

**(To be printed)**

**Mandatory Modules**

---

*B.Sc. Nursing Program*

**Modular content & learning resources**



## **INDIAN NURSING COUNCIL**

8<sup>th</sup> Floor, NBCC Centre, Plot No. 2, Community Centre,  
Okhla Phase-1, New Delhi-110020

**Price: Rs. ....**

Copyright © 2022 by Indian Nursing Council

First Print 2022

All rights reserved. No part of this publication may be reproduced, reviewed, abstracted, stored in a retrieval system or transmitted in any form or by any means including photocopying without the prior written permission of the Indian Nursing Council, New Delhi.

## PREFACE

Indian Nursing Council (INC) is a statutory body under the Ministry of Health and Family Welfare, Government of India. The main function of INC is to achieve Uniform Standards of Nursing Education in the country. National Health Policy (NHP, 2002) had emphasized on improving the skill-level of nurses, and on increasing the ratio of degree-holding nurses vis-à-vis diploma-holding nurses. NHP (2017) emphasized the need for standardization of quality of clinical training. The main focus of NEP (2020) relevant to higher education and healthcare education is towards competency and outcome-based curriculum using innovative educational approaches and technology, promotive, preventive and community health, and ethics & values.

The revision of curriculum was undertaken by the Council considering the various recommendations of NHP and NEP. The revised curriculum adopts semester and credit system. Modular learning, simulation learning, relationship and transformational learning approaches are integrated throughout. In order to facilitate the teachers to effectively implement the revised syllabus, it has been presented in a format, wherein details of the units have been worked out with specific teaching/learning activities.

The curriculum mainly utilizes competency based and outcome-based approaches. The competencies that reflect the practice standards of the council address quality, safety, communication technology, teamwork, collaboration, evidence-based practice, and ethics. The courses/subjects such as Health/Nursing Informatics & Technology, Microbiology, Infection Control including Safety are redesigned and Environmental Science and newer roles of B.Sc. nurses as community health officer (CHO) in Health & Wellness centres, as envisaged by GoI are integrated into Community Health Nursing course. The duration of the program is eight semesters including internship (i.e. 4 years).

In many of the nursing courses, health/care related national guidelines/protocols prepared by MOH&FW and INC supporting the GoI initiatives, are included in the syllabus and delivered as modules. These are mandatory modules that have to be completed by students in the respective courses and semesters as specified in the curriculum. The modules with relevant learning resources are prepared by INC and are available for use by students and faculty.

I am confident that this learning resource package/booklet for mandatory modules will enable the students to be updated with recent GoI guidelines and prepared to provide safe, competent and quality nursing and midwifery care contributing towards achievement of SDGs, functioning in a variety of settings in either public/government or private healthcare settings.

I take this opportunity to acknowledge the contribution of Dr. Punitha Ezhilarasu, Ex Dean of College of Nursing CMC Vellore and Senior Consultant at INC, members of the INC Nursing Education committee and various subject experts in the preparation of mandatory modules included in the revised and redesigned BSc N curriculum. I sincerely thank my INC officials Dr. Asha Sharma, Vice President, Dr. Sarvjeet Kaur, Secretary and Ms. K.S Bharati, Joint Secretary for their contribution in its preparation. I also acknowledge Ms. K.S. Bharati and Mr. Satish Agrawal for designing and formatting the booklet.



**(T. Dileep Kumar)**  
President,

Indian Nursing Council  
Ex-Nursing Adviser to Govt. of India

## CONTENTS

S.No.	Module	Page No.
1.	FIRST AID MODULE (Nursing Foundation I)	7
2.	HEALTH ASSESSMENT MODULE (Nursing Foundation II)	10
3.	BLS/BCLS MODULE (Adult Health Nursing I)	40
4.	FUNDAMENTALS OF PRESCRIBING MODULE (Pharmacology II)	41
5.	PALLIATIVE CARE MODULE	53
<del>6.</del>	<del>FACILITY BASED NEWBORN CARE (FBNBC) AND ESSENTIAL NEWBORN CARE (ENBC), PLS AND IMNCI MODULES</del>	<del>56</del>
6.	FACILITY BASED NEWBORN CARE (FBNBC) AND ESSENTIAL NEWBORN CARE (ENBC) MODULES (Child Health Nursing I)	56
7.	IMNCI MODULE (Child Health Nursing I)	59
8.	PLS MODULE (Child Health Nursing I)	61
9.	SBA MODULE & SAFE DELIVERY APP MODULE (Midwifery/Obstetrics & Gynecology Nursing I & II)	63

# FIRST AID MODULE (Nursing Foundation I)

**PLACEMENT:** I SEMESTER

**Theory:** 20 hours

**Practical:** 20 hours

**Module Overview:** This module covers various basic first aid techniques including basic CPR and common emergencies. It further aims to train students to develop first aid competencies to deal with specific emergencies to preserve life.

**Competencies (Learning Outcomes):** The student will be able to

1. Explain basic principles of first aid and law related to first aid.
2. Describe various first aid techniques such as basic CPR, recovery position, top to toe assessment and hygiene and handwashing.
3. Identify common emergencies that require immediate attention and first aid.
4. Perform basic first aid techniques to deal with specific and common emergencies to preserve life.
5. Perform first aid measures such as dressings, bandages, and safe transportation.
6. Prepare first aid kit.

**Learning Activities:**

- Lectures and demonstration
- Self-study/Reading assignments
- Written assignments
- Role play
- Mock drill
- Practice in Skill/Simulation Lab

**Assessment Methods:**

- Test paper (Objective type/short answer/situation type): 20 marks
- Assignments: 10 marks
- OSCE (First aid competencies): 20 marks

**Weightage to Internal Assessment:** 10 marks to be added to internal marks to make up the total of 40 marks.

**Explanatory Note:**

{**Weightage to Internal Assessment:** 10 marks taken out of 50 marks mentioned above have to be added to 30 marks of continuous assessment of Nursing Foundation I to make up the total of 40 marks.

Final 40/4 = 10 marks of continuous assessment to be added to 15 marks from sessional exams to make up the total internal assessment marks of 25}.

## CONTENT OUTLINE T-Theory, Practical-P

Unit	Time (Hours)	Learning Outcome	Content	Teaching/Learning Activities	Assessment Methods
I	T-2	Explain basic principles of first aid and law related to first aid.	<b>First Aid:</b> <ul style="list-style-type: none"><li>• Introduction</li><li>• Aims</li><li>• First aid and law</li></ul> <b>General Principles:</b> <ul style="list-style-type: none"><li>○ Safety</li><li>○ Seeking help</li><li>○ Quick assessment</li></ul>	<ul style="list-style-type: none"><li>• Lecture cum discussion</li><li>• Role play</li></ul>	<ul style="list-style-type: none"><li>• MCQ</li><li>• Short answers</li></ul>

Unit	Time (Hours)	Learning Outcome	Content	Teaching/Learning Activities	Assessment Methods
			<ul style="list-style-type: none"> <li>○ Observation - consciousness and breathing</li> <li>○ Provision of first aid</li> </ul>		
II	T-5 P-6	Describe various first aid techniques such as basic CPR, recovery position, top to toe assessment and hygiene and handwashing.	<b>First aid techniques</b> <ul style="list-style-type: none"> <li>● Basic CPR - Adult &amp; baby/child</li> <li>● Securing open airway</li> <li>● Recovery position</li> <li>● Initial top-to-toe assessment</li> <li>● Hygiene &amp; Handwashing technique</li> </ul>	<ul style="list-style-type: none"> <li>● Lecture cum discussion</li> <li>● Demonstration</li> <li>● Practice in skill lab/Simulation lab</li> </ul>	<ul style="list-style-type: none"> <li>● Short answers</li> <li>● OSCE</li> </ul>
III	T-8 P-8	Identify common emergencies that require immediate attention and first aid. Perform basic first aid techniques to deal with specific and common emergencies to preserve life.	<b>First aid management of Common emergencies</b> <ul style="list-style-type: none"> <li>● Review of anatomy &amp; physiology of systems mentioned below.</li> <li>● <b>Respiratory system:</b> <ul style="list-style-type: none"> <li>○ Drowning</li> <li>○ Strangulation &amp; hanging</li> <li>○ Choking</li> <li>○ Suffocation by smoke</li> <li>○ Asthma</li> </ul> </li> <li>● <b>CVS</b> <ul style="list-style-type: none"> <li>○ Chest discomfort/pain</li> <li>○ Bleeding</li> <li>○ Shock</li> </ul> </li> <li>● <b>Injury &amp; fractures</b> <ul style="list-style-type: none"> <li>○ Head, neck &amp; spinal injuries</li> <li>○ Injuries &amp; fractures to bones, joints, and muscles</li> <li>○ Dislocations</li> <li>○ Strains &amp; Sprains</li> <li>○ Immobilization techniques</li> </ul> </li> <li>● <b>Unconsciousness &amp; Nervous system related emergencies</b> <ul style="list-style-type: none"> <li>○ Unconsciousness</li> <li>○ Stroke</li> <li>○ Convulsions, epilepsy</li> </ul> </li> <li>● <b>GI &amp; Endo system related emergencies</b> <ul style="list-style-type: none"> <li>○ Diarrhea</li> <li>○ Food poisoning</li> <li>○ Diabetes</li> </ul> </li> <li>● <b>Skin, burns, heat exhaustion, fever &amp; hypothermia</b> <ul style="list-style-type: none"> <li>○ Burns</li> <li>○ Heat stroke</li> <li>○ Fever</li> <li>○ Hypothermia</li> </ul> </li> <li>● <b>Poisoning</b></li> <li>● <b>Bites &amp; stings</b> <ul style="list-style-type: none"> <li>○ Animal bites, insect stings &amp; bites</li> <li>○ Snake bites</li> </ul> </li> <li>● <b>Sensory system related</b> <ul style="list-style-type: none"> <li>○ Foreign bodies in eye, ear, nose, or skin</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>● Self-study, Review &amp; written assignment</li> <li>● Lecture cum discussion</li> <li>● Demonstration</li> <li>● Role play</li> <li>● Practice in skill lab/clinical</li> </ul> <ul style="list-style-type: none"> <li>● Mock drill</li> </ul>	<ul style="list-style-type: none"> <li>● Case study</li> <li>● Written Assignment</li> <li>● OSCE</li> </ul>

Unit	Time (Hours)	Learning Outcome	Content	Teaching/Learning Activities	Assessment Methods
			<ul style="list-style-type: none"> <li>○ Swallowed foreign objects</li> <li>● <b>Urinary system, reproductive system, and emergency childbirth</b></li> <li>● <b>Psychological first aid</b></li> <li>● <b>Emergency situations and disaster management</b></li> </ul>		
IV	T-4 P-6	Demonstrate competency in performing first aid measures such as dressings, bandages, and safe transportation	<b>Selected First Aid Techniques</b> <ul style="list-style-type: none"> <li>● Dressing</li> <li>● Bandaging</li> <li>● Transportation</li> </ul>	<ul style="list-style-type: none"> <li>● Demonstration</li> <li>● Practice</li> </ul>	<ul style="list-style-type: none"> <li>● OSCE</li> </ul>
V	T-1	Describe first aid kit	<b>First Aid Kit</b> <ul style="list-style-type: none"> <li>● Content of first aid box - small, medium, and large</li> <li>● First medical responder first aid kit</li> </ul>	<ul style="list-style-type: none"> <li>● Display &amp; discussion</li> </ul>	<ul style="list-style-type: none"> <li>● Short answers</li> <li>● Observation Report</li> </ul>

**Learning Resources:** (Latest version to be consulted as and when revised)

- Indian First aid manual by IRCS (Seventh edition, 2016)
- Standard first aid training course outline (IRCS, 2019)
- Subsequent and latest revisions must be consulted and used by teachers and students.
- FAST mobile app prepared by NDMA & IRCS may also be used.

## HEALTH ASSESSMENT MODULE (Nursing Foundation II)

**PLACEMENT:** II SEMESTER

**Theory:** 20 hours

**Practical-Skill Lab:** 20 hours

**Module Overview:** This module covers methods of health assessment, nursing health history, comprehensive physical assessment and guide to perform physical assessment.

**Competencies (Learning Outcomes):** The student will be able to

1. Identify the purposes of the physical examination.
2. Describe the preparation for health assessment.
3. Explain the four methods/techniques used in physical examination: inspection, palpation, percussion, and auscultation.
4. Perform comprehensive health assessment that includes nursing health history and system wise physical examination.
5. Identify expected findings during health assessment.

**Learning Activities:**

- Lectures
- Demonstration
- Practice in Skill/Simulation Lab
- Case study method (case scenario and questions)
- Self-study/Reading assignments
- Written assignments

**Assessment Methods:**

- Test paper - Objective type/Short answers - 20 marks
- Assignments - 10 marks
- OSCE-20 (Nursing Health history, System wise physical assessment, Comprehensive physical assessment and identification of abnormal findings)

**Weightage to Internal Assessment:** 10 marks to be added to internal marks to make up the total of 40 marks.

### CONTENT OUTLINE T - Theory, P - Practical

Unit	Time (Hours)	Learning Outcomes	Content	Teaching/Learning Activities	Assessment Methods
I	T-4 P-4	Identify The Purposes of the Physical Examination and Describe the Preparation for Health Assessment. Explain the Four Methods/ Techniques used in Health Assessment:	<b>Health Assessment</b> <ul style="list-style-type: none"> <li>• Definition/Meaning</li> <li>• Purposes</li> <li>• Preparation for Health Assessment</li> <li>• Methods of Health Assessment                             <ul style="list-style-type: none"> <li>○ Inspection,</li> <li>○ Palpation,</li> <li>○ Percussion, and</li> <li>○ Auscultation.</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>• Lecture</li> <li>• Demonstration</li> <li>• Practice in Skill Lab and Clinical</li> </ul>	<ul style="list-style-type: none"> <li>• MCQ</li> <li>• Short answers</li> <li>• OSCE</li> </ul>
Ii	T-8 P-8	Perform Comprehensive Health Assessment that includes	<b>Comprehensive Health Assessment</b> <ul style="list-style-type: none"> <li>• Nursing Health History</li> <li>• <i>Physical Assessment</i></li> </ul>	<ul style="list-style-type: none"> <li>• Self-Study Review of Anatomy of System and Organs</li> </ul>	<ul style="list-style-type: none"> <li>• Short answers</li> <li>• Written assignments</li> <li>• OSCE</li> </ul>

Unit	Time (Hours)	Learning Outcomes	Content	Teaching/Learning Activities	Assessment Methods
		Nursing Health History and System Wise Physical Examination.	<ul style="list-style-type: none"> <li>○ Comprehensive Physical Examination - System Wise</li> </ul>	<ul style="list-style-type: none"> <li>● Lecture</li> <li>● Demonstration</li> <li>● Practice in Skill Lab and Clinical</li> </ul>	
iii	T-8 P-8	Identify Expected Findings during Health Assessment	<b>Guide To Perform Head-to-Toe Physical Assessment to identify Normal/Abnormal Findings</b> <ul style="list-style-type: none"> <li>● Assessment Techniques and Normal Findings</li> </ul>	<ul style="list-style-type: none"> <li>● Lecture cum discussion</li> <li>● Demonstration</li> <li>● Practice in Skill Lab And Clinical</li> <li>● Identification of Findings</li> </ul>	<ul style="list-style-type: none"> <li>● Short answers</li> <li>● Written assignments</li> <li>● OSCE</li> </ul>

#### Learning Resource:

Health Assessment Module prepared by INC, given below.

### HEALTH ASSESSMENT MODULE (~~Adult Health Nursing~~) (Nursing Foundation II)

S.No.	Content	Page No.
1	<b>INTRODUCTION</b>	12
	Purposes of health assessment	12
	Preparation for health assessment	12
	Methods of health assessment	12
2	<b>A. COMPREHENSIVE HEALTH ASSESSMENT</b>	13
	<b>I. Nursing Health History</b>	13
	<b>II. Physical Assessment</b>	13
	1. Assessment of mental status, anthropometric measurements and vital signs	13
	2. Assessment of the integumentary system	13
	3. Assessment of head and neck	13
	4. Assessment of breast and axillae	14
	5. Assessment of respiratory system - thorax & lungs	14
	6. Assessment of cardiovascular system - Heart	14
	7. Assessment of abdomen	14
	8. Assessment of male and female genitalia	15
	9. Assessment of rectum and anus	15
	10. Assessment of musculoskeletal system	15
	11. Assessment of peripheral vascular system	15
	12. Assessment of neurological system	15
3	<b>B. GUIDE IN PERFORMING A HEAD-TO-TOE PHYSICAL ASSESSMENT</b>	15
	1. Integumentary system	15
	2. Head and Neck	15
	3. Anterior & Posterior thorax (Breast & axillae, thorax, lungs, heart)	23
	4. Abdomen	26
	5. Male and female genitalia	29
	6. Rectum and anus	29
	7. Extremities (Musculoskeletal system & Peripheral vascular system)	29
	8. Neurological system	30
4	Annexure 1: Terminology relevant to Neurological system	36
5	Annexure 2: Sample Health Assessment Format (Adult)	38

# HEALTH ASSESSMENT

## INTRODUCTION

Health assessment is the evaluation of the health status by performing a physical examination after taking a health history. Successful assessment requires a practical understanding of what is involved, the time and resources necessary to undertake assessment, and sufficient integration of findings into planning and implementation of treatment and care.

### Purposes of Health Assessment

- To identify the patient's response to health and illness
- To determine the nursing care needs of the patient
- To evaluate outcomes of health care and patient progress
- To screen for presence of risk factors.

### Preparation for Health Assessment (infection control, preparation of equipment, environment and patient)

- *Infection control*
  - Use standard precautions as appropriate
  - Use personal protective equipment (gloves, mask, etc.)
  - Perform hand hygiene
  - Utilize clean instruments.
- *Preparation of environment*
  - Ensure adequate lighting is available
  - Use sound proof room or minimize noise
  - Use special examination tables as needed
  - Provide ideal room temperature
  - Ensure adequate privacy (curtains)
  - Provide safety and prevent falls.
- *Preparation of equipment*
  - Collect and arrange all equipment for easy access
  - Check functioning of all equipment (change batteries if needed)
  - Warm equipment before use, if required
  - Equipment usually collected are Sphygmomanometer, stethoscope, thermometer, cotton balls, tongue depressor, reflex hammer, swab stick, k-basin, tuning fork, etc.

### Preparation of the patient

- *Physical preparation of the patient*
  - Ensure physical comfort
  - Position patient as required
  - Dress and drape patient appropriately
  - Keep patient warm
  - Assist patient to restroom prior to examination and collect samples (urine/stool) if required.
- *Psychological preparation of the patient*
  - Explain the procedure and its need to the patient. Clarify doubts to reduce anxiety
  - Maintain a calm, open and professional approach
  - Provide chaperone when the patient is of the opposite gender of the nurse
  - Look for verbal and non-verbal cues to identify patient's discomfort and stop or postpone the examination if needed.

### Methods of Physical Assessment

1. *Inspection:* It is the use of vision and hearing to detect normal and abnormal findings. Adequate lighting should be ensured with paying attention to detail. The same area on the opposite side should be compared whenever applicable. Inspection is done to assess moisture, color, and texture of body surface as well as shape, position, size, and symmetry of the body parts.
2. *Palpation:* It is the use of the hands and the sense of touch to gather data. The pads of the fingers are used. Different parts of the hand are best suited for specific purposes. For example, the dorsal aspect of the hand is best for assessing temperature changes. Hand hygiene is to be ensured.

*Types of palpation:* Light palpation (<1 cm), Moderate palpation (1-2 cm) & Deep palpation (2 cm) and Bimanual Palpation & palpation with single hand.

The purpose is to assess the texture, temperature, tenderness, moisture, size, distention, pulsation, and mobility of organs or masses

3. *Percussion*: It means tapping of various body organs and structures to produce vibration and sound. It is the act of striking the body surface to elicit sounds that can be heard or vibration that can be felt.  
*Types of percussion*: Direct percussion and Indirect (use of plexor & pleximeter) percussion.  
 The purpose is to determine the location, size and density of underlying tissue structures and if tissue is fluid filled, air filled or solid.  
*Sounds heard*: Flatness (muscle or bone), dullness (organs), resonance (lungs filled with air), hyper resonance (emphysematous lung), tympany (air filled stomach).
4. *Auscultation*: The act of listening to sounds within the body to evaluate the condition of body organs (stethoscope) can be performed with unaided ear or stethoscope. Sounds are described according to their
  - a. Pitch: The frequency of the vibrations (ranging from high to low)
  - b. Intensity: The loudness or softness of a sound
  - c. Duration: The sound length (short, medium, or long)
  - d. Quality: Subjective description of sounds (gurgling, swishing)
5. *Olfaction*: It is the use of sense of smell to perceive and differentiate odors.  
*Example*: Acetone breath in Diabetic Keto Acidosis

## A. COMPREHENSIVE HEALTH ASSESSMENT

A comprehensive health assessment includes:

### I. Nursing Health History

- A general survey - Demographic data, Physical environmental history, Biological environmental history
- Health history - Family and Personal health history
- A complete medical history-past and present medical history

### II. Physical Assessment

#### 1. General appearance, mental status, anthropometric measurements and vital signs

*General appearance and mental status*: Physical assessment begins with observation of the patient's general appearance, level of comfort, and mental status.

*Anthropometric measurements*: Measurement of height, weight and BMI follows next.

*Vital signs*: The pulse, blood pressure, bodily temperature and respiratory rate are measured and documented.

#### 2. Assessment of the Integumentary System (Hair, Skin and Nails)

*Inspection*: The color of the skin, the quality, distribution and condition of the bodily hair, the size, the location, color and type of any skin lesions are assessed and documented, the color of the nail beds, and the angle of curvature where the nails meet the skin of the fingers are also inspected.

*Palpation*: The temperature, level of moisture, turgor and the presence or absence of any edema or swelling on the skin are assessed.

#### 3. Assessment of the Head& Neck (The Face and Skull, Eyes, Ears, Nose, Mouth, Throat, Neck)

##### 3.1 Face and Skull

*Inspection*: The size, shape and symmetry of the face and skull, facial movements and symmetry are inspected.

*Palpation*: The presence of any lumps, soreness, and masses are assessed.

##### 3.2 Eyes

*Inspection*: Pupils in reference to their bilateral equality, reaction to light and accommodation, the presence of any discharge, irritation, redness and abnormal eye movement are assessed.

*Standardized Testing*: The Snellen chart for visual acuity

##### 3.3 Ears

*Inspection*: The auricles are inspected in terms of color, symmetry, elasticity and any tenderness or lesions; the external ear canal is inspected for color and the presence of any drainage and ear wax; and the tympanic membrane in terms of color, integrity and the lack of any bulging is also assessed.

*Standardized Testing*: The Rinne test and the Weber test for the assessment of hearing can be done using a tuning fork.

### 3.4 Nose

*Inspection:* The color, size, shape, symmetry, and any presence of drainage, flaring, tenderness, and masses are assessed; the nasal passages are assessed visually using an otoscope of the correct size for an infant, child and adult; the sense of smell is also assessed.

*Palpation:* The sinuses are assessed for any signs of tenderness and infection.

### 3.5 Mouth and Throat

*Inspection:* The lips are visualized for their symmetry and color; the buccal membranes, the gums and the tongue are inspected for color, any lesions and their level of dryness or moisture; the tongue is inspected for symmetry of movement; teeth are inspected for the presence of any loose or missing teeth; the uvula is assessed for movement, position, size and color; the salivary glands are examined for signs of inflammation or redness; the oropharynx, tonsils, hard and soft palates are also inspected for color, redness and any lesions. Lastly, the gag reflex is assessed. The mouth and the throat are assessed using a tongue blade and a light source.

### 3.6 Neck

*Inspection:* The neck and head movement is visualized; the thyroid gland is inspected for any swelling and also for normal movement during swallowing.

*Palpation:* The neck, the lymph nodes, and trachea are palpated for size and any irregularities.

## 4. Assessment of the Breast and Axillae

*Inspection:* The breasts are visualized to assess the size, shape, symmetry, color and the presence of any dimpling, lesions, swelling, edema, visible lumps and nipple retractions. The nipples are also assessed for the presence of any discharge, which is not normal for either gender except when the female is pregnant or lactating.

*Palpation:* The nurse performs a complete breast examination using the finger tips to determine if any lumps are felt. The lymph nodes in the axillary areas are also palpated for any enlargement or swelling.

## 5. Assessment of Respiratory System (Thorax and Lungs)

### 5.1 Assessment of the Thorax

*Inspection:* The anterior and posterior thorax is inspected for size, symmetry, shape and for the presence of any skin lesions and/or misalignment of the spine; chest movements are observed for the normal movement of the diaphragm during respirations.

*Palpation:* The posterior thorax is assessed for respiratory excursion and fremitus.

*Percussion:* It is done to assess normal and abnormal sounds over the thorax

### 5.2 Assessment of the Lungs

*Auscultation:* The assessment of normal and adventitious breath sounds.

*Percussion:* It is done to identify for normal and abnormal sounds. Normal breath sounds like vesicular breath sounds, bronchial breath sounds, bronchovesicular breath sounds are auscultated and assessed in the same manner that adventitious breath sounds like rales, wheezes, friction rubs, rhonchi, and abnormal bronchophony, egophony, and whispered pectoriloquy are auscultated, assessed and documented.

## 6. Assessment of the Cardiovascular System (Heart)

*Inspection:* Pulsations indicating the possibility of an aortic aneurysm are identified by inspection.

*Auscultation:* Listening to systolic heart sounds like the normal S<sub>1</sub> heart sound and abnormal clicks, the diastolic heart sounds of S<sub>2</sub>, S<sub>3</sub>, S<sub>4</sub>, diastolic knocks and mitral valve sounds, all of which are abnormal with the exception of S<sub>2</sub> which can be normal among patients less than 40 years of age.

## 7. Assessment of the Abdomen

*Inspection:* The abdomen is visualized to determine its size, contour, symmetry and the presence of any lesions. As previously mentioned, the abdomen is also inspected to determine the presence of any pulsations that could indicate the possible presence of an abdominal aortic aneurysm.

*Auscultation:* The bowel sounds are assessed in all four quadrants which are the upper right quadrant, the upper left quadrant, the lower right quadrant and the lower left quadrant.

*Palpation:* Light palpation, which is then followed with deep palpation, is done to assess for the presence of any masses, tenderness, and pain, guarding and rebound tenderness.

## 8. Assessment of the Male and Female Genitalia

*Inspection:* The skin and the pubic hair are inspected. The labia, clitoris, vagina and urethral opening are inspected among female patients. The penis, urethral meatus, and the scrotum are inspected among male patients.

*Palpation:* The inguinal lymph nodes are palpated for the presence of any tenderness, swelling or enlargements. A testicular examination is done for male patients.

## 9. Assessment of the Rectum and Anus

*Inspection:* The rectum, anus and the surrounding area are examined for any abnormalities.

*Palpation:* With a gloved hand, the rectal sphincter is palpated for muscular tone, and the presence of any blood, tenderness, pain or nodules.

## 10. Assessment of the Musculoskeletal System

*Inspection:* The major muscles of the body are inspected by the nurse to determine their size, and strength, and the presence of any tremors, contractures, muscular weakness and/or paralysis. All joints are assessed for their full range of motion. The areas around the bones and the major muscle groups are also inspected to determine any areas of deformity, swelling and/or tenderness.

*Palpation:* The muscles are palpated to determine the presence of any spasticity, flaccidity, pain, tenderness, and tremors.

## 11. Assessment of the Peripheral Vascular System

*Inspection:* The extremities are inspected for any abnormal color and any signs of poor perfusion to the extremities, particularly the lower extremities. While the patient is in a supine position, the nurse also assesses the jugular veins for any bulging pulsations or distention.

*Auscultation:* The nurse assesses the carotids for the presence of any abnormal bruits.

*Palpation:* The peripheral veins are gently touched to determine the temperature of the skin, the presence of any tenderness and swelling.

The peripheral vein pulses are also palpated bilaterally to determine regularity, number of beats, volume and bilateral equality in terms of these characteristics.

## 12. Assessment of the Neurological System

Of all of the bodily systems that are assessed, the neurological system is perhaps the most extensive and complex.

The neurological system is assessed with:

*Inspection*

Balance, gait, gross motor function, fine motor function and coordination, sensory functioning, temperature sensory functioning, kinesthetic sensations and tactile sensory motor functioning, as well as all of the cranial nerves are assessed.

Some of the terms and terminology relating to the neurological system and neurological system disorders are given in **Annexure 1**.

## B. GUIDE IN PERFORMING A HEAD-TO-TOE PHYSICAL ASSESSMENT

### 1. Integumentary System (Hair, Skin and Nails)

*Inspection:* The color of the skin, the quality, distribution and condition of the bodily hair, the size, the location, color and type of any skin lesions are assessed and documented, the color of the nail beds, and the angle of curvature where the nails meet the skin of the fingers are also inspected.

*Palpation:* The temperature, level of moisture, turgor and the presence or absence of any edema or swelling on the skin are assessed.

### 2. Head & Neck (Skull, Scalp, Hair, Face, Eyes, Ears, Nose, Mouth, Throat, Neck)

- Observe the size, shape and contour of the skull.
- Observe scalp in several areas by separating the hair at various locations; inquire about any injuries. Note presence of lice, nits, dandruff or lesions.
- Palpate the head by running the pads of the fingers over the entire surface of skull; inquire about tenderness upon doing so. (wear gloves if necessary)
- Observe and feel the hair condition.

**Normal Findings:**

**2.1 Skull**

- Generally round, with prominences in the frontal and occipital area (Normocephalic).
- No tenderness noted upon palpation.

**2.2 Scalp**

- Lighter in color than the complexion.
- Can be moist or oily.
- No scars noted.
- Free from lice, nits and dandruff.
- No lesions should be noted.
- No tenderness or masses on palpation.

**2.3 Hair**

- Can be black, brown or blonde depending on the race.
- Evenly distributed, covers the whole scalp.
- No evidences of Alopecia.
- Maybe thick or thin, coarse or smooth.
- Neither brittle nor dry.

**2.4 Face**

- Observe the face for shape.
- Inspect for Symmetry.
  - Inspect for the palpebral fissure (distance between the eye lids of each eye); should be equal in both eyes.
  - Ask the patient to smile, There should be bilateral Nasolabial fold (creases extending from the angle of the corner of the mouth). Slight asymmetry in the fold is normal.
  - If both are met, then the Face is symmetrical
- Test the functioning of Cranial Nerves that innervates the facial structures

**2.5 Eyes**

*Eyebrows, Eyes and Eyelashes*

- All three structures are assessed using the modality of inspection.

**Normal findings**

**Eyebrows**

- Symmetrical and in line with each other.
- Maybe black, brown or blond depending on race.
- Evenly distributed.



*Severe exophthalmos*

**Eyes**

- Evenly placed and in line with each other.
- None protruding.
- Equal palpebral fissure.

**Eyelashes**

- Color dependent on race.
- Evenly distributed.
- Turned outward.

### *Eyelids and Lacrimal Apparatus*

- Inspect the eyelids for position and symmetry.
- Palpate the eyelids for the lacrimal glands.
  - To examine the lacrimal gland, the examiner, lightly slides the pad of the index finger against the client's upper orbital rim.
  - Inquire for any pain or tenderness.
- Palpate for the nasolacrimal duct to check for obstruction.
  - To assess the nasolacrimal duct, the examiner presses with the index finger against the client's lower inner orbital rim, at the lacrimal sac, **NOT AGAINST THE NOSE.**
  - In the presence of blockage, this will cause regurgitation of fluid in the puncta

### *Normal Findings*

#### Eyelids

- Upper eyelids cover the small portion of the iris, cornea, and sclera when eyes are open.
- No PTOSIS noted. (Drooping of upper eyelids).
- Meets completely when eyes are closed.
- Symmetrical.

#### Lacrimal Apparatus

- Lacrimal gland is normally non palpable.
- No tenderness on palpation.
- No regurgitation from the nasolacrimal duct.

#### Conjunctivae

- The bulbar and palpebral conjunctivae are examined by separating the eyelids widely and having the client look up, down and to each side. When separating the lids, the examiner should exert **NO PRESSURE** against the eyeball; rather, the examiner should hold the lids against the ridges of the bony orbit surrounding the eye.

### **In examining the palpebral conjunctiva, everting the upper eyelid is necessary and is done as follow:**

1. Ask the client to look down but keep his eyes slightly open. This relaxes the levator muscles, whereas closing the eyes contracts the orbicularis muscle, preventing lid eversion.
2. Gently grasp the upper eyelashes and pull gently downward. Do not pull the lashes outward or upward; this, too, causes muscles contraction.
3. Place a cotton tip application about 1cm above the lid margin and push gently downward with the applicator while still holding the lashes. This everts the lid.
4. Hold the lashes of the everted lid against the upper ridge of the bony orbit, just beneath the eyebrow, never pushing against the eyeball.
5. Examine the lid for swelling, infection, and presence of foreign objects.
6. To return the lid to its normal position, move the lid slightly forward and ask the client to look up and to blink. The lid returns easily to its normal position.

### *Normal Findings*

- Both conjunctivae are pinkish or red in color.
- With presence of many minute capillaries.
- Moist
- No ulcers
- No foreign objects

#### Sclerae

- The sclerae is easily inspected during the assessment of the conjunctivae.

### *Normal Findings*

- Sclerae is white in color (anicteric sclera)
- No yellowish discoloration (icteric sclera).
- Some capillaries maybe visible.
- Some people may have pigmented sclera.

#### Cornea

- The cornea is best inspected by directing penlight obliquely from several positions.

### **Normal findings**

- There should be no irregularities on the surface.
- Looks smooth.
- The cornea is clear or transparent. The features of the iris should be fully visible through the cornea.
- There is a positive corneal reflex.

### **Anterior Chamber and Iris**

- The anterior chamber and the iris are easily inspected in conjunction with the cornea. The technique of oblique illumination is also useful in assessing the anterior chamber.

### **Normal Findings**

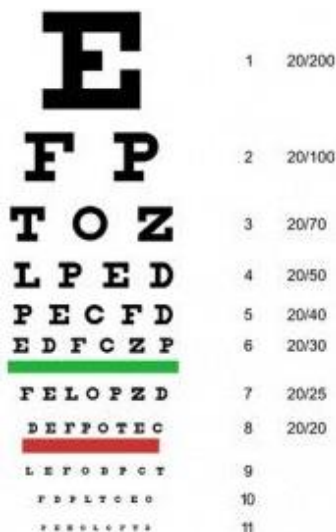
- The anterior chamber is transparent.
- No noted ~~any~~ visible materials.
- Color of the iris depends on the person's race (black, blue, brown or green).
- From the side view, the iris should appear flat and should not be bulging forward. There should be NO crescent shadow casted on the other side when illuminated from one side.

### **Pupils**

- Examination of the pupils involves several inspections, including assessment of the size, shape reaction to light is directed is observed for direct response of constriction. Simultaneously, the other eye is observed for consensual response of constriction.
- The test for papillary accommodation is the examination for the change in pupillary size as it is switched from a distant to a near object.
- Ask the client to stare at the objects across room.
- Then ask the client to fix his gaze on the examiner's index fingers, which is placed 5 inches from the client's nose.
- Visualization of distant objects normally causes pupillary dilation and visualization of nearer objects causes pupillary constriction and convergence of the eye.

### **Normal Findings**

- Pupillary size ranges from 3-7 mm, and are equal in size.
- Equally round.
- Constrict briskly/sluggishly when light is directed to the eye, both directly and consensual.
- Pupils dilate when looking at distant objects, and constrict when looking at nearer objects.
- If all of which are met, we document the findings using the notation PERRLA, pupils equally round, reactive to light, and accommodation.



**A Snellen chart**

- The optic nerve (Cranial Nerve II) is assessed by testing for visual acuity and peripheral vision.
- Visual acuity is tested using a Snellen chart, for those who are illiterate and unfamiliar with the western alphabet, the illiterate E chart, in which the letter E faces in different directions, maybe used.
- The chart has a standardized number at the end of each line of letters; these numbers indicates the degree of visual acuity when measured at a distance of 20 feet.

- The numerator 20 is the distance in feet between the chart and the client, or the standard testing distance. The denominator 20 is the distance from which the normal eye can read the lettering, which correspond to the number at the end of each letter line; therefore the larger the denominator the poorer the vision.
- Measurement of 20/20 vision is an indication of either refractive error or some other optic disorder.
- In testing for visual acuity you may refer to the following:
  - The room used for this test should be well lighted.
  - A person who wears corrective lenses should be tested with and without them to check for the adequacy of correction.
  - Only one eye should be tested at a time; the other eye should be covered by an opaque card or eye cover, not with client's finger.
  - Make the client read the chart by pointing at a letter randomly at each line; maybe started from largest to smallest or vice versa.
  - A person who can read the largest letter on the chart (20/200) should be checked if they can perceive hand movement about 12 inches from their eyes, or if they can perceive the light of the penlight directed to their eyes.

#### Peripheral vision or visual fields

- The assessment of visual acuity is indicative of the functioning of the macular area, the area of central vision. However, it does not test the sensitivity of the other areas of the retina which perceive the more peripheral stimuli. The Visual field confrontation test, provide a rather gross measurement of peripheral vision.
- The performance of this test assumes that the examiner has normal visual fields, since that client's visual fields are to be compared with the examiners.

#### **Follow the steps on conducting the test:**

- The examiner and the client sit or stand opposite each other, with the eyes at the same, horizontal level with the distance of 1.5 – 2 feet apart.
- The client covers the eye with opaque card, and the examiner covers the eye that is opposite to the client covered eye.
- Instruct the client to stare directly at the examiner's eye, while the examiner stares at the client's open eye. Neither looks out at the object approaching from the periphery.
- The examiner holds an object such as pencil or penlight, in his hand and gradually moves it in from the periphery of both directions horizontally and from above and below.
- Normally the client should see the same time the examiners sees it. The normal visual field is 180 degrees.

## 2.6 Ears

- Inspect the auricles of the ears for parallelism, size position, appearance and skin color.
- Palpate the auricles and the mastoid process for firmness of the cartilage of the auricles, tenderness when manipulating the auricles and the mastoid process.
- Inspect the auditory meatus or the ear canal for color, presence of cerumen, discharges, and foreign bodies.
- For adult pull the pinna upward and backward to straighten the canal.
- For children pull the pinna downward and backward to straighten the canal
- Perform otoscopic examination of the tympanic membrane, noting the color and landmarks.

#### **Normal Findings**

- The ear lobes are bean shaped, parallel, and symmetrical.
- The upper connection of the ear lobe is parallel with the outer canthus of the eye.
- Skin is same in color as in the complexion.
- No lesions noted on inspection.
- The auricles are has a firm cartilage on palpation.
- The pinna recoils when folded.
- There is no pain or tenderness on the palpation of the auricles and mastoid process.
- The ear canal has normally some cerumen of inspection.
- No discharges or lesions noted at the ear canal.
- On otoscopic examination the tympanic membrane appears flat, translucent and pearly gray in color.

## 2.7 Nose and Paranasal Sinuses

- The external portion of the nose is inspected for the following:
  - Placement and symmetry.
  - Patency of nares (done by occluding a nostril one at a time, and noting for difficulty in breathing)

- Flaring of alae nasi
- Discharge
- The external nares are palpated for:
  - Displacement of bone and cartilage.
  - For tenderness and masses
  - The internal nares are inspected by hyper extending the neck of the client, the ulnar aspect of the examiners hand over the forehead of the client, and using the thumb to push the tip of the nose upward while shining a light into the nares.
- Inspect for the following:
  - Position of the septum.
  - Check septum for perforation. (Can also be checked by directing the lighted penlight on the side of the nose, illumination at the other side suggests perforation).
  - The nasal mucosa (turbinates) for swelling, exudates and change in color.

#### Paranasal Sinuses

- Examination of the paranasal sinuses is indirectly. Information about their condition is gained by inspection and palpation of the overlying tissues. Only frontal and maxillary sinuses are accessible for examination.
- By palpating both cheeks simultaneously, one can determine tenderness of the maxillary sinusitis, and pressing the thumb just below the eyebrows, we can determine tenderness of the frontal sinuses.

#### *Normal Findings*

- Nose in the midline
- No Discharges.
- No flaring alae nasi.
- Both nares are patent.
- No bone and cartilage deviation noted on palpation.
- No tenderness noted on palpation.
- Nasal septum in the mid line and not perforated.
- The nasal mucosa is pinkish to red in color. (Increased redness turbinates are typical of allergy).
- No tenderness noted on palpation of the paranasal sinuses.

## 2.8 Mouth and Oropharynx, Lips

Inspected for:

- Symmetry and surface abnormalities
- Color
- Edema

#### *Normal Findings*

- With visible margin
- Symmetrical in appearance and movement
- Pinkish in color
- No edema

Temporomandibular Joint

- Palpate while the mouth is opened wide and then closed for:
  - Crepitus
  - Deviations
  - Tenderness

#### *Normal Findings*

- Moves smoothly no crepitus.
- No deviations noted
- No pain or tenderness on palpation and jaw movement.

Gums

Inspected for:

- Color
- Bleeding
- Retraction of gums.

### ***Normal Findings***

- Pinkish in color
- No gum bleeding
- No receding gums

### Teeth

Inspected for:

- Number
- Color
- Dental carries
- Dental fillings
- Alignment and malocclusions (2 teeth in the space for 1, or overlapping teeth)
- Tooth loss
- Breath should also be assessed during the process.

### ***Normal Findings***

- 28 for children and 32 for adults.
- White to yellowish in color
- With or without dental carries and/or dental fillings.
- With or without malocclusions.
- No halitosis.

### Tongue

Palpated for:

- Texture

### ***Normal Findings***

- Pinkish with white taste buds on the surface.
- No lesions noted.
- No varicosities on ventral surface.
- Frenulum is thin attaches to the posterior 1/3 of the ventral aspect of the tongue.
- Gag reflex is present.
- Able to move the tongue freely and with strength.
- Surface of the tongue is rough.

### Uvula

Inspected for:

- Position
- Color
- Cranial Nerve X (Vagus nerve) - Tested by asking the client to say "Ah" note that the uvula will move upward and forward.

### ***Normal Findings***

- Positioned in the mid line.
- Pinkish to red in color.
- No swelling or lesion noted.
- Moves upward and backwards when asked to say "ah"

## **Throat**

### Tonsils

Inspected for:

- Inflammation
- Size
- A Grading system used to describe the size of the tonsils can be used.
  - Grade 1 – Tonsils behind the pillar.
  - Grade 2 – Between pillar and uvula.
  - Grade 3 – Touching the uvula
  - Grade 4 – In the midline.

## 2.9 Neck

- The neck is inspected for position symmetry and obvious lumps visibility of the thyroid gland and Jugular Venous Distension
- Check the Range of Movement of the neck.

### *Normal Findings*

- The neck is straight.
- No visible mass or lumps.
- Symmetrical
- No jugular venous distension (suggestive of cardiac congestion).
- The neck is palpated just above the suprasternal notch using the thumb and the index finger.

### *Normal Findings*

- The trachea is palpable.
- It is positioned in the line and straight.
- Lymph nodes are palpated using palmar tips of the fingers via systemic circular movements. Describe lymph nodes in terms of size, regularity, consistency, tenderness and fixation to surrounding tissues.

### *Normal Findings*

- May not be palpable. Maybe normally palpable in thin patients.
- Non tender if palpable.
- Firm with smooth rounded surface.
- Slightly movable.
- About less than 1 cm in size.
- The thyroid is initially observed by standing in front of the patient and asking the patient to swallow. Palpation of the thyroid can be done either by posterior or anterior approach.



### Posterior Approach:

1. Let the patient sit on a chair while the examiner stands behind him.
2. In examining the isthmus of the thyroid, locate the cricoid cartilage and directly below that is the isthmus.
3. Ask the patient to swallow while feeling for any enlargement of the thyroid isthmus.
4. To facilitate examination of each lobe, the client is asked to turn his head slightly toward the side to be examined to displace the sternocleidomastoid, while the other hand of the examiner pushes the thyroid cartilage towards the side of the thyroid lobe to be examined.
5. Ask the patient to swallow as the procedure is being done.
6. The examiner may also palpate for thyroid enlargement by placing the thumb deep to and behind the sternocleidomastoid muscle, while the index and middle fingers are placed deep to and in front of the muscle.
7. Then the procedure is repeated on the other side.

### Anterior approach:

1. The examiner stands in front of the patient and with the palmar surface of the middle and index fingers palpates below the cricoid cartilage.
2. Ask the patient to swallow while palpation is being done.
3. In palpating the lobes of the thyroid, similar procedure is done as in posterior approach. The patient is asked to turn his head slightly to one side and then the other of the lobe to be examined.
4. Again the examiner displaces the thyroid cartilage towards the side of the lobe to be examined.

- Again, the examiner palpates the area and hooks thumb and fingers around the sternocleidomastoid muscle.

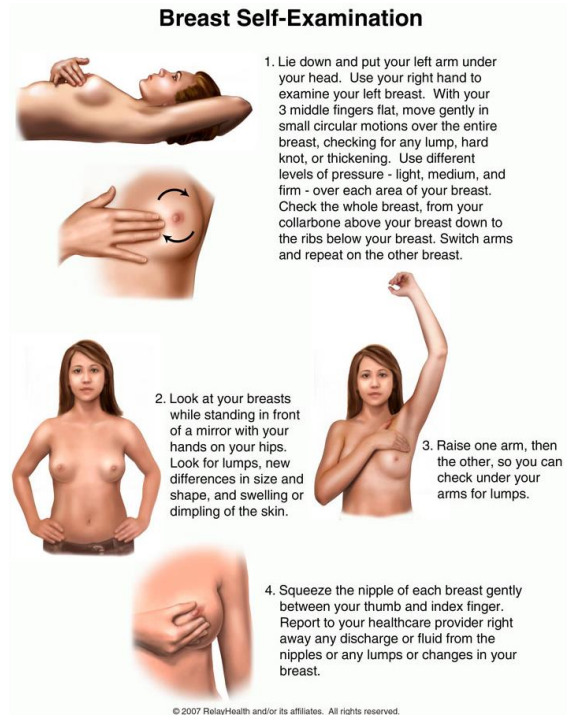
#### **Normal Findings**

- Normally the thyroid is non palpable.
- Isthmus maybe visible in a thin neck.
- No nodules are palpable.
- Auscultation of the Thyroid is necessary when there is thyroid enlargement. The examiner may hear bruits, as a result of increased and turbulence in blood flow in an enlarged thyroid.

### **3. Anterior and Posterior Thorax (Breast & Axillae, Thorax, Lungs and Heart)**

#### **3.1 Breast and Axilla**

##### Breast



##### Inspection of the Breast

- There are 4 major sitting position of the client used for clinical breast examination. Every patient should be examined in each position.
  - The patient is seated with her arms on her side
  - The patient is seated with her arms abducted over the head.
  - The patient is seated and is pushing her hands into her hips, simultaneously eliciting contraction of the pectoral muscles.
  - The patient is seated and is leaning over while the examiner assists in supporting and balancing her.
- While the patient is performing these manoeuvres, the breasts are carefully observed for symmetry, bulging, retraction, and fixation.
- An abnormality may not be apparent in the breasts at rest a mass may cause the breasts, through invasion of the suspensory ligaments, to fix, preventing them from upward movement in position 2 and 4.
- Position 3 specifically assists in eliciting dimpling if a mass has infiltrated and shortened suspensory ligaments.

#### **Normal Findings**

- The overlying the breast should be even.
- May or may not be completely symmetrical at rest.
- The areola is rounded or oval, with same color, (Color varies form light pink to dark brown depending on race).
- Nipples are rounded, everted, same size and equal in color.
- No “orange peel” skin is noted which is present in edema.
- The veins maybe visible but not engorge and prominent.

- No obvious mass noted.
- Not fixated and moves bilaterally when hands are abducted over the head, or is leaning forward.
- No retractions or dimpling.

#### Palpation of the Breast

- Palpate the breast along imaginary concentric circles, following a clockwise rotary motion, from the periphery to the center going to the nipples. Be sure that the breast is adequately surveyed. Breast examination is best done 1 week post menses.
- Each areolar areas are carefully palpated to determine the presence of underlying masses.
- Each nipple is gently compressed to assess for the presence of masses or discharge.

#### *Normal Findings*

- No lumps or masses are palpable.
- No tenderness upon palpation.
- No discharges from the nipples.
- NOTE: The male breasts are observed by adapting the techniques used for female clients. However, the various sitting position used for woman is unnecessary.

#### Axillae

The lymph nodes in the axillary areas are also palpated for any enlargement or swelling.

### 3.2 Thorax

*Inspection:* The anterior and posterior thorax is inspected for size, symmetry, shape and for the presence of any skin lesions and/or misalignment of the spine; chest movements are observed for the normal movement of the diaphragm during respirations.

*Palpation:* The posterior thorax is assessed for respiratory excursion and fremitus.

*Percussion:* It is done to identify normal and abnormal sounds over the thorax.

### 3.3 Lungs

*Auscultation:* The assessment of normal and adventitious breath sounds is done by auscultation.

*Percussion:* It is done to assess normal and abnormal sounds. Normal breath sounds like vesicular breath sounds, bronchial breath sounds, bronchovesicular breath sounds are auscultated and assessed in the same manner that adventitious breath sounds like rales, wheezes, friction rubs, rhonchi, and abnormal bronchophony, egophony, and whispered pectoriloquy are auscultated, assessed and documented.

### 3.4 Heart

#### Inspection of the Heart

- The chest wall and epigastrium is inspected while the client is in supine position. Observe for pulsation and heaves or lifts

#### *Normal Findings*

- Pulsation of the apical impulse maybe visible. (this can give us some indication of the cardiac size).
- There should be no lift or heaves.

#### Palpation of the Heart

- The entire precordium is palpated methodically using the palms and the fingers, beginning at the apex, moving to the left sternal border, and then to the base of the heart.

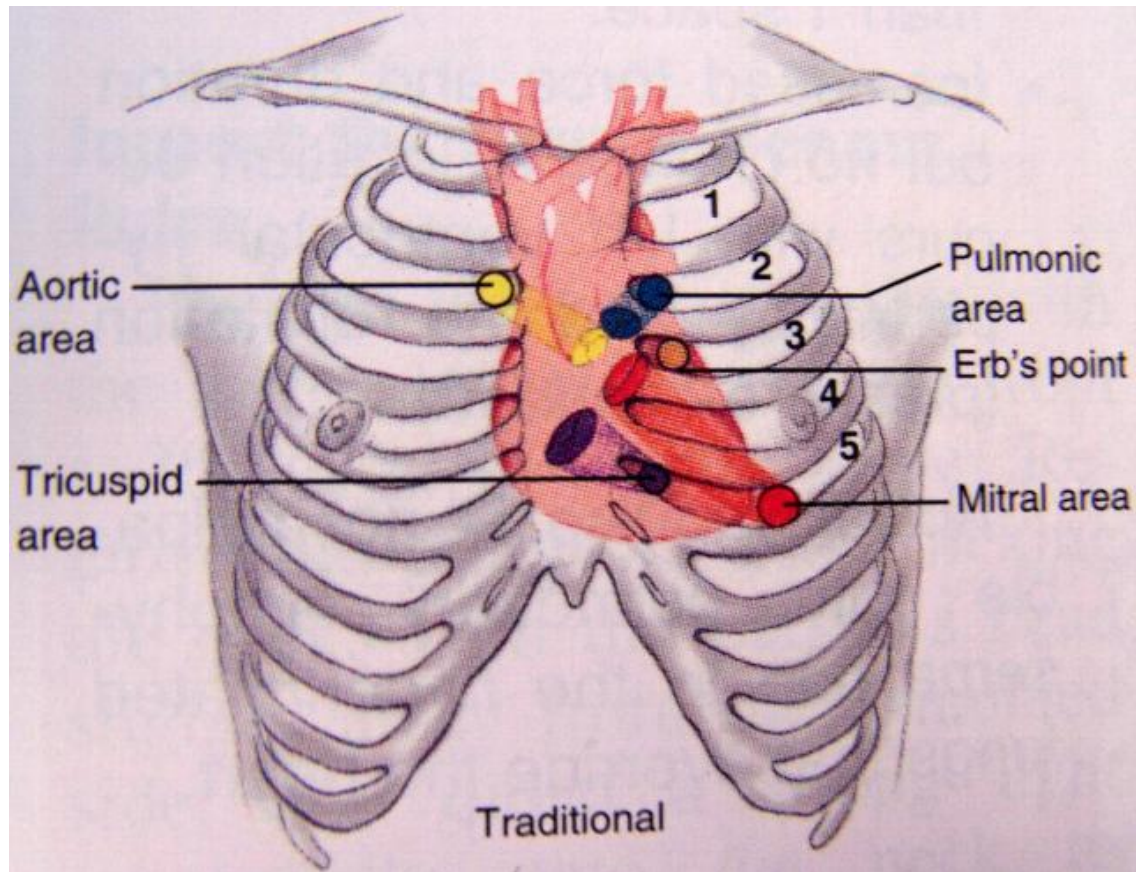
#### *Normal Findings*

- No, palpable pulsation over the aortic, pulmonic, and mitral valves.
- Apical pulsation can be felt on palpation.
- There should be no noted abnormal heaves, and thrills felt over the apex.

#### Percussion of the Heart

- The technique of percussion is of limited value in cardiac assessment. It can be used to determine borders of cardiac dullness.

## Auscultation of the Heart



- Anatomic areas for auscultation of the heart:
  - Aortic Valve – Right 2nd ICS sternal border.
  - Pulmonic Valve – Left 2nd ICS sternal border.
  - Tricuspid Valve – Left 5th ICS sternal border.
  - Mitral Valve – Left 5th ICS midclavicular line

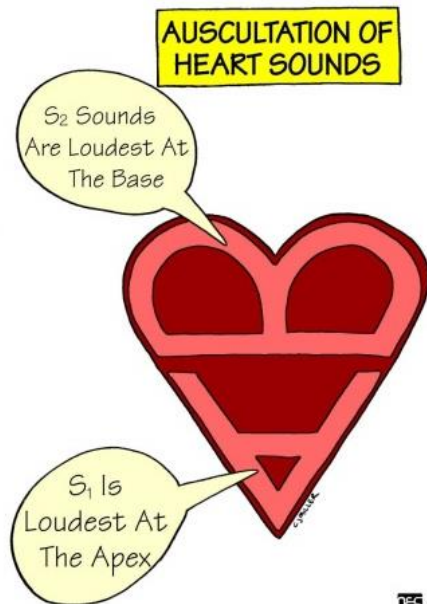
### *Positioning the patient for auscultation:*

1. If the heart sounds are faint or undetectable, try listening to them with the patient seated and leaning forward, or lying on his left side, which brings the heart closer to the surface of the chest.
2. Having the patient seated and leaning forward is best suited for hearing high-pitched sounds related to semilunar valves problem.
3. The left lateral recumbent position is best suited low-pitched sounds, such as mitral valve problems and extra heart sounds.

### *Auscultating the heart:*

1. Auscultate the heart in all anatomic areas aortic, pulmonic, tricuspid and mitral
2. Listen for the S1 and S2 sounds (S1 closure of AV valves; S2 closure of semilunar valve). S1 sound is best heard over the mitral valve; S2 is best heard over the aortic valve.
3. Listen for abnormal heart sounds e.g. S3, S4, and Murmurs.
4. Count heart rate at the apical pulse for one full minute.

## Auscultation of Heart Sounds



©2007 Nursing Education Consultants, Inc.

### **Normal Findings**

- S<sub>1</sub> & S<sub>2</sub> can be heard at all anatomic site.
- No abnormal heart sounds is heard (e.g. Murmurs, S<sub>3</sub> & S<sub>4</sub>).
- Cardiac rate ranges from 60-100 bpm.

## **4. Abdomen**

In abdominal assessment, be sure that the client has emptied the bladder for comfort. Place the client in a supine position with the knees slightly flexed to relax abdominal muscles.

### Inspection of the abdomen

- Inspect for skin integrity (Pigmentation, lesions, striae, scars, veins, and umbilicus).
- Contour (flat, rounded, scapold)
- Distension
- Respiratory movement
- Visible peristalsis
- Pulsations

### **Normal Findings**

- Skin color is uniform, no lesions.
- Some patients may have striae or scar.
- No venous engorgement.
- Contour may be flat, rounded or scaphoid
- Thin patients may have visible peristalsis.
- Aortic pulsation maybe visible on thin clients.

### Auscultation of the Abdomen

- This method precedes percussion because bowel motility, and thus bowel sounds, may be increased by palpation or percussion.
- The stethoscope and the hands should be warmed; if they are cold, they may initiate contraction of the abdominal muscles.
- Light pressure on the stethoscope is sufficient to detect bowel sounds and bruits. Intestinal sounds are relatively high-pitched; the bell may be used in exploring arterial murmurs and venous hum.

### Peristaltic sounds

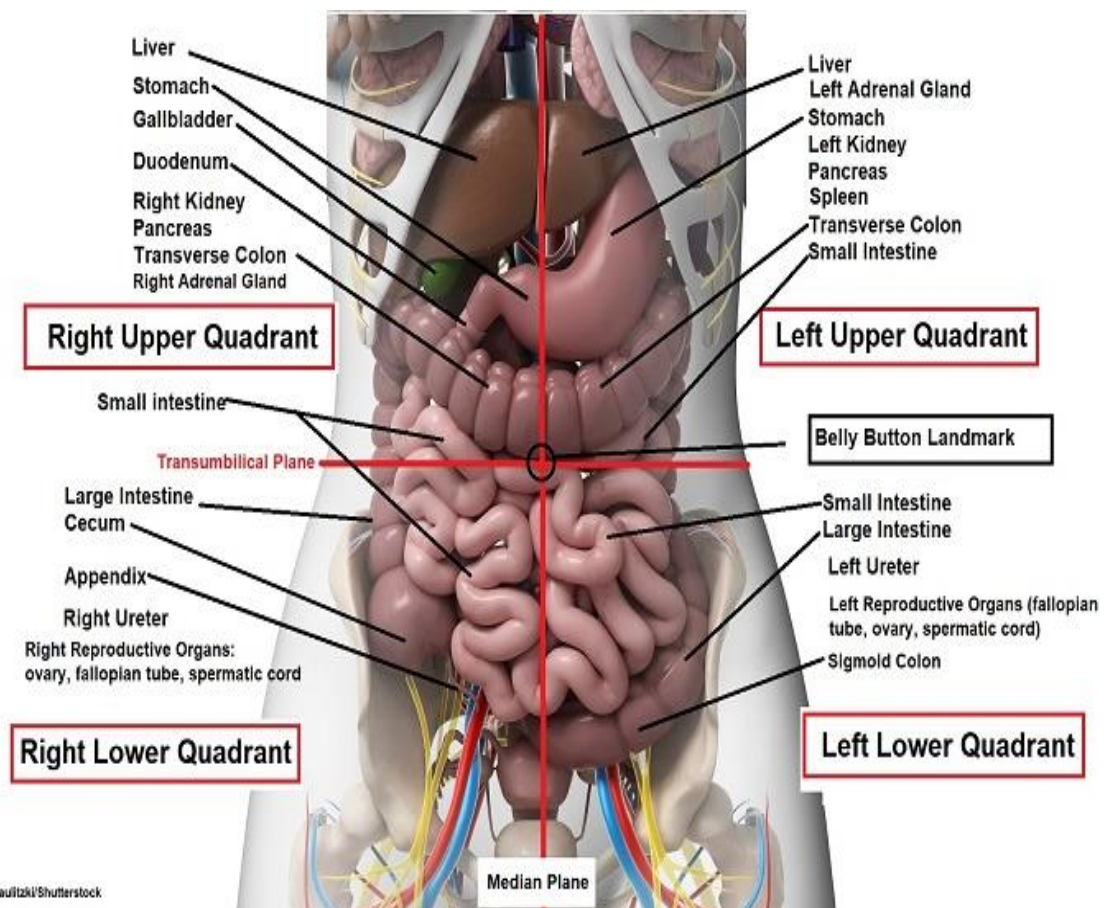
- These sounds are produced by the movements of air and fluids through the gastrointestinal tract. Peristalsis can provide diagnostic clues relevant to the motility of bowel.
- Listening to the bowel sounds (borborygmi) can be facilitated by following these steps:

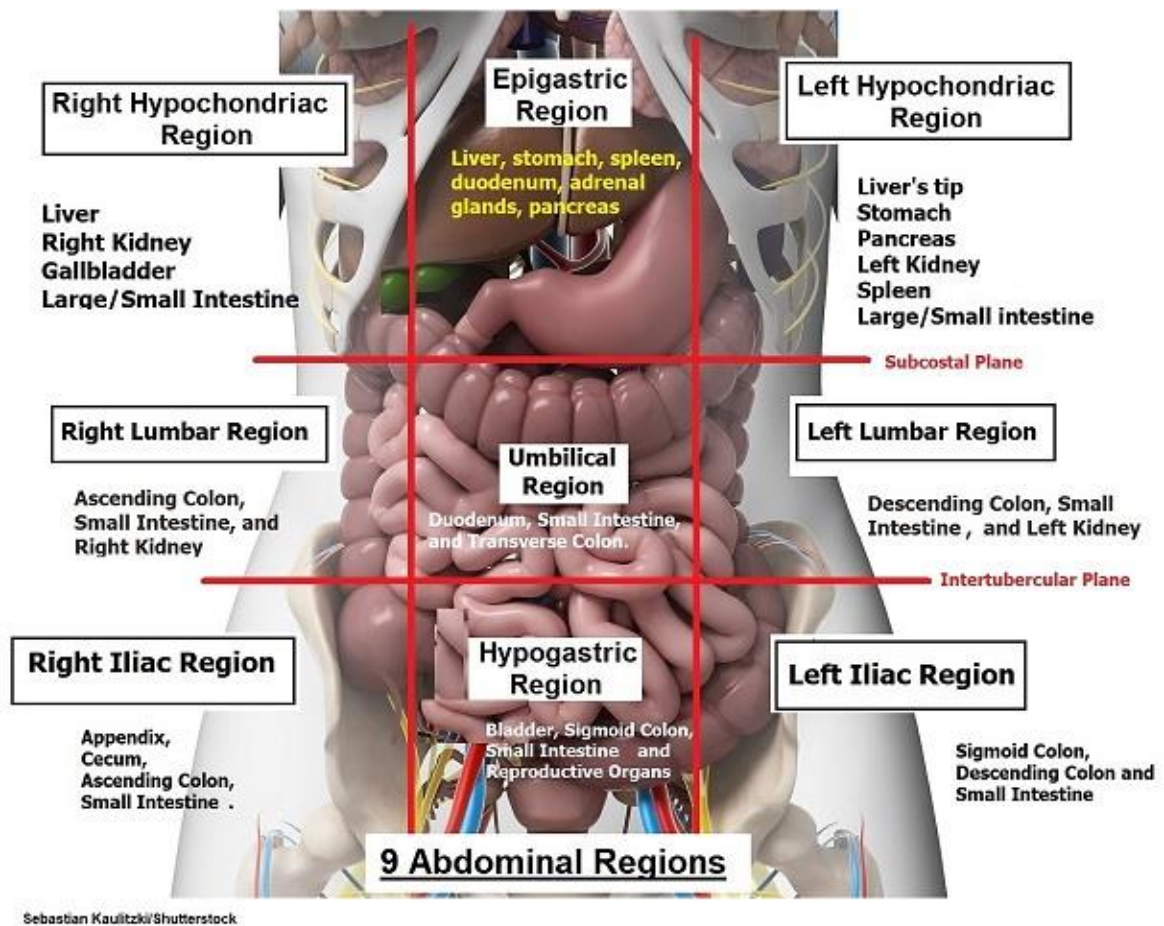
- Divide the abdomen in four quadrants.
- Listen over all auscultation sites, starting at the right lower quadrants, following the cross pattern of the imaginary lines in creating the abdominal quadrants. This direction ensures that we follow the direction of bowel movement.
- Peristaltic sounds are quite irregular. Thus it is recommended that the examiner listen for at least 5 minutes, especially at the periumbilical area, before concluding that no bowel sounds are present.
- The normal bowel sounds are high-pitched, gurgling noises that occur approximately every 5 – 15 seconds. It is suggested that the number of bowel sound may be as low as 3 to as high as 20 per minute, or roughly, one bowel sound for each breath sound.
- Some factors that affect bowel sound:
  - Presence of food in the GI tract.
  - State of digestion.
  - Pathologic conditions of the bowel (inflammation, Gangrene, paralytic ileus, peritonitis).
  - Bowel surgery
  - Constipation or Diarrhoea.
  - Electrolyte imbalances.
  - Bowel obstruction.

#### Percussion of the abdomen

- Abdominal percussion is aimed at detecting fluid in the peritoneum (ascites), gaseous distension, and masses, and in assessing solid structures within the abdomen.
- The direction of abdominal percussion follows the auscultation site at each abdominal guardant as detailed below.

The abdomen can be divided into four quadrants or nine regions as follows.





- The entire abdomen should be percussed lightly or a general picture of the areas of tympani and dullness.
- Tympany will predominate because of the presence of gas in the small and large bowel. Solid masses will percuss as dull, such as liver in the RUQ, spleen at the 6th or 9th rib just posterior to or at the mid axillary line on the left side.
- Percussion in the abdomen can also be used in assessing the liver span and size of the spleen.

#### Percussion of the liver

- The palms of the left hand are placed over the region of liver dullness.
- The area is struck lightly with a fist of the right hand.
- Normally tenderness should not be elicited by this method.
- Tenderness elicited by this method is usually a result of hepatitis or cholecystitis.

#### Renal Percussion

- Can be done by either indirect or direct method.
- Percussion is done over the costovertebral junction.
- Tenderness elicited by such method suggests renal inflammation.

#### Palpation of the Abdomen

##### Light palpation

- It is a gentle exploration performed while the client is in supine position. With the examiner's hands parallel to the floor.
- The fingers depress the abdominal wall, at each quadrant, by approximately 1 cm without digging, but gently palpating with slow circular motion.
- This method is used for eliciting slight tenderness, large masses, and muscles, and muscle guarding.
- Tensing of abdominal musculature may occur because of:
  - The examiner's hands are too cold or are pressed to vigorously or deep into the abdomen.
  - The client is ticklish or guards involuntarily.
  - Presence of subjacent pathologic condition.

### ***Normal Findings***

- No tenderness noted.
- With smooth and consistent tension.
- No muscles guarding.

### **\*Deep Palpation**

It is the indentation of the abdomen performed by pressing the distal half of the palmar surfaces of the fingers into the abdominal wall.

- The abdominal wall may slide back and forth while the fingers move back and forth over the organ being examined.
- Deeper structures, like the liver, and retro peritoneal organs, like the kidneys, or masses may be felt with this method.
- In the absence of disease, pressure produced by deep palpation may produce tenderness over the cecum, the sigmoid colon, and the aorta.

### **Liver palpation**

- There are two types of bi manual palpation recommended for palpation of the liver. The first one is the superimposition of the right hand over the left hand.
  - Ask the patient to take 3 normal breaths.
  - Then ask the client to breathe deeply and hold. This would push the liver down to facilitate palpation.
  - Press hand deeply over the RUQ
- The second methods:
  - The examiner's left hand is placed beneath the client at the level of the right 11th and 12th ribs.
  - Place the examiner's right hands parallel to the costal margin or the RUQ.
  - An upward pressure is placed beneath the client to push the liver towards the examining right hand, while the right hand is pressing into the abdominal wall.
  - Ask the client to breathe deeply.
  - As the client inspires, the liver maybe felt to slip beneath the examining fingers.

### **\*Percussion and Palpation of deep structures such as liver and kidneys to be done under supervision**

### ***Normal Findings***

- The liver usually cannot be palpated in a normal adult. However, in extremely thin but otherwise well individuals, it may be felt the coastal margins.
- When the normal liver margin is palpated, it must be smooth, regular in contour, firm and non-tender.

## **5. Male and Female Genitalia**

*Inspection:* The skin and the pubic hair are inspected. The labia, clitoris, vagina and urethral opening are inspected among female clients. The penis, urethral meatus, and the scrotum are inspected among male clients.

*Palpation:* The inguinal lymph nodes are palpated for the presence of any tenderness, swelling or enlargements. A testicular examination is done for male clients.

## **6. Rectum and Anus**

*Inspection:* The rectum, anus and the surrounding area is examined for any abnormalities.

*Palpation:* With a gloved hand, the rectal sphincter is palpated for muscular tone, and the presence of any blood, tenderness, pain or nodules.

## **7. Extremities (Musculoskeletal system& Peripheral Vascular System)**

### **Inspection**

- Observe for size, contour, bilateral symmetry, and involuntary movement.
- Look for gross deformities, edema, presence of trauma such as ecchymosis or other discoloration.
- Always compare both extremities.

### **Palpation**

- Feel for evenness of temperature. Normally it should be even for all the extremities.
- Tonicity of muscle. (Can be measured by asking client to squeeze examiner's fingers and noting for equality of contraction).
- Perform range of motion.
- Test for muscle strength (performed against gravity and against resistance and described in the table below:

**Table showing the Lovett scale for grading for muscle strength and functional level**

<b>Grade</b>	<b>Muscle function level</b>	<b>Lovett Scale</b>
0	0% of normal strength	0 (Zero)
1	10% of normal strength; no movement, contraction of muscle is palpable or visible	T (Trace)
2	25% of normal strength; full muscle movement against gravity	P (Poor)
3	50% of normal strength; normal movement against gravity	F (Fair)
4	75% of normal strength; normal movement against gravity and against minimal resistance	G (Good)
5	100% of normal strength; normal movement against gravity and against minimal resistance	N (Normal)

**Normal Findings**

- Both extremities are equal in size.
- Have the same contour with prominences of joints.
- No involuntary movements.
- No edema
- Color is even.
- Temperature is warm and even.
- Has equal contraction and even.
- Can perform complete range of motion.
- No crepitus must be noted on joints.
- Can counter act gravity and resistance on ROM.

Peripheral Vascular System

*Inspection:* The extremities are inspected for any abnormal color and any signs of poor perfusion to the extremities, particularly the lower extremities. While the patient is in a supine position, the nurse also assesses the jugular veins for any bulging pulsations or distention.

*Auscultation:* The nurse assesses the carotids for the presence of any abnormal bruits.

*Palpation:* The peripheral veins are gently touched to determine the temperature of the skin, the presence of any tenderness and swelling.

The peripheral vein pulses are also palpated bilaterally to determine regularity, number of beats, volume and bilateral equality in terms of these characteristics.

**8. Neurological system**

**Neurological assessment** - mental status includes level of consciousness (LOC), orientation, and memory.

**Balance** is assessed using the relatively simple Romberg test. The Romberg test is the test that law enforcement use to test people for drunkenness. Gait can be assessed by simply observing the client as they are walking or by coaching the person to walk heel to toe as the nurse observes the client for their gait.

**Gross motor functioning** is bilaterally assessed by having the client contract their muscles; and fine motor coordination and functioning is observed for both the upper and the lower extremities as the client manipulates objects.

**Sensory functioning** is determined by touching various parts of the body, bilaterally, with a pen or another blunt item while the client has their eyes closed. The client is prompted to report whether or not they feel the blunt item as the nurse touches the area. Similarly, a hot and cold object is placed on the skin on various parts of the body to assess temperature sensory functioning. The client will then report whether they feel heat, cold or nothing at all.

**Kinesthetic sensations** are assessed to determine the client’s ability to perceive and report their bodily positioning without the help of visual cues.

**Tactile sensory functioning** is assessed for the client’s ability to have stereognosis, extinction, one point discrimination and two point discrimination. One and two point discrimination relates to the client’s ability to feel whether or not they have gotten one or two pin pricks that the nurse gently applies. Stereognosis is the

client's ability to feel and identify a familiar object while their eyes are closed. For example, the nurse may place a pen, a button or a paper clip in the client's hand to determine whether or not the client can identify the object without any visual cues. Extinction is the client's ability to identify whether or not they are being touched by the person doing the assessment with either one or two bilateral touches. For example, the nurse may touch both knees and then ask the client if they felt one or two touches while the client has their eyes closed.

## 8.1 Reflexes

Reflexes are automatic muscular responses to a stimulus. When reflexes are absent or otherwise altered, it can indicate a neurological deficit even earlier than other signs and symptoms of the neurological deficit appear.

Reflexes can be described as primitive and long term. Primitive reflexes are normally present at the time of birth and these reflexes normally disappear as the baby grows older; neurological deficits are suspected when these primitive reflexes remain beyond the point in time when they are expected to disappear. Reflexes, other than the primitive reflexes remain intact and active during the entire life span, under normal conditions.

### Deep Tendon and Superficial Reflexes

A **deep tendon reflex** is often associated with muscle stretching. **Tendon reflex** tests are used to determine the integrity of the spinal cord and peripheral nervous system, and they can be used to determine the presence of a neuromuscular disease.

**Superficial reflexes.** **Superficial reflexes** are motor responses to scraping of the skin. They are graded simply as present or absent, although markedly asymmetrical responses should be considered abnormal as well

- **Pupil reflex:** Pupil reflexes include pupil dilation and pupil accommodation. The "PERLA" mnemonic for pupil reflexes stands for Pupils Equally Reactive to Light and Accommodation which is a normal finding. The pupil reflexes for their reactions to light are assessed by using a flash light in a darkened room. Pupils will normally dilate as the light is withdrawn and they will normally constrict when the light is brought close to the pupils. The pupils are assessed not only for their reaction to light, they are also assessed in terms of their accommodation. Normally, the pupils will dilate when an object is moved away from the eye and they will constrict as the object is being brought closer to the eye.
- **Plantar reflex:** The plantar reflex is elicited when the person performing this assessment strokes the bottom of the foot and the client's toes curl down. The Babinski sign occurs when the foot goes into dorsiflexion and the great toe curls up; this sign is an abnormal response to this stimulation and it can indicate the presence of deep vein thrombosis.
- **Biceps reflex:** This reflex is assessed by placing the thumb on the biceps tendon while the person is in a sitting position and then tapping the thumb with the Taylor hammer.
- **Triceps reflex:** This reflex is elicited by tapping the triceps tendon with the Taylor hammer above the elbow while the client has their hands on their legs when the client is in a sitting position.
- **Patellar tendon reflex:** This reflex, often referred to as the knee jerk reflex, is elicited by tapping the patellar area with the Taylor hammer.
- **Calcaneal reflex:** This reflex, often referred to as the Achilles reflex, is the calcaneal reflex on the ankle with the Taylor hammer.
- **Gag reflex:** The gag reflex is elicited when the back of the mouth and the posterior tongue is stimulated with a tongue blade.
- **Blinking reflex:** This reflex is elicited when the eyes are touched or they are stimulated a sudden bright light or an irritant.
- An **abdominal reflex** is a superficial neurological **reflex** stimulated by stroking of the **abdomen** around the umbilicus. It can be helpful in determining the level of a CNS lesion.

All reflexes should be done bilaterally in rapid succession so that all differences between the right and the left reflexes can be determined and assessed. For example, when the person who is performing these assessments should assess the biceps reflex of the right arm and then immediately assess the biceps reflex of the left arm so that any differences or inequalities can be assessed and documented.

# Reflexes

## □ Deep Tendon Reflexes (DTR)

- Biceps (C5-C6)
- Triceps (C7-C8)
- Brachioradialis (C5-C6)
- Quadriceps (Patellar) (L2-L4)
- Achilles (L5-S2)

## □ Superficial Reflexes

- Plantar Reflex/Babinski (L4-S2)
- Abdominal Reflexes  
(Upper T8-T10)(Lower T10-T12)
- Crematic Reflex (L1-L2)

### Documenting Reflex Findings

Use these grading scales to rate the strength of each reflex in a deep tendon and superficial reflex assessment.

#### Deep tendon reflex grades

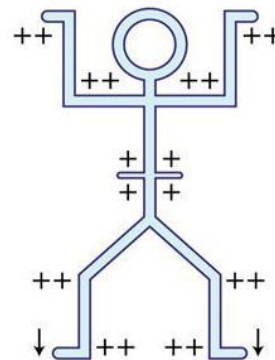
0 absent  
 + present but diminished  
 ++ normal  
 +++ increased but not necessarily pathologic  
 ++++ hyperactive or clonic (involuntary contraction and relaxation of skeletal muscle)

#### Superficial reflex grades

0 absent  
 + present

Use the patient's reflex ratings on a drawing of a stick figure. The figures here show documentation of normal and abnormal reflex responses.

#### Normal



## 8.2 Cranial nerves:

Lastly, the nurse assesses the twelve cranial nerves. Some of these twelve cranial nerves are only sensory or motor nerves, and others have both sensory and motor functions.

The twelve cranial nerves can be easily remembered using this mnemonic: On Old Olympus Tippy Top, A Fat Armed German View A Hop, as below:

1. Olfactory
2. Optic
3. Oculomotor
4. Trochlear
5. Trigeminal
6. Abducens
7. Facial
8. Acoustic
9. Glossopharyngeal
10. Vagus
11. Spinal accessory
12. Hypoglossal

Each of these twelve cranial nerves, their function and their classification as sensory, motor or both sensory and motor are shown in the table below.

### Cranial Nerve I (Olfactory Nerve)

- To test the adequacy of function of the olfactory nerve:
  - The client is asked to close his eyes and occlude.
  - The examiner places aromatic and easily distinguished items nose (e.g. alcohol, vinegar, coffee).
  - Ask the client to identify the odor.
  - Each side is tested separately (**There is no need to use two different substances**)

## **Cranial Nerve II (Optic Nerve)**

The optic nerve is assessed by testing for visual acuity and peripheral vision. (**Details shown in examination of eyes**)

## **Cranial Nerve III, IV & VI (Oculomotor, Trochlear, Abducens)**

- All the 3 Cranial nerves are tested at the same time by assessing the Extra Ocular Movement (EOM) or the six cardinal position of gaze.

Follow the given steps:

- Stand directly in front of the client and hold a finger or a penlight about 1 ft from the client's eyes.
- Instruct the client to follow the direction the object hold by the examiner by eye movements only; that is without moving the neck.
- The nurse moves the object in a clockwise direction hexagonally.
- Instruct the client to fix his gaze momentarily on the extreme position in each of the six cardinal gazes.
- The examiner should watch for any jerky movements of the eye (nystagmus).
- Normally the client can hold the position and there should be no nystagmus.

**Cranial Nerve V (Trigeminal) - While performing the cranial nerves assessment, the respective cranial nerve assessment can be incorporated in the respective systems.**

### **1. Sensory Function**

- Ask the patient to close the eyes.
- Run cotton wisp over the forehead, cheek and jaw on both sides of the face.
- Ask the patient if he/she feel it, and where it is felt.
- Check for corneal reflex using cotton wisp.
- The normal response is blinking.

### **2. Motor function**

- Ask the patient to chew or clench the jaw. Palpate the jaw and feel for movement.
- The patient should be able to clench or chew with strength and force.

## **Cranial Nerve VII (Facial)**

### **1. Sensory function (This nerve innervates the anterior 2/3 of the tongue).**

- Place a sweet, sour, salty, or bitter substance near the tip of the tongue.
- Normally, the client can identify the taste.

### **2. Motor function**

- Ask the patient to smile, frown, raise eye brow, close eye lids, whistle, or puff the cheeks.

#### ***Normal Findings***

- Shape maybe oval or rounded.
- Face is symmetrical.
- No involuntary muscle movements.
- Can move facial muscles at will.
- Intact cranial nerve V and VII.

The summary table is given below:

Cranial Nerve		Major Functions		Assessment
Cranial Nerve I	Olfactory	Sensory	Smell	Smell—coffee, cloves, peppermint
Cranial Nerve II	Optic	Sensory	Vision	Visual acuity—Snellen chart (cover eye not being examined) Test for visual fields Examine with ophthalmoscope
Cranial Nerve III	Oculomotor	Sensory and Motor – Primarily Motor	Eyelid and eyeball movement	Move eye up, down, and peripherally Test for accommodation Pupillary constriction Observe for ptosis of upper eyelid
Cranial Nerve IV	Trochlear	Sensory and Motor – Primarily Motor	Innervates superior oblique eye muscle Turns eye downward and laterally	Inferior lateral movement of the eye
Cranial Nerve V	Trigeminal	Sensory and Motor	Chewing Face and mouth touch and pain	Corneal reflex Sensation of skin of the face (eyebrow, cheeks and chin) by using a wisp of cotton Chewing, biting, lateral jaw movements (move jaw side to side)
Cranial Nerve VI	Abducens	Sensory and Motor – Primarily Motor	Turns eye laterally Proprioception (sensory awareness of part of the body)	Inferior lateral eye movements
Cranial Nerve VII	Facial	Sensory and Motor	Controls most facial expressions Secretion of ears and saliva	Taste—anterior two thirds of tongue; sweet—sugar; salty; sour—lemon; bitter (rinse mouth between applications) Movement of forehead and mouth Raise eyebrows, show teeth, smile, and puff out cheeks
Cranial Nerve VIII	Vestibulocochlear (auditory)	Sensory	Hearing Equilibrium sensation	Hearing, balance Weber and Rinne tests Otoscope
Cranial Nerve IX	Glossopharyngeal	Sensory and Motor	Taste Senses carotid blood pressure Muscle sense – proprioception, sensory awareness of the body	Swallowing and phonation Taste—posterior one third of tongue; see cranial nerve VII
Cranial Nerve X	Vagus	Sensory and Motor	Senses aortic blood pressure Slows heart rate Stimulates digestive organs Taste	Sensations of posterior one third of tongue, throat. Gag reflex (stimulate back of pharynx with a tongue blade) Swallowing and phonation
Cranial Nerve XI	Spinal Accessory	Sensory and Motor – Primarily Motor	Controls trapezius and sternocleidomastoid controls swallowing movements Muscle sense - proprioception	Shoulder movement, shoulder shrug, head rotation—push against examiner's hand
Cranial Nerve XII	Hypoglossal	Sensory and Motor – Primarily Motor	Controls tongue movements Muscle sense - proprioception	Tongue movement—protrude tongue, push tongue into the cheek

(Berman, Snyder, Kozier & Erb, 2008; Jarvis, 2008).

**Glasgow Coma Scale:**

The **Glasgow Coma Scale (GCS)** allows healthcare professionals to consistently evaluate the consciousness level of a patient. There are three aspects of behaviour that are independently measured as part of an **assessment** of a patient's **GCS** – motor responsiveness, verbal response and eye-opening.

<b>Feature</b>	<b>Response</b>	<b>Score</b>
<b>Best eye response</b>	Open spontaneously	4
	Open to verbal command	3
	Open to pain	2
	No eye opening	1
<b>Best verbal response</b>	Orientated	5
	Confused	4
	Inappropriate words	3
	Incomprehensible sounds	2
	No verbal response	1
<b>Best motor response</b>	Obeys commands	6
	Localising pain	5
	Withdrawal from pain	4
	Flexion to pain	3
	Extension to pain	2
	No motor response	1

## ANNEXURE 1

### Terms and terminology relating to the neurological system and neurological system disorders

**Acalculia:** Acalculia is the client's loss of ability to perform relatively simple mathematical calculations like addition and subtraction.

**Agnosia:** Agnosia is defined as the loss of a client's ability to recognize and identify familiar objects using the senses despite the fact that the senses are intact and normally functioning. The different types of agnosia, as based on each of the five senses, are auditory agnosia, visual agnosia, gustatory agnosia, olfactory agnosia, and tactile agnosia.

**Agraphia:** Agraphia, simply defined, is the Inability of the client to write. Agraphia is one of the four hallmark symptoms of Gerstmann's syndrome. The other symptoms of Gerstmann's syndrome are acalculia, finger agnosia, and an inability to differentiate between right and left.

**Alexia:** Alexia, which is a type of receptive aphasia, occurs when the client is unable to process, understand and read the written word. This neurological disorder is also referred to as word blindness and optical alexia.

**Anhedonia:** Anhedonia is a loss of interest in life experiences and life itself as the result of the neurological deficit.

**Anomia:** Anomia is a lack of ability of the client to name a familiar object or item.

**Anosagnosia:** Anosagnosia is characterized with the client's inability to perceive and have an awareness of an affected body part such as a paralyzed or missing leg. Anosagnosia is closely similar to hemineglect and hemiattention

**Anosdiaphoria:** Anosdiaphoria is an indifference to one's illness and disability

**Aphasia:** Aphasia includes expressive aphasia and receptive aphasia. Expressive aphasia is characterized by the client's inability to express their feelings and wishes to others with the spoken word; and receptive aphasia is the client's inability to understand the spoken words of others.

**Asomatognosi:** Asomatognosia is the inability of the client to recognize one or more of their own bodily parts.

**Astereognosia:** Astereognosia is the client's inability to differentiate among different textures with their sense of touch and also the inability of the client to identify a familiar object, like a button, with their tactile sensation.

**Asymbolia:** Asymbolia is the loss of the client's inability to respond to pain even though they have the sensory function to feel and perceive the pain. Asymbolia is also referred to as pain dissociation and pain asymbolia.

**Autotopagnosia:** Autotopagnosia is the inability of the client to locate their own body parts, the body parts of another person, or the body parts of a medical model.

**Balint's syndrome:** Balint's syndrome includes ocular apraxia, optic ataxia and simultanagnosia, which consist of impaired visual scanning, visuospatial ability and attention.

**Boston Diagnostic Aphasia Examination:** The Boston Diagnostic Aphasia Examination is a standardized comprehensive assessment tool that assess and measures the client's degree of aphasia in terms of the client's perceptions, processing of these perceptions and responses to these perceptions while using problem solving and comprehension skills.

**Broca's aphasia:** Broca's aphasia entails the client's lack of ability to form and express words even though the client's level of comprehension is intact.

**Color agnosia:** Color agnosia reflects the client's lack of ability to recognize and name different colors.

**Conduction aphasia:** Conduction aphasia is the client's lack of ability to repeat phrases and/or write brief dictated passages despite the fact that the client has intact speech abilities, comprehension abilities, and the ability to name familiar objects.

**Constructional apraxia:** Constructional apraxia is the inability of the client to draw and copy simple shapes on paper.

**Dressing apraxia:** Dressing apraxia occurs when the person is not able to appropriately dress oneself because of some neurological dysfunction.

**Dysgraphaesthesia:** Dysgraphaesthesia impairs the client's ability to sense and identify a letter or number that is tactilely drawn on the client's palm.

**Dysgraphia:** Dysgraphia is similar to agraphia; however, dysgraphia is difficulty in terms of writing and agraphia is the client's complete inability to write.

**Environmental agnosia:** Environmental agnosia is the lack of ability of the client to recognize familiar places, like the US Supreme Court, by looking at a photograph of it.

**Finger agnosia:** Finger agnosia occurs when the person is not able to identify what finger is being touched by the person performing the neurological assessment.

**Geographic agnosia:** Geographic agnosia is the lack of ability of the client to recognize familiar counties, like Canada or Mexico, when viewing a world map.

**Gerstmann's Syndrome:** Gerstmann's Syndrome consists of dyscalculia or acalculia, finger agnosia, one sided disorientation and dysgraphia or agraphia.

**Hemiasomatognosia:** Hemiasomatognosia is the neurological disorder that occurs when the client does not perceive one half of their body and they act in a manner as if that half of the body does not even exist.

**Homonymous hemianopsia:** Homonymous hemianopsia occurs when the person has neurological blindness in the same visual field of both eyes bilaterally.

**Ideomotor apraxia:** Ideomotor apraxia is a neurological deficit that affects the client's ability to pretend doing simple tasks of everyday living like brushing one's teeth.

**Misoplegia:** Misoplegia is a hatred and distaste for an adversely affected limb.

**Motor alexia:** Motor alexia occurs when the client is not able to comprehend the written word despite the fact that the client can read it aloud.

**Musical alexia:** Musical alexia is a client's inability to recognize a familiar tune like "The National Anthem" or "Silent Night".

**Movement agnosia:** Movement agnosia is a neurological deficit that is characterized with a client's lack of ability to recognize an object's movement.

**Ocular apraxia:** Ocular apraxia is the neurological deficit that occurs when the person is no longer able to rapidly move their eyes to observe a moving object.

**Optic ataxia:** Optic ataxia is characterized with the client's inability to reach for and grab an object.

**Phonagnosia:** Phonagnosia is the client's lack of ability to recognize familiar voices such as those of a child or spouse.

**Prosopagnosia:** Prosopagnosia is a lack of ability to recognize familiar faces, like the face of a spouse or child.

**Simultanagnosia:** Simultanagnosia is a neurological disorder that occurs when the client is not able to perceive and process the perception of more than object at a time that is in the client's visual field.

**Somatophrenia:** Somatophrenia occurs when the client denies the fact that their body parts are not even theirs, but instead, these body parts belong to another.

**The Two-Point Discrimination Test:** This test measures and assesses the client's ability to recognize more than one sensory perception, such as pain and touch, at one time.

**Visual agnosia:** Visual agnosia is the client's lack of ability to recognize and attach meaning to familiar objects.

**Wechsler Memory Scale IV:** Wechsler Memory Scale IV: This measurement tool is a standardized comprehensive method to assess verbal and visual memory, including immediate memory, delayed memory, auditory memory, visual memory and visual working memory.

**ANNEXURE 2**  
**SAMPLE HEALTH ASSESSMENT FORMAT (Adult)**

Date :

Place :

Patient's Name :

Hospital No. :

Age :

Sex :

Occupation :

Residence :

Chief Complaint :

History of present illness or problems:

History of Treatment :

Current Health status :

Nutrition :

Elimination :

Sleep :

Immunizations :

Screening tests :

Allergies :

Medications :

Daily activities :

High risk behaviors :

Alcohol

Drug

Cigarette usage

Sexual behaviours

Past medical history

Illness :

Injuries :

Hospitalization/Surgeries

Family History:

Family profile & genogram

Family medical history

Socio-economic background

Physical Examination:

Vital signs

Temperature

Pulse

Respiration

Blood Pressure

Height

Weight

BMI

General appearance

Skin and nails:

Head and face:

Eyes

Ears

Nose

Mouth

Neck

Lymph nodes

Chest

Heart and CVS

Breast exam

Abdomen

Musculo skeletal system:

Neurological system

Motor functions

Sensory

Cranial nerves

Reflexes

## **BLS/BCLS MODULE (Adult Health Nursing I)**

**PLACEMENT:** III SEMESTER

**Theory:** 4 hours (Includes self-learning & lectures)

**Practical:** 6 hours (Includes demonstration, practice & OSCE)

**Module Overview:** The Indian CPR guidelines/AHA guidelines can be used to get certification. The required hours can be used from theory and practical hours. The hours may vary based on certification guidelines.

**Competencies:** The student will be able to

1. Perform Basic Cardiopulmonary Life Support (BCLS) using the evidence based national or international guidelines in the management of adult victims with cardiac arrest.

**Learning Activities:**

- Lectures and demonstration
- Self-study/Reading assignments
- Written assignments
- Practice in Skill/Simulation Lab

**Assessment Methods:**

- Test paper (Objective type/short answer/situation type) - 20 marks
  - Assignments - 10 marks
  - OSCE (BCLS/BLS competencies) - 20 marks
- OR
- As per certification guidelines

**Weightage to Internal Assessment:** 10 marks to be added to internal marks to make up the total of 40 marks.

**Learning Resource:** (Latest version to be consulted as and when revised)

- Indian CPR/BCLS guidelines
- International guidelines and certification - AHA guidelines

# FUNDAMENTALS OF PRESCRIBING MODULE (Pharmacology II)

**PLACEMENT:** IV SEMESTER

**Theory:** 20 hours (Few hours of practice can be planned in skill lab/simulation lab)

**Module Overview:** The module covers the prescriptive role of nurses particularly nurse practitioners, legal issues relevant to prescribing, and principles, process, and steps of prescribing. Further the students will be oriented to prescribing competencies.

**Competencies (Learning Outcomes):** The student will be able to

1. Identify the prescriptive role of nurses, midwives, and nurse practitioners at national and international levels.
2. Discuss professional, legal, and ethical issues relevant to prescribing practice.
3. Enumerate the principles of prescribing and factors influencing it.
4. Explain the process and steps of prescribing.
5. Identify the prescribing competencies.

**Learning Activities:**

- Lectures and demonstration
- Self-study/Reading assignments
- Written assignments
- Practice in Skill/Simulation Lab

**Assessment Methods:**

- Test paper (Objective type/short answer/situation type) - 20 marks
- Assignments - 10 marks
- OSCE (Prescribing competencies) - 20 marks

**Weightage to Internal Assessment:** 10 marks to be added to internal marks to make up the total of 40 marks.

## CONTENT OUTLINE T - Theory, P - Practical

Unit	Time (Hours)	Learning Outcomes	Content	Teaching/Learning Activities	Assessment Methods
I	T-4	Identify the prescriptive role of nurses, midwives, and nurse practitioners at national and international levels.	<b>Introduction</b> <ul style="list-style-type: none"><li>• Background</li><li>• Prescriptive role of nurses and nurse practitioners</li><li>• Prescribing terminology</li></ul>	<ul style="list-style-type: none"><li>• Lecture</li><li>• Discussion</li></ul>	<ul style="list-style-type: none"><li>• MCQ</li><li>• Short answers</li></ul>
II	T-6	Discuss professional, legal, and ethical issues relevant to prescribing practice.	<b>Professional, legal, and ethical issues relevant to prescribing practice.</b> <ul style="list-style-type: none"><li>• Professional issues</li><li>• Legal issues</li><li>• Ethical issues</li></ul>	<ul style="list-style-type: none"><li>• Lecture</li><li>• Discussion</li><li>• Guided reading</li></ul>	<ul style="list-style-type: none"><li>• Short answers</li><li>• Written assignments</li></ul>
III	T-4	Enumerate the principles of prescribing and factors influencing it.	<b>Principles of prescribing</b> <ul style="list-style-type: none"><li>• Principles</li><li>• Factors influencing prescribing</li></ul>	<ul style="list-style-type: none"><li>• Lecture &amp; discussion</li><li>• Self-study &amp; Guided reading</li></ul>	<ul style="list-style-type: none"><li>• Short answers</li></ul>
IV	T-6	Explain the process and steps of prescribing.	<b>Process of prescribing and competencies</b> <ul style="list-style-type: none"><li>• Steps of prescribing</li><li>• Prescribing competencies</li></ul>	<ul style="list-style-type: none"><li>• Lecture &amp; discussion</li><li>• Review of Case studies</li></ul>	<ul style="list-style-type: none"><li>• Short answers</li><li>• Observation report</li><li>• OSCE</li></ul>

Unit	Time (Hours)	Learning Outcomes	Content	Teaching/Learning Activities	Assessment Methods
		Identify the prescribing competencies and develop basic prescribing competencies.		<ul style="list-style-type: none"> <li>Field Observation and skill lab practice</li> </ul>	

**Learning Resource:** Fundamentals of Prescribing Module prepared by INC, given below.

### FUNDAMENTALS OF PRESCRIBING MODULE

S.No.	Contents	Page No.
1	Part I. Introduction and background	42
2	Part II. Prescriptive role of Nurse Practitioners (National & International)	42
3	Part III. Professional, legal and ethical issues relevant to prescribing practice	44
4	Part IV. Principles of prescribing and factors influencing it	45
5	Part V. Process and steps of prescribing	47
6	Part VI. Prescribing competencies	50
7	Part VII. Conclusion and references	52

#### **PART I: Introduction and background**

Prescribing is the main approach to the treatment and prevention of diseases in healthcare. Medicines are used more than any other intervention by patients to manage clinical conditions. The number and complexity of medicines are growing and prescribers are expected to develop and maintain prescribing competencies. When prescribed and used effectively, medicines have the potential to significantly improve patient outcomes. Doctors are the largest group of prescribers along with dentists who are able to prescribe on registration. The prescribing responsibilities have extended to other health professional groups who are able to prescribe within their scope of practice.

Countries such as USA, UK, and Australia utilize the non- medical prescribers namely nurses, pharmacists, podiatrists, and physiotherapists keeping the principle of effective use of resources, their skills and expertise maintaining safety and efficiency of prescribing. In these countries, nurse-prescribing courses with hands on experience by designated medical practitioner train nurses to perform independent and supplementary prescribing. Adequately trained nurse practitioners on completion of approved course/modules, prescribe from a limited nurse's drug formulary and function within the standards of proficiency for nurse prescribers.

In India, the current practice is that only medical practitioners and dentists prescribe drugs on registration. Prescribing is included as a component of their undergraduate program. Nursing roles are changing and with the introduction of nurse practitioner programs in critical care, midwifery and primary care, there is a need to move towards empowering these nurses in terms of quality, standards, monitoring and evaluation. Their clinical expertise is also highly valued by patients. With introduction of legal provision for nurse practitioners by INC standards, scope of practice and regulations alongside MOH&FW regulations, and support and acceptance by medical and pharmacy councils, NPs in India will be involved in prescribing within their scope soon. Currently INC in collaboration with MOH & FW have finalized Scope of Practice Document for Nurse Practitioners in midwifery and is placed in INC and Ministry's websites. This will enable NPMs to prescribe within their scope as indicated.

#### **PART II: The Prescriptive the role of nurses and nurse Practitioners**

The need for prescribing has emerged alongside introduction of Nurse Practitioner Critical Care (NPCC) and Nurse Practitioner Midwifery (NPM) programs. The prescriptive role, rights and legal provision by Indian Nursing Council (INC) and MOH&FW, GoI have been deliberated in depth with the finalization of the Scope of Practice for NPMs.

This learning module on fundamental principles of prescribing is being integrated as part of Pharmacology course.

The nurse practitioners in midwifery will be able to prescribe from a limited list of approved drugs as per the scope of practice while providing midwifery services in Midwife led Care Units (MLCUs). Restrictions may be set for the type of practitioners as per their qualification and registration as per INC standards and regulations. Nurse

practitioners in critical care will be able to follow protocol driven drug administration integrating collaborative and shared care with medical practitioners.

### ***Standards of proficiency (Nursing & Midwifery Council - NMC, UK)***

Nurse prescribers must have sufficient knowledge and competence to

1. Assess a patient's clinical condition
2. Undertake a thorough health history that includes medication history
3. Diagnose and decide on management of the presenting condition and whether or not to prescribe where necessary
4. Identify appropriate products if medication is required
5. Advise the patient on effects and risks
6. Prescribe if patient agrees and as per legal provision
7. Monitor response to medication and lifestyle advice

### ***Scope:***

The legal provision, policy, rules and regulations of INC and Government policy, codes of professional conduct and practice and standards of proficiency by INC will guide the prescriptive practice of nurses, nurse midwives, and practitioners.

### ***Aims of nurse prescribing: The proposed prescriptive role of nurse practitioners***

- Enables nurse practitioners to provide high clinical standards and meet the patients' needs
- Provides the prescribers with legal constraints around prescribing with sound principles and policies of prescribing
- Assists them in maintaining and improving their prescribing competencies
- Empowers nurse prescribers with personal accountability for the prescribed medication

### ***Definition of terms***

1. **Nurse practitioner:** Is one who has successfully completed the educational program prescribed by INC and is registered with the appropriate nursing council.
2. **Prescriptive rights:** The prescriptive rights bestowed on the nurse practitioner by way of regulation and standards set by GOI/INC alongside other related agencies of India for drug control.
3. **Independent prescribing:** Involves prescribing independently by the one who is responsible and accountable for patients that includes assessment of undiagnosed or diagnosed conditions and for decisions about the clinical management required including prescribing particularly by the primary care practitioner.
4. **Shared/collaborative prescribing:** Prescribing limited to protocols of specific clinical settings in consultation/collaboration with medical practitioners
5. **Administration of medicines:** The act of giving a medicine to a person, which may include some activity to prepare the medicine to be administered
6. **Competencies:** The knowledge, skill, and behaviors needed to adequately perform the function.
7. **Medicines:** Therapeutic goods that are represented to achieve, or are likely to achieve their principal intended action by pharmacological, chemical, immunological or metabolic means in or on the body of a human.

Schedule medicines (e.g. controlled drugs, prescription - only medicines, pharmacist - only medicines. Pharmacy - only medicines)

Unscheduled medicines such as OTC medicines such as medicines on open sale that do not require prescription (e.g. small packets of analgesics, and complementary medicines also called herbal, natural, and alternative medicines. Complementary medicines include products containing herbs, vitamins, minerals, nutritional supplements, homoeopathic medicines and bush and traditional medicines). Medicines are also known as 'medications'

8. **Prescribing:** An iterative process involving steps of information gathering, clinical decision making, communication and evaluation that results in the initiation, continuation or cessation of a medicine

9. **Nurse prescriber:** Nurse Practitioners authorized to undertake prescribing within the scope of their practice.
10. **Scope of practice:** The areas and extent of practice by NPs defined by a regulatory body after taking into consideration their training, experience, expertise and demonstrated competencies

#### **Assignments/Self-directed reading (SDL):**

1. Review of literature - International trends of non-medical prescribing particularly nurse prescribing
2. Prescriptive role of Nurse Practitioner in UK, USA, Australia, Singapore and Thailand

### **PART III: Professional, legal and ethical issues relevant to prescribing**

A comprehensive understanding of professional, legal and ethical issues is a fundamental component of safe prescribing practice. Changes with regard to education and training, professional regulations and country's legislations related to drugs and prescribing, supply and administration of medicines influence the prescribing practice and the professional accountability.

#### **Professional Issues**

Professional regulatory bodies guide the nonmedical prescribing by setting regulations for practice. Regulators of nurse prescribers are required to set standards of education, training, conduct and performance and approve educational programs that prepare nurse practitioner to prescribe. The professional regulators are Indian Nursing Council and State Nursing Council.

Nurse practitioners must work within the boundaries of professional codes of conduct by INC with the intention of providing high quality standards of healthcare, safeguarding the public and promoting professional credibility. Additional qualification and training are required for prescribing. NPs must be able to assume personal accountability and responsibility. Safe prescription standards by regulatory body should guide the NPs in their decision-making and writing prescription.

#### **Legal issues**

Knowledge about India's legislation is essential for NPs in their practice. The law sets the standards of behavior and can be defined as a rule or body of rules. The Drugs and Cosmetics Act (1940) and Rules (1945) with latest amendments provides rules and regulations related to drugs, control, license, governance, and import. Regulatory councils/Commissions for Nursing, Medical and pharmacy are also regulators. Central Drugs Standard Control Organization (CDSCO) is a central drug authority for discharging functions assigned to central government under the Drugs and Cosmetics Act. CDSCO serves as a regulatory control over import of drugs, approval of new drugs and clinical trials, approval of licenses as central license approving authority and consists of a technical advisory board to advise on amendments to rules and regulations.

National Formulary of India, FDA and Acts of professional organizations guide prescribers in their safe and competent practice.

#### **Ethical Issues**

As prescribers, ethical dilemmas occur in their daily practice. They must draw combination of personal, group and philosophical ethics to assist in the decision- making. Ethical decisions must be guided by personal beliefs and values, professional code of conduct and the knowledge and analysis of ethical theories. The most essential ethical theories that guide decision-making are consequentialism, deontology and virtue ethics. Decisions made considering the consequences are guided by the theory of consequentialism. Deontologists follow fundamental rules and consider duty and obligation are central to their decisions. Virtue ethics that involve compassion, honesty, loyalty, kindness and benevolence guide the prescribers to prescribe safely and effectively. Ethical principles such as autonomy, beneficence, non-maleficence and justice should also guide ethical decision-making. Professional integrity is an important element to be integrated in making ethical decisions.

Nurse practitioners must work within their professional codes of conduct and reflect on professional responsibility and accountability. Legal knowledge is essential for safe practice. They must apply moral and ethical theories in making ethical decisions while prescribing for their patients.

#### **Assignments/SDL:**

1. Laws and regulations relevant to drugs, prescribing and governance by GoI and professional regulatory bodies
2. International trends on legislation related to non-medical prescribing

## **PART IV: Principles and process of prescribing**

Prescribing is one of the main approaches to treating and preventing diseases. In India, only medical practitioners perform it. It is also extended to other health professionals to use the resources maximally and thus it is extended to nurses particularly nurse practitioners in developed countries along with other health professionals (Eg. pharmacists, podiatrists, physiotherapists) who are also permitted to prescribe within restricted scope and limited formulary. All medicines have the capacity to enhance health however they also have the potential to cause harm if used inappropriately. For these reasons, all prescribers should follow principles of good prescribing. Bad prescribing can lead to ineffective and unsafe treatment, exacerbation or prolongation of illness, distress and harm to the patient and higher costs. They can also make the prescriber vulnerable to influences which can cause irrational prescribing such as patient pressure, bad example of colleagues and high powered salesmanship.

### **British pharmacological society recommends the following ten principles of prescribing**

1. Be clear about the reasons for prescribing
  - Establish an accurate diagnosis whenever possible (although this may often be difficult)
  - Be clear in what the patient is likely to gain from the prescribed medicines.
2. Take into account the patient's medication history before prescribing
  - Obtain an accurate list of current and recent medications (including over-the counter and alternative medicines), prior adverse drug reactions, and drug allergies from the patient, their carers, or colleagues
3. Take into account other factors that might alter the benefits and risks of treatment
  - Consider other individual factors that might influence the prescription (e.g. physiological changes with age and pregnancy, or impaired kidney, liver or heart function)
4. Take into account the patient's ideas, concerns, and expectations
  - Seek to form a partnership with the patient when selecting treatments, making sure that they understand and agree with the reasons for taking the medicine
5. Select effective, safe and cost effective medicines individualized for the patient
  - The likely beneficial effect of the medicine should outweigh the extent of any potential harms, and whenever possible this judgement should be based on published evidence
  - Prescribe medicines that are unlicensed, off-label or outside standard practice only if satisfied that an alternative medicine would not meet the patient's needs (this decision will be based on evidence and/or experience of their safety and efficacy)
  - Choose the best formulation, dose, frequency, route of administration, and duration of treatment
6. Adhere to national guidelines and local formularies where appropriate
  - Be aware of guidance produced by respected bodies (increasingly available via decision support systems), but always consider the individual needs of the patient
  - Select medicines with regard to costs and needs of other patients (health-care resources are finite)
  - Be able to identify, access, and use reliable and validate sources of information (e.g. National Formulary), and evaluate potentially less reliable information critically
7. Write unambiguous legal prescription using the correct documentation
  - Be aware of common factors that cause medication errors and know how to avoid them
8. Monitor the beneficial and adverse effects of medicines
  - Identify how the beneficial and adverse effects of treatment can be assessed
  - Understand how to alter the prescription as a result of this information
  - Know how to report adverse drug reactions
9. Communicate and document prescribing decisions and the reasons for them
  - Communicate clearly with patients, their carers, and colleagues
  - Give patients important information about how to take the medicine, what benefits might arise, adverse effects (especially those that will require urgent review), and any monitoring that is required
  - Use the health record and other means to document prescribing decisions accurately
10. Prescribe within the limitations of your knowledge, skill and experience
  - Always seek to keep the knowledge and skills that are relevant to your practice up to date
  - Be prepared to seek the advice and support of suitably qualified professional colleagues
  - Make sure that, where appropriate prescriptions are checked (e.g. calculations of intravenous doses)

## **Factors influencing prescribing**

Prescribing is complex and every consultation is unique. To ensure safety and cost effective prescribing, the practitioners need to be aware of various factors that can influence prescribing. Adhering to principles of good prescribing is the first and foremost essential component that significantly influences prescribing practice. The other factors are discussed below. The major factors include prescriber related factors, patient related factors, product related factors and other professionals.

### **Prescriber related factors**

The personal characteristics of the prescriber have a significant impact on the prescribing. Personal beliefs and values are important influences in selection of treatment and products. The confidence of the practitioner is enhanced by additional qualification, training, and experience. The practitioner's role change and responsibility can be influencing factors. Appropriate remuneration also positively influences their performance. Organizational resources, culture and support are other factors. Professional codes of conduct protect the practitioner and public. Government guidelines, INC standards and guidelines and legal provision in the act guide the practitioners to perform safe and effective prescribing.

### **Patient related factors**

Consultation process is vital in making decisions for safe and effective prescribing. A structured approach to history taking with well-developed history-taking skills by the practitioners is required. Access to appropriate records indicating past health history and treatment history along with comprehensive history will provide sufficient information required to make decisions related to prescribing. A therapeutic relationship with the patient and communication is sure to enhance the success of prescribing. It is important to know the expectations of patients before generating the prescription. The practitioner needs to know the various options available before choosing the drug treatment. The patient's emotions, distress and anxiety can influence the prescribing consultation and their ability to convey accurate information or receive instructions and information about taking medication and observing for drug side effects. The patient is a consumer and practitioners should be vigilant to provide maximum patient safety by ensuring adequate knowledge about drugs, their side effects, potential drug interactions and adverse reactions. The skills of pharmaco-vigilance is highly important for practitioners. Patient's culture is another influencing factor. The awareness of the dynamics that result from cultural differences such as value preferences, perception of illness, health beliefs and communication style will help practitioners adapt treatment plants that meet the culturally unique needs.

### **Product related factors**

The choice of the product, availability and access to formularies, external influences such as pharmaceutical companies and media are some of the major influencing factors. Every practitioner needs to ensure adequate knowledge about relevant national guidelines with evidence and local prescribing protocols. The choice of the product should be based on the formulary designed for nurse practitioner's use. Effectiveness and cost need to be considered first. National Formulary of India serves as a guideline for prescribers in India. Pharmaceutical companies are growing tremendously. The practitioners need to be aware of approved and licensed companies by the drug controlling authority of India. The advertisements and media about various products and companies also attempt to influence the prescribing decisions. Practitioners need to be aware of the fact and maintain healthy and professional relationship if required and utilize ethical principles and evidence base for making prescribing decisions.

### **Other professionals**

Multidisciplinary team working and collaboration are emphasized greatly in healthcare. The success of prescribing by practitioners depends largely by cultivating sound and effective relationship with medical practitioners and hospital managers. The role of nurse practitioners in prescribing needs to be communicated to doctors and other healthcare professionals and is to be well understood. Communication and transfer of information are cornerstones for safe prescribing practice. The above-mentioned factors related to prescriber, patient, product and other professionals are discussed briefly as to how they influence the prescribing practice. The successful implementation of prescribing by nurse practitioners depends largely upon their knowledge about these factors. Identifying strategies to minimize potential negative influences can enhance the implementation and effectiveness of the prescribing practice by nurse practitioners.

### **Reading assignments**

1. Ten Principles of Good Prescribing, British Pharmacological Society, retrieved from [www.bps.ac.uk](http://www.bps.ac.uk)

## **PART V: Process of prescribing**

The national formulary of India 2016 is a published updated document available in India. The formulary provides general advice to prescribers in India. The process and steps of prescribing are discussed in the WHO guide to good prescribing (1994) and this is followed by India that is reflected in the formulary.

### **Process of rational prescribing**

This involves selection of a drug treatment using the stepwise approach that includes the following.

1. Define the patients problem carefully (diagnosis)
2. Specify the therapeutic objective
3. Choose a treatment of proven efficiency and safety from different alternatives (refer national formulary of Indian, WHO List of essential drugs)
4. Start the treatment by writing an accurate prescription
5. Providing the patient with clear information and instructions
6. Monitor the results of the treatment
7. Stop the treatment if the problem has been solved.
8. If not re-examine all the steps.

#### **Box 1. The process of rational treatment**

- Step 1. Define the patients problem**
- Step 2. Specify the therapeutic objective**
- Step 3. Select the therapeutic strategies**
- Step 4. Start the treatment and write the prescription**
- Step 5. Give information, instructions and warnings**
- Step 6. Monitor the treatment**

#### **Step 1. Define the patient's problem**

When defining the patient's problem, the knowledge of health assessment must be revised and skills are utilized. Whenever possible, making the right diagnosis is based on integrating many pieces of information such as the complaint as described by the patient, a detailed history, physical examination, laboratory tests, X-rays and other investigations. This helps in rational prescribing.

#### **Step 2. Specify the therapeutic objective**

After examining the holistic needs of the patient ask the following questions.

Is the diagnosis established?

Is information or advice sufficient?

Is there a need to prescribe?

What does the patient expect?

What is your objective for treating the patient? Define what you want to achieve from the drug. (e.g.) to suppress chronic dry cough to prevent heart attack in angina

The therapeutic objectives should be based on the pathophysiology underlying the clinical condition. More than one objective may be selected sometimes.

#### **Step 3. Select the therapeutic strategies**

Making a choice involves the following consideration

- Appropriate
- Effective
- Safe
- Cost
- Acceptable

**Refer the following:**

1. Nurse prescriber's formulary
2. National Formulary of India and national list of essential medicines
3. WHO list of essential drugs
4. Other relevant documents
5. Existing standard treatment protocols and guidelines

Select the strategy based on the knowledge of pathophysiology and the findings from history, examination, lab tests and other investigations. Medication or drug history and allergies are vital in the history that includes the following

- List of medications the patient is on with the repeat prescription of the medication
- Record from the history the name, dose, frequency and route of medication
- Prescribed or not
- Enquiry about OTC drugs (over the counter) or any other herbal preparations
- Any allergies reaction to medication, foods or environment factors and treatment given
- Recording of the above

History related to age, sex, hereditary factors, lifestyle factors, social and community networks living and working conditions, socio economic cultural and environmental conditions.

The selected strategy should be agreed with the patient that is known as concordance.

**Non-pharmacological treatment:**

Not all patients require a medicine for the treatment. Very often many health problems can be resolved by a change in lifestyle, diet, use of physiotherapy or exercise, and providing psychological support. These have the same effect as a drug and instructions must be written, explained and monitored in the same way.

**Pharmacological treatment:**

This involves selecting the correct group of drugs, selecting the medicine from the chosen group, and verifying the suitability of the chosen drug for each patient.

Knowledge about the pathophysiology of the clinical condition, pharmacokinetics and pharmacodynamics of the chosen drug are fundamental principles for rational therapeutics.

The selection process must consider the efficacy and safety of the drug.

For safety, the potential benefits of the treatment must always be balanced against known safety concerns.

How to avoid adverse drug reaction?

1. Use as few concurrent drugs as possible.
2. Use the lowest effective dose.
3. Check if patient is pregnant or breast feeding
4. Is the patient at extremes of life?
5. Do you know all the drugs that the patient is taking
6. Check for over the counter medicines
7. Drug allergies or previous reaction to medications

Make an inventory of effective groups of drugs. Once you have compared various treatment alternatives and considered the four criteria such as efficacy, safety, suitability and cost, choose the drug.

In selection of the drug, choose an active substance and a dosage form, choose a standard dosage schedule, and choose a standard duration of treatment

Advice to be given to patient first with an explanation of why it is important, use words that patient can understand and be brief.

#### Step 4. Start the treatment

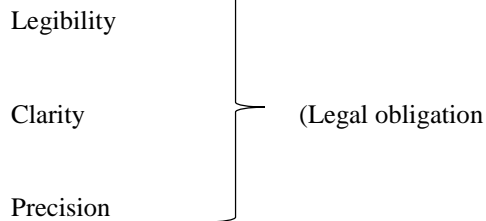
Prescribe the (treatment) drugs

#### Writing a prescription

A Prescription is an instruction from a prescriber to a pharmacist/dispenser. Prescriber is not always a doctor, it could be a nurse, medical assistant etc. The dispenser is not always the pharmacist it could be an assistant nurse. Every country has its own standards, laws and regulations as to who should prescribe, dispense and the required information in a prescription form, drugs that require prescription or not, special laws regarding narcotics etc.

Information on a prescription

Based on individual country's regulations.



#### Information

- Name & address of the prescriber with telephone no (if possible)
- Date of prescription
- Name (Generic Name) and strength of drug
- Dosage form (only use standard abbreviations) Tab paracetamol 500 mg (10 tablets) BDx5 days.
- Label: how much, how often, special instruction,
- Name, address, age of patient.
- Prescriber's initials signature, License no.

#### Step 5. Give Information, Instruction and warnings

50% of patients do not take prescribed drugs correctly take irregularly or not at all. The most common reasons are that the symptoms have stopped, side effects have occurred, or the drug is not perceived as effective, or the dosage schedule is complex to understand. Giving information, instruction and warnings is important to ensure patient compliance/adherence

Adherence to drug treatment can be improved if

- Drug is well chosen and prescribed
- A Good prescriber patient relationship is created
- Time is taken to give necessary information, instructions and warnings.

#### How to improve patient adherence to drug treatment

- Prescribe a well-chosen treatment
- Create a good doctor-patient relationship
- Take the time to give information, instruction and warnings

Other aids to improve adherence could be patient leaflets, pictorials, day calendar, drug passport and dosage box.

#### Information to include:

- Effects of the drug
- Side effects
- Instructions
- Warnings
- Future consultation
- Confirmation of understanding

## Step 6. Monitor the treatment (Stop or continue)

Monitoring enables you to determine whether the treatment has been successful or additional action is required. This allows stopping or reformulating if necessary or continuation of treatment.

Passive monitoring (self-monitoring)

Active monitoring (Future appointment & consultation)

Was the treatment effective?

- a. Yes, and disease cured/stop the treatment
- b. Yes, but not yet completed - Any serious side effects
  - No: treatment can be continued
  - Yes: Reconsider dosage or drug choice
- c. No, disease not cured - verify all steps:
  - Diagnosis correct
  - Therapeutic objective correct?
  - Drug prescribed correctly?
  - Effect monitored correctly?

## Keep up to date about drugs

Knowledge is constantly changing. New drugs come to the market. Every prescriber is expected to know about the side effects and also developments in drug therapy.

Choosing sources of information

1. Make an inventory of available sources of information.

- Reference books & Medical journals
- Drug compendia - hand books for desk reference national formulary
- National lists of essential drugs and treatment guidelines
- Drug formularies
- Drug bulletins, drug information centers
- Verbal information
- Drug industry sources of information

2. Choose between sources of information credible and accessible.

E.g. Medical journals, drug bulletins, pharmacology or clinical reference books, national formulary revisions

3. Effective reading- Read useful resources, clinical trials.

It is important to develop a strategy to maximize your access to key information you need for optimal benefit of the drugs you prescribe.

## Assignments/Learning Activities - Case study discussion

Learning different steps of prescribing from case studies

**Refer** - The guide to good prescribing - Practice Manual, WHO, Geneva, 1994

## PART VI: Prescribing Competencies

Every practitioner who prescribes must possess various competencies required by respective regulatory bodies.

The prescribing competency framework recommended by NPC consists of three domains:

National Prescribing Centre (NPC, NICE -UK), 2014

1. The consultation
2. Prescribing efficiency
3. Prescribing in context

## **I Domain - The consultation**

### **Competencies**

1. **Knowledge**  
Has up-to-date clinical, pharmacological and pharmaceutical knowledge relevant to own area of practice.
2. **Options**  
Makes or reviews a diagnosis, generates management options for the patient and follows up management.
3. **Shared Decision Making** (with parents, care-givers or advocates where appropriate)  
Establishes a relationship based on trust and mutual respect. Recognizes patients in the consultation.

## **II Domain - Prescribing Effectively**

### **Competencies**

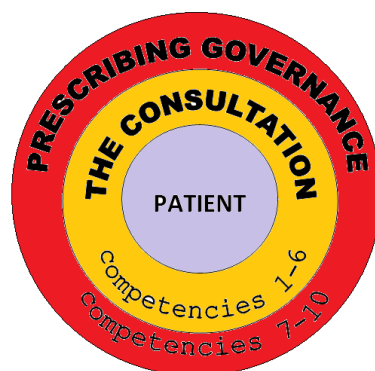
4. **Safe**  
Is aware of own limitation. Does not compromise patient safely.
5. **Professional**  
Ensures prescribing practice is consistent with scope of practice, organizational, professional and regulatory standards, guidance and codes of conduct.
6. **Always improving**  
Actively participates in the review and development of prescribing practice to optimize patient outcomes.

## **III Domain - Prescribing in context**

### **Competencies**

7. **The health care system**  
Understands and works within local and national policies, process and systems that impact on prescribing practice. Sees how own prescribing impacts on the wider healthcare community.
8. **Information**  
Knows how to access relevant information. Can use and apply information in practice.
9. **Self and others**  
Works in partnership with colleagues for the benefit of patients, is self-aware and confident in own ability as a prescriber.

Royal Pharmaceutical Society's (UK) Prescribing Competency Framework- Comprises of ten competencies within two domains.



#### **THE CONSULTATION**

1. Assess the patient
2. Consider the options
3. Reach a shared decision
4. Prescribe
5. Provide information
6. Monitor and review

#### **PRESCRIBING GOVERNANCE**

7. Prescribe safely
8. Prescribe professionally
9. Improve prescribing practice
10. Prescribe as part of a team

**Reading assignments:**

1. A Single Competency Framework for all prescribers NPC (National Prescribing Centre) (Provided by NICE), 2012
2. Royal Pharmaceutical Society, A Competency Framework for all prescribers (2016)

**PART VII: Conclusion**

Nurse prescribing is not a practice in India. With the introduction of Nurse practitioner program in Critical Care and midwifery, the need for granting prescriptive rights to NPs is being recognized. Legal provision for NPs to be involved in prescribing is being explored and INC is working towards developing regulations and legal provision along with MOH&FW. It is hoped that this will become a reality soon similar to the practice in UK, USA and Australia.

This learning and teaching module on Fundamentals of Prescribing is divided into 5 parts and can be offered to orient the students in prescribing practice, its principles and legislation required and the needed competencies for prescribers. Both theory and practical are planned with the assessment plan for the course module. This module will enhance the understanding of BSc nursing students on prescribing principles and assist them to develop the prescribing competency when called to use it as community health officer in Health and wellness centres/primary care settings.

**References:**

- Nuttal, D & Rutt- Howard, J (editors) (2011). The Text Book of Non- Medical Prescribing
- Royal Pharmaceutical Society, A Competency Framework for all prescribers (2016)
- Ten Principles of Good Prescribing, British Pharmacological Society, retrieved from [www.bps.ac.uk](http://www.bps.ac.uk)
- A Single Competency Framework for all prescribers, National Prescribing Centre-NPC (Provided by NICE), 2012, NPC is part of NICE (National Institute for Health and Clinical Excellence, NICE) Ref. NICE (2012) A Single Competency Framework for all Prescribers NPC.
- Non- Medical Prescribing Policy, Surrey with Sussex (NHS) NMPSS- prescribing principles, 2004
- National Formulary of India, 2016
- Drug & Cosmetics Act, 1940 & 1945
- The guide to good prescribing, WHO, Geneva, 1994

(NB: Latest edition must be consulted as and when revised)

## PALLIATIVE CARE MODULE (Adult Health Nursing II)

**PLACEMENT:** IV SEMESTER

**Theory & Practical:** 20 hours

**Theory:** 15 hours

**Practical:** 5 hours

**Module Overview:** This module is designed to help students to develop in-depth knowledge, competencies, and a positive approach in providing quality palliative care to persons suffering from chronic illnesses and resultant health problems in variety of settings, collaborating supportive services.

**Competencies (Learning Outcomes):** The student will be able to

1. Explain the concept and significance of palliative care.
2. Identify the need for palliative care.
3. Discuss the importance and techniques of effective communication in palliative care
4. Demonstrate skill in assessment, management and evaluation of pain and common symptoms
5. Provide optimum nursing care to relieve symptoms and promote comfort.
6. Demonstrate competency in performing nursing procedures related to palliative care
7. Assist the patient to experience maximum Quality of Life.
8. Support patient and family for home care and to cope with the terminal phase of illness
9. Observe ethical and legal principles binding palliative care.

**Learning Activities:**

- Lectures and demonstration
- Self-study/Reading assignments
- Written assignments
- Practice in Skill/Simulation Lab

**Assessment Methods:**

- Test paper (Objective type/short answer/situation type) - 20 marks
- Assignments - 10 marks
- OSCE (Health assessment & Symptom management competencies) - 20 marks

**Weightage to Internal Assessment:** 10 marks to be added to internal marks to make up the total of 40 marks.

### CONTENT OUTLINE T - Theory, P - Practical

Unit	Time (Hours)	Learning Outcome	Content	Teaching/Learning Activities	Assessment Methods
I	2	Explain the concept significance of palliative care.  Identify the need for palliative care.	<b>Palliative Care</b> <ul style="list-style-type: none"><li>• Evolution, and History</li><li>• Concept of palliative care</li><li>• Significance</li><li>• Components</li><li>• Differences between conventional and palliative care approaches</li><li>• Ethical aspects</li><li>• Need for palliative care</li></ul>	<ul style="list-style-type: none"><li>• Lecture cum discussion</li></ul>	<ul style="list-style-type: none"><li>• MCQ</li><li>• Short answers</li></ul>

Unit	Time (Hours)	Learning Outcome	Content	Teaching/Learning Activities	Assessment Methods
II	2	Discuss different aspects of effective communication.  Describe how to deal with extremes of emotions	<b>Communication Skills</b> <ul style="list-style-type: none"> <li>• Effective communication - needs and barriers</li> <li>• Non-verbal communication</li> <li>• Learning to communicate patients with advanced and progressive diseases</li> <li>• Communicating bad news</li> <li>• Managing collusion</li> <li>• Managing anger and denial</li> </ul>	<ul style="list-style-type: none"> <li>• Review</li> <li>• Discussion</li> <li>• Simulation</li> <li>• Case Scenario</li> </ul>	<ul style="list-style-type: none"> <li>• MCQ</li> <li>• Short answers</li> <li>• Role play</li> </ul>
III	8 (T) 2 (P)	Demonstrate skill in assessment, management and evaluation of pain and other common symptoms  Apply non-pharmacological and pharmacological Nursing interventions for pain relief.  Render optimum nursing care to relieve symptoms and to promote comfort.  Prepare the patient and caregiver for continued care.	<b>Nursing Management of Symptoms</b> <ul style="list-style-type: none"> <li>• Holistic approach in symptom assessment and management,</li> <li>• Pain - concept, assessment and evaluation of pain, pathophysiology of chronic pain,</li> <li>• WHO ladder for pain management, Morphine –steps in calculating dose for oral morphine, management of opioid overdose and side effects,</li> <li>• Nursing interventions for management of pain</li> <li>• Management of dyspnoea, Nausea and vomiting, Constipation, Diarrhoea</li> <li>• Nutrition and Hydration</li> <li>• Fatigue and Powerlessness</li> <li>• Anxiety, Social isolation</li> <li>• Spiritual distress</li> <li>• Impaired physical mobility</li> <li>• Self-care deficit</li> <li>• Delirium</li> <li>• Caregiver role strain</li> </ul>	<ul style="list-style-type: none"> <li>• Review</li> <li>• Discussions</li> <li>• Demonstration</li> </ul>	<ul style="list-style-type: none"> <li>• Case study</li> <li>• Written assignment</li> <li>• Essay</li> </ul>
IV	1 (T) 3 (P)	Demonstrate competency in performing nursing procedures related to palliative care.	<b>Nursing Procedures</b> <ul style="list-style-type: none"> <li>• Wound care</li> <li>• Colostomy care</li> <li>• Subcutaneous injection</li> <li>• Oral hygiene</li> <li>• Naso-gastric tube management</li> <li>• Tracheotomy care</li> <li>• Assisting in thoracocentesis</li> <li>• Assisting in indwelling ascitic catheter placement</li> <li>• Lymphoedema management</li> <li>• Bladder care</li> </ul>	<ul style="list-style-type: none"> <li>• Review and discussions</li> <li>• Simulation</li> </ul>	<ul style="list-style-type: none"> <li>• OSCE</li> </ul>
V	2 (T)	Discuss measures to improve Quality of Life. Explain care in the terminal phase, loss and grieving process.	<b>Optimization of care</b> <ul style="list-style-type: none"> <li>• Quality of Life</li> <li>• Essential care</li> <li>• Anticipatory prescription</li> <li>• Dying with dignity</li> <li>• Care during the terminal phase</li> <li>• Ethics based decision making</li> </ul>	<ul style="list-style-type: none"> <li>• Review and discussion</li> <li>• Case scenario</li> <li>• Observation visit to a palliative care facility</li> </ul>	<ul style="list-style-type: none"> <li>• Short answers</li> <li>• Observation Visit Report</li> </ul>

<b>Unit</b>	<b>Time (Hours)</b>	<b>Learning Outcome</b>	<b>Content</b>	<b>Teaching/Learning Activities</b>	<b>Assessment Methods</b>
		Observe ethical and legal principles applied to palliative care.	<ul style="list-style-type: none"> <li>• Death and dying, end of life</li> <li>• Support to the care giver and family</li> </ul>		

**References:**

- Rajagopal, M. R. (2015). An Indian Primer of Palliative care for medical students and doctors. Kerala: Trivandrum Institute of palliative science publication.
- Palliative care module prepared by WHO CC of Trivandrum and Calicut (Latest version to be used as and when available)

## FACILITY BASED NEWBORN CARE (FBNBC) AND ESSENTIAL NEWBORN CARE (ENBC), PLS AND IMNCI MODULES (Child Health Nursing I)

**FBNBC & ENBC: Can be offered as a single module**

S.No.	HOURS	MODULE NUMBER & TITLE			
		I. FBNBC & ENBC	II. IMNCI	III. PLS	TOTAL
1	Theory Hours	10	10	3	<b>23</b>
2	Lab Hours	8	5	4	<b>17</b>
3	Clinical Hours	25	25	10	<b>60</b>
	<b>Total</b>	<b>43</b>	<b>40</b>	<b>17</b>	<b>100</b>

## FACILITY BASED NEWBORN CARE (FBNBC) AND ESSENTIAL NEWBORN CARE (ENBC) (Child Health Nursing)

**PLACEMENT: V SEMESTER**

**THEORY & SKILL LAB: 18 hours**

**Theory: 10 Hours**

**Skill Lab: 8 hours**

**MODULE OVERVIEW:** This course is designed to help students to demonstrate the cognitive and psychomotor skills necessary for ensuring healthy survival of neonates.

**COMPETENCIES (Learning outcomes): The student will be able to**

1. Describe evidence based routine care of newborn baby at birth and everyday care of the newborn baby
2. Enlist the factors which contribute to heat loss in newborn
3. Demonstrate methods to keep the baby warm after birth and at home
4. Discuss Kangaroo mother care and develop skill in assisting for Kangaroo Mother Care
5. Recognize different methods to feed normal and low birth weight babies
6. Demonstrate skill in assisting the mother for breastfeeding the newborn baby
7. Identify and manage at-risk and sick neonates
8. Perform resuscitation of newborn baby and provide aftercare
9. Demonstrate skill in using and maintaining neonatal equipment, doing common procedures, emergency triaging and preparing common medications
10. Enumerate key points in prevention of infection in hospitals and waste disposal

### CONTENT OUTLINE T - Theory, L - Lab/Skill lab

Unit	Time (Hours)	Learning Outcomes	Content	Teaching/ Learning Activities	Assessment Methods
1	1 (T) 1 (L)	Describe evidence based routine care of newborn baby at birth and everyday care of the newborn baby	<b>Evidence based care of newborn</b> <ul style="list-style-type: none"> <li>• Basic needs of a normal baby at birth</li> <li>• Immediate care of the normal newborn at the time of birth</li> <li>• Monitoring the baby in the first hour after birth</li> </ul>	<ul style="list-style-type: none"> <li>• Lecture</li> <li>• Discussion</li> </ul>	<ul style="list-style-type: none"> <li>• Questioning</li> <li>• Tests</li> </ul>

Unit	Time (Hours)	Learning Outcomes	Content	Teaching/ Learning Activities	Assessment Methods
			<ul style="list-style-type: none"> <li>Care of the baby in special situations</li> <li>Postnatal care of normal baby</li> </ul>		
2	1 (T) 1(L)	<p>Enlist the factors which contribute to heat loss in newborn</p> <p>Demonstrate methods to keep the baby warm after birth and at home</p>	<p><b>Temperature regulation in newborn</b></p> <ul style="list-style-type: none"> <li>Handicaps of newborn in temperature regulation</li> <li>Warm chain</li> <li>Assessment of temperature and management of hypothermia</li> <li>Hyperthermia</li> </ul>	<ul style="list-style-type: none"> <li>Discussion</li> <li>Demonstration</li> </ul>	<ul style="list-style-type: none"> <li>OSCE</li> </ul>
3	1 (T) 1 (L)	Discuss Kangaroo mother care and develop skill in assisting for Kangaroo Mother Care	<p><b>Kangaroo mother care</b></p> <ul style="list-style-type: none"> <li>KMC - Components and benefits</li> <li>Requirements and eligibility</li> <li>Procedure</li> </ul>	<ul style="list-style-type: none"> <li>Discussion</li> </ul>	<ul style="list-style-type: none"> <li>OSCE</li> </ul>
4	1 (T) 1 (L)	<p>Recognize different methods to feed normal and low birth weight babies</p> <p>Demonstrate skill in assisting the mother for breastfeeding the newborn baby</p>	<p><b>Feeding the newborn</b></p> <ul style="list-style-type: none"> <li>Breast feeding</li> <li>Feeding of low birth weight and sick newborns</li> </ul>	<ul style="list-style-type: none"> <li>Discussion</li> <li>Demonstration</li> </ul>	<ul style="list-style-type: none"> <li>Tests</li> <li>Questioning</li> <li>OSCE</li> </ul>
5	2 (T) 1 (L)	Identify and manage at-risk and sick neonates	<p><b>Care of sick neonates</b></p> <ul style="list-style-type: none"> <li>Care of at-risk neonates</li> <li>Care of sick neonates</li> </ul>	<ul style="list-style-type: none"> <li>Discussion</li> <li>Demonstration</li> </ul>	<ul style="list-style-type: none"> <li>Tests</li> <li>Questioning</li> </ul>
6	1 (T) 2 (L)	Perform resuscitation of newborn baby and provide aftercare	<p><b>Newborn Resuscitation</b></p> <ul style="list-style-type: none"> <li>Preparation for resuscitation</li> <li>Assessing the need for resuscitation</li> <li>Steps of resuscitation</li> <li>Follow up care after successful resuscitation</li> </ul>	<ul style="list-style-type: none"> <li>Demonstration and return demonstration</li> </ul>	<ul style="list-style-type: none"> <li>Questioning</li> <li>OSCE</li> </ul>
7	2 (T) 1 (L)	Demonstrate skill in using and maintaining neonatal equipments, doing common procedures, preparing Common medications and emergency triaging	<p><b>Common nursing procedures</b></p> <ul style="list-style-type: none"> <li>Use and maintenance of neonatal equipments</li> <li>Common procedures done in newborn</li> <li>Preparation of common medications</li> <li>Emergency triage assessment and treatment</li> </ul>	<ul style="list-style-type: none"> <li>Discussion</li> <li>Demonstration</li> </ul>	<ul style="list-style-type: none"> <li>Tests</li> <li>Questioning</li> <li>OSCE</li> </ul>
8	1 (T)	Enumerate key points in prevention of infection in hospitals and waste disposal	<p><b>Infection prevention and control</b></p> <ul style="list-style-type: none"> <li>Principles of asepsis and universal precautions</li> <li>Handwashing</li> </ul>		<ul style="list-style-type: none"> <li>Tests</li> <li>Questioning</li> <li>OSCE</li> </ul>

Unit	Time (Hours)	Learning Outcomes	Content	Teaching/ Learning Activities	Assessment Methods
			<ul style="list-style-type: none"> <li>• Skin preparation for venipuncture and other procedures</li> <li>• Surveillance</li> <li>• Safe disposal of hospital waste</li> </ul>		

**CLINICAL:** 25 hours

**Clinical Practice Competencies:** On completion of the course, the students will be able to:

1. Demonstrate immediate care of a newborn at the time of birth
2. Demonstrate methods to keep the baby warm after birth and at home
3. Encourage Kangaroo mother care
4. Recognize and practice different methods to feed normal and low birth weight babies
5. Identify and manage at-risk and sick neonates
6. Perform resuscitation of newborn baby and provide aftercare
7. Demonstrate skill in using and maintaining neonatal equipment, doing common procedures, emergency triaging and preparing common medications
8. Practice key points in prevention of infection in hospitals and waste disposal

**Learning Resources:** (Latest version must be consulted as and when revised)

National guidelines-MOH&FW

## IMNCI MODULE (Child Health Nursing I)

**PLACEMENT:** IV SEMESTER

**THEORY:** 10 hours

**SKILL LAB:** 5 hours

**CLINICAL:** 25 hours

**DESCRIPTION:** This course is designed to help students to develop knowledge and competencies required for assessment, diagnosis, treatment, nursing care of infants and children with various diseases using guidelines as per IMNCI in the hospital and home settings.

**COMPETENCIES (Learning outcomes):** The student will be able to

1. Trace the history and developments in the field of integrated management of child health and child health nursing
2. Apply the concepts of IMNCI in providing care to the pediatric clients and their families
3. Identify effective management of young infants up to 2 months
4. Demonstrate skill in case management of young infants up to 2 months
5. Recognize effective management of children age 2 months to 5 years
6. Demonstrate skill in case management of children age 2 months to 5 years
7. Demonstrate skill in treatment procedures and referral of sick children
8. Demonstrate skill in counseling of the care takers

### CONTENT OUTLINE T - Theory, L - Lab/Skill Lab

Unit	Time (Hours)	Learning Outcomes	Content	Teaching/Learning Activities	Assessment Methods
1	2 (T)	Trace the history and developments in the field of integrated management of child health and child health nursing	<b>IMNCI - Introduction</b> <ul style="list-style-type: none"> <li>• Background and Objectives</li> <li>• Components and principles</li> <li>• Rationale for an integrated evidence based syndromic approach to case management</li> </ul>	<ul style="list-style-type: none"> <li>• Lecture</li> <li>• Discussion</li> </ul>	<ul style="list-style-type: none"> <li>• Written assignment</li> <li>• Tests</li> </ul>
2	2 (T) 1 (L)	Apply the concepts of IMNCI in providing care to the pediatric clients and their families	<b>Steps of case management process</b> <ul style="list-style-type: none"> <li>• Assess the young infant/child</li> <li>• Classify the illness</li> <li>• Identify treatment</li> <li>• Treat the young infant/ child</li> <li>• Counsel the mother</li> <li>• Provide follow up care</li> </ul>	<ul style="list-style-type: none"> <li>• Discussion</li> <li>• Demonstration</li> </ul>	<ul style="list-style-type: none"> <li>• OSCE</li> </ul>
3	2 (T) 1 (L)	Identify effective management of young infants up to 2 months  Demonstrate skill in case management of young infants up to 2 months	<b>Assessment of sick young infants</b> <ul style="list-style-type: none"> <li>• History taking</li> <li>• Checking for possible bacterial infection/ jaundice</li> <li>• Diarrhea</li> <li>• Feeding problem/ malnutrition</li> <li>• Immunization status</li> <li>• Other problems</li> </ul>	<ul style="list-style-type: none"> <li>• Discussion</li> <li>• Demonstration</li> </ul>	<ul style="list-style-type: none"> <li>• OSCE</li> </ul>
4	2 (T) 1 (L)	Recognize effective management of	<b>Assessment of sick children</b> <ul style="list-style-type: none"> <li>• History taking</li> <li>• Checking for general danger signs</li> </ul>	<ul style="list-style-type: none"> <li>• Discussion</li> <li>• Demonstration</li> </ul>	<ul style="list-style-type: none"> <li>• OSCE</li> </ul>

Unit	Time (Hours)	Learning Outcomes	Content	Teaching/Learning Activities	Assessment Methods
		children age 2 months to 5 years  Demonstrate skill in case management of children age 2 months to 5 years	<ul style="list-style-type: none"> <li>• Checking main symptoms</li> <li>• Checking for malnutrition</li> <li>• Checking for anaemia</li> <li>• Assessment of feeding</li> <li>• Checking immunization</li> <li>• Assessing other problems</li> </ul>		
5	2 (L)	Demonstrate skill in treatment procedures and referral of sick children	<b>Treatment procedures</b> <ul style="list-style-type: none"> <li>• Identify treatment</li> <li>• Inpatient and outpatient treatment</li> <li>• Home management</li> <li>• Referral</li> </ul>	<ul style="list-style-type: none"> <li>• Discussion</li> <li>• Demonstration</li> </ul>	<ul style="list-style-type: none"> <li>• OSCE</li> </ul>
6	2 (T)	Demonstrate skill in counseling of parents and care takers	<b>Parental counseling</b> <ul style="list-style-type: none"> <li>• Advice regarding feeding and fluid intake, and solving of feeding problems</li> <li>• Administration of oral drugs</li> <li>• Advise when to return</li> </ul>	<ul style="list-style-type: none"> <li>• Discussion</li> <li>• Role play</li> </ul>	<ul style="list-style-type: none"> <li>• OSCE</li> </ul>

**Clinical:** 25 hours

**Practice Competencies:** On completion of the course, the students will be able to:

1. Demonstrate skill in case management of young infants up to 2 months
2. Demonstrate skill in case management of children age 2 months to 5 years
3. Demonstrate skill in treatment procedures and referral of sick children
4. Demonstrate skill in counseling of the care takers and follow up care

**Learning Resources:** (Latest version must be consulted as and when revised)

National guidelines-MOH&FW

## PLS MODULE (Child Health Nursing I)

**PLACEMENT:** V SEMESTER

**Theory:** 3 hours

**Skill Lab:** 4 Hours

**Clinical:** 10 Hours

**COMPETENCIES (Learning outcomes):** The student will be able to

1. Recognize early signs of critical illness in children
2. Identify early signs of cardiopulmonary arrest
3. Demonstrate the use of the various airway and oxygen adjuncts and methods for optimum ventilation & airway control.
4. Differentiate between respiratory distress and failure
5. Intervene respiratory distress and failure at the earliest
6. State the indications & dosages of medications used in cardiopulmonary arrest and the effects on the cardiovascular system.
7. Demonstrate skill in CPR
8. Provide Post-cardiac arrest management

### CONTENT OUTLINE T - Theory, L - Lab/Skill lab

Unit	Time (Hours)	Learning Outcomes	Content	Teaching/Learning Activities	Assessment Methods
1	2 (T)	Recognize early signs of critical illness in children  Identify early signs of cardiopulmonary arrest	<b>Identification of critical illness in children</b> <ul style="list-style-type: none"> <li>• Early signs of critical illness in children</li> <li>• Early signs of cardiopulmonary arrest</li> <li>• Assessment of appearance based on AVPU scale</li> </ul>	<ul style="list-style-type: none"> <li>• Lecture</li> <li>• Discussion</li> </ul>	<ul style="list-style-type: none"> <li>• Questioning</li> <li>• Tests</li> </ul>
2	1 (T)	Differentiate between respiratory distress and failure	<ul style="list-style-type: none"> <li>• Respiratory distress</li> <li>• Respiratory failure</li> </ul>	<ul style="list-style-type: none"> <li>• Discussion</li> </ul>	<ul style="list-style-type: none"> <li>• OSCE</li> </ul>
3	1 (L)	Intervene respiratory distress and failure at the earliest	<ul style="list-style-type: none"> <li>• <b>Prompt Interventions for</b> Respiratory distress and Respiratory failure</li> </ul>	<ul style="list-style-type: none"> <li>• Discussion</li> <li>• Demonstration</li> </ul>	<ul style="list-style-type: none"> <li>• OSCE</li> </ul>
4	1 (L)	State the indications & dosages of medications used in cardiopulmonary arrest and the effects on the cardiovascular system	<b>Medications used in cardiopulmonary arrest</b> <ul style="list-style-type: none"> <li>• Indications &amp; dosages of medications used in cardiopulmonary arrest and the effects on the cardiovascular system</li> </ul>	<ul style="list-style-type: none"> <li>• Discussion</li> <li>• Demonstration</li> </ul>	<ul style="list-style-type: none"> <li>• OSCE</li> </ul>
5	1 (L)	Demonstrate skill in CPR	<b>CPR</b> <ul style="list-style-type: none"> <li>• Steps in carrying out Child CPR</li> </ul>	<ul style="list-style-type: none"> <li>• Demonstration and return demonstration</li> </ul>	<ul style="list-style-type: none"> <li>• OSCE</li> </ul>
6	1 (L)	Provide Post-cardiac arrest management	<b>Post-cardiac arrest management</b>	<ul style="list-style-type: none"> <li>• Discussion</li> <li>• Demonstration</li> </ul>	<ul style="list-style-type: none"> <li>• OSCE</li> </ul>

**Clinical Practice Competencies: 10 hours**

On completion of the course, the students will be able to:

1. Recognize early signs of critical illness in children
2. Demonstrate the use of the various airway and oxygen adjuncts and methods for optimum ventilation & airway control.
3. Differentiate between respiratory distress and failure
4. Intervene respiratory distress and failure at the earliest
5. State the indications & dosages of medications used in cardiopulmonary arrest and the effects on the cardiovascular system.
6. Demonstrate skill in CPR
7. Provide Post-cardiac arrest management

**LEARNING ACTIVITIES:** Specified in the above table.

**ASSESSMENT METHODS:**

- Test paper (Objective type/short answers) - 20 marks
- Assignments - 10 marks
- OSCE - 20 marks

**Weightage to Internal Assessment:** 10 marks to be added to internal marks to make up the total of 40 marks.

**Learning Resources:** (Latest version must be consulted as and when revised)

1. National guidelines - MOH&FW
2. AHA guidelines

# **SBA MODULE & SAFE DELIVERY APP MODULE**

## **(Midwifery/Obstetrics & Gynecology Nursing I&II)**

**PLACEMENT:** VI & VII SEMESTER

**Theory, skill lab and clinical** hours are integrated in MIDWIFERY/OBS & GYNEC I & II Courses.

### **Module Overview:**

**SBA** module is prepared by MOH&FW, GoI and can be used in MIDWIFERY/OBS & GYNEC I & II Courses.

**Safe delivery app** is available in INC website prepared by Maternity Foundation of India and INC

**Competencies (Learning Outcomes):** The student will be able to

1. Demonstrate knowledge and competencies to provide respectful maternity care to woman during antenatal, intranatal and postnatal periods in hospitals and community settings.
2. Provide safe and competent care to normal neonate and neonate with complications.
3. Identify complications in women during antenatal, intranatal, and postnatal periods.

### **Learning Activities:**

- Lectures and Demonstration
- Self-study/Reading assignments
- Written assignments
- Practice in Skill/Simulation Lab

### **Assessment Methods:**

#### **SBA module**

- Test paper - 20 marks
- Assignments - 10 marks
- OSCE - 20 marks

#### **Safe Delivery App**

Completion of Safe delivery app as champion.

**Weightage to Internal Assessment:** 10 marks to be added to internal marks to make up the total of 40 marks.

### **Learning Resources:**

1. **SBA-A handbook for ANM, LHV & Staff nurses (2010)**, MoH&FW document
2. **Dakshata (2015) national guidelines**
3. **SAFE DELIVERY APP**  
(Maternity foundation of India and INC)

### **NB.**

- Completion of both Modules is mandatory before the end of VII Semester.
- Latest Versions of National Guidelines must be consulted.