

**ON-SITE CLINICAL COACHING AND MENTORING
PROGRAMME, 2078**

REFERENCE MANUAL AND HANDBOOK FOR MENTEE



**Government of Nepal
Ministry of Health and Population
Department of Health Services
Nursing and Social Security Division
Teku, Kathmandu**

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DEPARTMENT OF HEALTH SERVICES

Pachali, Teku
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Date:- २०७३/१०/०७

FOREWORD

Quality Health Care Service through competent and qualified health care workers is the essence of Nepal Health Sector Strategy 2072-77, Public Health Act, 2075 and Public Health Regulation, 2077. Ministry of Health and Population is committed providing quality service through various health facilities and Department of Health Services is responsible for monitoring the health care services provided through these health facilities.

For upgrading the skills of nursing professional working in the hospitals, Nursing and Social Security Division has worked in developing the onsite mentoring package. In the development process of this package, Technical Working Group was formed under the leadership of Nursing and Social Security Division along with the engagement of experts and relevant stakeholders. This mentoring package consists of Implementation Guideline, Reference manual for the mentor and mentee, Facilitator guide for the mentor. This package will guide hospitals. Mentors and mentees to impellent the in-house mentoring program targeting the nurses working in clinical areas. In this package, eight nursing skills have been included for mentoring. These skills have been identified through various stages of assessment of the hospitals and discussions with nursing leaders.

I believe this mentoring package for on-site clinical coaching and mentoring programme will prove to be an important foundation process for providing quality nursing care services to the patients at hospital. It sets the path to enhancing capacity of nursing staffs through continuous on the job mentoring.

I would like to wish for the successful implementation of mentorship programme and scaling up in all the health facilities of Nepal. Also I would like to congratulate Nursing and Social Security Division, experts and stakeholders involved in developing process of this package.

Dr. Dipendra Raman Singh
Director General
Department of Health Services



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PREFACE

Nepal government's priority to improve access and quality of health care services at point of service delivery sites is clearly mentioned in the Nepal Health Sector Strategy (2015-2020). The national Health policy 2076 emphasizes to develop and utilize skilled health workers for providing quality health care services. However, gaps have been observed in the skill of service provider through different assessment program. In response to the gaps in delivering quality routine nursing care services, Onsite Clinical Coaching and Mentoring Programme for nurses was conceptualized to update knowledge and skills of nurses in clinical settings, and also to build relationship and boost-up the morale of nurses. For this program, "On-site Clinical Coaching and Mentoring Programme, 2078", mentoring package has been developed by Nursing and Social Security Division (NSSD) with the support of Nepal Health Sector Support Program (NHSSP).

Mentoring package includes three documents: (i) Reference manual and facilitator guide for Mentor, (ii) Reference manual and handbook for Mentee, and (iii) Implementation guideline for on-site coaching and mentoring programme. It has been developed based on eight selected important nursing skills. They are Hand Hygiene (Alcohol based Hand rub and Hand wash), Pain Management, Postoperative Nursing care, Dressing, Peripheral IV Access/Line Placement, Medication, Patient admission and Oxygen therapy. I believe, this mentorship program will be implemented successfully in six government federal level hospitals in this FY 2078/79 and is planned to be scaled up in other hospitals gradually by next year.

To develop the mentoring package for "Onsite Clinical coaching and Mentoring Programme, NSSD worked through a Technical Working Group (TWG) that includes representatives from MOHP and NHTC, Nursing experts from National Trauma Center, Grande International Hospital and NHSSP (Coverage and Quality). NSSD would like to express its sincere appreciation to each member of TWG for their enormous support in various stages of development the mentoring package.

I would like to thank the Nursing capacity building section and consultant from NHSSP for finalizing the Coaching and Mentoring Package. This package has been finalized through various steps of assessments, discussions, meetings and consultative workshop so I would also like to acknowledge all the nursing directors and nursing staffs of the six hospitals and experts who supported us during various stages of package development process. My special thanks to UKaid for the financial and technical support in development of mentoring package through NHSSP.

.....
2078/10/07

Prof. Goma Devi Niraula
Director
NSSD



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ACKNOWLEDGEMENT

Coaching and Mentoring in nursing is guiding the nurses by the experienced nurse or mentor. With this essence of mentorship, our division has developed the mentoring package to implement mentorship program in Nepal. Our division believes that this mentoring package will develop mentor and guide them in mentorship process and also act as a reference document to those health facilities who wants to adopt the mentorship program.

I would like to express my sincere gratitude to the Director General, Department of Health Services and Director of Nursing and Social Security Division for believing our team of Nursing Capacity Building Section to draft and finalize the mentoring package. During the package development process, we were supported and guided by various experts and respected personnel.

I would like to thank the technical working committee members for their valuable inputs, my team for their continuous support, nursing directors and staffs of six selected hospitals and all the contributors of the workshop organized to discuss on the draft mentorship package. My special thanks to Nursing director and team of Dadheldhura hospital and Bir Hospital for allowing us to conduct a rapid assessment in their hospital to finalize the nursing skills for mentoring.

I would also like to thank Nepal Health Sector Support Programme (NHSSP) for their support and especially Ms. Prati Badan Dangol, Consultant, NHSSP who contributed her effort, expertise and time to develop this package.

Ms Bala Rai
Section Chief
Nursing Capacity Building Section

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ABBREVIATIONS

A.C	Ante Cibum (Before meals)
ABC	Airway-Breathing-Circulation
ABHR	Alcohol Based Hand Rub
BD / BID	Bis in Die (Twice a day)
Bi-PAP	Bilevel Positive Airway Pressure
BP	Blood Pressure
BPS	Behavioral Pain Scale
CDC	Centers for Disease Control and Prevention
CO ₂	Carbon dioxide
COPD	Chronic Obstructive Pulmonary Disease
COVID -19	Coronavirus Disease 2019
CPAP	Continuous Positive Airway Pressure
CPR	Cardiopulmonary Resuscitation
CRBSI	Catheter-Related Blood Stream Infection
ECG	Electrocardiogram
FiO ₂	Fraction of inspired Oxygen
FPRS	Face Pain Rating Scale
GI	Gastro Intestinal
H.S	Hora Somni (At bed time)
H1N1	Hemagglutinin and Neuraminidase
HCAI	Health Care-Associated Infection
HCW	Health Care Worker
HFNP	High Flow Nasal Prong
ID	Intradermal
IM	Intramuscularly
IV	Intra Venous
NPO	Nothing per Oral
O.D	Once a day
OT	Operation Theatre

P.C	Post Cibum (After meals)
PaCO ₂	Partial Pressure of Carbon dioxide
PACU	Post-Anesthesia Care Unit
PaO ₂	Partial Pressure of Oxygen
PICC	Peripherally Inserted Central Catheter
PONV	Postoperative Nausea and Vomiting
PQRST	Provocation and Palliation Quality and Quantity Region and Radiation Severity and Scale Timing and Type
PRN	Pro Re Nata (When Necessary)
QID	Quarter in Die (Four times a day)
RAT	Recognize Assess Treat
RCH	Reproductive and Child Health
ROP	Retinopathy of Prematurity
RR	Respiratory Rate
S.O.S	Si Opus Sit (If necessary in emergency)
SaO ₂	Saturation of Arterial oxygen
SC	Subcutaneous
SICU	Surgical Intensive Care Unit
SpO ₂	Saturation of Peripheral Oxygen
STAT	At once/ Immediately
TDS/TID	Ter Die Sumendum (Thrice a day)
VAS	Visual Analogue Scale
WHO	World Health Organization

PART ONE: REFERENCE MANUAL FOR ON-SITE CLINICAL COACHING AND MENTORING PROGRAMME

1.1 INTRODUCTION

Background: This mentoring and coaching package is designed to be highly interactive with the use of varieties of teaching learning methodologies. Standard checklists are used to respond to different learning styles and facilitate maximum learning for the learners.

This package has reference manual and checklists for assessing 8 different general nursing procedure skills which can be used according to the need of the learner or as per the relevancy to the service provider. This package is developed focusing on nurses working in Medical-Surgical units, so it is incorporated in the common areas of general hospitals.

Participant Handbook: This material will be useful for the mentees to expand professionally; to increase confidence in their professional role, to receive positive reinforcement, to increase self-efficacy and feelings of empowerment. It has the standard checklists, case scenarios and instructions for the mentees.

1.2 OBJECTIVE OF THE PROGRAMME

The objective of the clinical coaching/mentoring is to improve quality of general routine nursing care through enhancing the competency, changing behavior and practice of healthcare providers.

The specific objective of this program is:

- To reinforce existing competency or providing new competencies
- To prepare a competent, confident, and motivated healthcare provider
- To improve enabling environment for service providers including service readiness and quality culture of the health facilities/hospitals

1.3 REFERENCES BASED ON SELECTED SKILLS

1.3.1 HAND HYGIENE

Definitions of terms

Alcohol Based Hand Rub (ABHR) - An alcohol-containing preparation (liquid, gel or foam) designed for application to the hands to reduce the growth of microorganisms. Such

preparations may contain one or more types of alcohol with excipients, other active ingredients and humectants.

Hand hygiene- A general term referring to any action of hand cleansing.

Hand washing-washing hands with plain or antimicrobial soap and water.

Health care-associated infection (HCAI)-An infection occurring in a patient during the process of care in a hospital or other health-care facility which was not present or incubating at the time of admission. This includes infections acquired in the hospital but appearing after discharge, and also occupational infections among staff of the facility.

Introduction

The hands are the most common vehicle for microbial transmission therefore hand washing reduces the number of potential infectious agents on the hands. It also an important means of reducing the incidence of infectious agents in healthcare facilities. It has been cited frequently as the **single most important practice to reduce the transmission of infectious agents in healthcare settings** and is an essential element of Standard Precautions.”

Infections are a serious problem in healthcare facilities. Every year, an estimated 2 million patients get a hospital-related infection. 90,000 die from their infection. Many infections are transmitted on the hands of healthcare personnel. Hand hygiene is part of Standard Precautions. It can reduce the transmission of healthcare-associated infections – to patients and health care personnel.

Health care-associated infection (HCAI) places a serious disease burden and has a significant economic impact on patients and health-care systems throughout the world. Yet good hand hygiene, the simple task of cleaning hands at the right times and in the right way, can save lives.

Purpose:

- Cleanse the hands of pathogens (like bacteria and viruses) and chemicals which can cause harmful disease and to prevent cross contamination.



Figure 1: Hand wash Hand rub
(Source: healthline.com)

Hand Hygiene includes cleaning hands with soap and water or alcohol-based hand rub to remove germs, also known as microorganisms. Before, hand hygiene the following handy tips to be followed.

- Nails, gel nails or extenders are not to be worn by staff.
- Contaminated surfaces or objects should not be touched after performing hand hygiene.
- Avoid touching face, especially eyes and nose.
- Fingernails should be kept short - no longer than ¼” or 0.635cm long.
- Do not “top up” a partially used hand hygiene product dispenser.
- If re-usable dispensers are used, they must be emptied, washed, and dried prior to being refilled. Hand lotion bottles must not be re-used

Five Steps of Transmission of Pathogens by Hands

Hands are the most common vehicle to transmit health care-associated pathogens. Transmission of health care-associated pathogens from one patient to another via health-care workers’ hands requires 5 sequential steps

- I. Germs present on patient skin and immediate environment surfaces
- II. Germs transfer onto health care workers hands
- III. Germs survive on hands for several minute
- IV. Suboptimal or omitted hand cleansing results in hand remaining contaminated
- V. Contaminated hands transmit germs via direct contact with patient or patient’s immediate surrounding

I. Germs present on patient skin and immediate environment surfaces:

Health care-associated pathogens can be recovered not only from infected or draining wounds, but also from frequently colonized areas of normal, intact patient skin. The perineal or inguinal areas tend to be most heavily colonized, but the axillae, trunk, and upper extremities (including the hands) are also frequently colonized. These areas are likely to be colonized with staphylococcus-aureus, Klebsiella species, Acinetobactor species



Figure 2: Germs present on patient skin
(Source: thelancet.com)

II. Germs transfer on to health care workers hands:

Contact between the Health Care Worker (HCW) and the patient results in cross-transmission of microorganisms. During “clean” activities such as lifting patients; taking the patient’s pulse, blood pressure or oral temperature; or touching the patient’s hand, shoulder, or groin. Contamination of HCWs’ hands before and after direct patient contact, wound care, intravascular catheter care, respiratory tract care or handling patient secretions.



Figure 3: Germ’s transfer
(Source: thelancet.com)

III. Germs survive on hands for several minutes:

The ability of microorganisms to survive on hands for differing times involve in hand being contaminated could be vehicles for the spread of certain viruses and bacteria. HCWs’ hands become progressively colonized with commensal flora as well as with potential pathogens during patient care. Bacterial contamination increases linearly over time. In the absence of hand hygiene action, the longer the duration of care, the higher the degree of hand contamination.

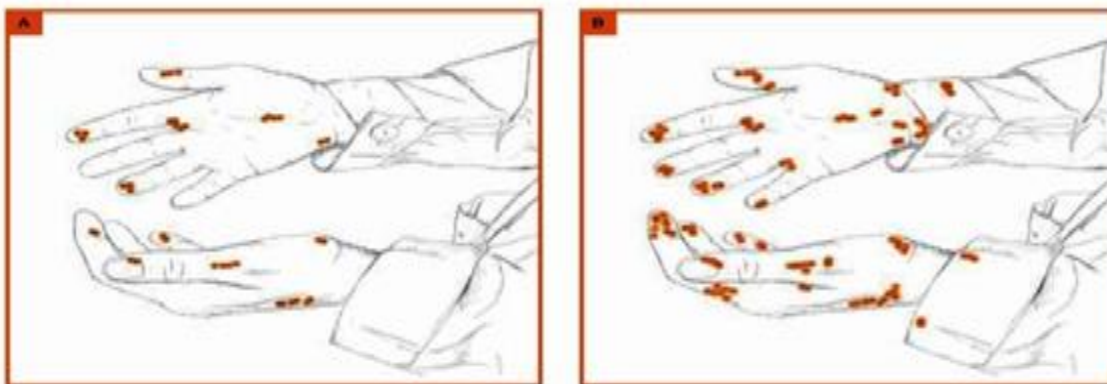


Figure 4: Germs survive on hands
(Source: thelancet.com)

IV. Suboptimal or omitted hand cleansing results in hand remaining contaminated:

The adequacy or inadequacy of hand cleansing by microbiological can be assumed that hands remain contaminated with the risk of transmitting organisms via hands. Incorrect hand cleansing or inappropriate hand washing can result hands remain contaminated.



Figure 5: Suboptimal or omitted hand cleansing
(Source: thelancet.com)

V. Contaminated hands transmit germs via direct contact with patient or patient's immediate surrounding:

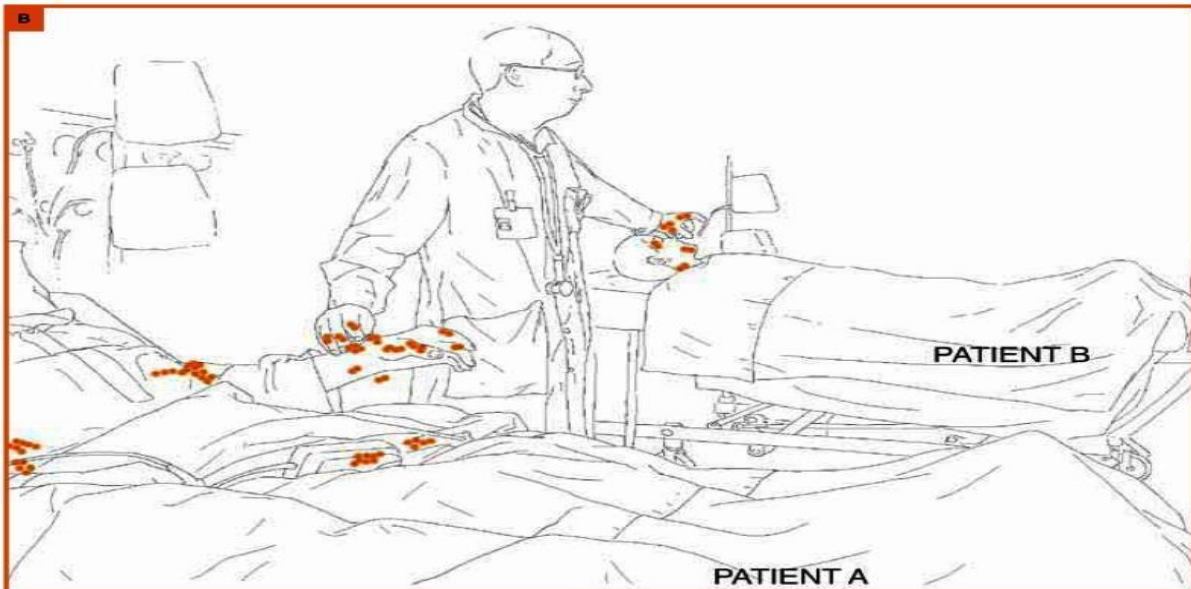


Figure 6: Contaminated hands transmit
(Source: thelancet.com)

Cross-transmission of organisms occurs through contaminated hands. Factors that influence the transfer of microorganisms from surface to surface and affect cross-contamination rates are type of organism, source and destination surfaces, moisture level, and size of inoculum. Failure to cleanse hands results in between-patient cross-transmission or Failure to cleanse hands during patient care results in within-patient cross-transmission.

Indications of Hand Hygiene:

- Before and after any direct patient contact and between patients, whether or not gloves are worn.
- Immediately after gloves are removed.
- Before handling an invasive device.
- After touching blood, body fluids, secretions, excretions, non-intact skin, and contaminated items, even if gloves are worn.
- During patient care, when moving from a contaminated to a clean body site of the patient.
- After contact with inanimate objects in the immediate vicinity of the patient

Five moments of hand hygiene:

According to WHO, these five moments of hand hygiene defines WHY, HOW AND WHEN to maintain hand hygiene

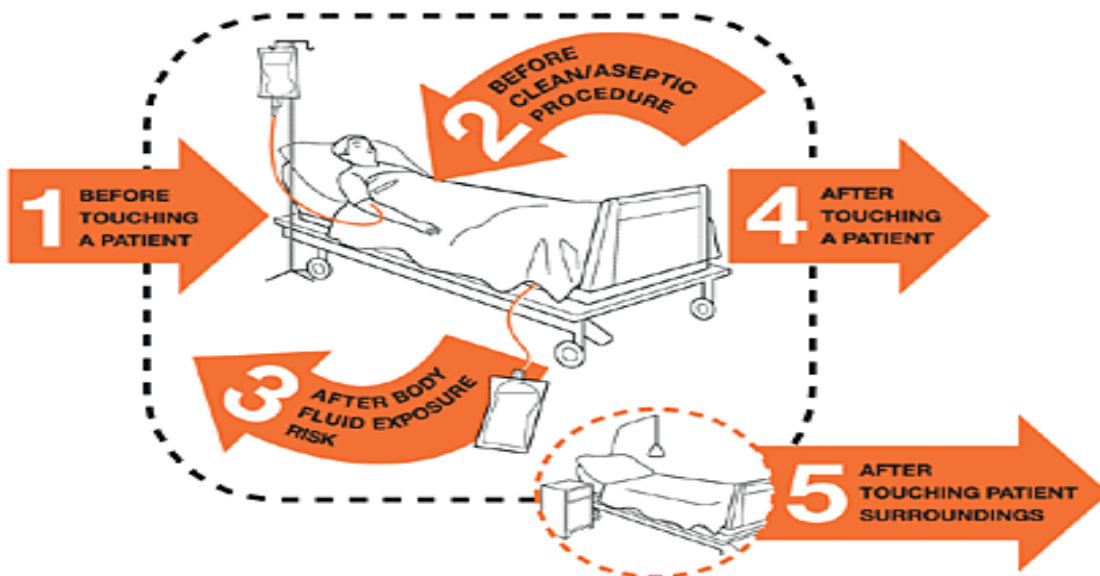


Figure 7: Five moments of hand hygiene

(Source: who.int)

Moment 1 Before touching patients.

- Perform hand hygiene just before touching Patient / direct contact

Situational illustrations:

- Applying oxygen mask, giving physiotherapy
- Helping a patient to move around
- Taking vital sign
- Clinical examinations like abdominal palpation, skin examination

Moment 2 Before clean/aseptic procedure

- To protect patient against harmful micro-organisms, including those already on patient's skin.
- Giving oral care, suctioning, applying eye drops
- Invasive procedures: catheter insertion, opening of vascular access system, tube feeding, taking specimen samples including blood and urine

Moment 3 After body fluid exposure risk

- To protect colleagues, surroundings from harmful micro-organisms from patient When Perform hand hygiene immediately after a potential exposure to body fluids (and immediately after taking off gloves).

Examples

- Contact with mucous membranes (e.g. mouth care), non-intact skin (e.g. broken skin), devices (e.g. urinary catheter).
- Cleaning up bodily fluids and waste including urine and faeces, used tissues Handling waste, cleaning of contaminated and visibly soiled linen, floors, surfaces and equipment.

Moment 4 After touching patients

- To protect self and surrounding from harmful micro-organisms from patient
- When Perform hand hygiene after touching a patient and their immediate surroundings, when leaving the patient's side.
- Example: helping patient get dressed or get washed.

Moment 5 After touching patient's surrounding

- After touching any object in patient immediate surroundings e.g. bed, chair, when leaving.
- Why: to protect self, colleagues and surrounding from harmful micro-organisms from patient.
- **Examples:** touching personal items, leaving patients premises after taking care, touching patients' monitors(cables)

Types of Hand Hygiene

- **Hand rub** with Alcohol-Based Hand Rub (ABHR) is the preferred routine method of hand hygiene if hands are not visibly soiled.
- **Handwashing** with soap and water essential when hands are visibly dirty or visibly soiled.
- [Comparing hand-rubbing with alcohol-based solution with hand washing with antibacterial liquid soap for a median time of 30 seconds each showed that the alcohol hand-rubbing reduced bacterial contamination 26% more than the antibacterial liquid soap. But liquid soap and water is more effective than alcohol-based hand rubs for reducing H1N1 influenza A virus and Clostridium difficile spores from hands.] It should be done everywhere by everyone

Alcohol Based Hand Rub (ABHR):

An alcohol-based hand rub is the preferred method for hand hygiene in all situations, except for when hands are visibly dirty or contaminated.

- This takes only 20–30 seconds.
- Alcohol-based hand rubs (foam or gel) kill more effectively and more quickly than hand washing with soap and water.
- They are less damaging to skin than soap and water, resulting in less dryness and irritation.
 - They require less time than hand washing with soap and water.
 - Bottles/dispensers can be placed at the point of care, so they are more accessible

Equipment

- Alcohol-based hand rub solution.

Procedure

1. Take a palm full of hand rub solution in palm
2. Rub hands palm to palm
3. Right palm over left dorsum with fingers interlacing and vice versa
4. Palm to palm with fingers interlocked
5. Back of fingers to opposing palms with fingers interlocked
6. Rotational rubbing of left thumb clasped in right palm and vice versa
7. Rotational rubbing, backwards and forwards with clasped fingers of right hand in left hand and vice versa
8. Rotational rubbing of left wrist with clasped fingers of right hand and vice versa
9. Pay special attention to (frequently missed areas) the area under fingernails and around cuticles and to the thumb, knuckles and sides of the fingers and hands because microorganism thrives in these protected or overlooked areas.

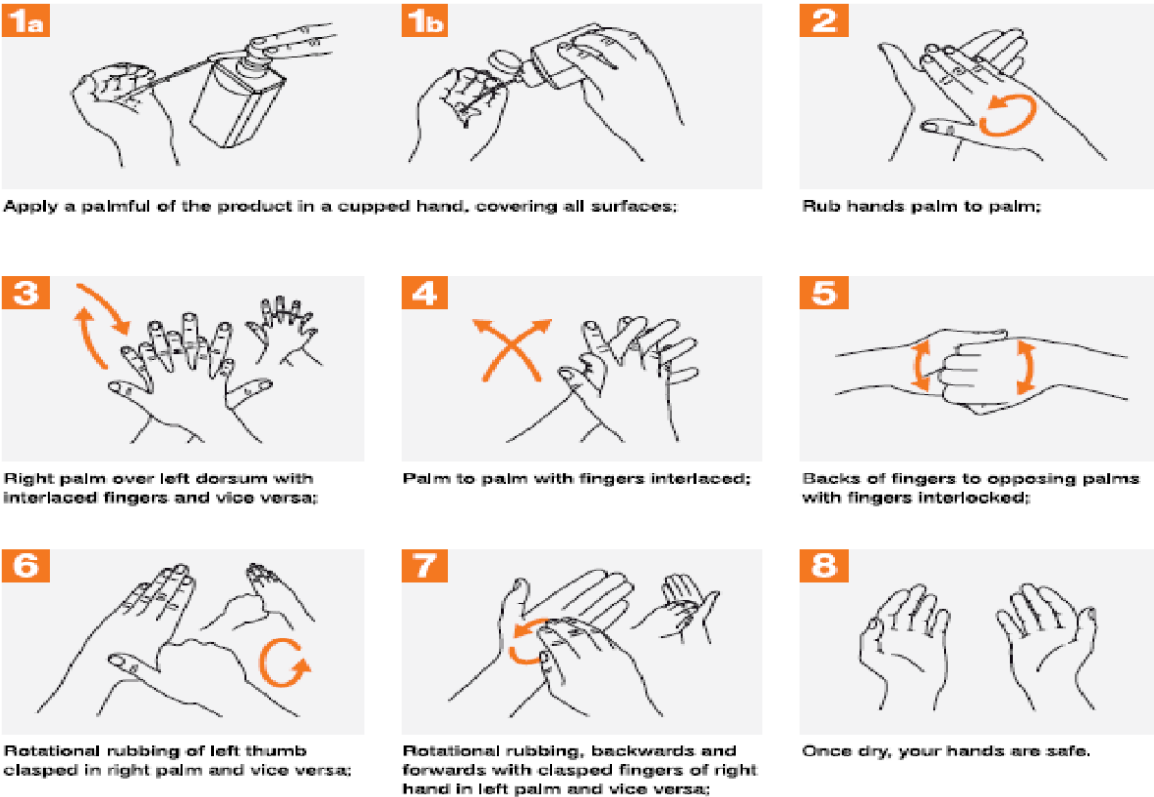


Figure 8: Alcohol based hand rub
(Source: who.int)

View the videos on hand hygiene - <http://www.cdc.gov/CDCTV/HandsTogether/>

Hand Wash

For visibly soiled hands- must wash hands by following all the steps for effectively for removal of germs

Equipment: liquid soap (palm full of it), warm water, paper towel.

Hand Wash

- Its' technique is the normal steps based liquid soap water hand wash and rinse from wrist to fingertips.
- It is done for a minimum of 40-60 seconds (each step 5 sec/10-12 times)

Steps of hand wash

- Turn on the tap and wet hands with water
- Apply enough liquid soap to cover all hand surfaces
- Rub hands palm to palm (Step- 1)
- Right palm over the left dorsum with interlaces fingers and vice versa (Step 2)
- Palm to palm with fingers interlaced (Step 3)

- vi. Back of fingers to opposing palms with fingers interlocked (Step 4)
- vii. Rotational rubbing of left thumb clasped in right palm and vice versa (Step 5)
- viii. Rotational rubbing, backwards and forwards with clasped fingers of right hand in left palm and vice versa (Step 6)
- ix. Rub both wrists in rotating manner, starting by swiping from distal ulnar aspect downwards till wrist (Step 7)
- x. Rinse and dry thoroughly

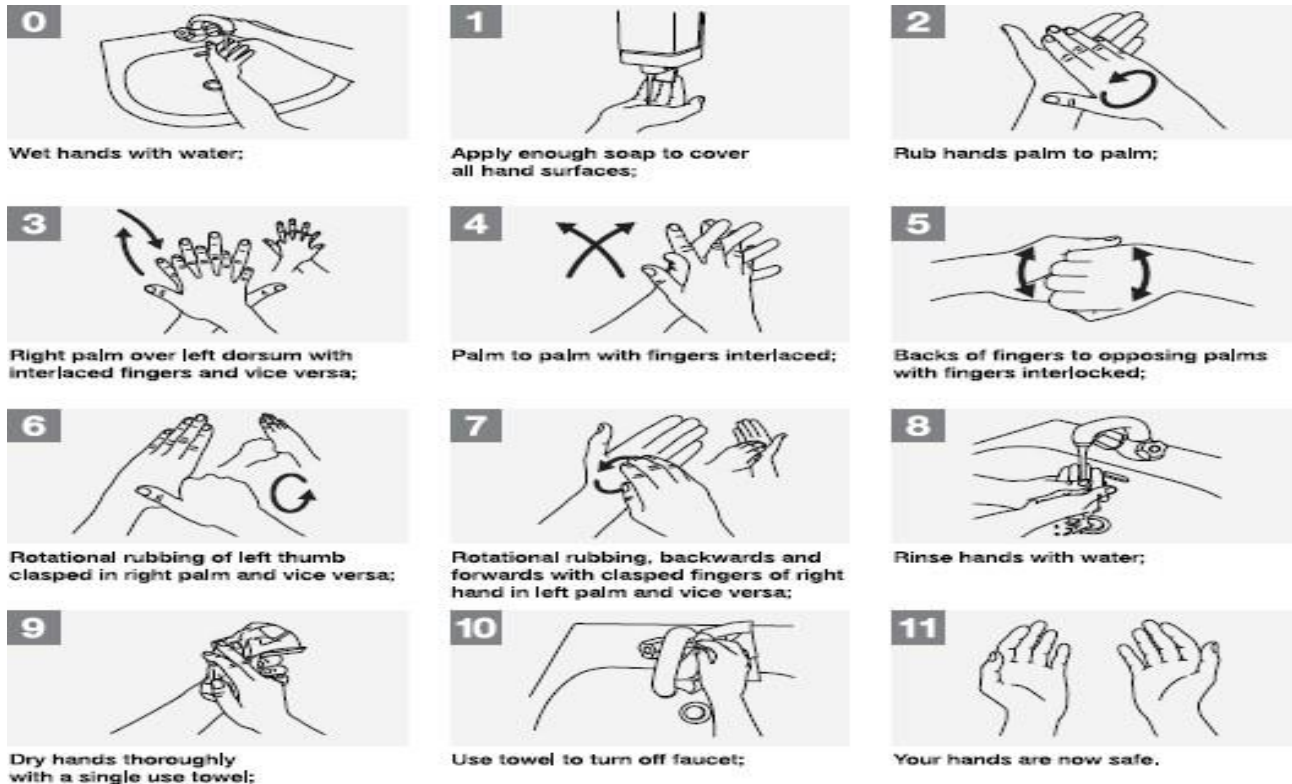


Figure 9: Steps of Hand Wash
(Source: who.int)

1.3.2 POSTOPERATIVE NURSING CARE

Introduction

Post-operative care is the care that the patient receives after a surgical procedure. The postoperative care that the patient need depends on the type of surgery as well as the patient's history. It often depends upon pain management and wound care.

During the postoperative period, nursing care focuses on reestablishing the patient's physiologic equilibrium, alleviating pain, preventing complications, and teaching the patient self-care. Careful assessment and immediate intervention assist the patient in returning to optimal function quickly, safely, and as comfortable as possible.

Purposes

- To assist non-complicated successful and faster recovery of the patient after an anesthetic procedure.
- To manage postoperative pain, nausea vomiting.
- To reduce the length of hospital, stay of the patient.
- To provide safe, knowledgeable, individualized quality-nursing care.

Phases of postoperative period

Phase I, immediate recovery phase and requires intensive nursing care, either in post-anesthesia care unit (PACU) or surgical intensive care unit (SICU) to detect early signs of complication.

Phase II, care in surgical unit when the patient is prepared for self-care or care in the hospital that has been transferred from the Phase I post op unit.

Phase I Care in the Post-anesthesia Care Unit (PACU) or recovery room

- The objectives for the care in PACU are to provide care until the patient has recovered from the effect of anesthesia (e.g. until resumption of motor and sensory functions), is oriented, has stable vital signs and shows no evidence of hemorrhage or other complications. The PACU nurse should receive a complete patient record from the OT to plan postoperative care.
- The nurses working in the recovery room should demonstrate *competence* in the following:
 1. Physical assessment (e.g., heart and lung sounds)
 2. Recognition of physiologic complications (e.g., airway obstruction, hypothermia, pain, nausea or vomiting, oropharyngeal aspiration).
 3. Management of physiologic emergencies (e.g., airway obstruction: airway management techniques, including positioning, head tilt, chin lift, jaw thrust, suctioning, bagging, and placement of an airway).
 - Interpretation of monitoring data from electrocardiogram (ECG) and oximetry

- devices.
- Application of cardiopulmonary resuscitation (CPR)

Nursing Interventions in Phase I

1. Assessing the patient

- Frequent, skilled assessments of the patients' airway, respiratory, cardiovascular function, skin color, level of consciousness and ability to respond to commands are the cornerstones of care.
- Document a baseline assessment, and then check the surgical site for drainage or haemorrhage.
- Make sure that all drainage tubes and monitoring lines are connected and functioning.
- Check any intravenous (IV) fluids or medications currently infusing and verifies dosage and rate.
- Administration of the patient's postoperative analgesic requirements is a top priority.

2. Maintaining a patent airway

- Primary objective is to maintain ventilation. Apply humidified oxygen via nasal cannula or facemask as ordered and assess RR, depth, ease of respirations, O₂ saturation, and breath sounds.
- Proper positioning of patient's head, tilting the head back to stretch the anterior neck structure lifts the base of the tongue off.
- The head of bed is elevated 15-30 degrees unless contraindicated. Clearing airway, suctioning with a pharyngeal tip help to make an airway patent.

3. Maintaining cardiovascular stability

- Assess the patient's mental status vital signs cardiac rhythm, skin temperature, colour, and moisture and urine output.
- Assess the patency of all IV lines. Timely administration of IV Fluids (lactated Ringer's solution, 0.9% sodium chloride solutions) colloids, or blood component therapy should be done to prevent hypovolemic shock.
- The surgical site should always be inspected for bleeding. Monitor intake and output balance.

4. Hypothermia and shivering

- Anaesthesia induces loss of thermoregulatory control. Exposure of skin and organs to a cold operating environment, volatile skin preparation, infusion of cold IV fluids also produce hypothermia and/or shivering in postoperative patients.
- It leads to increased cardiac morbidity, shivering with imbalance of O₂ supply and demand, immune function impairment with possibility of wound infection.
- The patients are managed with keeping the room warm, using warmer blankets and additional blankets as needed.

5. Relieving Pain and anxiety

- Monitor the patient's physiologic status, manage pain and provide psychological support

in an effort to relieve the patient's fears and concerns.

- Opioid analgesic is administered mostly via IV as per doctor's order that provide immediate pain relief and short acting.

6. Controlling nausea and vomiting

- Postoperative nausea and vomiting (PONV) are common issues in the PACU. Adequate management for pain, anxiety, hypotension, and dehydration should be done as it could contribute to nausea and vomiting.
- Many medications are available to control PONV without over sedating the patient. Commonly prescribed medications are metoclopramide, ondansetron, and promethazine.

7. Discharge from the PACU

A patient remains in the PACU until the patient has fully recovered from anesthesia. Following measures are used to determine the patient ready for discharge from PACU.

- Stable vital signs, adequate respiratory function.
- Orientation to Person, Place, Time, or events
- Adequate oxygen saturation level
- Urine output at least 30ml/hour
- Minimal pain
- Modified Aldrete score more than '8'

Phase II Care in the Surgical Unit

In the initial hours after admission, adequate ventilation, hemodynamic stability, incision pain, surgical site integrity, nausea and vomiting, neurologic status, and spontaneous voiding are primary concerns. The pulse rate, blood pressure, and respiration rate are recorded at least every 15 minutes for the first hour and every 30 minutes for the next 2 hours.

Nursing Interventions in Phase II

1. Preventing Respiratory Complications

- Performing deep breathing and coughing exercises or using an incentive spirometer prevents atelectasis.
- Careful splinting of abdominal or thoracic incision sites helps the patient overcome the fear that the exertion of coughing might open the incision.
- Analgesic agents are administered to permit more effective coughing. Chest physical therapy may be prescribed if indicated.

2. Relieving Pain

- Opioid analgesics are commonly prescribed for pain and immediate postoperative restlessness.
- A preventive approach rather than an "as needed" (PRN) approach is more effective in relieving pain. With a preventive approach, the medication is administered at prescribed intervals rather than when the pain becomes severe or unbearable.

3. Promoting Cardiac Output

- Fluid replacement must be carefully managed, and intake and output records must be accurate. Assess the patency of the IV lines and ensure that the appropriate fluids are administered at the prescribed rate.
- Electrolyte levels and hemoglobin and hematocrit levels are monitored.
- Leg exercises and frequent position changes are initiated early in the postoperative period to stimulate circulation.

4. Encouraging Activity

- Most surgical patients are encouraged to be out of bed as soon as possible. Early ambulation has many positive outcomes such as:
- Reduces the incidence of postoperative complications, such as atelectasis, hypostatic pneumonia, GI discomfort, and circulatory problems.
- Promotes venous return.
- Reduces postoperative abdominal distention by increasing GI tract and abdominal wall tone and stimulating peristalsis.

5. Promoting Wound Healing

- The area around the wound should be inspected for reactions to tape or trauma from tight bandages. Wound drains are inspected, and excessive amounts of bloody drainage should be reported to the surgeon.
- Multiple similar drains are numbered or otherwise labeled (e.g., left lower quadrant, left upper quadrant) so that output measurements can be reliably and consistently recorded.
- As a wound heals, many factors, such as adequate nutrition, cleanliness, rest, and position, determines how quickly healing occurs.

6. Managing Gastrointestinal Functions and Resuming Nutrition

- The nature of surgery and the type of anesthesia directly affect the rate at which normal gastric activity resumes.
- Liquids are typically the first substances desired and tolerated by the patient after surgery. Water, fruit juices, and tea may be given in increasing amounts. Cool fluids are tolerated more easily than those that are ice cold or hot. Soft foods are added gradually after clear fluids have been tolerated. As soon as the patient tolerates soft foods well, solid food may be given.

7. Maintaining a Safe Environment

- Assess the patient's level of consciousness and orientation.
- Determine if the patient needs his or her eyeglasses or hearing aid, because impaired vision, inability to hear postoperative instructions, or inability to communicate verbally place the patient at risk for injury.
- Any surgery involving the extremities carries a risk for peripheral nerve damage. Assessment includes having the patient move the hand or foot distal to the surgical site through a full range of motion, assessing that all surfaces have intact sensation, and assessing peripheral pulses.

8. Providing Emotional Support to the Patient and Family

- Many factors contribute to anxiety including pain. Help the patient and family work through their anxieties by providing reassurance and information and listening to and addressing their concerns.
- Describe hospital routines and what to expect in the ensuing hours and days until discharge. Inform patients when they will be able to drink fluids or eat, when they will be getting out of bed, and when tubes and drains will be removed helps them gain a sense of control and participation in recovery and engages them in the plan of care.
- Enhance rest and relaxation by providing privacy, reducing noise, adjusting the lighting, providing enough seating for family members, and performing any other measures that will produce a supportive atmosphere.

1.3.3 PAIN MANAGEMENT

Introduction

Pain is a very common condition. Pain can be debilitating and frustrating. It may interfere with sleep, work, activities, and quality time with friends and family. Pain may be anything from a dull ache to a sharp stab and can range from mild to extreme.

Pain Management means the assessment of pain and, if appropriate, treatments in order to assure the needs of residents of health care facilities who experience problems with pain are met. But treatment is complex and can lead to harmful effects if not properly administered and monitored. Pain is subjective, protective and it is modified by developmental, behavioral, personality and cultural factors. Pain management can be simple or complex, depending on the cause of the pain.

Definition of pain

Pain can be defined as “An unpleasant sensory and emotional experience associated with actual or potential tissue damage or described in terms of such damage” (International Association for the Study of Pain 2019).

Purpose

The main purpose of pain management is to reduce the incidence and severity of pain and enhance the quality of life.

Types of pain

There are two main types of pain

- Acute pain – a normal response to an injury or medical condition. It starts suddenly and is usually short-lived.
- Chronic pain – continues beyond the time expected for healing. It generally lasts for longer than 3 months.

Pain classification

- Somatic Pain: Result of activation of nociceptors (sensory receptors) sensitive to noxious stimuli in cutaneous or deep tissues. Experienced locally and described as constant, aching and gnawing. The most common type in cancer patients.
- Visceral Pain: Mediated by nociceptors. Described as deep, aching and colicky. Is poorly localized and often is referred to cutaneous sites, which may be tender. In cancer patients, results from stretching of viscera by tumor growth.

Chronic pain classification

- Nociceptive pain: Visceral or somatic. Usually derived from stimulation of pain receptors. May arise from tissue inflammation, mechanical deformation, ongoing injury,

- or destruction. Responds well to common analgesic medications and non-drug strategies.
- Neuropathic Pain: Involves the peripheral or central nervous system. Does not respond as predictably as nociceptive pain to conventional analgesics. May respond to adjuvant analgesic drugs.
- Mixed or undetermined pathophysiology: Mixed or unknown mechanisms. Treatment is unpredictable try various approaches.
- Psychologically based pain syndromes: Traditional analgesia is not indicated.

Definition of pain management:

Pain management is the process of providing medical care that alleviates or reduces pain.

Objectives

- To reduce the incidence and severity of pain and, in some cases, help minimize further health problems and enhance quality of life.
- To provide professional staff with standards of practice that will assist them in the effective assessment, monitoring, and management of the resident's pain.
- To educate the resident, family, and staff

Pain evaluation and measurement

Pain evaluation Health professionals should ask about pain, and the patient's self-report should be the primary source of assessment. Clinicians should assess pain with easily administered rating scales and should document the efficacy of pain relief at regular intervals after starting or changing treatment.

Principle of pain management

- Use pain scores to assess initial analgesic requirements and the effects of treatment.
- Educate and involve the patient and family in pain assessment and management.
- Continual, constant pain requires regular round -the- clock medication.
- Use non-pharmacological comfort measures.
- Monitor, record and report pain assessment
- Document daily or more frequently if required.

Systematic evaluation of pain involves the following steps:

- Evaluate its severity.
- Take a detailed history of the pain, including an assessment of its intensity and character.
- Evaluate the psychological state of the patient, including an assessment of mood and coping responses.
- Perform a physical examination, emphasizing the neurological examination.
- Perform an appropriate diagnostic work-up to determine the cause of the pain, which may include tumor markers.
- Perform radiological studies, scans, etc.

- Re-evaluate therapy.

Pain Assessment

Pain assessment is an ongoing process rather than a single event. Always assess pain at the beginning of a physical health assessment to determine the patient's comfort level and potential need for pain comfort measures. Pain assessment should be documented so that all members of health care team will have a clear understanding of the pain. Pain can be assessed by using RAT and PQRST approach.

RAT Approach

R = Recognize, A = Assess, T = Treat,

PQRST approach

This assessment checklist may be used for general assessment or specifically for pain:

P = Provocation and Palliation

- What causes it?
- What makes it better?
- What makes it worse? Q = Quality and Quantity
- How does it feel, look, or sound?
- How much of it is there? R = Region and Radiation
- Where is it?
- Does it spread? S = Severity and Scale
- Does it interfere with activities?
- How does it rate on a severity scale of 1 to 10? T = Timing and Type of Onset
- When did it begin?
- How often does it occur?
- Is it sudden or gradual?

Tools of pain assessment

- Verbal Rating (Numeric rating) Scale (e.g., mild / moderate / severe or 0 to 10)
- Visual Analogue Scale (VAS)
- Behavioral Pain Scale (BPS) for unconsciousness patients

Verbal Rating (Numeric Rating) Scale



Figure 10: Visual Analogue Scale (VAS)

(Source: researchgate.com)

PAIN MEASUREMENT SCALE

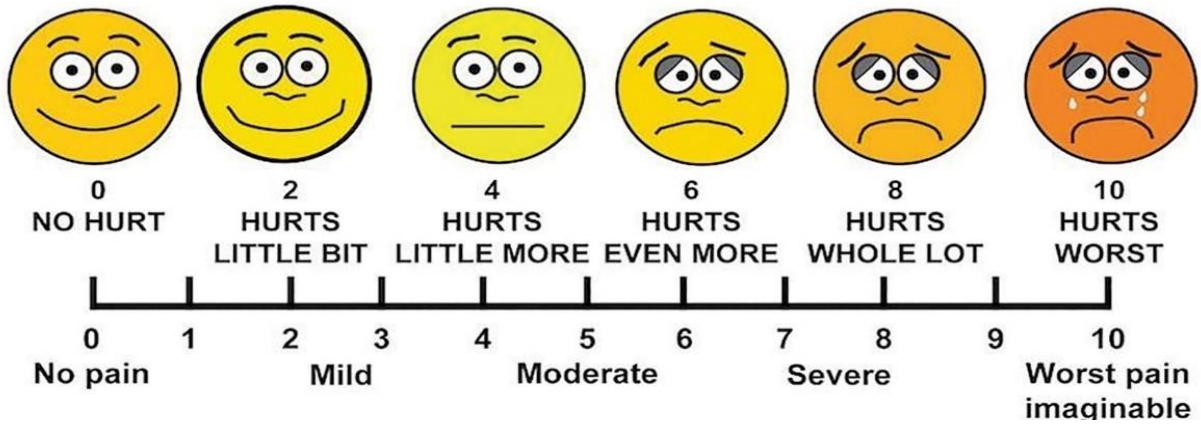


Figure 2: Pain measurement scale
(Source: researchgate.net)

Behavioral pain Scale (BPS) for Unconscious patient

Categories	Scoring			
	1	2	3	4
Facial expression	Relaxed	Partially tightened (brow lowering)	Fully tightened (eyelidclosing)	Grimacing
Upper limb movement	No movement	Partially bent	Fully bent with finger flexion	Permanently extracted
Compliance with mechanical ventilation	Tolerating movement	Coughing with tolerating ventilation for most of the time	Fighting ventilator	Unable to control ventilation

BPS score ranges from 3 (no pain) to 12 (maximum pain)

(Source: researchgate.net)

Note: Pain assessment tools can be used according to the situation. For Patient who is illiterate can use different ways to assess the pain e.g., using finger scale, using Ana, Paisa whatever they understand to assess the pain.

PHARMACOLOGICAL INTERVENTION

i. Simple analgesics: mild pain

- Paracetamol / Acetaminophen
- Non-steroidal anti-inflammatory medicines
- Aspirin
- Ibuprofen
- Diclofenac
- Ketorolac

ii. Mild Opioids: Moderate pain

- Codeine
- Tramadol

iii. Strong opioids: Severe pain

- Morphine
- Pethidine
- Fentanyl

iv. Adjuvants: Neuropathic pain

- Tricyclic antidepressants e.g., Amitriptyline,
- Anticonvulsants e.g., Carbamazepine, Sodium valproate,
- Gabapentin, Pregabalin

v. Other analgesics:

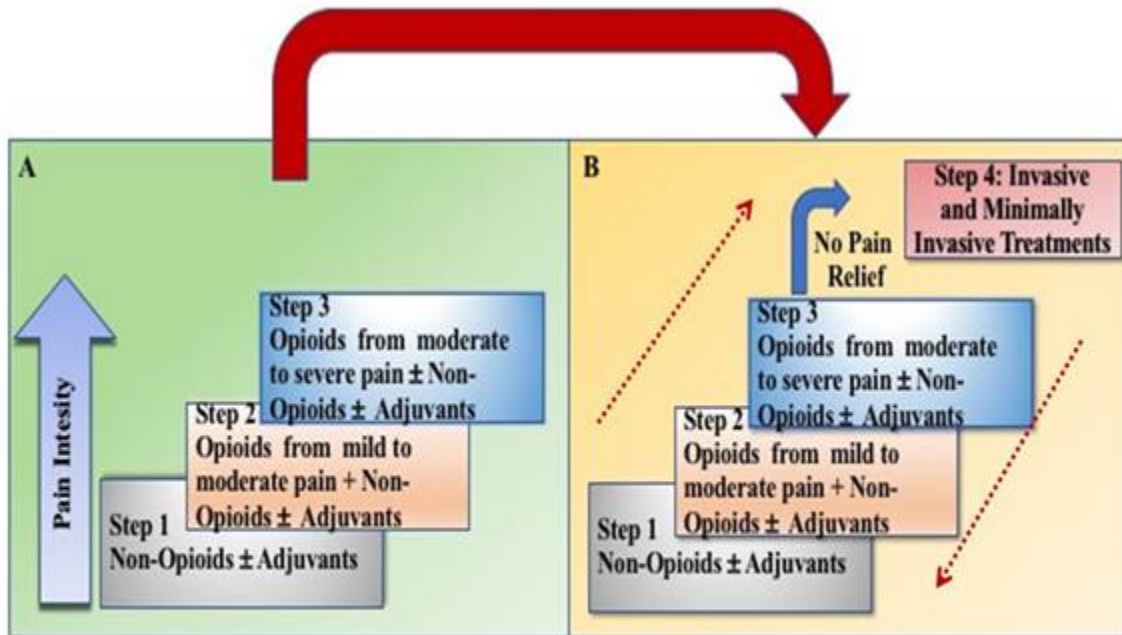
- Bupivacaine

vi. Lidocaine

- Ketamine
- Clonidine

WORLD HEALTH ORGANIZATION (WHO) LADDER

The WHO Ladder was first published over twenty years ago (1986) in a handbook called Cancer Pain Relief. Since then, the Ladder has guided clinicians all over the world in treating cancer as well as non-cancer pain. Figure 1. The WHO Ladder (adapted).



Transition from the original WHO three-step analgesic ladder (A) to the revised WHO fourth-step form (B). The additional step 4 is an “interventional” step and includes invasive and minimally invasive techniques. This updated WHO ladder provides a bidirectional approach.

Figure 12: WHO ladder old and new updated
(Source: statpearls.com)

Non- Pharmacological Pain Management

Sometimes the cause of pain may not be easily identifiable which makes treating pain very difficult because some people’s pain is hard to relieve. Non-pharmacological techniques should be used along with the pharmacological methods to reduce & treat pain.

I Cutaneous stimulation.

II Guided Imagery: Focus on the picture instead of pain. **Relaxation:** Relaxation techniques are often very effective, particularly when a patient or a caregiver is feeling anxious.

III Yoga,

IV Meditation,

V Acupuncture: acupuncture & acupressure, can be helpful in relieving pain for people with

serious illnesses such as cancer.

VI Comfort therapy: Nursing care

VII Physical therapies, e.g., massage, heat/cold, physiotherapy

VIII Psychological interventions, e.g., explanation, counseling, and reassurance,

IX Diversional therapy e.g., music therapy, art therapy

Role of Nurses in Pain Management

- Establish a trusting relationship with the patient and assure patient that nurse believe what the patient has reported.
- Assess the level of pain.
- Listen to the patient carefully and help to express the feelings
- Reassure patient that pain will be controlled.
- Assist the patient to a comfortable position & encourage frequent position change.
- Eliminate environmental factors that decrease intensity of pain e.g. calm & quiet environment.
- Discuss use of diversional techniques, e.g. listening to music, watching television etc.
- Involve visitors on non-pharmacological pain management like massage, hot application etc.
- Explain about the painful procedure before starting a procedure.
- Administer pain medication as ordered.
- Keep ethical, cultural & religious consideration in mind while caring patient.
- Reassess the pain level in the patient.

Possible Barriers for Pain Management

- i. Patient Factors
- ii. Medications
- iii. Health workers
- iv. Systemic issues

I Patient factors

- Reluctant to seek help
- Expect to have pain
- Afraid of addiction or side effects
- Difficult to communicate with the patient (e.g. babies, intellectual impairment, language difficulties)

II Medications

- Supply of medications may be unreliable
- Appropriate medications may be missing from the hospital
- Appropriate preparations may be unavailable (e.g. fast release oral morphine)

III Health workers

- Shortage of health workers
- Too busy health workers
- Health workers may not recognize pain
- Inadequate knowledge about pain and its treatment

- Unable to prescribe or give appropriate medications

IV System issues

- Pain management may be seen as a low priority
- No culture of pain assessment and management
- Pain management protocols may not be available
- No forms for recording pain (e.g. on post-op observation charts or routine vital signs charts)
- lack of training

Breakthrough pain

Breakthrough pain is a sudden and brief flare-up of pain from a chronic condition like arthritis or cancer. It comes suddenly and occurs commonly in cancer patients. Most of the time, pain is managed well by medications, but sometimes bouts of severe & sharp pain will still occur. It is managed by usually narcotics in addition to normal pain medications. Breakthrough pain usually lasts for a short time. Breakthrough pain may occur with stress, illness, and certain activities, such as exercising or coughing, or when the dose of pain medicine that the patient is taking wears off. For breakthrough pain we can give one fourth of the total dose of 24 hours medication. If a patient requiring more than 4 prn doses of short acting breakthrough opioid a day, must be adjusted to the dose of long acting the next day.

1.3.4 DRESSING

Introduction

Surgical dressing is a sterile technique used to promote wound healing. It is a protective covering placed on the wound. A dressing is intended to provide protection to the wound from external factors and supports healing process.

Definition of dressing

“Cleansing a wound or incision and apply sterile protective covering using aseptic technique”
A dressing is a sterile pad or compress applied to a wound to promote healing and prevent further harm.

Dressings can be classified as primary or secondary

- A primary dressing is placed directly on the wound and may provide absorption of fluids and prevent desiccation, infection, and adhesion of a secondary dressing.
- A secondary dressing is one that is placed on the primary dressing for further protection, absorption, compression, and occlusion

Purpose

- To protect the wound from mechanical injury
- To splint or immobilize the wound
- To absorb drainage
- To prevent contamination from bodily discharges (feces, urine)
- To debride the wound by combining capillary action and the end wining of necrotic tissue and in its mesh
- To inhibit or kill microorganism by using dressings with antiseptics, antimicrobial properties
- To provide a physiologic environment conducive to healing
- To provide mental and physical comfort for the patient.

Type of dressing

1. Dry-to-dry dressing

- It is used primarily for wounds closing by 1 degree intention
- Offers good wound protection, absorption of drainage and esthetics, e.g. patient provides pressure for homeostasis
- Disadvantage – they adhere to wound surface when drainage dries, removal can cause pain and disruption of granulation tissue

2. Wet-to-dry dressing

- They are particularly useful for untidy or infected wounds that must be debride and closed by 2-degree intension

- Gauze saturated with sterile saline or an antimicrobial solution is packed into the wound, eliminating dead space
- The wet dressings are then covered by dry dressings
- As drying occurs, wound debris and necrotic tissue are absorbed into the gauze dressing by capillary action
- The dressing is changed when it becomes dry

3. Wet-to-wet dressings

- Used on clean open wounds as on granulating surfaces. Sterile saline as an antimicrobial agent may be used to saturate the dressings
- Provide a more physiologic environment, which can enhance the local healing process as well as ensure greater patient comfort
- Disadvantage: surrounding tissues can become macerated, the risk of infection may rise and bed linens become damp

Equipment

Unsterile

- Non-sterile gloves to remove old dressing
- Apron
- Plastic bag for discarded dressings
- Tape proper size and type
- Scissors

Clean/Sterile

- A clear available workspace, such as a stainless-steel trolley. The space must be big enough for the dressing pack to be opened on
- A sterile dressing pack
- Access to hand washing sink or alcohol-based hand rub
- Appropriate dressing materials
- Appropriate solution for cleaning the wound
- Gloves – disposable
- Sterile saline
- Sterile gauze swabs
- Culture tubes (if presence of infection)
- For draining wound add extra-gauze and packing material absorbent and pad and irrigation set

Procedure

Pre-preparation

- Introduce to the patient and explain procedure and have patient lie in bed
- Avoid changing dressing at mealtime
- Position the patient comfortably and make sure the surrounding area is clean and tidy before start.
- Wash hands and put on an apron.

- Clean the trolley using disinfectant. Start at the top of the trolley and work down to the bottom legs of the trolley using single strokes with damp cloth.
- Place the sterile dressing/procedure pack on the top of the trolley.
- Open the sterile dressing pack on top of the trolley. Open the sterile field using the corners of the wrapper
- Open any other sterile items needed onto the sterile field without touching them.
- Place clean towel or plastic bag under part of the body where wound is located
- Cut off pieces of tape to be used in dressing change.
- Place disposable bag/dustbin nearby to collect soiled dressings
- Determine what types of dressing are necessary
- Ensure privacy by drawing the curtains/ bedside screen on closing the door. Expose dressing site
- Respect patient modesty and prevent patient from being chilled
- Wash hands thoroughly

Removing an old dressing

- Wash hands and put on non-sterile gloves before removing an old dressing. Dispose of this dressing in a separate dirty clinical waste bag/dustbin.
- Complete a wound assessment. This includes a visual check and comparing and evaluating the smell, amount of blood or ooze (excretions) and their colour, and the size of the wound.
- If the site has not improved as expected, then the treating physician or senior charge nurse must be informed so they too can evaluate it and consider changing the care plan.

Cleaning the surgical wound.

- Wash hands
- Use aseptic technique
- Open package of sterile gloves open sterile cleaning sterile supplies
- Wear sterile gloves
- Pour sterile saline as cleansing agent or topical antiseptics
- Clean along wound edges using a small circular motion from one end of incision to the other do not scrub back and forth across the incision line
- Start from the dirty area and then move out to the clean area. Be very careful when doing this as the tissue or skin may be tender and there may also be sutures in place. Clean the area without causing further damage or distress to the patient
- Repeat same process with drain site separately
- Make sure do not re-introduce dirt or ooze by ensuring that cleaning materials are not over-used. Change them regularly and never re-introduce them to a clean area once they have been contaminated.
- Discard used cleaning supplies in disposable
- Pad the incision site and drain site dry with sterile dressing sponge

Dressing the wound

- Maintain asepsis with use of sterile gloves
- After drying the wound, apply appropriate dressing
- Tape dressing, using only the amount of tape required for secure attachment of dressing.

- When dressing an excessive draining wound consider need for extra dressings and packing materials.
- Protect skin surrounding wound from copious or irritating drainage by applying some type of skin barriers

After care (Follow-up Care)

- Assess patient's tolerance to the procedure and help patient more comfortable
- Discard disposable items according to hospital protocol and clean equipment that is to be reprocessed
- Remove gloves and place in waste bucket as per label.
- Wash hands.
- Clean the trolley with soap and water or disinfectant solution as before.
- Record nature of procedure and condition of wound, as well as patient reaction and the given care
- Provide the patient with some dressing management education and answer any questions
- Report any changes to a senior nurse or doctor.

1.3.5 PERIPHERAL LINE (INTRAVENOUS ACCESS) PLACEMENT

Definition of terms

Peripheral IV devices: are cannula/catheter inserted into a small peripheral vein for therapeutic purposes such as administration of medications, fluids and/or blood products.

Extravasation: An extravasation occurs when there is accidental infiltration of a vesicant drug or fluid into the tissue surrounding the venipuncture site.

Infiltration: occurs when drugs or fluid infiltrates into the tissue surrounding the venipuncture site. This happens when the tip of catheter slips out of the vein, catheter passes through the wall of the vein, or as blood vessel wall stretches which allows fluid to infuse into the surrounding tissue.

Phlebitis: a sign of vessel damage. The cause can be chemical (due to the osmolarity of the solution), mechanical (from trauma at insertion or movement) or infective (microorganisms contaminating the device). Signs include swelling, redness, heat, induration, purulence, a palpable venous cord (hard vein) and pain related to local inflammation of the vein at or near the insertion site.

Catheter-related bloodstream infection (CRBSI) is defined as the presence of bacteremia originating from an intravenous catheter

Introduction

Peripheral line placement, also referred to as peripheral intravenous (IV) cannulation, is the insertion of an indwelling single-lumen plastic conduit across the skin into a peripheral vein.

They allow fluids, medications, and other therapies such as blood products to be introduced directly into the cardiovascular system, bypassing other barriers to absorption, and reaching most target organs very quickly. Once inserted, a well-functioning line can remain in use for several days if required obviating the need for repeated needle insertion into the patient should ongoing treatment be needed. Placement of peripheral lines is the most performed invasive procedure in acute healthcare settings with as many as 80% of hospital inpatients requiring intravenous access at some stage during their admission, and worldwide more than 1 billion lines are used annually.

Goal

To obtain peripheral venous access

Anatomy

There are many places to start an IV and a **lot of variability in superficial venous anatomy**, so no anatomical review will be complete. The antecubital fossa and dorsum of the hand are very common sites for IVs and so some basic knowledge here might help (although there is variability):

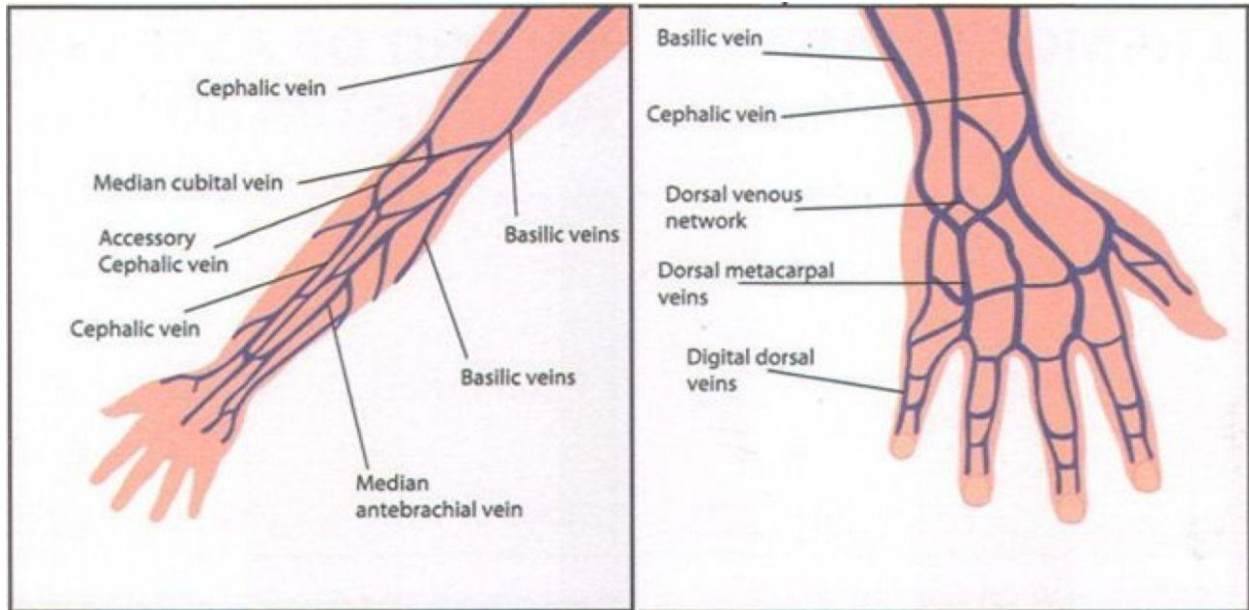


Figure 13: Anatomy- showing-the-superficial-veins-a-Surface
(Source: researchgate.com)

Indications

Need for venous access to administer fluids, medications and blood products or for repeated blood collection.

Contraindications

- Local skin infection, inflammation, trauma or burns.
- Need for long-term IV access consider central venous access in this situation
- Lymphedema or Deep Venous Thrombosis on the affected limb (choose another extremity)
- Coagulopathy (relative contraindication)
- Arterio-venous (AV) graft or fistula in the same extremity

Parts of IV cannula and sizes

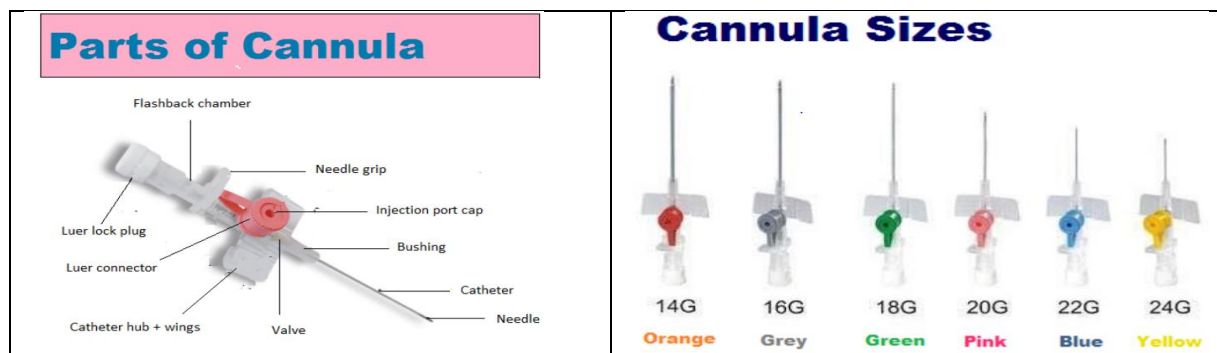


Figure 14: Parts of IV cannula and sizes
(Source: medilogbiohealth.com)

Landmarks and Patient Positioning

This will vary greatly with the insertion site, but there are a few basics to keep in mind:

- Treat this procedure like any other complicated procedure: **a little time during setup and patient positioning is very important.**
- During insertion, keep the insertion site **below the level of the heart** to allow blood to pool into the veins
- The **patient should be in a comfortable position** while keeping the insertion site exposed. Odd angles, poor site access, etc will reduce chances of success.
- **The operator also to be in a comfortable position** (use a stool, chair, etc).

Preparation

The operator should perform hand hygiene and don single-use treatment gloves. A sharps disposal box should be close at hand.

1. Collect the **immediate** supplies that will need right before and after the catheter is inserted:
 1. Tourniquet
 2. Mackintosh (just to keep underneath to prevent from blood stain in bed sheet)
 3. Alcohol swabs to clean the skin
 4. IV cannula
 5. IV set to hook to the catheter hub
 - Must have something ready so the catheter doesn't start leaking blood
 - Remember, if hooking up IV tubing directly, have it primed BEFORE operator start.
 6. 1 piece of tape (Fixation tape) to secure the IV in place
 7. Gauze (just in case)
2. Have everything opened up and ready to grab for ONE HAND use (i.e. caps off, out of packages, piece of tape cut, etc.)
3. All the other items (IV bag, more tape, etc.) can be collected later.

Find an IV target and insertion point

This is the most important step and takes time and experience.

1. These are guidelines, not rules, and there are always exceptions:
 1. **AVOID using the flexor portion of the wrist** as this site tends to have smaller veins and might be slightly more uncomfortable for patients.
 2. **AVOID** spots where the catheter is **easily obstructed** (such as points of flexion that can kink the catheter).
 3. **DO use** a spot that's **easy to keep clean** and is **accessible** for its intended use.
 1. I.e., if a patient will be having a procedure with the elbow bent the entire time, the dorsum of the hand might be a better spot.
 4. **DO use** a location that can **minimize movement** and has low risk of getting caught on objects like patient clothes.
 1. I.e., anticipate that tubing/adapters that are attached to the catheter hub will protrude several centimeters

5. **DO use** a segment of vein that is straight **for the length of the IV catheter** and large enough to cannulate.
 1. Often operator needs a vein that is **clearly visible** and/or one that can **palpate with rubbery/bouncy feedback**.
 2. After choosing, need to pick the specific skin insertion point. There might be multiple veins, or a long vein and insertion could be at several points.

Note:

It quickly becomes obvious that no one site will perfectly fit all these criteria. The **dorsum of the hand and the forearm or antecubital fossa** tend to be the best options for most people and in most situations.

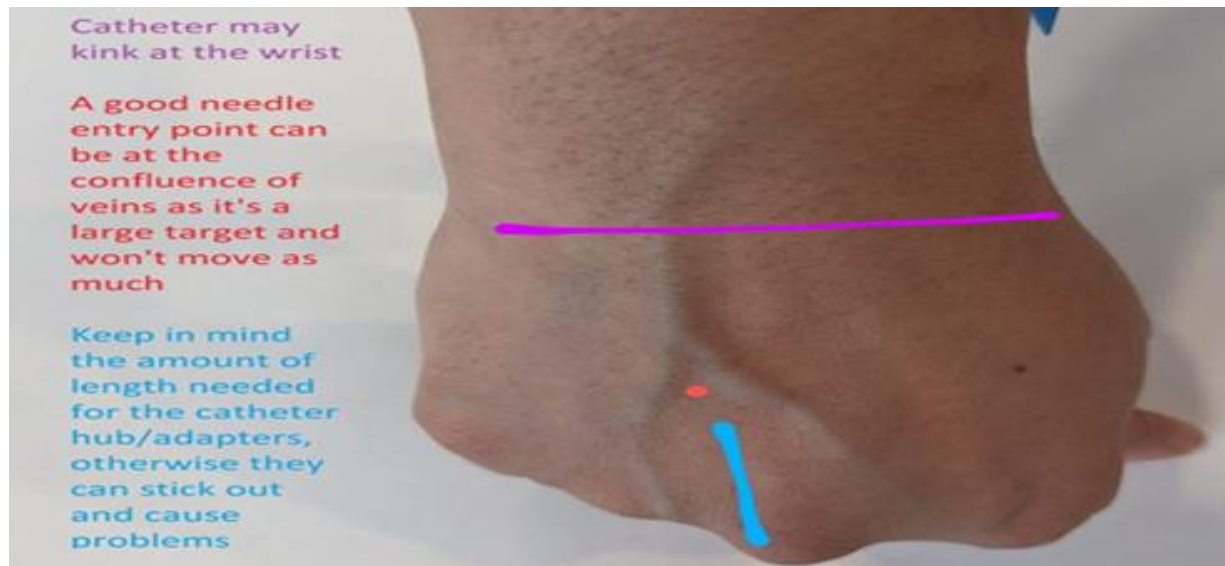


Figure 15: IV target and insertion point
(Source: theprocedureguide.com)

Procedure

- Explain the procedure
- Take a verbal consent

Apply the tourniquet

1. Before applying:
 - Keep the **insertion site at or below the level of the heart** for a few minutes
 - Try having the patient make/relax a fist several times if inserting in the hand/arm.
 - Try **warming** the insertion site to improve blood flow to the area
2. A tourniquet is applied around the limb around **5 to 10 cm** proximally to the site, tight enough to engorge the veins with blood but not so tight as to abolish arterial blood flow into the extremity.
3. It may be **mildly uncomfortable for the patient as the tourniquet should be tight**.
4. The tying technique is important as operator want to be able to release a tourniquet with one hand.

- Note that it's just like the first step of tying a shoe, but instead of threading the loose end all the way under, only do it partly.

Inserting catheter

1. Hold the IV catheter in right hand. Do what's comfortable but usually putting the thumb and middle finger over the device, just below the catheter hub, in a pinching fashion offers good control and one-handed operation.
2. Prep the site, usually with alcohol swabs in circular manner and do not touch/pat at insertion site and let it get dry.
3. Anchor the vein/extremity
 - Grip the extremity like holding a can, just below the insertion site. This secures the patient's limb to minimize movement and make for a more steady procedure.
 - Now just put left thumb below/distal to the insertion site
 - Push with thumb and pull down with **medium** pressure
 - This anchoring helps prevent "rolling" of the vein while inserting the needle/catheter.
 - Veins are also highly compressible, so to **avoid too much pressure** or the vein will compress, and it will be harder to cannulate. Then anchor it from above.
4. Insert needle/catheter
 1. Angle
 - Usually, a **constant shallow angle** the entire way should work well
 - Start just distal to the vein, this shallow angle works
 - If an operator is right the on top of the vein at insertion site and have less distance to travel, start with a sharper angle just to get into the vein quickly, and then flatten out angle.
 2. NEEDLE tip
 - Most catheters now have a flash chamber to show when an operator get blood return, but it isn't always a guarantee.
 - The chamber and feel/experience will help to determine when NEEDLE tip is in the vein.
 - Once this happens now have to focus on steps that will allow to get the actual catheter into the vein.
 3. CATHETER tip
 - This is when a lot of people have problems: getting the **CATHETER** tip into the vein
 - Remember these steps: **Needle tip in vein, flatten needle angle, advance SLIGHTLY, hold everything steady and advance catheter into vein.**
 - Once determined that needle tip is in the vein, flatten the angle so the catheter is parallel with the vein.
 - Advance it slightly so the catheter tip is securely in the lumen
 - Use index finger to push the catheter into the vein.
 - The tip of the needle will be sitting right at the hub, preventing bleeding.

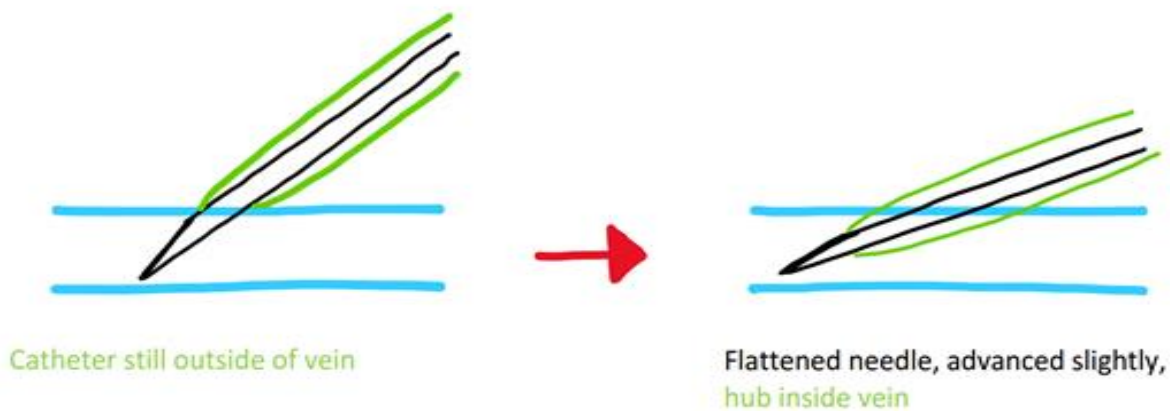


Figure 16: Peripheral IV insertion with needle tip and hub inside vein
 (Source: theprocedureguide.com)

Withdraw the stylet/needle

1. Remove the needle
 1. Use **left** hand to remove the tourniquet.
 2. Put **left thumb above the cannulated vein**, just above where the tip of the catheter should be and push down to occlude the vein.
 - Withdraw the needle and discard safely into a sharp disposal puncture proof jar.
 - As long as left hand stays in place, there won't be bleeding, and right hand can collect supplies.
2. Finish up
 1. Attach any chosen adapters, such as a one-way valve or IV tubing.
 2. Tape up the IV catheter with **date and time of insertion**
 - Secure taping but not too much
 - Apply tape that prevents it from pulling
3. A saline flush or a prepared bag of IV fluid with an administration set should be used to confirm adequate flow, observing for the absence of swelling or edema around the insertion site.

Needleless access ports

- Health care personnel should minimize catheter manipulation (e.g. number of intermittent infusions).
- All persons handling or accessing the intravascular system should first **perform hand hygiene**.
- Closed catheter access systems are associated with fewer CRBSIs than open systems. (1) Therefore, needleless access ports should be used on all lumens.

- Stopcocks should be end-capped with a needleless access port/cap when not in use.
- All intravenous access ports should be meticulously cleaned by the clinician with a single-use 70% alcohol-impregnated swab or 2% alcoholic chlorhexidine vigorously for a minimum of 15 seconds and allowed to dry prior to accessing the system.
- CDC guidelines currently recommend that needleless components be changed at least as frequently as the administration set, but no more frequently than every 72 hours

Flushing of PIVC's

- If the cannula is accessed intermittently for the administration of medications or fluids, the cannula should be flushed prior to infusion or at least once a shift.
- Sterile 0.9% sodium chloride for injection should be used to flush a catheter.
- The optimal volume used for intermittent injections or infusions is unclear. The literature suggests the volume of flush should equal at least twice the volume of the catheter and add on devices and a minimum of 2mL normal saline flush is recommended.
- Use 10 ml syringe for flushing to avoid excessive pressure and catheter rupture. Syringes with an internal diameter smaller than that of a 10mL syringe can produce higher pressure in the lumen and rupture the catheter. If resistance is felt during flushing and force is applied this may result in extravasation.
- Use aseptic non touch techniques including cleaning the access port (scrub the hub) with a dual disinfectant agent (e.g. chlorhexidine and alcohol) vigorously for at least 15 seconds and allowing to dry prior to accessing the system.
- Flush in a pulsatile (push-pause) motion.

Change of PIVC dressing and securement of cannula:

- Dressings to PIVC sites are the first line of defense against infection and dislodgements. The dressing must be kept secure, clean dry and intact.
- Indications for dressing change: when it becomes insecure or if there is blood or fluid leakage under the dressing.
- Determine the need for an assistant considering patient age, developmental level and family participation prior to the procedure.
- If patient is allergic to transparent film dressings, use sterile film dressing to be used and changed daily.
- Carefully remove the old dressing, holding the cannula in place at all times
- Take the opportunity to thoroughly inspect the site of entry of the cannula for any sign of infection.
- Skin preparation using alcohol in 2% chlorhexidine is the preferred solution for dressings.

- Cleanse the area around the catheter insertion site including under the hub using a pattern which will ensure entire area is covered.
- Allow skin preparation to air dry prior to applying any dressing, this allows the disinfectant to work.
- Consider placing a small piece of sterile cotton wool ball or gauze underneath the hub of the cannula to reduce pressure.
- If desired, place sterile tape over the hub of the device before placing the transparent dressing.
- Cover the cannula insertion site with sterile transparent semipermeable, occlusive dressing (e.g. Tegaderm tm, IV 3000tm) placed using an aseptic non touch technique over the catheter. This will allow continuous observation of the site and to help stabilize and secure the catheter.
- IV board / splints are recommended to secure PIVC placed in or adjacent to areas of flexion. This will adequately immobilize the joint and minimize the risk of venous damage resulting from flexion:
 - When using Splints, ensure these are positioned and strapped with the limb and digits in a neutral position to prevent injury from restricting blood or nerve supply and to prevent pressure sores
 - Inspect the splint at least daily and change if soiled by blood or fluid leakage.
- Cover with non-compression tubular bandage. Ensure there is a clear window where the cannula enters the skin- insertion site, so the site can be regularly viewed.
- In Summary, when dressing a peripheral IV cannula ensure:
 - It is secure
 - The site is visible
 - The patient can't injure themselves, or be injured by the connections
 - The patient can't remove or dislodge the cannula
 - Tapes are not too tight or restrictive.
- Documentation shall contain information on the insertion site, gauge of the needle and date and time of insertion has been documented in the Nursing sheet.

Replace every 72-96 hours unless extenuating circumstance criteria is met

- The risk assessment for the above must be carried out and documented each shift while the PIVC remains in-situ
- PIVCs should be removed by the clinician at the first sign of phlebitis (warmth, tenderness, erythema, palpable venous cord).
- PIVCs should be removed as soon as they are no longer required.
- If it can be forecast that a PIVC would be in situ for more than 96 hours, an alternative device should be considered such as a peripherally inserted central catheter (PICC)
- If the PIVC is in situ for 72-96 hours and is necessary for an extended period, it should be removed and re-sited at this time.

- In extenuating circumstances, a cannula may be left in situ after 96 hours if all of the following criteria are fulfilled:
 - The patient has very poor peripheral access
 - No one else can cannulate the patient
 - The patient still requires peripheral access
 - The cannula is patent
 - There is no sign of phlebitis or infection.
 - Reasons for not re-siting the cannula must be clearly documented.

Removal of PIVCs:

There is no evidence for routine replacement of PIVC unless clinically indicated. PIVC's should be maintained with regular assessment and documentation of complications. The possible reasons for removal of PIVC's include a number of complications which range from infiltration, extravasation, phlebitis, occlusion, dislodgement and migration. Once the child's treatment is over, the PIVC should be removed to avoid any additional complications.

- Explain the patient regarding removal of PIVC
- Perform hand hygiene and apply non-sterile gloves, carefully remove the adhesive dressing, holding the cannula in place at all times
- Hold a piece of sterile gauze or cotton wool over the exit site but do not apply pressure
- Slowly withdraw the cannula, maintaining a neutral angle with the patient's skin
- Cover site with dressing e.g. pressure dot, cotton wool and tape or Band-Aid
- Advise the child and family that the cotton wool and tape or Band-Aid should remain in situ for up to 24 hours
- Remove gloves, perform hand hygiene
- Dispose of waste according to clinical practice, perform hand hygiene
- Document date and reason for removal.

Complications of line placement

- Failure of the procedure
- Damage to arteries or nerves
- Hematoma or bleeding at the insertion site.
- Dislodgement and extravasation
- Infiltration of the iv therapy into surrounding tissues
- Phlebitis, or inflammation of the vein (it can progress to local infection or cellulitis.)
- Thrombosis within the catheter tip
- Catheter related blood stream infection (CRBSI)

Management of complications

There are a range of complications that could occur with the presence of a PIVC in in situ. Some of these complications can be prevented by the correct use of aseptic technique for insertion and

maintenance as well as assessing the device as indicated.

Common complications are:

Infection:

- Skin-based bacteria may enter through insertion site
- Local cellulitis or systemic bacteraemia are possible.

Phlebitis: Vein irritation

- Due to the presence of the catheter/fluids or medication
- Chronically ill patients requiring multiple and recurrent IV access.

Infiltration/Extravasation: delivery of fluids or medications into surrounding tissue
If Infiltration/extravasation occurs.

- Immediately stop the infusion and disconnect the tubing as close to the catheter hub as possible.
- Remove the catheter without placing pressure on the site.
- Elevate the affected limb.
- Apply either ice packs or warm compresses to the affected area, depending on the drug that extravasated.
- Continue to assess and document the appearance of the site and associated signs and symptoms. Some signs, such as erythema and ulceration, may be delayed for 48 hours or more after the extravasation.
- For neonatal extravasation refer to RCH guideline Neonatal Extravasation
- Plastics team to review the patient
- Document the date and time of the infusion when extravasation was noted, the type and size of catheter, the drug administered the estimated amount of extravasated solution, and the administration technique used.
- Document the patient's signs and symptoms, treatment, and response to treatment.

1.3.6 MEDICATION

Introduction

The administration of medicines is one of the most common procedures nurses undertake and the process is often complex and time consuming. Nurses are accountable to their clients to manage medication administration safely, competently, ethically and compassionately.

Administer medication safely to any patient it is important to collect information during the initial assessment. This is baseline data but it should be on going nursing assessment to determine drug effectiveness and promptly identification of side effects. This will also assist in individualized patient teaching to help ensure patient compliance with pharmacologic therapy.

Definition

This is the process of giving out medication to the patient in order to treat or prevent disease or complication. **Medication administration:** the act of giving medications to an individual client through a specific medication route (e.g., enteral, percutaneous, parenteral)

Purposes

- To prevent the disease and take supplement in order to maintain health
- To cure the disease
- To promote the health
- To give palliative treatment
- To give as a symptomatic treatment

Routes of Drug Administration

- Oral
- Parenteral- intramuscular, intradermal, intravenous, and subcutaneous
- Topical- skin, vaginal, rectal, nasal, and ophthalmic
- Components Of Medication
- Medication name- The name of the medication can be written in most settings using the generic or trade name. The name should be clear all the time.
- Medication dosage-This includes the frequency and strength of the of the dose e.g. Metronidazole 500mg every 8 hours.
- Route of administration- Most medications can be given by several routes e.g. orally (PO), intravenously (IV), and intramuscularly (IM).
- Signature- A signature of the prescribing officer must appear below the written order.

Assessment Before Medication Administration

- Medication record/ Cardex- This allows the nurse to see which medication has been used most recently and whether it is time for the medication to be administered. This prevents incidences whereby a drug is administered at the wrong time.
- But if patient is on medication which cannot be stopped abruptly, like anti-hypertensive, they have to take them with small sips of water.

- If a diabetic patient is on NPO the physician should be contacted because of the need to adjust or withhold the medication. Patients' blood glucose levels are checked regularly
- Physical assessment. -Check for the ability to of the patient by giving the patient a sip of water to swallow and if he does not cough or chock then he can take medication orally.
- Gastrointestinal motility should be assessed too because a dysfunctional gastrointestinal system affects drug absorption.
- Check if the patient has enough muscle mass to tolerate the medication because lean muscles can result into poor absorption of medication as they are injected in the subcutaneous muscles.
- Check for adequate venous access and the temperature, redness, swelling and pain at the insertion site.
- Vital signs should be checked for medication requiring this e.g. digitalis which requires a heart rate of not less than 60 beats per minute because they slow the heartbeat.
- Assessment of knowledge and compliance. This ensures that the patient takes the medication with knowledge of the purpose and side effects of the medication.

Ten Rights of Medication

1. Right patient

- Check the name on the prescription and wristband.
- Ideally, use 2 or more identifiers and ask the patient to identify themselves.

2. Right medication

- Check the name of the medication, brand names should be avoided.
- Check the expiry date.
- Check the prescription.
- Make sure medications, especially antibiotics, are reviewed regularly.

3. Right dose

- Check the prescription.
- Confirm appropriateness of the dose.
- If necessary, calculate the dose and have another service provider calculate the dose as well.

4. Right route

- Again, check the order and appropriateness of the route prescribed.
- Confirm that the patient can take or receive the medication by the ordered route.

5. Right time

- Check the frequency of the prescribed medication.
- Double-check that you are giving the prescribed at the correct time.
- Confirm when the last dose was given.

6. Right patient education

- Check if the patient understands what the medication is for.
- Make them aware they should contact a healthcare professional if they experience side-effects or reactions.

7. Right documentation

- Ensure the signed for the medication AFTER it has been administered.
- Ensure the medication is prescribed correctly with a start and end date if appropriate.

8. Right to refuse

- Ensure the patient consent to administer medications.
- Be aware that patients do have a right to refuse medication if they have the capacity to do so.

9. Right assessment

- Check the patient actually needs the medication.
- Check for contraindications.
- Baseline observations if required.

10. Right evaluation

- Ensure the medication is working the way it should.
- Ensure medications are reviewed regularly.
- Ongoing observations if required.

Documentation

This is very important because it avoids medication errors like repetition. The time when the drug was given should be indicating against the signature. If medication was not given for some reasons, it should be indicated on the chart e.g. NPO. For drugs like insulin injections the site too should be indicated.

Routes of medication administration

Oral medication

Medication that are given by mouth are designed to be swallowed (oral route), to be held under the tongue until they dissolve (sublingual). It provides a safe, effective, economical route for administering medications.

Assessment

- Review the order considering the ten rights.
- Assess patient's allergy history.
- Assess patient ability to take oral medications. - Level of consciousness, cooperativeness.
- Presence of swallow reflex.
- Symptoms of nausea and vomiting. -identify any pre administration assessment of pulse, BP that must be done.
- Check that correct medication and dosage is available at the time scheduled.

Articles required for oral medication

- A tray containing -Ounce glass teaspoon, dropper small container etc.
- Drinking water in a glass or Feeding cup.
- Pill crusher/ tablet cutter if needed
- Medicine cardex
- Pestle.
- Duster or towel to wipe the outside of the bottle after pouring the medication.
- Kidney tray/ paper bag (to discard the waste)

Procedure

- Hand Hygiene- to reduce transfer of microorganisms from hand to medication.
- Arrange medication charts next to medication trays and cups. This saves time and reduces chances of errors.
- Prepare medications for only one patient at a time to prevent errors during preparation.
- Ask patient to state their name and compare name on medication card or record with name the patient is mentioning.
- Complete any pre administration assessment e.g. (BP) required by specific medication to determine if medication can be given at that time.
- Explain the purpose of the medication to patient, in accordance with patients
- Dispose of soiled supplies and wash hands.

Steps

- Explain the procedure to the patient.
- Keep the patient in suitable position according to the condition of the patient.
- Give the mouth wash if necessary.
- Protect the bed clothes & garments with a towel placed under the chin across the chest.
Wash hands.
- Read the doctor's order & compare with medicine cards.

- After reading the medicine cards take the appropriate medicine from the locker. Check three times before giving the medication & follow the 'Five Right'.
- Give the water to the patient to moisten the mouth.
- Give medications one at a time. Stay with the patient until he has taken the medication. Check the patient's mouth when indicated to verify that medications are swallowed.
- Provide water to drink after the medicines are administered.

After care of the patient & articles

- Remove the towel & wipe the face with it.
- Position the patient & tidy up the bed.
- Take articles in the utility room and wash, dry, & keep in proper place.
- Record medications given & signature on the medicine card.
- Return to the patient side & observe any reactions.
- Return the medication cards to the nurse's station.

Parenteral

The giving of medication that are given by injection or infusion through intramuscular (IM), intradermal (ID), subcutaneous (SC) and intravenous (IV).

Indication Treatment of disease / conditions whereby the appropriate is the parenteral route.

Equipment

- Vials – containers that hold one or two dose of medication.
- Medication that are in powder form come with a diluent.
- Ampules – Before it is opened all medication should be moved to the ampule base by gently tapping the top of the ampule with a finger. To open the ampule the nurse holds an alcohol pad
- Syringes – for drawing and administration of medication parts: plunger, barrel, needle and needle guard.

Intradermal injections

- Given into the dermis (the layer of tissue located underneath the skin surface).
- A small needle and a 1ml syringe is mostly used.
- The skin is cleansed using alcohol wipe.
- The syringe is held with the level of the needle up almost parallel to the skin.
- Small volumes of medication are injected slowly e.g. 0.25mls or less.

Subcutaneous injection

- Injections are given into the subcutaneous tissue the layer of fat located below the dermis and above tissue.
- Absorption is usually slow, sustained and completely. Small sized syringe and needle used. Common sites: upper arm, upper back, abdomen, buttocks and thigh.

Intramuscular injections

- Injection are given into the muscle layer, beneath the dermis and subcutaneous tissue.

- Absorption is at an intermediate rate, slower than IV administration and more rapid than SC administration.
- A larger volume of medication is given. Site choices are influenced by the age, medication to be given

Procedure purpose

- Administer medication deeply into muscle tissue, without injury to the patient.
- Administer a medication with absorption and onset of action quicker than the oral route and that may be irritating to the subcutaneous tissues.

Assessment

- Review patients' medical history, medication history and allergy status.
- Assess for contraindications to receiving IM injections.
- Assess for anxiety related to fear of injection.
- Review chart for documentation of previous injection sites, if it's a patient receiving multiple injections.

Equipment

- Treatment charts/ order or Cardex.
- Antiseptic swabs.
- Vials or ampule.
- Syringes.
- Gloves.

Procedure

- Check medication order.
- Wash hands.
- Assemble needle and syringe.
- Remove needle guard.
- Vials-Rotate vial between palms to disperse medication.
- Cleanse top of medication vial with
- Insert needle into vial and inject the air.
- Injected air prevents creation of negative pressure within the vial so that medication is easily withdrawn.
- Invert vial and withdraw the desired volume of medication.
- Ampules - Flick upper stem of the ampule with finger
- Insert needle into ampule and withdraw required dosage of medication.
- Dispose of ampule in appropriate container to prevent broken glass from cutting other health care workers.
- Cover needle with guard.
- If medication is known to be irritating to subcutaneous tissues replace needle after withdrawing medication.
- Select appropriate injection site by inspecting muscle size and integrity.
- Consider volume of medication to be injected. Larger muscles can absorb larger volumes of medication.

- Assist patient to a comfortable position and expose only the area to be injected.
- Don gloves especially on non-dominant hand.
- This promotes comfort and privacy.
- Maintains standard precautions
- Cleanse the site with antiseptic swab
- Wiping from center of site and rotating outwards.
- Remove needle cover.
- Expel air bubbles from syringe.
- Hold syringe between thumb and forefinger of dominant hand (like a dart).
- Spread skin at the side with non-dominant hand.
- This facilitates needle insertion by firming skin surface and flattens tissues, so needle penetrates into muscle.
- Insert needle quickly at a 90 degrees angle this enables needle to reach deep muscle layer. Rapid needle insertion minimizes patient discomfort.
- Stabilize syringe barrel by grasping with non-dominant hand
- Aspirate slowly by pulling back the plunger with dominant hand.
- If no blood appears inject medication slowly.
- If blood appears in the syringe, remove needle and dispose of syringe and prepare new medication.
- Gently massage site, this stimulates local circulation and speeds drug absorption.
- Do not recap needle, dispose of equipment in proper reception to protect nurses and health care workers from accidental needle injury.
- Wash hands.
- Record medication and patient

Intravenous push procedure

- Verify medication card against the written doctor's prescription.
- Explain procedure to reassure patient and significant other before administration.
- Do hand hygiene before and after the procedure (use gloves especially for chemotherapeutic).
- Check patency and other reaction signs or swelling, redness, phlebitis etc
- Disinfect injection port of the diluent, vial or ampule as appropriate.
- Aspirate right amount of diluent for the drug if the drug needs to be diluted.
- Aspirate the right dose and disinfect the port of the IV administration set. 9. Close the roller clamp of the IV tubing from the bottle and push IV drug aseptically and slowly or according to
- Open the intravenous fluids and let it run to flush medicine given.
- Regulate rate of IV fluids infusion as prescribed.
- Reassure patient and observe for signs and symptoms of adverse drug reactions.

Nurses' responsibility in the administration of oral medication

Assessment:

- Check the diagnosis & age of the patient.
- Check the medication order.
- Check the diet & fluid order: To avoid medication If the patient is kept nil orally in preparation for surgery & diagnostic tests. But in case of anticonvulsants, Antidiabetics, Antihypertensive drugs, Digoxin etc. better to talk to concerned physicians
- Laboratory values: To be monitor serum drug levels, medication effects & side effects. Before giving Anticoagulants -check the P Time& before chemotherapy blood count is monitored, as these drugs can cause severe leucopenia/ thrombocytopenia etc.
- Physical assessment Check the abilities & limitations swallowing the medications.
- Check the vital signs –heart rate before giving Digoxin & BP – before giving Antihypertensive& Respiratory rate before giving opium.
- Check the articles available in the patient's unit.

1.3.7 PATIENT ADMISSION

Introduction

Patient admission follows an established procedure, i.e. planned nursing activities. For patients requiring long-term care and repeated hospitalization, the activities must be coordinated so that the nursing care is continuous. The specific medical treatment prescribed by the doctor, and the nursing regime followed by the nurse, are administered by the nurse in order to meet patient needs. The nurse monitors patient responses throughout the stay.

Admission procedure

Admission to the nursing unit prepares the patient for his stay in the health care facility. Whether the admission is scheduled or follows emergency treatment.

Definition

- Admission is defined as allowing a patient to stay in hospital for observation, investigation, treatment and care
- Admission is the entry of a patient into a hospital/ward for therapeutic or diagnostic purposes

Purpose

- To establish guidelines regarding admission of patients
- To make the patient feel welcome, comfortable and at ease
- To acquire vital information regarding the patient
- To assess the patient from which the nursing care plan can be initiated and implemented

Principle Involved

- Sudden change or strangeness on the environment produces fear and anxiety
- Entering the hospital is a threat to one's personal identity
- People have diversity of habits and modes of behavior
- Illness can be novel experience for the patient and bring stress on his physical and mental health

General Instructions

- To receive the patient and help him to adjust to the hospital environment
- To welcome and establish a positive initial relationship with the patient and relatives
- To obtain the needed identifying data concerning the patient
- To provide immediate care, safety and comfort

- To collaborate with patient in planning and providing comprehensive care
- To observe, report signs and symptoms and general condition of the patient
- To secure safety of the patient and his belongings

Effective admission procedures should accomplish the following goals:

- Verify the patient’s identity and assess his clinical status
- Make him as comfortable as possible
- Introduce him to his roommates and the staff
- Orient him to the environment and routine
- Provide supplies and special equipment needed for daily care

Admission routines that are efficient and show appropriate concern for the patient can ease his anxiety and promote cooperation and receptivity to treatment. Conversely, admission routines that the patient perceives as careless or excessively impersonal can lead to:

- Heighten anxiety
- Reduce cooperation
- Impair his response to treatment
- Perhaps aggravate symptoms

Types of Admission

- Emergency admission: means the patient are admitted in acute conditions requiring immediate treatment, e.g. patient with accidents poisoning, burns and heart attacks
- Routine admission: the patients are admitted for investigation and medical or surgical treatment is given accordingly, e.g. patients with hypertension, diabetes and bronchitis

Admission Involves

- Authorization from a physician that the person requires specialized care and treatment
- Collection of billing information by the admitting department of the health care agency
- Completion of the agency’s admission data base by nursing personnel
- Documentation of the client’s medical history and findings from physical examination
- Development of an initial nursing care plan
- Initial medical orders for treatment
- Medical authorization
- The admitting department (preliminary data collected, address plate)
- Initial nursing plan for care
- Medical admission responsibilities

General Instructions

- Nurses should make every effort to be friendly and courteous with the patient

- Establish rapport with patient by introducing herself.
- Mentions the name of the ward to him.
- Introduces patient to ward staff around and other patients.
- Make proper observations of the patient's condition, record and report
- Orient the patient and his relatives to hospital and ward policies
- Observe policies in dealing with medicolegal cases
- Deal with the patients belonging very carefully communicable diseases
- Isolate the patient if suffering from communicable diseases
- The nurse should recognize the various needs of the patient and meet them without delay
- The needs to understand the fears and anxieties of patient and help to overcome
- The nurse should find out the likes and dislikes of the patient and include the patient in his plan of care
- The nurse should address the patients by their name and proper title
- Patient's valuables and cloths should hand over to the relatives with proper recording

Equipment

Gown, personal property form, valuables envelope, admission form, nursing assessment form, thermometer, emesis basin, bedpan or urinal, bath basin, water pitcher, cup, and tray, urine specimen container, if needed. An admission pack usually contains soap, comb, toothbrush, toothpaste, mouthwash, water pitcher, cup, tray, lotion, facial tissues, and thermometer. An admission pack helps prevent cross-contamination and increases nursing efficiency

Preparation of Equipment

- Obtain a gown and an admission pack
- Position the bed as the patient's condition requires. If the patient is ambulatory, place the bed in the low position if he is arriving on a stretcher, place the bed in the high position
- Fold down the top linens
- Prepare any emergency or special equipment, such as oxygen or suction, as needed

Preparation of the Patient

- Greet the patient and his relatives and introduce self to them
- Receive the patient cordially and seat comfortable
- Introduce him to another person in the ward
- Complete the admission record
- Collect history and carry out simple physical examination
- Carry out the prescribed treatment and keep a record
- Help the patient to maintain personal hygiene and change into hospital clothes
- Orient the patient to the ward-toilet bathroom, drinking water supply, nurse's station and treatment room

- Shows patient the patients' cupboard and bed locker.
- Informs patient of ward activities.
- Tells patient whom to contact for any information.
- Encourages patient to ask questions.
- Thank patient and put him to bed.
- Hand over the patients valuable to his relatives
- Issue visitor pass
- Encourage patient to take hospital diet especially when therapeutic diet is ordered
- Obtain local address or telephone number, relatives lodge room and document in admission record

Procedure

- Adjust the room lights, temperature, and ventilation
- Make sure all equipment is in working order prior to the patient's admission
- Admitting the adult patient
- Speak slowly and clearly, greet the patient by his proper name, and introduce self and any staff present
- Compare the name and number on the patient's identification bracelet with that listed on the admission form. Verify the name and its spelling with the patient. Notify the admission office of any corrections
- Quickly review the admission form and the physician's orders. Note the reason for admission, any restrictions on activity or diet, and any orders for diagnostic tests requiring specimen collection
- Escort the patient to his room and, if he is not in great distress, introduce him to his roommate. Then wash hands, and help him change into a gown or pajamas if the patient is sharing a room, provide privacy
- Take and record the patient's vital signs and collect specimens if ordered. Measure his height and weight if possible. If he cannot stand, use a chair, or bed scale and ask him his height. Knowing the patient's height and weight is important for planning treatment and diet and for calculating medication and anesthetic dosages
- Show the patient how to use the equipment in his room. Be sure to include the call system, bed controls, TV controls, telephone, and lights
- Explain the routine at health care facility. Mention when to expect meals, vital sign checks and medications. Review visiting hours and any restrictions
- Take a complete patient history. Include all previous hospitalizations illnesses, and surgeries current drug therapy and food or drug allergies. Ask the patient to tell why he came to the facility. Record the answers (in the patient's own words) as the chief complaint. Follow up with a physical assessment, emphasizing complaints. Record any wounds, marks, bruises or discoloration on the nursing assessment form
- After assessing the patient, inform him of any tests that have been ordered and when they

are scheduled. Describe what he should expect

- Before leaving the patient's room, make sure he is comfortable and safe. Adjust his bed and place the call button and other equipment within easy reach. Raise the side rails.

Admitting the Pediatric Patient

- Initial goal will be to establish a friendly, trusting relationship with the patient and his visitor to help relieve fears and anxiety
- Speak directly to the patient, and allow him to answer questions before obtaining more information from visitors
- While orienting the patient and visitors to the unit, describes the layout of the room and bathroom
- Explain the facility's rooming in and visiting policies Inquire about the patient's usual routine so that favorite foods, bedtime rituals, toileting, and adequate rest can be incorporated into the routine

Documentation

After leaving the patient's room, complete the nursing assessment form or notes, as required. The completed form should include the patient's vital signs, height, weight, allergies, and drug and health history a list of his belongings and those sent home with family members the results of physical assessment and a record of specimens collected for laboratory tests

1.3.8 OXYGEN THERAPY

Definition of terms

FiO₂: Fraction of inspired oxygen (%)

PaCO₂: The partial pressure of CO₂ in arterial blood. It is used to assess the adequacy of ventilation.

PaO₂: The partial pressure of oxygen in arterial blood. It is used to assess the adequacy of oxygenation.

SaO₂: Arterial oxygen saturation measured from blood specimen.

SpO₂: Arterial oxygen saturation measured via pulse oximetry

Humidification is the addition of heat and moisture to a gas. The amount of water vapour that a gas can carry increases with temperature.

Hypercapnea: Increased amounts of carbon dioxide in the blood.

Hypoxaemia: Low arterial oxygen tension (in the blood.)

Hypoxia: Low oxygen level at the tissues.

Low flow: Low flow systems are specific devices that do not provide the patient's entire ventilatory requirements, room air is entrained with the oxygen, diluting the FiO₂.

A **pulse oximeter** is a commonly used portable device used to obtain a patient's oxygen saturation. The pulse oximeter, commonly referred to as a "Pulse Ox," is an electronic device that measures the oxygen saturation of hemoglobin in a patient's red blood cells, referred to as SpO₂. The normal range for SpO₂ for an adult without an underlying respiratory condition is above 92%.



Figure 17: A pulse Oximeter
(Source: flipcart.com)

Introduction

Oxygen is a colorless, odorless, tasteless gas that is essential for the body to function properly and to survive. **Medical oxygen is an essential medicine in the treatment of COVID-19.** Ensure correct patient, correct flow rate, and correct connection to oxygen source. Oxygen may be initiated in emergency situations without a physician's order. Oxygen is a medication and should be prescribed with a target saturation range. A patient's oxygenation status is routinely assessed using pulse oximetry, referred to as **SpO₂**. SpO₂ is an estimated oxygenation level based on the saturation of hemoglobin measured by a pulse oximeter. Because the majority of oxygen carried in the blood is attached to hemoglobin within the red blood cell, SpO₂ estimates how much hemoglobin is "saturated" with oxygen.

For adults, the recommended target range for oxygen saturation is 92% to 98%. Oxygen levels decrease slightly with age, especially in patients over 70 years. A saturation of 94% may be considered normal in a patient with heart failure or underlying lung disease. For most patients with COPD, the target oxygen saturation range is 88% to 92%. Pulse oximetry must be available in all settings where emergency oxygen is used. It is essential to Monitor and document the effect of any changes to administered oxygen therapy. Knowing when to start patients on oxygen therapy can save lives, but ongoing assessment and evaluation must be carried out to ensure the treatment is safe and effective

Definition

Oxygen therapy is the administration of oxygen at concentrations greater than that in the room air to treat or prevent hypoxia.

Goal The main goal of oxygen therapy is to prevent hypoxemia, thereby preventing hypoxia that could result in tissue damage and cell death. Hypoxia, if caused by certain medical conditions, can be managed and prevented by oxygen therapy.

Sources of Oxygen

Therapeutic oxygen is available from the following sources

1. Wall Outlets (Central supply via Oxygen plant)



Figure 18: Central supply via O₂ plant
(Source: wtcs.pressbooks.pub)

2. Oxygen cylinders



Figure 19: Oxygen cylinders
(Source: medgadget.com)

3. Oxygen concentrators



Figure 20: Oxygen concentrator
(Source: healthoxygen.com)

Indications

- Acute hypoxaemia (for example pneumonia, shock, asthma, heart failure, pulmonary embolus, sepsis)
- Ischaemia (for example myocardial infarction, but only if associated with hypoxaemia (abnormally high blood oxygen levels may be harmful to patients with ischaemic heart disease and stroke)
- Abnormalities in quality or type of haemoglobin (for example acute GI blood loss or carbon monoxide poisoning).
- Pneumothorax – Oxygen may increase the rate of resolution of pneumothorax in patients for whom a chest drain is not indicated. • Post-operative state (general anaesthesia)

Contra-indications

- There are no absolute contraindications to oxygen therapy if indications are judged to be present. The goal of oxygen therapy is to achieve adequate tissue oxygenation using the lowest possible FiO₂

Articles required

- Oxygen source: Wall Outlets or Oxygen cylinder
- O₂ flow meter connected to O₂ cylinder and regulator, humidifier with containing sterile distilled water.

Cylinder stand

Key



- Required delivery device: Nasal cannula, O2 mask with connecting tubes/ simple face mask/ Non-rebreather/ Partial Re-breather mask and O2 Connecting tube.
- Gauze pads/cotton
- A bowl with plain water to make the tube soft and O2 flow
- Tape and scissors if necessary
- Oxygen stand (1)
- No smoking” sign board

Nurse initiated oxygen

Oxygen Therapy – Standing Medical Orders for Nurses

- Both hypoxaemia and hyperoxaemia are harmful.
- Oxygen treatment should be commenced or increased to avoid hypoxaemia and should be reduced or ceased to avoid hyperoxaemia

Oxygen therapy (concentration and flow) may be varied in most circumstances without specific medical orders, but medical orders override these standing orders.

- Nurses can initiate oxygen if patients breach expected normal parameters of oxygen saturation
- A medical review is required within 30 minutes

Delivery devices

Oxygen is delivered via variable-performance or fixed-performance devices.

Variable-performance devices

The amount of oxygen delivered by variable-performance devices (also known as uncontrolled oxygen systems) is dependent on the:

- Oxygen flow rate
- Patient’s inspiratory volumes
- Respiratory rate
- Proportion of room air added during breathing.

Low flow delivery method

Low-flow systems include:

- Nasal prongs (low flow)
- Simple face mask
- Non re-breather face mask (mask with oxygen reservoir bag and one-way valves which aims to prevent/reduce room air entrainment)
- Tracheostomy mask

Nasal Cannula

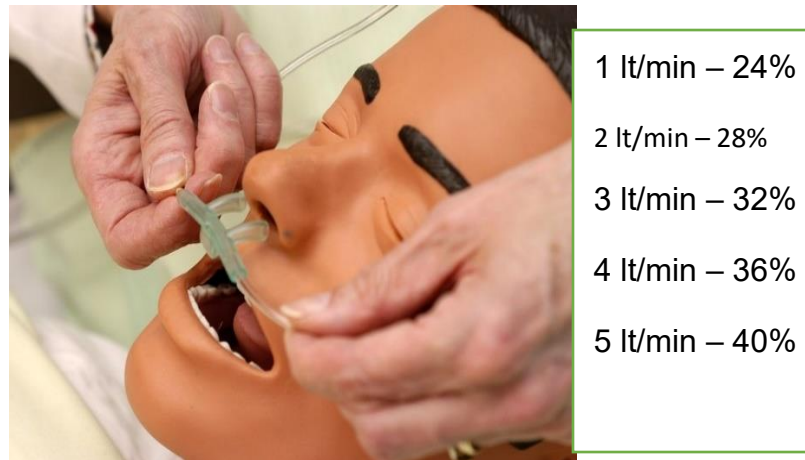


Figure 21: Nasal Cannula

(Source: opentextbc.ca)

A nasal cannula is the simplest oxygenation device and consists of oxygen tubing connected to two short prongs that are inserted into the patient's nares. The tubing is connected to the flow meter of the oxygen supply source. To prevent drying out the patient's mucus membranes, humidification may be added for hospitalized patients receiving oxygen flow rates greater than 4 L/minute or for those receiving oxygen therapy for longer periods of time.

Nasal cannulas are the most common type of oxygen equipment. They are used for short- and long-term therapy (i.e., COPD patients) and are best used with stable patients who require low amounts of oxygen.

Flow rate: Nasal cannulas can have a flow rate ranging from 1 to 5 liters per minute (L/min), with a 4% increase in FiO_2 for every liter of oxygen, resulting in range of fraction of inspired oxygen (FiO_2) levels of 24-44%.

Advantages: Nasal cannulas are easy to use, inexpensive, and disposable. They are convenient because the patient can talk and eat while receiving oxygen.

Limitations:

- The nasal prongs of nasal cannula are easily dislodged, especially when the patient is sleeping.
- The tubing placed on the face can cause skin breakdown in the nose and above the ears, so the nurse must vigilantly monitor these areas.
- Nasal cannulas are not as effective if the patient is a mouth breather or has blocked nostrils, a deviated septum, or nasal polyps

Simple Mask

A simple mask fits over the mouth and nose of the patient and contains exhalation ports (i.e., holes on the side of the mask) through which the patient exhales carbon dioxide. These holes should always remain open. The mask is held in place by an elastic band placed around the back

of the head. It also has a metal piece near the top that can be pinched and shaped over the patient's nose to create a better fit. Humidified air may be attached if the oxygen concentrations are drying for the patient.

Flow Rate: Simple masks should be set to a flow rate of 6 to 10 L/min, resulting in oxygen concentration (FiO₂) levels of 35%-50%. The flow rate should never be set below 6 L/min because this can result in the patient rebreathing their exhaled carbon dioxide.

Advantages: Face masks are used to provide moderate oxygen concentrations. Their efficiency in oxygen delivery depends on how well the mask fits and the patient's respiratory demands.

Disadvantages: Face masks must be removed when eating, and they may feel confining for some patients who feel claustrophobic with the mask on.

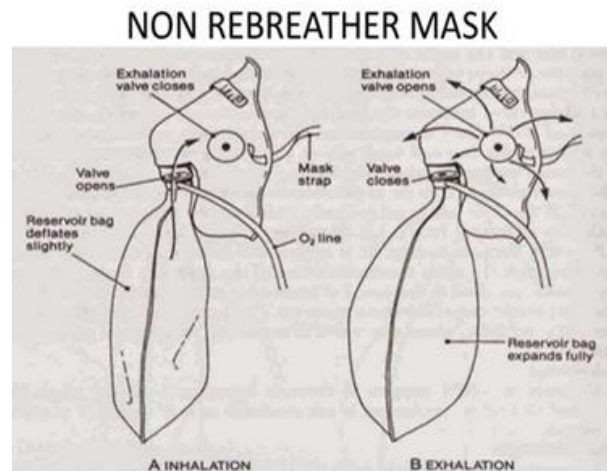


Figure 22: Nasal Cannula
(Source: opentextbc.ca)

Non-Rebreather Mask



Figure 23: Non-Rebreather Mask
(Source: opentextbc.ca & pinterest.com)

A non-rebreather mask consists of a mask attached to a reservoir bag that is attached with tubing to a flow meter. It has a series of one-way valves between the mask and the bag and also on the covers on the exhalation ports. The reservoir bag should never totally deflate if the bag deflates, there is a problem and immediate intervention is required. The one-way valves function so that on inspiration, the patient only breathes in from the reservoir bag on exhalation, carbon dioxide is directed out through the exhalation ports. Non-rebreather masks are used for patients who can breathe on their own but require higher concentrations of oxygen to maintain satisfactory blood oxygenation levels.

Flow rate: The flow rate for a non-rebreather mask should be set to deliver a minimum of 10 to 15 L/minute. The reservoir bag should be inflated prior to placing the mask on the patient. With a good fit, the mask provides the highest concentration of oxygen (60-100%) at a flow rate 10-15L/min.

Advantages: Non-rebreather masks deliver high levels of oxygen noninvasively to patients who can otherwise breathe unassisted.

Disadvantages: Due to the one-way valves in non-rebreather masks, there is a high risk of suffocation if the gas flow is interrupted. The mask requires a tight seal and may feel hot and confining to the patient. It will interfere with talking, and the patient cannot eat with the mask on.

Partial Rebreather Mask

The partial rebreather mask looks very similar to the non-rebreather mask. The difference between the masks is a partial rebreather mask does not contain one-way valves, so the patient's exhaled air mixes with their inhaled air. A partial rebreather mask requires 10-15 L/min of oxygen, but only delivers 60-80% FiO₂.

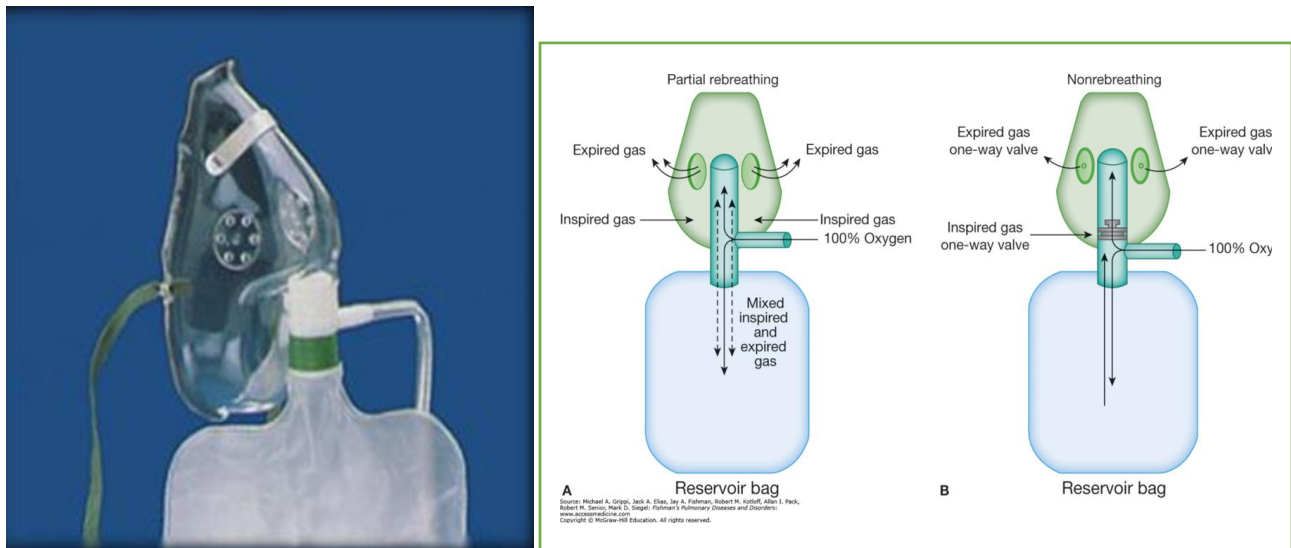


Figure 24: Partial Rebreather Mask
(Source: thoracickey.com)

Venturi Mask



Figure 25: Venturi Mask

(Source: opentextbc.ca & oxfordmedicaleducaton.com)

Venturi masks are indicated for patients who require a specific amount of supplemental oxygen to avoid complications, such as those with chronic obstructive pulmonary disease (COPD). Different types of adaptors are attached to a face mask that set the flow rate to achieve a specific FiO₂ ranging from 24% to 60%. Venturi adaptors are typically set up by a respiratory therapist, but in some facilities, they may be set up by a nurse according to agency policy.

Flow rate: The flow rate depends on the adaptor and does not correspond to the flow meter. Consult with a respiratory therapist before changing the flow rate.

Advantages: A specific amount of FiO₂ is delivered to patients whose breathing status may be affected by high levels of oxygen.

High flow delivery method

High flow systems include:

- Ventilators
- CPAP/BiPaP drivers
- Face mask or tracheostomy mask used in conjunction with an Airvo2 Humidifier
- High Flow Nasal Prong therapy (HFNP)

Humidification

Oxygen therapy can be delivered using a low flow or high flow system. All high flow systems require humidification. The type of humidification device selected will depend on the oxygen delivery system in use, and the patient's requirements.

Rationale:

- Cold, dry air increases heat and fluid loss
- Medical gases, including air and oxygen, have a drying effect on mucous membranes resulting in airway damage.
- Secretions can become thick & difficult to clear or cause airway obstruction
- In some conditions e.g. asthma, the hyperventilation of dry gases can compound bronchoconstriction.

Fixed-performance devices

Fixed-performance devices (also known as controlled oxygen delivery systems) deliver a fixed proportion of air and oxygen via a Venturi valve, ensuring an accurate concentration of oxygen is delivered, regardless of inspiratory volumes and respiratory rate

Fixed-performance devices should be used in acute illness in patients who are at risk of carbon dioxide retention.

Venturi valves are colour-coded to denote the fixed percentage of oxygen delivered these range from 24% (blue) to 60% (green), provided that the minimum oxygen flow rate on the barrel of the device is given.

Safety Precautions during Oxygen Therapy

- Oxygen is a highly combustible gas.
- Although it does not burn spontaneously or cause an explosion, it can easily cause a fire in a patient's room if it contacts a spark from an open flame or electrical equipment
- Oxygen is a therapeutic gas and must be prescribed and adjusted only with a health care provider's order.
- Place an "Oxygen in Use" sign on the patient's door and in the patient's room.
- If using oxygen at home, place a sign on the door of the house.
- No smoking should be allowed on the premises
- Keep oxygen-delivery systems 10 feet from any open flames.
- Determine that all electrical equipment in the room is functioning correctly.
- When using oxygen cylinders, secure them so they do not fall over. Store them upright and either chained or secured in appropriate holders.
- Check the oxygen level of portable tanks before transporting a patient to ensure that there is enough oxygen in the tank.

Ongoing care of patients requiring oxygen therapy

- Continue to monitor oxygen saturations at least four times a day. Always record saturations at rest and document FiO_2 in situ
- at the time
- Patients requiring $>28\%$ oxygen for more than 24 hours can have oxygen delivered via a humidification system for comfort and to avoid the drying of secretions
- Stable patients may be more comfortable with nasal cannula but care must be taken to ensure saturations remain in the target range
- Patients requiring increasing doses of oxygen to maintain saturations within range, or with signs of respiratory
- deterioration (increasing respiratory rate, drowsiness, headache, tremor, increasing early warning score) require prompt medical review and further assessment including monitoring of arterial blood gas
- Help the patient to stay in an upright position to maximize ventilation unless contraindicated by underlying clinical problems, for example, spinal or skeletal trauma
- Give other prescribed therapies, such as nebulized bronchodilation, diuretics,

ventilatory support

- Refer for respiratory physiotherapy if patients have difficulty clearing thick secretions
- Observe potential pressure areas, particularly behind the ears, from nasal cannula tubing or mask elastic and ensure skin is protected and pressure is relieved by altering the position of the tubing or using padding
- Be aware of the drying effect of oxygen on oral and nasal mucosa encouraging patients to maintain adequate oral fluid intake where appropriate, and provide water-based lubricant gel to relieve nasal drying. Do not use oil-based preparations such as Vaseline or petroleum jelly
- Consider discontinuing oxygen therapy once the patient has stable saturations (at least two consecutive recordings) within their target range on low-dose oxygen (for example, 1-2L/min
- Via nasal cannula). Monitor saturations for five minutes after stopping oxygen and recheck after one hour

Complications of Oxygen therapy

1. Depression of ventilation: It is seen in COPD patients with chronic carbon dioxide (CO₂) retention who have hypoxic respiratory drive to breath. Increased arterial tension to normal can lose the hypercapnoeic stimulus to maintain ventilation resulting in hypoventilation in these patients.

2. Hyperbaric oxygen toxicity: long term hyperbaric O₂ therapy can lead to pulmonary, optic and central nervous system toxicity.

3. Fire hazard: Oxygen enhance combustion of other fuels. Least level of supplemental oxygen (FiO₂ greater than the 21% oxygen in ambient air) should be administered during laser bronchoscopy to avoid intratracheal ignition.

4. Absorption atelectasis: With the nitrogen washed out, the gas helping keep alveoli inflated is eliminated and alveoli begin to collapse. Absorptive atelectasis, also called denitrogenating absorption atelectasis, is the **collapse of the** alveoli due to the loss of the partial pressure of nitrogen within the lungs. Given only pure oxygen results in the collapse of the dependent part of the lungs as it quickly taken up from the alveoli. It is also a risk in general anesthesia induction.

5. Retinopathy of prematurity (ROP): It usually occurs in low birth weight, very premature infant. That is why in preterm infants, 50-80 mmHg PaO₂ is recommended in infants receiving oxygen.

6. Bacterial contamination associated with certain nebulization and humidification systems is a possible hazard

7. Pulmonary toxicity: Patients exposed to high oxygen levels for a prolonged period of time have lung damage. The extent of lung damage is dependent on FiO_2 and duration of exposure. It is due to intracellular free radicals (such as superoxide, activated hydroxyl ions, singlet O_2 and hydrogen peroxide) formed which can damage alveolar-capillary membrane. It starts with increased permeability of the capillaries with resultant edema, thickened membranes and finally to pulmonary fibrosis.

PART TWO: HANDBOOK FOR MENTEE FOR ON-SITE CLINICAL COACHING/MENTORING PROGRAMME

2.1 SKILL ASSESSMENT CHECKLISTS

2.1.1 HAND HYGIENE (CHECKLIST FOR ALCOHOL BASED HAND RUB)

Name of the Mentee _____

Unit _____

Date: _____

Direction to use: (✓) all that apply

The service provider does the following

S.N.	PERFORMANCE STANDARDS	DEFINITION (VERIFICATION CRITERIA)	YES	NO	REMARKS
1	Require article	A bottle of Alcohol based hand rub			
2	The service provider makes preparation for hand rub	Remove jewelry (rings, bracelets) and watch before washing hand			
		Ensure that the nails are clipped short			
		Roll the sleeves up to the elbow.			
		Assemble a bottle of Alcohol based hand rub			
3	The service provider performs hand rub by following 7 steps	Apply a palm full alcohol-based hand rub solution/ liquid in cupped hands, covering all surfaces			
		Start rubbing hands palm to palm			
		Rub right palm over left dorsum with interlaced fingers and vice versa			
		Rub palm to palm with fingers interlaced			
		Rub Back of fingers to opposite palms with fingers interlocked			
		Perform rotational rubbing of left thumb clasped in right palm and vice versa			
		Perform rotational rubbing, backward and forward with clasped fingers of right hand on left palm and vice versa (fingertips on palms)			
		Rub both wrists in rotating manner, starting by swiping from distal ulnar aspect downward till wrist and let it dry.			
		Duration of Hand rub (20-30 seconds)			
		Total Score =14 ("Yes"=1 point; Any "No"=0 point)			

Checked by: _____

Date: _____

Signature: _____

2.1.2 HAND HYGIENE (CHECKLIST FOR HAND WASH)

Name of the Mentee

Unit

Date:

Direction to use: (✓) all that apply

The service provider does the following

S.N.	PERFORMANCE STANDARDS	DEFINITION (VERIFICATION CRITERIA)	YES	NO	REMARKS
1.	Self-preparation	Remove jewelry (rings, bracelets) and watch before washing hand			
		Ensure that the nails are clipped short and roll the sleeves up to the elbow.			
		Assemble the equipment and accessories <ul style="list-style-type: none"> ✓ 20 liters buckets with tap or running tap water ✓ Liquid soap-1bottle ✓ Paper towels/personal handkerchief ✓ Dustbin with pedal - 1 			
2.	The service provider performs hand wash by following each step	Turn on the tap and wet the hands and wrists, keeping hands and wrists lower than the elbows (permit the water to flow to the fingertips, avoiding arm contamination).			
		Apply liquid soap/soap bar and lather thoroughly.			
		Start rubbing hands palm to palm			
		Rub right palm over left dorsum with interlaced fingers and vice versa			
		Rub palm to palm with fingers interlaced			
		Rub Back of fingers to opposite palms with fingers interlocked			
		Perform rotational rubbing of left thumb clasped in right palm and vice versa			
		Perform rotational rubbing, backward and forward with clasped fingers of right hand on left palm and vice versa (fingertips on palms)			
		Rub both wrists in rotating manner, starting by swiping from distal ulnar aspect downward till wrist, rinse thoroughly and let it dry.			
		Use paper towel/tissue paper to dry and close the tap			
		Total Score =16 ("Yes"=1 point; Any "No"=0 point)			

Checked by:

Date:

Signature:

2.1.3 PAIN MANAGEMENT

CHECK LIST ON PAIN MANAGEMENT

Patient name

Age/Gender:

Ward/OPD:

Doctor unit:

IP No:

Bed no:

Diagnosis:

Date:

Direction to use: (✓) all that apply

The service provider does the following

S.N.	PERFORMANCE STANDARDS	DEFINITION (VERIFICATION CRITERIA)	YES	NO	REMARKS
1	The service provider assesses the pain	Asks about the presence of pain.			
		If pain is present, assesses for			
		a. Onset.			
		b. Location			
		c. Duration			
		d. Intensity			
		e. Alleviating factors			
		f. Aggravating factors			
		g. Past interventions and responses			
		Assemble the articles and accessories ✓ Pain assessment form ✓ Pain assessment tools (Numerating /Visual analog scale)			
		Utilizes pain intensity measurement tool appropriate to age and cognitive status <ul style="list-style-type: none"> • 0-10 Numerical rating scale, • 0-6 smiley faces (Visual Analogue Scale) • PQRST approach • Behavioral pain Scale (BPS) for unconscious patient 			
2	The service provider provides proper medication	Use WHO LADDER approach for pain management if applicable as appropriate			
		Check for possible barriers for pain management			
		Administers prescribed analgesics as appropriate.			
3	The service provider document the procedure	Report and document			
		Total Score=15 ("Yes"=1 point; Any "No"=0 point)			

Checked by:

Date:

Signature:

2.1.4 POSTOPERATIVE NURSING CARE

CHECKLIST ON POSTOPERATIVE NURSING MANAGEMENT

Patient name Age/Gender: Ward:
 Doctor unit: IP No: Bed no:
 Diagnosis: Date:
 Direction to use: (✓) all that apply

The service provider does the following

S.N.	PERFORMANCE STANDARDS	DEFINITION (VERIFICATION CRITERIA)	YES	NO	REMARKS
1	The service provider prepares and performs immediate postoperative care	a. Immediate post-operative care			
		Make preparation for immediate postoperative care of patient			
		Assemble the articles <ul style="list-style-type: none"> ✓ Digital thermometer ✓ BP apparatus ✓ Stethoscope ✓ Pulse oximeter ✓ Measuring tape 			
		Receive the patient from operating room and take handover from operating room nurse			
		Assess for Airway Breathing Circulation (ABC)			
		Check level of consciousness			
		Monitor and record Vital signs (Every 15 mins for two hours, then half hourly for next two hours then hourly)			
		Assess for Hypothermia and shivering			
		Assess pain by using pain assessment tool and manage as per protocol			
		Position the patient in comfortable position			
		Provide psychological support to relieve patient's fear and anxiety			
		Take measures for controlling nausea and vomiting			

		Check incision site for soakage			
		Check for drainage tube for kink, blockage, and excessive drainage			
		Monitor for fluid and electrolytes balance			
		Documentation			
2	The service provider provides postoperative care including vitals sign monitoring, pain management and lines care.	b. Continue post-operative care			
		Receive the patients in Postoperative ward / unit and take handover from			
		Monitor and record vital signs			
		Assess Level of consciousness			
		Assess for pain by using pain assessment tools and take measures for its management			
		Monitor fluid and electrolyte balance			
		Assess and manage lines care Peripheral IV line /Central Venous pressure line			
		Provide Leg exercises and changing position 2 hourly			
		Encourage early ambulation and assist if necessary.			
		Provide deep Breathing and coughing			
		Encourage for resuming nutrition as tolerated			
		Check for drainage tube for kink, blockage, and excessive drainage			
		Provide Wound care			
		Document properly			
		Total Score=32 ("Yes"=1 point; Any "No"=0 point)			

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Date:

Signature:

		<p>alcohol-based hand rub</p> <ul style="list-style-type: none"> ✓ Appropriate dressing materials ✓ Appropriate solution for cleaning the wound ✓ Gloves – disposable ✓ Sterile saline ✓ Sterile gauze swabs ✓ Culture tubes (if presence of infection) 			
		Put all needed equipment near the patient for easy access.			
		Clean the trolley using disinfectant			
		Prepare environment, position patient, adjust height of bed, turn on lights			
		Prepare sterile field.			
		Add necessary sterile supplies.			
3.	Prepare the service provider	Wash hands thoroughly with soap and water and dry with clean cloth or air dry.			
		Put on Clean gloves on both hands.			
4.	Changing the Dressing	Place the mackintosh underneath the site of dressing			
		Prepare patient and expose dressed wound.			
		Remove old dressing carefully, if dressing is stuck, DO NOT PULL. Soak and remove one layer at a time so as to minimize wound damage.			
		Place soiled dressings in the disposal container.			
		Wash hands again with soap and water and put on sterile gloves.			
		Open the sterile dressing tray.			
		Clean the wound and surrounding skin with guaze soaked with betadine or other wound cleanser in a circular inside to outside motion or a straight up to down motion.			
		Use new guaze for the each wipe, DO NOT rub back and forth.			
		Dispose of soiled gauzes.			
		Dry the wound using guaze gently.			
		Apply Vaseline guaze to wound if concerned about it drying out (if needed)			
		Place sterile dressing over wound.			

		Secure with adhesive tape or bandage material.			
		Dispose of all soiled items in the proper container.			
		Remove gloves and wash hands with soap and water.			
		Document at nursing progress note			
		Total Score= 43 ("Yes"=1 point; Any "No"=0 points)			

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Date:

Signature:

2.1.6 PERIPHERAL IV LINE PLACEMENT

CHECKLIST OF PERIPHERAL IV ACCESS PLACEMENT

Patient name: _____ Age/Gender: _____ Ward/OPD: _____
 Doctor unit: _____ IP No: _____ Bed no: _____
 Diagnosis: _____ Date: _____

Date and time of IV insertion: _____

Direction to use: (✓) all that apply

The service provider does the following

S.N.	PERFORMANCE STANDARDS	DEFINITION (VERIFICATION CRITERIA)	YES	NO	REMARKS
1.	The service provider makes preparations for peripheral IV access	Explain the procedure to the patient			
		Take a verbal consent			
		Place the patient in comfortable position			
		Perform hand hygiene			
		Clean the trolley or tray with rubbing with spirit and allow it to dry completely			
		Collect all listed equipment ✓ Cannula of different sizes. ✓ Alcohol swab/ cotton and spirit ✓ Transparent dressing/ adhesive tape ✓ 3/5cc syringes ✓ 0.9% Normal saline for IV flush ✓ Kidney tray ✓ Clean gloves ✓ Macintosh ✓ Tourniquet ✓ Marker/Ball pen for putting date			
		Keep a mackintosh under the hand			
2.	The service provider performs hand hygiene again	Perform Hand hygiene- ABHR			
		Have everything opened up and ready to grab for ONE HAND use (i.e. caps off, out of packages, piece of tape cut, etc.)			
3.	The service provider performs IV access and secures the IV line.	Select the vein and apply the tourniquet 5-10 cm above the selected site			
		Put on clean gloves			
		Disinfect the site with alcohol swab and let it dry			
		Selects IV cannula of appropriate size according to age and purpose.			
		Apply non touch technique			
		Open the IV cannula pack			
		Insert the IV cannula at selected vein			

		Flatten needle angle and advance SLIGHTLY			
		Hold everything steady and advance catheter into vein			
		Use index finger to push the catheter into the vein			
		Withdraw the stylet/needle			
		Remove the tourniquet.			
		Put thumb above the cannulated vein and push down to occlude the vein.			
		Withdraw the needle and discard safely into a sharp disposal puncture proof jar.			
		Attach any chosen adapters, such as needleless connectors or IV set with fluid			
		Tape up the IV catheter with date and time of insertion			
		Flush the IV cannula with the normal saline 3-5ml			
		Remove gloves and perform hand hygiene.			
4.	The service provider ensures the placement of IV cannula	Observe for IV site			
		Ensure IV line fixed without extravasation.			
		Ensure Free flow infusion and rate.			
		Report immediately if any discomfort is experienced by the patient.			
5.	The service provider documents the procedure	Document in nursing progress note			
		Total Score = 41 ("Yes"=1 point; Any "No"=0 point)			

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Date:

Signature:

	makes preparation for oral medication	b. Take medications/ to patient's bed side			
		c. Check each medication against Cardex			
		d. Check medication expiration date			
		e. Open medication and place in med cup			
		f. Administer meds according to patient preference/condition			
4	The service provider makes preparation for IV / IM/ SC medication	Check medication order.			
		Assemble syringe with needle/medicine vial/ampoule/ sterile water for injection			
		Remove needle guard			
		Inject sterile water for injection as instructed for dissolving medicine			
		Rotate vial between palms to disperse medication.			
		Cleanse top of medication vial with alcohol swab			
		Insert needle into vial and inject the air. (Injected air prevents creation of negative pressure within the vial so that medication is easily withdrawn.)			
		Invert vial and withdraw the desired volume of medication			
		Ampules - Flick upper stem of the ampule with finger			
		Insert needle into ampule and withdraw required dosage of medication.			
		Dispose of ampule in appropriate container to prevent broken glass from cutting other health care workers.			
		If medication is known to be irritating to subcutaneous tissues replace needle after withdrawing medication.			
		Select appropriate injection site by inspecting muscle size and integrity			
		Consider volume of medication to be injected.			
		Assist patient to a comfortable position and expose only the area to be injected.			
		Don gloves especially on non-dominant hand.			
		Maintains standard precautions			
Cleanse the site with antiseptic swab wiping from center of site and rotating outwards.					
Remove needle cover and expel air bubbles from syringe					

		Hold syringe between thumb and forefinger of dominant hand (like a dart).			
		Spread skin at the side with non-dominant hand			
		Insert needle quickly at a 90 degrees angle			
		Stabilize syringe barrel by grasping with non-dominant hand			
		Aspirate slowly by pulling back the plunger with dominant hand			
		If no blood appears inject medication slowly in case of IM injection			
		In case of IV injection inject if blood appears while aspirating			
		Gently massage site, this stimulates local			
		Do not recap needle, dispose of equipment in proper reception to protect nurses and health care workers from accidental needle injury.			
		Wash hands.			
		Record medication and patient			
5		Never leave medication unattended			
		Remain with patient until medication is ingested			
		Dispose waste according to waste disposal protocol.			
6	The service provider documents the procedure	Document correctly (put signature at Cardex)			
		Total Score = 62 ("Yes"=1 point; Any "No"=0 point)			

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		d. Ward timetable regarding mealtimes			
		e. Doctor's round times			
		f. Visiting hours/ number of visitors allowed			
		g. Visitors' room/locker			
		h. Explain about drinking water(hot/cold) facility			
		i. Ensure understanding of orientation			
		j. Explain the waste management protocol			
		Ask if there is anything else patient/visitor need or would like to ask.			
		Respond in well manner while patient or visitor asks any question.			
		Help the patient to maintain personal hygiene and change into hospital clothes as per policy			
		Shows patient the patients' cupboard and bed locker.			
		Hand over the patients valuable to his relatives			
		Issue visitor pass			
		Make sure patient is comfortable and safe.			
3.	The service provider completes the admission procedure documentation	Complete the admission record and other necessary documentation			
		Total Score = 30 ("Yes"=1 point; Any "No"=0 point)			

Checked by:

Date:

Signature:

2.1.9 OXYGEN THERAPY

CHECKLIST FOR OXYGEN THERAPY

Patient name Age/Gender: Ward/OPD:
 Doctor unit: IP No: Bed no:
 Diagnosis: Date:
 Date and time of IV insertion:
 Direction to use: (✓) all that apply

The service provider does the following

S.N.	PERFORMANCE STANDARDS	DEFINITION (VERIFICATION CRITERIA)	YES	NO	REMARKS
1.	The service provider prepares for oxygen therapy	Determine need for oxygen therapy in patient			
		Explain the procedure to the patient.			
		Perform patient assessment and record findings <ul style="list-style-type: none"> • Heart rate, respiratory rate, cyanosis (+/), abnormal respiration • vital signs including oxygen saturation (SpO₂) • Level of consciousness 			
		Verify the type of order for O ₂ therapy			
		Wash hands or use alcohol base hand sanitizer.			
		Set up oxygen equipment and humidifier. <ul style="list-style-type: none"> ✓ Pulse oximeter ✓ Nasal cannula/Simple facemask/Non rebreathing mask/Partial rebreathing mask/Venturi mask/Tracheostomy mask ✓ Oxygen key ✓ Oxygen flow meter with humidifier ✓ Sterile water ✓ Alcohol swabs 			
		Check the condition of O ₂ pipe and flow meter.			
		Attach tubing and nasal cannula/ oxygen mask to			
2.	The service provider checks for proper functioning of equipment	Assist the patient on semi-fowler's position which permits easier chest expansion and breathing. (Head up to 30-45 degree)			
		Ensure proper functioning by checking for bubbles in humidifier or feeling O ₂ at the outlet including the level of water in humidification chamber.			
		Clean the nostril with swab stick, if the nostrils are blocked with secretions.			
		Regulate flow meter to prescribed level (to deliver desired Fio ₂). Reassure the level of water in humidification or not).			

3.	The service provider delivers Oxygen via Nasal cannula/ Simple Masks/ Re-breather/ Non-rebreather/ Venturi and tracheostomy masks	O2 by nasal cannula/nasal prongs /nasal probe <ul style="list-style-type: none"> • Check nasal cannula by dipping in a bowl of water and note the O2 coming out of cannula 			
		<ul style="list-style-type: none"> • Place the tips of cannula to the patient's nares and adjust straps around ear for snug fit 			
		<ul style="list-style-type: none"> • Put gauze pads over the ear and inspect skin behind the ear periodically for irritation/breakdown 			
		<ul style="list-style-type: none"> • Reconfirm the desire flow (1-5 lt/min) of oxygen in flow meter as prescribed 			
		Confirm the desire flow (liter/min and % of Fio2) of oxygen in flow meter as prescribed			
		a. Nasal cannula (1-5 lt/min-24-40%)/ b. Simple Masks (5-6 lt/min-44-60%)/ c. Re-breather(6-15 lt/min 44-80%)/ d. Non- rebreather (10-15 lt/min- 100% with 15 lt/min oxygen) e. Venturi (2-15 lt/min- 24%-60 %Fio2)and f. Ttracheostomy masks (2-15 lt/min-24-80%)/ <ul style="list-style-type: none"> • Identify which mask has been prescribed. 			
		<ul style="list-style-type: none"> • Guide the mask to the patient face and apply it from nose downward 			
		<ul style="list-style-type: none"> • Fit the metal piece of mask to confirm to the shape of nose 			
		<ul style="list-style-type: none"> • Apply padding behind ears as well as scalp and secure elastic band around the patient's head. 			
		<ul style="list-style-type: none"> • Reconfirm the desire flow of oxygen in flow meter as prescribed 			
4.	The service provider ensures the safety precautions during oxygen therapy	Ensure that safety precautions are followed. <ul style="list-style-type: none"> • Cylinder safety • Patient safety • Fire safety 			
		Inspect the patient and equipment frequently for flow rate, clinicalcondition, level of water in humidifier.			
		Wash hands and replace the equipment.			
5.	The service provider performs proper documentation	Complete Documentation <ul style="list-style-type: none"> • time of start and stop • flow rate and • observations made on the patient 			
		Total Score=36 ("Yes"=1 point; Any "No"=0 point)			

Checked by:

Date:

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