



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### DEFINITION

An infection is the invasion and growth of a microorganism within the body. Infection can lead to disease that causes signs and symptoms, resulting in a deviation from the normal structure or functioning of the host.

The ability of a microorganism to cause disease is called pathogenicity, and the degree to which a microorganism is likely to become a disease is called virulence. Virulence is a continuum Types of infections

- **i. Viral infections :** Caused by viruses, which are smaller than bacteria and use your cells to reproduce. Examples include the common cold and AIDS.
- **ii. Bacterial infections**: Caused by bacteria, which are single-celled organisms that live on and inside your body. Examples include strep throat, urinary tract infections, and tuberculosis.
- **iii. Fungal infections:** Caused by fungi, which live on and inside your body. Examples include ringworm and athlete's foot.
- iv. **Parasitic infections :**Caused by parasites, which use the bodies of other organisms to live and reproduce. Examples include malaria and worms.
- v. **Transmission:** Infections can be transmitted through skin-to-skin contact, body fluids, feces, air, or contaminated objects.

### **MODES OF TRANSMISSION**

An infectious agent may be transmitted from its natural reservoir to a susceptible host in different ways. There are different classifications for modes of transmission. Here is one classification:

Direct

Direct contact

Droplet spread

Indirect

Airborne

Vehicleborne

• Vectorborne (mechanical or biologic)

In direct transmission, an infectious agent is transferred from a reservoir to a susceptible host by direct contact or droplet spread.

Direct contact occurs through skin-to-skin contact, kissing, and sexual intercourse. Direct contact also refers to contact with soil or vegetation harboring infectious organisms.

Thus, infectious mononucleosis ("kissing disease") and gonorrhea are spread from person to person by direct contact. Hookworm is spread by direct contact with contaminated soil.



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- **Droplet spread** refers to spray with relatively large, short-range aerosols produced by sneezing, coughing, or even talking. Droplet spread is classified as direct because transmission is by direct spray over a few feet, before the droplets fall to the ground. Pertussis and meningococcal infection are examples of diseases transmitted from an infectious patient to a susceptible host by droplet spread.
- **Indirect transmission** refers to the transfer of an infectious agent from a reservoir to a host by suspended air particles, inanimate objects (vehicles), or animate intermediaries (vectors).
- Airborne transmission occurs when infectious agents are carried by dust or droplet nuclei suspended in air. Airborne dust includes material that has settled on surfaces and become resuspended by air currents as well as infectious particles blown from the soil by the wind. Droplet nuclei are dried residue of less than 5 microns in size.
- In contrast to droplets that fall to the ground within a few feet, droplet nuclei may remain suspended in the air for long periods of time and may be blown over great distances.
- Measles, for example, has occurred in children who came into a physician's office after a child with measles had left, because the measles virus remained suspended in the air.
- Vehicles that may indirectly transmit an infectious agent include food, water, biologic products (blood), and fomites (inanimate objects such as handkerchiefs, bedding, or surgical scalpels). A vehicle may passively carry a pathogen as food or water may carry hepatitis A virus. Alternatively, the vehicle may provide an environment in which the agent grows, multiplies, or produces toxin as improperly canned foods provide an environment that supports production of botulinum toxin by *Clostridium botulinum*.
- Vectors such as mosquitoes, fleas, and ticks may carry an infectious agent through purely
  mechanical means or may support growth or changes in the agent. Examples of mechanical
  transmission are flies carrying *Shigella* on their appendages and fleas carrying *Yersinia pestis*, the
  causative agent of plague, in their gut. In contrast, in biologic transmission, the causative agent of
  malaria or guinea worm disease undergoes maturation in an intermediate host before it can be
  transmitted to humans.



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### PREVENTION OF AIRBORNE DISEASE

Although it's impossible to completely avoid airborne pathogens, there are some things you can do to lower your chances of getting sick.

- i. Avoid close contact with people who have active symptoms of disease.
- ii. Stay home when you're sick. Don't let vulnerable people come in close contact with you.
- iii. If you must be around others, wear a face mask to prevent spreading or breathing in germs.
- iv. Cover your mouth when you cough or sneeze. Use a tissue or your elbow to cut down on the possibility of transmitting germs on your hands.
- Wash your hands thoroughly (at least 20 seconds) and often, especially after ٧. sneezing or coughing.
- Avoid touching your face or other people with unwashed hands. vi.
- vii. Vaccines can reduce your chances of getting some airborne diseases. Vaccines also lower the risk for others in the community. Airborne diseases that have vaccines include:
- viii. COVID-19
- ix. Chickenpox
- Diphtheria х.
- xi. Influenza: vaccine updated every year to include strains most likely to spread in the coming season
- xii. Measles: usually combined with vaccine for mumps and rubella, and is known as the **MMR** vaccine
- xiii. Mumps: MMR vaccine
- xiv. TB: not generally recommended in the United States

xv. Whooping cough

### PREVENTION OF CONTACT BOND DISEASE

- Wash Hands Often. Learn how to Clean Hands and Help Prevent Flu.
- Clean & Disinfect Commonly Used Surfaces. Germs can live on surfaces.
- Cough & Sneeze Into Your Sleeve.



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- Don't Share Personal Items.
- Get Vaccinated.

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- Avoid Touching Wild Animals.
- Stay Home When Sick

### TREATMENT

Treatment depends on the type of infection. For example, viral infections may require a strong antibiotic, while bacterial infections may require a course of antibiotics. Fungal infections may require antifungal creams.

### **DISINFECTING A WHEELCHAIR**

- Before you begin your disinfecting routine, you should read over the owner's manual and maintenance instructions thoroughly, especially for cleaning where the controls are located.
- Keep in mind you can disinfect all wheelchair surfaces. Use a solution that is at least 70% made of alcohol, or you can use another disinfectant wipe that is approved. Diluted sanitizer and a damp cloth will allow you to wipe down an electric wheelchair's joystick thoroughly.
- Let the sanitizer remain on the surfaces for at least 15 minutes. For all disinfected surfaces, wipe them down with a damp cloth containing fresh water. Then, use a clean cloth and dry the wheelchair thoroughly.
- Do not choose harsh cleaning items like: Abrasives/Bleaches/Solvents/Sprays /Synthetic detergents / Wax enamels
- You want to target the parts of the wheelchair that are touched frequently. This includes handles and armrests. Prior to visiting somewhere public and upon returning home, you will want to wipe down your wheelchair.

### • HOW TO CLEAN A WHEELCHAIR

Now, we will get more specific about the components. Let's review how to clean each wheelchair part.

### FRONT AND REAR WHEELS

- i. The wheels of your wheelchair continuously touch the ground. It's only natural that they need continuous cleaning to fight off dirt and kill germs.
- ii. Most recommendations for cleaning the wheels say to clean and disinfect them every day.
- iii. Alternatively, you can clean them when you come home upon returning from a public outing.

### **AIR CELL CUSHION**

• A model with an Air Cell Cushion contains neoprene rubber cells. You will want to remove the cover and wash it gently in a washing machine cycle. Apply cold water along with a mild detergent, and then tumble dry it on low.



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- You can also handwash this type of cushion inside of a sink or bathtub. If you choose to go this route, use a soft-bristled brush along with a mild detergent to clean with.
- Do not let the water leak on the inside though, and check that the air valve is tightly closed. Rinse the cushion using freshwater and allow it to dry thoroughly.

### POWER WHEELCHAIR CLEANING

You will need to clean  $\underline{a}$  power wheelchair differently than a manual wheelchair. With a power wheelchair, you have:

- Electronic controls
- Footplate
- Joystick
- These components get a lot of body contact and require regular cleaning. You will want to use a damp cloth to clean them.
- First, you will want the have the wheelchair powered completely off before cleaning it. It may be a good idea to flip the circuit breaker just to be on the safe side.
- If you have an air compressor, this can also come in handy. It is very effective for blowing away crumbs, dust, and debris.
- For the footplate, use a foam cleanser and saturate it. Next, give it a deep scrub with a bristle brush.
- You can clean the control panel and joystick the same way as you do the armrest. This includes a diluted disinfectant and a damp wipe to clean the areas gently. Afterward, let it sit for 15 minutes before using a damp cloth to dry it.

### **ARMRESTS AND HANDLES**

- The main areas of contact are the armrests and handles. These must be a primary focus for disinfection. Use a sanitized wipe to disinfect the armrests and handles and then rinse them with a damp cloth after that.
- Manufacturers usually make wheelchair armrests with foam or leather. Make sure that you dry it completely with a clean cloth once you complete rinsing to reduce damage.
- If you find damage to the foam or leather, like cracks or chips in the plastic, you will want to fix them right away. This will prevent dirt and bacteria from getting stuck inside them.

### Cushion

- Since this is the component of the wheelchair that you will be sitting on, the user will always expose it to grime and sweat. If the cushion is foam, follow the procedure from the armrest that was previously mentioned.
- Allow a sanitizer to remain on the cushion for about 15 minutes. Then rinse and wipe it dry.
- You can also handwash this type of cushion inside of a sink or bathtub. If you choose to go this route, use a soft-bristled brush along with a mild detergent to clean with.
- Do not let the water leak on the inside though, and check that the air valve is tightly closed. Rinse the cushion using freshwater and allow it to dry thoroughly.



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- Footplate
- Joystick
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### **BASICS OF STERILIZATION**

• Any procedure that eradicates, eliminates, kills, or deactivates all living things and other biological agents—such as bacteria, viruses, fungi, or other microorganisms—that are present in a particular area, like a surface, a volume of fluid, a medication, or a substance like biological culture media is referred to as sterilization.



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### **IMPORTANCE OF STERILIZATION**

- The most effective biocidal agent is moist heat sterilization. It is utilized in the pharmaceutical business for surgical dressings, sheets, containers, and surgical and diagnostic equipment.
- Dry heat sterilization is only suitable for pharmaceutical and medicinal products that are thermostable, moisture-sensitive, or moisture-impermeable. Examples of these products include dry powdered medications, drug suspensions in non-aqueous solvents, oils, fat waxes, soft hard paraffin silicone, oily injections, implants, ophthalmic ointments, and ointment bases, among others.
- Thermolabile materials are sterilized by gaseous sterilization. Like: hormones, proteins, various heat sensitive drugs etc.

### **METHODS OF STERILIZATION**

The various methods of sterilization are:

- Physical Method
- Thermal (Heat) methods
- Radiation method
- Filtration method (Mechanical method)
- Chemical Method
- Gaseous method
- Liquid Sterilization
- PERSONAL PROTECTIVE EQUIPMENT TYPES, PEUSES AND TECHNIQUES OF WEARING AND REMOVING
- Personal Protective Equipment (PPE) refers to protective clothing, helmets, gloves, face shields, goggles, masks, and other equipment designed to protect the wearer from injury or the spread of infection. PPE acts as a barrier between infectious ma, chemicals, or physical hazards materials and the healthcare worker to prevent exposure to infectious agents.



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### TYPES OF PERSONAL PROTECTIVE EQUIPMENT (PPE)

There are several types of PPE used in healthcare settings. Gloves are used to protect hands from contamination, infections, and harmful chemicals. Masks, including surgical masks and N95 respirators, protect the mouth and nose from droplets and airborne particles. Goggles and face shields are used to protect the eyes, nose, and mouth from splashes of blood, body fluids, or chemicals. Gowns and aprons protect the skin and prevent contamination of clothing. Caps or head covers are worn to cover hair and prevent contamination of sterile environments. Shoe covers or boot covers are used to protect footwear and prevent contamination from floors. Respirators like N95 or powered air-purifying respirators (PAPRs) provide higher levels of respiratory protection against airborne pathogens.

### **USES OF PERSONAL PROTECTIVE EQUIPMENT (PPE)**

PPE is primarily used to prevent the transmission of infectious diseases such as COVID- 19, Hepatitis B, and Hepatitis C during exposure to blood and body fluids. PPE also provides protection from hazardous chemicals used in disinfection and during handling of chemotherapy drugs. It is used during surgical and invasive procedures to maintain a sterile field and prevent infection. Healthcare workers also use PPE when handling biomedical waste to prevent contact with infectious materials. Furthermore, PPE is critical during outbreaks and pandemics to protect both healthcare providers and patients from cross-infection.

### **Technique of Wearing (Donning) PPE**

Before wearing PPE, it is important to follow proper steps to ensure full protection. First, perform hand hygiene using soap and water or an alcohol-based hand rub to reduce the risk of contamination while donning. Start by putting on the gown, ensuring that it fully covers the torso from neck to knees, arms to the end of wrists, and wraps around the back. Fasten the gown at the back of the neck and waist securely. Next, put on the mask or respirator, covering the nose and mouth completely and adjusting it to fit snugly against the face.

After the mask, put on goggles or a face shield to protect the eyes. Finally, wear gloves, making sure they cover the wrist of the gown to ensure no skin is exposed.

### **Technique of Removing (Doffing) PPE**

Removing PPE properly is crucial to avoid contamination. First, remove gloves as they are the most contaminated. Grasp the outside of one glove with the opposite gloved hand, peel off the glove, and hold it in the remaining gloved hand. Slide fingers under the wrist of the remaining glove to peel it off without touching the outer surface, and discard. After the mask, put on goggles or a face shield to protect the eyes. Finally, wear gloves, making sure they cover the wrist of the gown to ensure no skin is exposed.



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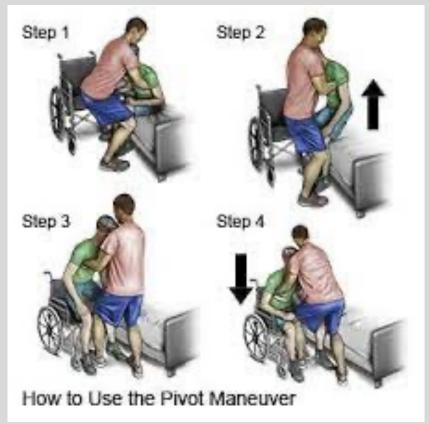
### • TECHNIQUE OF REMOVING (DOFFING) PPE

Removing PPE properly is crucial to avoid contamination. First, remove gloves as they are the most contaminated. Grasp the outside of one glove with the opposite gloved hand, peel off the glove, and hold it in the remaining gloved hand. Slide fingers under the wrist of the remaining glove to peel it off without touching the outer surface, and discard both gloves safely. Next, remove goggles or face shield by handling only the headband or ear pieces without touching the front, and discard or disinfect if reusable. After that, remove the gown by untying the back ties, pulling it away from the body, and turning it inside out while removing it. Dispose of it safely. Remove the mask or respirator last by handling only the ties or ear loops, avoiding contact with the front. After all PPE is removed, perform hand hygiene immediately to ensure no contamination remains.

### IMPORTANT POINTS TO REMEMBER

Always perform hand hygiene before and after wearing or removing PPE. Make sure PPE fits properly to ensure full protection. Avoid touching the face or adjusting PPE unnecessarily while wearing it. Follow institutional guidelines and protocols on the use of PPE. Dispose of PPE in proper biohazard containers to prevent contamination of the environment.

Definition, types of Infection, Modes of Transmission, Preventive measures, Sterilization Techniques.





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UNIT-5

### COURSE OF INSTRUCTIONS IN PARA-MEDICAL TRAINING ON MOBILITY ASSISTANCE & EMERGENCY RESPONSE

Positioning & Patient Mobilization

- Learn Various Kinds of Means Available for Transferring Patients
- Understand Usage of Wheelchair, Stretcher, Shifting of Patient in Special Situations
- Describe Care While the Patient Is Walking or Using Assisted Devices.
- Standards for prevention of Patient's Fall
- Care to be taken to avoid fall in high-risk patient
- Describe action in event of Fall Incident

### LEARN VARIOUS KINDS OF MEANS AVAILABLE FOR TRANSFERRING PATIENTS

Patient transfers are crucial in healthcare settings to ensure safety and comfort while minimizing injury risks for both patients and caregivers. Different transfer methods are employed based on the patient's mobility level, strength, and medical condition. Below are the main categories of patient transfer methods, along with their details.

### • MANUAL TRANSFERS :

Manual transfers are used when patients have some level of mobility and can actively participate in the movement process. Caregivers must practice proper body mechanics to prevent injuries.

### • TECHNIQUES USED IN MANUAL TRANSFERS:

**Pivot Transfers:** Suitable for patients who can bear some weight but need help moving from one surface to another (e.g., bed to wheelchair). The patient pivots on their stronger leg while the caregiver assists.

**Assisted Standing Transfers:** The caregiver provides support by holding the patient's arms or using a transfer belt to help them stand and move.

**Bear-Hug Transfers:** Used when a patient has very limited mobility but can still support some weight. The caregiver hugs the patient under their arms and assists them in standing or repositioning. **PRECAUTIONS:** 

Proper body mechanics (keeping a straight back and bending at the knees) should be maintained to avoid caregiver injuries. The patient's strength and balance must be assessed before attempting manual transfers. Supportive devices like transfer belts can enhance safety and ease the transfer process.

### MECHANICAL TRANSFERS :

Mechanical aids are used for patients who are non-ambulatory, have significant weakness, or are completely dependent on assistance for transfers. These devices reduce the risk of injuries for both patients and caregivers.

### TYPES OF MECHANICAL TRANSFER EQUIPMENT:

**Hydraulic Lifts:** Manually operated lifts that use hydraulic pressure to lift and move patients. These are useful for transferring bedridden or non-ambulatory patients.

**Electric Hoists:** Battery or electrically operated lifts that provide smooth and effortless lifting. These are preferred in hospitals and nursing homes for handling immobile patients.



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**Sit-to-Stand Lifts:** Designed for patients who can bear some weight but need support to transition from sitting to standing positions. These are commonly used in rehabilitation and elderly care.

### Benefits of Mechanical Transfers:

- i. Significantly reduces physical strain on caregivers.
- ii. Enhances patient safety and minimizes the risk of falls.
- iii. Provides controlled and secure lifting for immobile individuals

### **SLIDE BOARDS & TRANSFER BELTS :**

These assistive tools are beneficial for patients with partial mobility who require moderate assistance.

### **SLIDE BOARDS:**

- i. A rigid, smooth board placed between two surfaces (e.g., bed and wheelchair) to facilitate lateral movement.
- ii. Helps patients move by sliding, reducing the need for lifting.
- iii. Ideal for individuals with lower-body weakness but good upper-body strength.

### TRANSFER BELTS (GAIT BELTS):

A sturdy belt fastened around the patient's waist to provide a secure grip for the caregiver.

Used during assisted standing and walking to improve balance and prevent falls.

Commonly used in hospitals, rehabilitation centers, and home care settings.

### ADVANTAGES:

- i. Reduces strain on both patients and caregivers.
- ii. Provides controlled movement and improves stability during transfers.

**AMBULATION AIDS :** These devices help patients with mobility impairments move safely and independently.

### TYPES OF AMBULATION AIDS:

### WALKERS:

Provide four-point stability and support for patients who can bear weight but need additional balance assistance.

Available in different types:

- i. Standard Walkers: No wheels, require the patient to lift and move them.
- ii. Rolling Walkers: Two front wheels for easier movement.

### iii. Four-Wheel Walkers (Rollators): Equipped with hand brakes and a seat for resting.

### CANES:

Provide additional support for individuals with mild balance issues or one-sided weakness. Types include:

- i. Single-Point Canes: For minimal support.
- ii. Quad Canes: Have four contact points for extra stability.



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### **CRUTCHES:**

Assist patients with leginjuries, fractures, or weakness by transferring weight to the upper body.

Types of crutches:

- i. Axillary (Underarm) Crutches: Commonly used for temporary injuries.
- ii. Forearm (Lofstrand) Crutches: Provide better control and are used for long-term mobility support.
- iii. **Platform Crutches:** Used for individuals with weak grip strength, allowing them to rest their forearms.
- BENEFITS OF AMBULATION AIDS:
- i. Improve mobility while reducing fall risks.
- ii. Help patients regain independence during recovery.
- iii. Allow for partial weight-bearing while preventing excessive strain on injured limbs
- iv. Understand Usage of Wheelchair, Stretcher, Shifting of Patient in Special Situations.
- v. Ensure brakes are locked before transfer.
- vi. Position footrests properly to avoid tripping hazards.
- vii. Use a transfer belt if the patient needs assistance.
- STRETCHER TRANSFERS:
- i. Used for patients who cannot sit up or need immobilization.
- ii. Requires multiple caregivers to ensure safety.
- iii. Ensure side rails are up and secured during movement.
- SPECIAL SITUATIONS:
- i. **Spinal Injury Patients:** Use the log-rolling technique for movement.
- ii. Fractured Limb Patients : Ensure proper support and immobilization before transferring.
- iii. Critically Ill Patients: Monitor oxygen levels and IV lines during movement.
- CARE WHILE WALKING OR USING ASSISTED DEVICES:
- Assess Stability: Ensure the patient is stable before starting ambulation.
- Encourage Gradual Movement: Prevent falls by allowing slow adaptation.



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### WHEELCHAIR TRANSFERS PROPER USE OF WALKERS & CANES:

- i. Walker should be at wrist height.
- ii. Cane should be used on the stronger side.
- Supervise & Assist: Stay close to provide support and prevent falls.

### COMPLICATIONS OF POOR POSITIONING & IMMOBILITY:

- i. Pressure ulcers (bedsores).
- ii. Joint contractures
- iii. Muscle atrophy
- iv. Deep vein thrombosis (DVT)
- v. Pneumonia due to decreased lung expansion
- vi. Urinary tract infections (UTIs) from prolonged bed rest

### **DOCUMENTATION & INTERPRETATION:**

- i. Record the patient's position changes and mobility status.
- ii. Note any complications, discomfort, or improvements.
- iii. Communicate concerns to healthcare providers for timely intervention.

### DESCRIBE CARE WHILE THE PATIENT IS WALKING OR USING ASSISTED DEVICES. DEFINITION:

Care while the patient is walking or using assisted devices involves providing physical, emotional, and technical support to ensure safe and effective mobility. Patients with limited mobility due to illness, injury, surgery, or disability often require assistance to walk and use assistive devices such as canes, crutches, walkers, or orthotic supports. Proper guidance minimizes the risk of falls, promotes independence, and enhances overall recovery.

### **OBJECTIVES OF ASSISTED AMBULATION:**

- i. To promote independence and confidence in movement.
- ii. To prevent complications such as muscle atrophy, joint stiffness, and pressure ulcers.
- iii. To ensure patient safety and reduce the risk of falls.
- iv. To support rehabilitation and restore functional mobility.
- v. To improve circulation, respiration, and overall physical health.
- vi. To enhance the patient's quality of life by enabling mobility

### GENERAL PRINCIPLES OF ASSISTING A PATIENT WHILE WALKING:

**Assess the Patient's Condition:** Before ambulation, evaluate strength, coordination, balance, endurance, and any pain or dizziness.

Ensure Proper Footwear: Patients should wear non-slip, well-fitted shoes to prevent falls.

**Use Appropriate Assistive Devices:** Select the most suitable device based on the patient's mobility level..

Maintain Good Posture and Balance: Encourage an upright posture with eyes forward to prevent strain..

Provide Physical Support: Use gait belts or manual assistance as needed.



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**Monitor for Signs of Distress:** Look for fatigue, dizziness, shortness of breath, or pain. **Encourage Gradual Progression:** Allow the patient to build strength and confidence with short distances before increasing mobility efforts.

### ASSISTING PATIENTS USING VARIOUS MOBILITY AIDS

### Assisting a Patient Walking Without Devices (Minimal Support Needed):

- i. Stand at the patient's weaker side for support.
- ii. Allow the patient to set their own pace while encouraging steady movement.
- iii. Use a gait belt for additional safety if necessary.
- iv. Be ready to support the patient if they lose balance.

### Assisting a Patient with a Cane:

- i. The cane should be held in the hand opposite the weaker leg.
- ii. The patient should advance the cane first, followed by the weaker leg, and then the stronger leg.
- iii. Ensure proper height adjustment; the cane handle should align with the wrist crease when the arm is relaxed.
- iv. Monitor for balance issues and fatigue.

### Assisting a Patient with a Walker:

- i. Ensure the walker is at wrist height for comfort and efficiency.
- ii. The patient should move the walker forward first, then step forward with the weaker leg, followed by the stronger leg.
- iii. Keep the walker stable on the ground before stepping forward.
- iv. Encourage slow, steady movement without rushing.

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- i. Ensure the walker is at wrist height for comfort and efficiency.
- ii. The patient should move the walker forward first, then step forward with the weaker leg, followed by the stronger leg.
- iii. Keep the walker stable on the ground before stepping forward.
- iv. Encourage slow, steady movement without rushing.

### Assisting a Patient with Crutches:

**Measuring Crutches:** The crutch pad should be 1-2 inches below the armpit, and hand grips should allow for a 15-30 degree bend in the elbow.

**Three-Point Gait:** Used for non-weight-bearing patients, moving both crutches forward first, followed by the unaffected leg.

**Two-Point Gait:** Used for partial weight-bearing patients, moving one crutch and the opposite leg together.

Ensure patients do not place excessive weight under the arms to prevent nerve damage.

### SAFETY MEASURES FOR PATIENTS USING ASSISTED DEVICES:

Gait Training: Patients should receive training on the correct use of mobility aids to prevent falls.

**Avoid Overexertion:** Patients should take breaks as needed and not push beyond their physical limits. **Environmental Modifications:** Remove hazards like loose rugs, clutter, and wet floors.

Monitor for Dizziness and Weakness: Stop ambulation if the patient feels faint, lightheaded, or weak. Use of Handrails: Encourage patients to use handrails on stairs or uneven surfaces.

**Supervised Walking:** Initially, patients should walk under supervision until they are confident and stable.



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### Responding to Falls and Emergencies:

### If a patient starts to fall:

Do not attempt to stop the fall suddenly; instead, guide them gently to the ground.

Support the patient's head and lower them safely.

Stay with the patient and assess for injuries before moving them.

Seek medical assistance if needed.

### Post-Fall Assessment:

Check for signs of injury, pain, or disorientation.

Encourage slow and careful repositioning before standing.

Reassess mobility aid adjustments and safety precautions.

### SUPPORT FOR PATIENTS WITH MOBILITY ISSUES:

Poor lighting

**Encouragement and Motivation:** Patients may feel frustrated, dependent, and clutters for anxious about mobility loss. Provide reassurance and positive reinforcement.

**Empowering Independence:** Encourage patients to engage in self-care activities as much as possible. **Educating Family Members:** Caregivers should be trained in safe transfer techniques and mobility assistance.

Addressing Fear of Falling: Some patients hesitate to walk due to fear of falling. Gradual exposure and confidence-building exercises help overcome this fear.

### STANDARDS FOR PREVENTION OF PATIENT'S FALL:

### Introduction:

Patient falls are a major safety concern in healthcare settings, leading to injuries, prolonged hospital stays, and increased healthcare costs. The prevention of falls is a key component of patient safety programs in hospitals, nursing homes, and other healthcare facilities. Various national and International organizations, including the World Health Organization (WHO), The Joint Commission (TJC), and the Centers for Medicare & Medicaid Services (CMS), have established standards and guidelines to reduce fall risks.

### **RISK ASSESSMENT AND IDENTIFICATION**

Effective fall prevention begins with identifying patients who are at risk of falling.

### **Fall Risk Factors**

### Intrinsic Factors (Patient-Related):

- i. Age (especially 65+ years)
- ii. History of previous falls
- iii. Muscle weakness and mobility issues
- iv. Cognitive impairment (dementia, delirium)
- v. Chronic diseases (stroke, Parkinson's disease, osteoporosis)
- vi. Visual impairment
- vii. Urinary incontinence and frequent toileting needs
- viii. Use Of sedatives, antihypertensives, or multiple medications (polypharmacy.



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### EXTRINSIC FACTORS (ENVIRONMENTAL & ORGANIZATIONAL):

- i. Slippery floors or uneven surfaces
- ii. Improper bed height and lack of side rails
- iii. Inaccessible call bells and personal items
- iv. Lack of assistive devices (walkers, canes)

### STANDARDIZED FALL RISK ASSESSMENT TOOLS

Healthcare organizations use validated tools to assess fall risk upon admission and periodically thereafter. Some commonly used tools include:

### Morse Fall Scale (MFS)

### Hendrich II Fall Risk Model

STRATIFY (St. Thomas's Risk Assessment Tool in Falling Elderly Inpatients)

### **Fall Prevention Strategies**

**Patient-Centered Interventions** 

**Frequent Rounds and Patient Monitoring:** Regularly checking on patients, particularly those at high risk, to meet their needs proactively.

**Personalized Care Plans:** Implementing specific interventions tailored to individual patient risk factors.

**Encouraging Mobility with Assistance:** Ensuring physical therapy and assisted walking when needed.

### **ENVIRONMENTAL MODIFICATIONS**

### Safe Room Setup:

- i. Bed in the lowest position with brakes locked
- ii. Easy access to call bell, personal items, and assistive devices

Adequate Lighting: Ensuring rooms and hallways are well-lit, especially at night

Non-Slip Flooring and Handrails: Installing grip mats and handrails in hallways and bathrooms. USE OF ASSISTIVE DEVICES AND TECHNOLOGY

Bed and Chair Alarms: Alerts staff when high-risk patients attempt to stand

Hip Protectors and Floor Padding: Reducing injury severity in case of falls

Smart Monitoring Systems: Using wearable fall detection devices

### **Medication Review**

**Polypharmacy Management:** Regular medication review to identify drugs that increase fall risk (e.g., sedatives, diuretics, opioids)

### STAFF EDUCATION AND TRAINING

Fall Prevention Protocols: Educating nurses, doctors, and caregivers on best practicesEmergency Response Training: Ensuring staff know how to manage a patient fall safelyPatient and Family Education

**Informing Patients About Fall Risks:** Encouraging them to ask for help before standing **Engaging Family Members:** Training caregivers on how to assist patients safely



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### **Incident Reporting and Post-Fall Management**

**Fall Reporting Protocols** 

Mandatory Reporting: Recording all falls, even near misses, in hospital safety logs

**Root Cause Analysis (RCA):** Investigating fall causes to prevent recurrence **Post-Fall Care and Response** 

Immediate Assessment: Checking for injuries (fractures, head trauma)

Medical Examination: Conducting neurological and physical evaluations

Reassessment of Fall Risk: Updating the care plan to prevent future falls

**Compliance with National and International Standards:** Various organizations have outlined best practices for fall prevention:

### THE JOINT COMMISSION (TJC) STANDARDS National Patient Safety Goal (NPSG) 09.02.01:

- i. Identifies patients at risk for falls
- ii. Implements interventions based on individualized risk factors
- iii. Evaluates effectiveness of fall prevention strategies

### World Health Organization (WHO) Guidelines :

- i. Encourages a **multidisciplinary approach** to fall prevention
- ii. Recommends incorporating fall prevention into hospital policies
- iii. Centers for Medicare & Medicaid Services (CMS) Regulations
- iv. CMS considers falls with injuries as preventable hospital-acquired conditions (HACs)
- v. Hospitals may face **penalties** if proper fall prevention protocols are not followed

### Measuring Effectiveness and Continuous Improvement:

Monitoring Fall Rates: Using hospital data to track fall incidence

**Performance Audits and Feedback:** Conducting routine evaluations of prevention strategies **Quality Improvement Programs:** Implementing **Plan-Do-Study-Act (PDSA)** cycles to enhance fall prevention.

In addition to standard fall prevention strategies, high-risk patients require **specialized and enhanced care** to minimize the risk of falls. These patients, including **elderly individuals, those with neurological conditions, orthopedic issues, cognitive impairments, or post-surgical weakness**, need **advanced monitoring, individualized interventions, and a proactive approach** to prevent falls effectively.

Here are **detailed and advanced care measures** to prevent falls in high-risk patients beyond general fall prevention strategies:

### PERSONALIZED AND INTENSIVE SUPERVISION

### **One-on-One Patient Monitoring**

Assign **dedicated nursing staff or caregivers** to continuously monitor patients with **severe fall risks** (e.g., dementia patients who wander, post-operative patients with dizziness).

Consider **bedside sitters** or trained volunteers for **patients with confusion, agitation, or impulsive behaviors**.

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Implement **hourly rounding** to check the patient's needs, such as hydration, bathroom use, or discomfort.

### Video and Remote Monitoring Systems

Use live video surveillance in high-risk areas (e.g., ICU, geriatric wards) to monitor patients remote.

### Pain Management Without Sedatives:

Some high-risk patients take strong pain medications (opioids, sedatives), which increase dizziness and instability.

Alternative pain relief strategies:

- i. Cold/heat therapy
- ii. Transcutaneous Electrical Nerve Stimulation (TENS)
- iii. Acupuncture or massage therapy

**Specialized Dementia Care :** Patients with Alzheimer's or cognitive impairments often forget they need help to walk.

### Interventions:

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- i. Use calm, structured environments to reduce agitation.
- i. Label doors and hallways clearly to prevent wandering.
- ii. Engage patients in cognitive exercises to improve focus.
- iii. Distract impulsive patients with activities (e.g., hand therapy, puzzles).

### ENVIRONMENTAL AND ERGONOMIC INNOVATIONS

### Smart Bed and Chair Technology

Auto-locking bed wheels activate when the patient tries to get up.

Motion-sensitive under-bed lighting automatically illuminates when the patient moves.

Tilted, pressure-sensitive chairs to prevent accidental standing.

**Fall-Proof Ward Design :**Hospital flooring should have shock-absorbing properties to reduce injury severity.

Color-contrasted flooring helps visually impaired patients distinguish depth.

Handrails should have soft grips to prevent slipping from sweaty hands.

Adjustable-height beds and chairs allow customized positioning for weak patients.

Train staff to **respond quickly but calmly** to a fall.

Have a dedicated emergency fall team for high-risk patient areas.

Use "Code Fall" alerts to mobilize rapid assistance in hospitals.

### **Fall Simulation Drills**

- i. Conduct fall prevention simulations with staff to practice quick interventions.
- ii. Use virtual reality (VR) fall risk training for caregivers.



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### **Post-Fall Psychological Support**

- i. Patients who fall often develop "fear of falling syndrome", leading to reduced mobility and increased dependency.
- Provide counseling and reassurance after a fall to rebuild confidence. ii.
- Encourage gradual mobility with emotional support. iii.

### HOME AND COMMUNITY FALL PREVENTION (FOR DISCHARGE PATIENTS)

### HOME SAFETY EVALUATIONS BEFORE DISCHARGE

- i. Conduct home safety inspections before a high-risk patient is discharged.
- ii. Install grab bars, bed rails, non-slip flooring, and adjustable chairs at home.
- iii. Caregiver Training at Home
- iv. Family members should be trained on fall prevention techniques.
- Provide written emergency plans in case of a fall at home. ٧.

### **COMMUNITY-BASED FALL PREVENTION PROGRAMS**

- i. Enroll high-risk patients in local fall prevention programs.
- ii. Geriatric fitness classes can help maintain strength and mobility.



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### PDESCRIBE ACTION IN EVENT OF FALL INCIDENT

**Introduction:** Despite the best preventive measures, falls can still occur, especially in high-risk patients. A structured and immediate response to a fall incident is crucial to minimize complications, provide proper medical care, and prevent future falls. The action plan should include immediate assessment, medical intervention, documentation, root cause analysis, and preventive strategies.

### **IMMEDIATE RESPONSE TO A FALL INCIDENT**

### **Ensure Patient Safety First**

- i. Stay calm and approach the patient reassuringly.
- ii. Instruct the patient not to move until an initial assessment is done.
- iii. If possible, request assistance from other healthcare staff immediately.
- iv. Activate the emergency response system if necessary.

### Initial Assessment (Within the First Few Minutes)

- i. Assess for Consciousness and Vital Signs:
- ii. Check if the patient is responsive (speak their name, gently tap their shoulder).
- iii. If unresponsive, call for emergency help and check for signs of breathing and pulse.
- iv. If necessary, begin Basic Life Support (BLS)/CPR.

# Falls Prevention Wheelchair Set-up



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### **NECK FOR INJURIES AND PAIN**

**Head and Spine:** Assess for head trauma, neck pain, loss of consciousness, or confusion (signs of head injury or concussion).

Limbs and Joints: Look for deformities, swelling, bruising, or inability to move

(possible fractures or dislocations).

Skin Integrity: Check for lacerations, abrasions, or bleeding.

**Neurological Symptoms:** Look for signs of **stroke or paralysis** (e.g., one-sided weakness, slurred speech).

Pain Levels: Ask the patient if they feel pain and where it is located.

### DO NOT MOVE THE PATIENT IMMEDIATELY

- i. If a **head, neck, or spinal injury is suspected**, do not move the patient **until professional assistance arrives**.
- ii. If no major injury is suspected, **help the patient sit up slowly** and assess for dizziness or weakness.
- iii. Encourage the patient to breathe deeply and remain calm.

### SAFE ASSISTANCE AND TRANSFER (IF NO MAJOR INJURIES ARE PRESENT)

**Helping the Patient Up Safely :** If the patient is weak or unable to stand, use a mechanical lift or call for additional help.

**Monitor for Delayed Symptoms:** Even if the patient appears stable, monitor them for the next 24-48 hours for signs of:

- i. Headache, dizziness, or nausea (possible head injury).
- ii. Increasing pain or swelling (possible hidden fractures).
- iii. Changes in mental status (confusion, agitation, slurred speech).
- iv. Unusual weakness or difficulty walking.
- v. Medical Evaluation and Documentation
- vi. Notify the Healthcare Team : Inform the physician, nurse supervisor, and family members as needed. If the patient is in a hospital or care facility, report the fall immediately per hospital protocols.



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### Perform Diagnostic Tests (If Needed)

- Neurological Assessment for head injury (Glasgow Coma Scale, pupil reaction). i.
- X-ray or CT Scan for fractures or internal injuries. ii.
- Blood Tests to check for dehydration, infection, or medication side effects. iii.

### **Document the Incident Thoroughly**

- Record the fall in the patient's medical chart with details: i.
- ii. Time and location of the fall.
- What the patient was doing before the fall. iii.
- Any witnesses or staff present. iv.
- Patient's statements about how they feel. ٧.
- Observed injuries or symptoms. vi.
- vii. Complete a fall incident report per facility policy.

### PSYCHOLOGICAL AND EMOTIONAL SUPPORT FOR THE PATIENT

### Address Fear of Falling

- i. Reassure the patient that appropriate measures are in place to prevent another fall.
- ii. Provide emotional support and counseling if the patient develops anxiety about walking.
- Use positive reinforcement to encourage safe mobility. iii.

### **Family and Caregiver Education**

- i. Teach family members or caregivers how to assist the patient safely.
- ii. Provide written safety guidelines for home or hospital settings.

### **QUALITY IMPROVEMENT MEASURES:**

### **Staff Training and Policy Review**

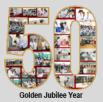
- i. Conduct post-fall debriefings to discuss what went wrong and how to improve.
- Update staff training on safe transfer techniques and emergency response. ii.

### **Implement Technological Fall Prevention Aids**

- i. Consider motion sensors, bed alarms, and wearable fall detection devices.
- Improve electronic health record (EHR) alerts for high-risk patients. ii.



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### **Continuous Monitoring and Reporting**

- i. Track fall incidence rates in the hospital or facility.
- ii. Adjust fall prevention programs based on trends and patient feedback.

### **Post-Fall Care and Preventive Actions**

- i. Monitor for Post-Fall Complications : Patients who fall are at risk for post-fall syndrome, which includes:
- ii. Fear of falling (leading to reduced mobility and social withdrawal).
- iii. Chronic pain or worsening mobility.
- iv. Delayed onset injuries (fractures, internal bleeding).
- v. Increase fall risk precautions for patients who have fallen before.

### Conduct a Root Cause Analysis (RCA)

- i. Investigate why the fall occurred using a structured review process:
- ii. Was it due to environmental hazards (e.g., slippery floor, poor lighting)
- iii. Was the patient experiencing dizziness, weakness, or medication side effects?
- iv. Was there a failure in monitoring or assistance?
- v. The fall prevention plan based on findings.

### IMPLEMENT ADDITIONAL SAFETY MEASURES

- i. Increase Supervision: Assign a bedside sitter or motion sensors for high-risk patients.
- ii. Review Medications: Adjust or discontinue medications that cause dizziness or drowsiness.
- iii. Physical Therapy: Strengthening exercises to improve balance and coordination.
- iv. Home Safety Modifications (for discharged patients): Install grab bars, remove tripping hazards, improve lighting.



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### COURSE OF INSTRUCTIONS IN PARA-MEDICAL TRAINING ON MOBILITY ASSISTANCE & EMERGENCY RESPONSE

• Basic Medical Emergencies & Handling

# UNIT-6

• Respiratory distress, anxiety attack, epistaxis, Cyanosis, bruise, convulsions & Management

# RESPIRATORY DISTRESS, ANXIETY ATTACK, EPISTAXIS, CYANOSIS, BRUISE, CONVULSIONS & MANAGEMENT

### **RESPIRATORY DISTRESS**

### **DEFINITION:**

Respiratory distress refers to difficulty in breathing, which may indicate an underlying respiratory or systemic disorder.

### CAUSES

- i. Respiratory Causes: Asthma, pneumonia, chronic obstructive pulmonary disease (COPD), pulmonary embolism.
- ii. Cardiac Causes: Congestive heart failure, myocardial infarction.
- iii. Neuromuscular Causes: Myasthenia gravis, Guillain-Barré syndrome.
- iv. Obstruction: Foreign body aspiration, anaphylaxis

### SYMPTOMS

- i. Shortness of breath (dyspnea).
- ii. Rapid or shallow breathing (tachypnea).
- iii. Retractions (visible pulling in of muscles between ribs).
- iv. Cyanosis (bluish skin discoloration due to low oxygen).
- v. Nasal flaring (especially in children).

### MANAGEMENT

- i. General Support: Keep the patient in an upright position, ensure a calm environment.
- ii. Oxygen Therapy: Administer oxygen via nasal cannula or mask if SpO2 < 94%.
- iii. Medications:
- iv. Bronchodilators (e.g., Albuterol for asthma).
- v. Corticosteroids (e.g., Prednisone for inflammation).
- vi. Antibiotics (if bacterial infection is suspected).
- vii. Mechanical Ventilation: If severe, intubation and ventilator support may be needed.

### **ANXIETY ATTACK**

### **DEFINITION:**

An anxiety attack, or panic attack, is a sudden episode of intense fear or distress without an immediate real danger.



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### CAUSES

# UNIT – 6

- i. Stress, trauma, phobias.
- ii. Generalized Anxiety Disorder (GAD), panic disorder.
- iii. Substance abuse (caffeine, drugs).
- iv. Medical conditions (hyperthyroidism, hypoglycemia).

### SYMPTOMS

- i. Rapid heartbeat (palpitations).
- ii. Hyperventilation (rapid breathing).
- iii. Sweating, trembling, dizziness.
- iv. Chest pain, feeling of choking.
- v. Sense of impending doom or loss of control.

### MANAGEMENT

- i. Reassurance & Calm Environment: Help the person stay calm.
- ii. Breathing Techniques: Encourage deep breathing (inhale for 4 seconds, hold for 4, exhale for 4).
- iii. Grounding Techniques: Use the "5-4-3-2-1" method (identify things around you).
- iv. Medications (if recurrent or severe):
- v. Benzodiazepines (e.g., Alprazolam, Lorazepam short-term use).
- vi. SSRIs & SNRIs (e.g., Fluoxetine, Sertraline for long-term management).

### CIRCULATORY CAUSES:

Shock, hypothermia.

### SYMPTOMS

- i. Bluish discoloration of lips, fingers, toes.
- ii. Shortness of breath, confusion.
- iii. Increased heart rate (tachycardia).

### MANAGEMENT

- 1. Oxygen Therapy: Administer high-flow oxygen if SpO2 < 90%.
- 2. Treat Underlying Cause:
- i. Bronchodilators for asthma.
- ii. Diuretics for heart failure.
- iii. Blood transfusion if anemia is severe.

### BRUISE (CONTUSION)

**DEFINITION :** A bruise, or contusion, is bleeding under the skin caused by trauma.

### CAUSES:

- i. Direct injury (blunt force trauma).
- ii. Blood disorders (hemophilia, leukemia).
- iii. Medications (anticoagulants, steroids).

### SYMPTOMS

- i. Rapid heartbeat (palpitations).
- ii. Hyperventilation (rapid breathing).
- iii. Sweating, trembling, dizziness.
- iv. Chest pain, feeling of choking.
- v. Sense of impending doom or loss of control.



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### COURSE OF INSTRUCTIONS IN PARA-MEDICAL TRAINING ON MOBILITY ASSISTANCE & EMERGENCY RESPONSE

### SYMPTOMS

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# UNIT – 6

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- CAUSES:
- i. Direct injury (blunt force trauma).
- ii. Blood disorders (hemophilia, leukemia).
- iii. Medications (anticoagulants, steroids).

### SYMPTOMS

- i. Skin discoloration (red, blue, purple, yellow over time).
- ii. Swelling, tenderness.

### MANAGEMENT

### R.I.C.E Method:

- i. Rest: Avoid excessive movement.
- ii. Ice: Apply cold packs for 15-20 minutes.
- iii. Compression: Use an elastic bandage.
- iv. Elevation: Raise the affected limb to reduce swelling.
- v. Pain Relief: Acetaminophen (avoid NSAIDs if bleeding risk is high).
- vi. Medical Evaluation: If bruising is frequent or unexplained.



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### COURSE OF INSTRUCTIONS IN PARA-MEDICAL TRAINING ON MOBILITY ASSISTANCE & EMERGENCY RESPONSE

# UNIT – 6

### CONVULSIONS (SEIZURES) DEFINITION

Convulsions are sudden, uncontrolled muscle contractions due to abnormal brain activity.

### CAUSES

- i. Neurological: Epilepsy, head injury, stroke.
- ii. Metabolic: Hypoglycemia, hyponatremia, fever (febrile seizures in children).
- iii. Toxic Causes: Alcohol withdrawal, poisoning.

### SYMPTOMS

Sudden muscle stiffness and jerking movements.

Loss of consciousness, confusion.

Tongue biting, drooling, incontinence.

### MANAGEMENT

### During a Seizure:

- i. Protect the person from injury (move objects away).
- ii. Do not restrain or put anything in the mouth.
- iii. Place them on their side to prevent choking.

### After the Seizure (Postictal Phase):

Check for breathing and consciousness.

Allow recovery in a quiet, safe place.

### MEDICAL TREATMENT

- i. Antiepileptic Drugs (AEDs) (e.g., Phenytoin, Valproate).
- ii. Benzodiazepines (e.g., Diazepam for status epilepticus).

### EMERGENCY SITUATIONS:

If the seizure lasts >5 minutes (status epilepticus).

If there are repeated seizures without regaining consciousness





# **COURSE OF INSTRUCTIONS IN WHEELCHAIRS SKILLS TRAINING**

DEMONSTRATION OF CARDIOPULMONARY RESUSCITATION (CPR)



UNIT - 7

### • OVERVIEW

Cardiopulmonary resuscitation (CPR) is a critical emergency procedure performed when an individual's breathing or heartbeat ceases. This may occur in situations such as a heart attack or near-drowning incidents. Administering CPR can be life-saving.

Initiating CPR involves delivering firm and rapid compressions to the chest. These compressions are essential to the process. The recommendation for hands-only CPR applies to both untrained bystanders and trained first responders.

• TREATMENT

Before starting CPR, check:

•Is the environment safe for the person?

•Is the person conscious or not conscious?

•If the person appears to be not conscious, tap or shake their shoulder and ask loudly, "Are you OK?"

•If the person doesn't respond and you're with someone else who can help, have one person call 911 or the local emergency number and get an AED if one is available. Have the other person begin CPR.

•If you are alone and have immediate access to a phone, call 911 or your local emergency number before starting CPR. Get an AED if one is available.

•As soon as an AED is available, deliver one shock if instructed by the device. Then start CPR.



# **COURSE OF INSTRUCTIONS IN WHEELCHAIRS SKILLS TRAINING**

## UNIT-7

### DEMONSTRATION OF CARDIOPULMONARY RESUSCITATION (CPR)

### **REMEMBER TO SPELL C-A-B**

- Use the letters C-A-B to help people remember the order to perform the steps of CPR
- •C: compressions.
- •A: airway.
- •B: breathing



Chest compressions : For chest compressions, place one hand's heel at the center of the chest and the other hand on top. Keep your elbows straight and shoulders above your hands. Compress the chest firmly to a depth of 2 inches (5 cm), not exceeding 2.4 inches (6 cm), at a rate of 100 to 120 compressions per minute. If untrained, continue until help arrives or movement is seen. If trained, proceed with rescue breathing.



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UNIT - 7

# **COURSE OF INSTRUCTIONS IN WHEELCHAIRS SKILLS TRAINING**

DEMONSTRATION OF CARDIOPULMONARY RESUSCITATION (CPR)

### **COMPRESSIONS: RESTORE BLOOD FLOW**

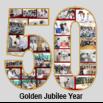
- o Compressions are crucial for CPR. To perform them:
- 1. Lay the person on their back on a stable surface.
- 2. Place one hand's heel over the center of the chest, between the nipples.
- 3. Position your other hand on top, keeping elbows straight and shoulders above your hands.
- 4. Press down at least 2 inches (5 cm) deep using your body weight.
- 5. Compress at a rate of 100 to 120 per minute, matching the rhythm of "Stayin' Alive," allowing full chest recoil.
- If untrained, continue compressions until help arrives. If trained, proceed with rescue breaths.



Rescue Breathing : Clear the airway with the head-tilt, chin-lift technique. Pinch the nostrils and seal your mouth over the individual's. Give the first breath for one second, watching for chest rise. If the chest rises, give a second breath; if not, repeat the head-tilt, chin-lift. Avoid excessive breaths or force. After two breaths, resume chest compressions.



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UNIT - 7

# **COURSE OF INSTRUCTIONS IN WHEELCHAIRS SKILLS TRAINING**

### DEMONSTRATION OF CARDIOPULMONARY RESUSCITATION (CPR)

Airway: Ensure it is clear. If trained in CPR, after 30 chest compressions, use the head-tilt, chin-lift maneuver:

- 1. Place your palm on the forehead and tilt the head back.
- 2. Lift the chin to open the airway.
- **Breathing:** Provide breaths using mouth-to-mouth, mouth-to-nose, or a bag-mask device.
- 1. For mouth-to-mouth, pinch the nostrils and seal your mouth over theirs.
- 2. Administer two rescue breaths (1 second each), checking for chest rise.
- 3. If the chest doesn't rise, repeat the head-tilt, chin-lift, and give a second breath.

Continue with 30 chest compressions followed by 2 breaths. Avoid excessive force.



Rescue breathing : To open the airway, use the head-tilt, chin-lift maneuver. Pinch the nostrils and seal your mouth over theirs. Administer the first rescue breath for one second, checking for chest rise. If the chest rises, give a second breath; if not, repeat the maneuver. Avoid excessive breaths. After two breaths, resume chest compressions.

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# COURSE OF INSTRUCTIONS IN WHEELCHAIRS SKILLS TRAINING

# **ART OF EFFECTIVE COMMUNICATION-**

LEAD WITH CONFIDENCE



### INTRODUCTION

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Language reflects human effort, with English emerging as a key mode of communication in various contexts. In India, around 1.1 billion people speak numerous languages, often blurring the lines between dialects and full languages. Once seen as a foreign language, English has become a global lingua franca due to globalization, serving as a vital communication medium.

Effective communication is crucial for businesses to build strong relationships with customers worldwide. It involves clearly articulating thoughts, asking questions, paraphrasing, and providing directions. Ultimately, communication enables individuals to express their ideas, information, opinions, and emotions confidently.

### **COMMUNICATION SKILLS**

This paper explores the significance of communication skills in enhancing various aspects of life, including professional and social interactions. Effective communication connects diverse individuals, strengthens relationships, and fosters understanding, enriching our comprehension of the world.

### **DEFINITIONS OF COMMUNICATION**

The term "communication" comes from the Latin 'communicare,' meaning to share. It involves exchanging facts, ideas, and opinions, allowing individuals and organizations to convey meaning. Humanity's ability to communicate across barriers has driven progress and globalization, creating a more interconnected world.

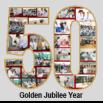
Communication is the exchange of thoughts or information between individuals, aimed at fostering understanding and prompting action. It involves sharing facts, ideas, and perspectives to cultivate a common purpose. Louis A. Allen defines it as the totality of actions taken to establish understanding in another's mind, while Keith Davis describes it as the act of transmitting information and understanding, serving as a bridge to avoid misunderstandings. Ultimately, the primary aim of communication is to inform, persuade, or prompt action.

### **EFFECTIVE COMMUNICATION IN ENGLISH**

Effective communication in English is a vital skill worldwide. It involves engaging constructively with others, supporting peers, providing and accepting feedback, and negotiating well. Key aspects include conveying information, ideas, and arguments clearly and appropriately for the audience. To improve your communication skills, follow these guidelines:



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# ART OF EFFECTIVE COMMUNICATION- LEAD WITH CONFIDENCE

- Eliminate unnecessary words and avoid repetitive ideas.
- Avoid outdated or overly complex language, which can come off as pretentious.
- Simplify long sentences; break compound sentences into shorter ones.
- Express your opinions confidently without excessive hedging, as too many qualifiers can create ambiguity.
- Use a consistent structure for parallel ideas: Maintaining the same grammatical format for related concepts enhances clarity and communication rhythm.
- Avoid lengthy noun sequences: Stacking nouns can create ambiguity; use modifying phrases for clarity instead.
- Keep related words close: Position the subject and predicate near each other to reduce confusion, as modifiers are most effective when close to the words they describe.

### THE IMPORTANCE OF COMMUNICATION IN BUSINESS

- Effective communication and interpersonal skills are vital for success in today's diverse professional environment. These skills are essential for all, as people are the most valuable resource.
- Regularly reassessing communication skills is necessary to adapt to changing lifestyles and cultural norms. Language evolves, making mastery of these skills crucial for employability.
- To enhance communication and language skills, individuals should:
- Prioritize the message in interactions.
- Avoid excessive focus on grammar.
- Refine grammar after achieving fluency.
- Embrace their current self.

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- Engagement is key. Seize every opportunity to speak confidently to an audience.
- Keep a reliable dictionary handy.
- Stay informed by reading newspapers, articles, and watching or listening to news broadcasts to enhance your listening skills.
- Interact openly with others to develop interpersonal skills.
- o Cultivate a reading habit to boost creativity; choose quality books for success.
- $\circ~$  Inspire young minds to explore subjects and languages.
- o Valuable insights from reading will benefit future endeavors, so read, annotate, and internalize.
- $\circ~$  Visit the library regularly; books are sanctuaries of knowledge.
- Seek knowledge from the diverse resources available today.



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# **COURSE OF INSTRUCTIONS IN WHEELCHAIRS SKILLS TRAINING**

# **ART OF EFFECTIVE COMMUNICATION- LEAD WITH CONFIDENCE**

### SEVEN ESSENTIAL SKILLS FOR EFFECTIVE COMMUNICATION

Effective communication requires mastering seven key skills:

1. Clarity

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- 2. Conciseness
- 3. Concreteness
- 4. Correctness, Coherence
- 5. Completeness
- 6. Courtesy
- 7. Each interaction should clearly state its objectives, be succinct, and convey messages in an easily understandable manner tailored to the audience. '
- 8. Communication must be logically structured and provide all necessary information for informed decision-making. Maintaining a courteous tone is essential in professional settings.
- 9. Strong communication skills—encompassing reading, writing, listening, and speaking—are crucial for navigating organizational dynamics and ensuring efficient information flow. Mastering these skills is vital for success.

Effective communication is key to persuading your audience. Use your words thoughtfully and articulate your points courteously, as mastering communication is essential for effective leadership.

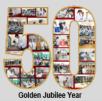
### **INTERPERSONAL COMMUNICATION TIPS**

- Engage in active and focused listening.
- Set aside your phone.
- Reflect on your objectives and your audience.
- Enhance your written communication abilities.
- Share a narrative.
- Provide ample information.
- Summarize key points.
- o Recognize that remote communication differs from face-to-face interactions.
- Select the appropriate communication tool for each specific task.





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# COURSE OF INSTRUCTIONS IN WHEELCHAIRS SKILLS TRAINING

# ART OF EFFECTIVE COMMUNICATION

### 10 Little Etiquette Rules Everyone Should Know

Etiquette doesn't have to be complicated; it fundamentally aims to

create comfort and smooth interactions. At The British School of Excellence,

we compare etiquette to traffic signals that help navigate social situations and avoid conflicts.

• Why is etiquette important?

It establishes social norms that promote respectful and considerate interactions, reducing misunderstandings and discomfort while enhancing professionalism.

Good etiquette shows respect for others' cultures and values, fostering positive relationships.

### HERE ARE TEN ESSENTIAL ETIQUETTE RULES EVERYONE SHOULD MASTER.

- ✓ Greet warmly :Start interactions with a smile and a friendly "Hello, how are you?" Introduce yourself and maintain eye contact when meeting someone new.
- ✓ Use polite language :Always say "please" when making requests and "thank you" when receiving help to show appreciation.
- ✓ Follow dining etiquette :Use utensils properly, keep elbows off the table, and wait for everyone to be served before eating.
- ✓ Be mindful of language :Avoid inappropriate language, especially in public or around children, and use respectful terms.
- ✓ Respect personal space :Maintain a comfortable distance and ask for permission before any physical contact.
- ✓ Dress appropriately :Choose suitable attire for the occasion, leaning towards being slightly overdressed, and maintain good hygiene.
- ✓ Listen attentively: Show genuine interest in others' perspectives, avoid interrupting, and respect differing opinions.
- ✓ **Put your phone away :** Avoid using your phone during conversations or meetings.
- ✓ **Communicate clearly :** Express your thoughts clearly and concisely in conversations.
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