

# **WORKBOOK FOR BEGINNERS IN CLINICAL MEDICINE**

First Clinical Appointment in General Medicine



Department of Medicine  
Faculty of Medicine  
Sabaragamuwa University of Sri Lanka  
2021

*Copy write Permission was obtained by Prof Saroj Jayasinghe, the author of the Workbook for Beginners in Clinical Medicine, published in 2020*

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## PREFACE

This is a workbook to guide medical students to understand the skills, attitudes and behaviors that they are expected to develop at the end of the first General Medicine appointment.


The book originated in Colombo in 2012 as a handbook to support the orientation programme conducted for medical students prior to their clinical appointments. The initial version was produced by staff of the Department of Clinical Medicine, Faculty of Medicine, University of Colombo, and subsequently improved based on the feedback obtained from students and clinical teachers at the National Hospital of Sri Lanka (NHSL). Subsequent versions were progressively improved based on feedback until it was published in 2020 as a Workbook for Beginners in Clinical Medicine. We wish to extend our thanks to Prof Saroj Jayasinghe and other contributors from the Department of Medicine of the University of Colombo for giving permission to use this as a basis to develop a workbook for the students of the Sabaragamuwa University of Sri Lanka (SUSL). We have further improved and adjusted to suit medical students of SUSL by the staff of Department of Medicine, SUSL and the specialists in the Teaching Hospital, Ratnapura.

## HOW TO GET THE MOST OUT OF THIS BOOK

This workbook is for the medical students who are preparing to begin their clinical work in General (internal) Medicine.

You can start working on this book even at the orientation programme, and this workbook should be completed during the first General Medicine appointment and should be submitted to the head of the department at the end of the appointment.

The best results will be obtained if you do the exercises on your own and practice them.

They are marked by a symbol 

A few references are given to indicate where you could obtain more information. Standard textbooks on clinical examination and your teachers will also be able to guide you to answer the questions raised in the text.

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## **CHAPTER 1 INTRODUCTION TO GENERAL MEDICINE**

General Medicine includes a large body of knowledge and numerous clinical skills. Teaching at a university, medical school or a faculty gives you most of the theoretical basis for Medicine. Once you have acquired this knowledge, it should be applied to understand the problems faced by patients (e.g., their illness). This process of understanding comes through a series of steps. Your first step is to meet patients (either real patients or those who simulate an illness), interview them (i.e., 'take a history') and perform a physical examination (i.e., 'examine' them). Taking a history and examining patients follow a well-structured method that is described in further detail below. The information you gather from the history and examination will allow you to become aware of the health-related problems the patient has. Initially the level of this awareness is very basic, and your awareness may be limited to concluding that 'the patient has a problem in breathing originating from the respiratory system or cardiovascular system'. The next step is to use your knowledge of anatomy, physiology and pathogenesis to analyze the problems, and attempt to explain them (or 'arrive at a diagnosis') by analyzing characteristics of each symptoms and contributing factors. In a patient having a 'breathing problem' the explanation required is the physiological basis and pathogenesis of shortness of breath.

Once the reasons for the patient's problems are explained (i.e., the condition is 'diagnosed'), a rational plan to investigate and treat are formulated. The process of learning and understanding the illnesses of patients is done through a series of 'rotations' or 'appointments' during which the students' study and work for a period (e.g., 2 to 8 weeks) under supervision of an expert specialist (or 'consultant'). Usually, these rotations (or appointments) begin with General Medicine and General Surgery, and then progress to the specialties such as Respiratory medicine, Neurology, and Cardiology. On completing all the rotations, you are expected to reach the standards of House Officers working in the wards.

This book mainly focuses on the assessment of different presentations by analyzing symptoms and a systematic approach in history taking and examination.



## Objectives of the Rotation

After completing the first appointment in General (Internal) Medicine, the student should be able to:

1. understand the functioning of the ward unit, outpatient clinics, referral system and the different roles played by the members of the health care team
2. interview and obtain a comprehensive and accurate history, which should include the following components:
  - a. defining the presenting and subsidiary complaints and their duration
  - b. history of present illness in a chronological manner
  - c. past history of illnesses and surgeries
  - d. drug and allergy history
  - e. gynaecological and obstetric history (where relevant)
  - f. family history, personal, social and occupational history
  - g. ask relevant questions when exploring symptoms related to presenting complaint(s) and different systems (system review)
3. perform a physical examination – general and systems examination.
4. analyze the clinical features using pathophysiological mechanisms and arrive at a differential diagnosis.
5. understand the anatomical, biochemical and pathophysiological basis of symptoms, signs and the results of basic investigative procedures that have been carried out.
6. identify and describe the investigations carried out on their patients.
7. State with reasons the management of patients under your care
8. describe the procedures done in the ward and be able to perform selected procedures under supervision
9. describe how common medical emergencies are managed
10. demonstrate empathy and maintain high ethical standards
11. develop a good student patient relationship, communicate effectively, understand the psychological and social factors such as beliefs, fears and anxieties patients undergo during illness.
12. identify the components recorded in a case history during the ward stay, at discharge and in the clinics

As a student, meet as many patients as possible during your first appointment. You should attempt to speak to them and listen to their life stories, 'take histories' and examine as many as possible. Learning from the patients as to how the symptoms developed, understanding the perception of symptoms are subjective and unique to each individual, examining the patients for abnormal physical signs that indicate the effects or complications of diseases, and studying the pathogenesis of their disease state. Studying around the problems your patient has is the best way to learn the subject of Medicine!

Pay special attention to patients having the following common conditions. Patients having these diseases or conditions are commonly encountered in the wards. We have categorized them to the organ-systems. Make it a point to read about these conditions from the recommended textbooks in Medicine.

### **3rd Year Lecture Topics**

#### **Clinical skills**

1. History taking
2. Physical examination-General
3. Clinical examination of cardiovascular system
4. Clinical examination of respiratory system
5. Clinical examination of abdomen
6. Clinical examination of central nervous system (Cranial nerves, upper and lower limbs)
7. Communication (Observed History taking and communication Skills)
8. Ethical principles (Four principles of ethics: autonomy, beneficence, non-maleficence, justice)

#### **Cardiovascular System**

9. Common clinical presentations
10. Imaging and other cardiac investigations
11. Management of severe chest pain: Acute coronary syndrome; diagnosis, risk assessment & treatment
12. Hypertension; diagnosis, investigation & treatment
13. Heart failure; diagnosis, investigation & treatment
13. ECG/Cardiac arrhythmias
14. cardiogenic shock

#### **Respiratory System**

15. Analysis of respiratory symptoms and special investigations
16. Upper and lower respiratory tract infections and Pneumonia in adults
17. Asthma in adults: Acute severe asthma
18. Chronic obstructive pulmonary disease
19. Clinical application of lung function tests

## **Nephrology**

20. Common clinical presentations
21. Acute renal failure (Acute kidney Injury)
22. Chronic renal failure (Chronic kidney disease)
23. Urinary tract infections
24. Glomerular diseases 1 (AGN, CGN)
25. Glomerular disease 2 (Nephrotic syndrome)
26. Diabetic nephropathy

## **Gastrointestinal System**

27. Analysis of common clinical presentations (Poor appetite, nausea and vomiting, dysphagia and constipation)
28. Ulcer and non-ulcer dyspepsia
29. Acute and chronic diarrhea

## **Hepato-biliary System**

30. Liver enzymes and liver function tests
31. Jaundice (Evaluation of jaundiced patient)
32. Acute hepatitis
33. Alcoholic liver disease
34. Chronic liver disease, cirrhosis, portal HT & encephalopathy
35. Fatty liver disease

## **Endocrinology and Metabolism**

36. Common clinical presentation (obesity, polyuria, loss of weight)
37. Diabetes mellitus 1
38. Diabetes mellitus 2
39. Diabetes Emergencies: DKA, HONK, Hypoglycemia
40. Thyroid disorders pathology, investigations and management
41. Disorders of bone and calcium metabolism
42. Obesity, metabolic syndrome, lipid metabolism

## **Nervous System**

43. Common clinical presentations and evaluation
44. CNS infections /CNS Tuberculosis
45. Cerebral vascular disorders (Stroke)
46. Acute flaccid paralysis
47. Spinal cord disorders
48. Headache disorder
49. Management of Unconscious/ confused patient
50. Convulsions and Epilepsy

## **Hematology and Immunology**

- 51. Approach to a patient with anaemia
- 52. Anaemia due to haematinic deficiency
- 53. Hemolytic anaemia
- 54. Haematological malignancy (Leukemia, Lymphoma, Myeloma)
- 55. Thrombocytopenia, polycythemia and pancytopenia

## **Musculo-skeletal system**

- 56. Evaluation of patient with arthritis
- 57. Rheumatoid arthritis and osteoarthritis
- 58. Systemic Lupus Erythematosus, APLS and other autoimmune disorders

## **Infections and Parasitic Diseases**

- 59. Clinical and laboratory diagnosis of infections, antibiotic resistance
- 60. Leptospirosis
- 61. Chicken pox
- 62. Pyrexia of unknown origin
- 63. Typhoid/gastroenteritis
- 64. Dengue
- 65. Influenza and Covid 19
- 66. Sepsis and septic shock

## **Dermatology**

- 67. Common dermatological conditions and terminology in dermatology

## **Geriatrics**

- 68. Common clinical presentation and comprehensive geriatric assessment
- 69. Delirium

## **Palliative Care**

- 70. Common clinical presentations and principles
- 71. Pain and symptom control

## **Toxicology and Toxinology**

- 72. Snake bites,
- 73. drug overdoses
- 74. Organophosphates and other chemical and agrochemical poisoning

## CHAPTER 2 **APPROACH TO PATIENTS**

Clinicians structure their encounter with patients in several ways. There are several aspects to consider in this area. The following is a simple method to follow when approaching a patient. They consist of two areas: clinical encounter and documentation. The encounter itself could be broken down to history-taking, physical examination and communication to patient and other members of the team.

### **2.1 History taking**

History taking is gathering information from the patient or relatives by asking specific questions aiming to obtain information useful in formulating a diagnosis or differential diagnosis and providing medical care of the patient.

### **Expected outcomes**

To be able to obtain an accurate and comprehensive history to arrive at a provisional or differential diagnosis and to obtain relevant details helping in making decisions in the management of the patient

### **History taking Introduction**

The goal of history taking is to come to a diagnosis or a differential diagnosis of patient's illness by effective communication with the patient and to gather information necessary to manage the patient

- You should be prepared with a suitable outlook (professional dress and cheerful facial impression)
- Get permission from the Health Care Team
- Make sure that the patient is a reliable source of information (e.g., Patients with confusion, mental disorders, and disabilities of communication, incapacitated children are not reliable sources). You may have to get information from relatives or ward staff
- Choose a suitable time and environment (adequate privacy and time when patient is comfortable and ready to talk; e.g., not in pain, not hungry but calm and settled). In some instances, a chaperon is necessary.
- Show genuine human interest and develop a good rapport, be alert and pay a good attention
- Greet the patient (appropriate manner to each individual patient)
- Introduce your self
- Get permission from the patient explaining the history taking process

## **Basic principles to follow in taking history**

- Let the patient to express the presenting problem by using simple, clear, open ended questions (e.g., what was the problem for you to meet a doctor/ to come to the hospital?)
- Give the patient sufficient time to answer your question
- Elaborate more on that to come to a diagnosis or differential diagnoses in a chronological order it happened. You may ask close questions when appropriate.
- Ask specific close ended questions when acquiring specific information in detail
- Ask the patient whether there is any more information he wants to give.
- Don't give any disturbing facial impressions when patients share personal and sensitive information.
- Be aware of non-verbal clues.
- Show your empathy and give some time of silence if the patient becomes emotional.
- Respect their statements without being judgmental
- Allow time for further questions and clarifications patients have.
- End the conversation thanking the patient.
- Document information you gathered in a systematic way under the main headings.

## **Main headings in the history taking document**

- Personal information (Bio data)
- Name, age, sex, occupation, marital status, address, mode of admission (OPD or ETU) and date and time of admission
- Presenting complaint/complaints
- Complaint/symptom what brings you to the hospital.
- History of presenting complaint
- Onset, duration of the symptom, characteristics, temporal nature, aggravating and relieving factors, associated problems, meaning of the symptom to the patient and behavioral response
- History of other complaints
- Review of systems
- General problems like appetite, weight loss, sleep pattern and then specific questions from each system
- Past medical history, surgical history, drug history and allergies
- Family history
- Relevant to the current problem and any other significant diseases, may require pedigree chart
- Personal and social history

- Need to include diet, sleep, exercise, habits, lifestyle, income, residency and safety, smoking – pack years, alcohol-dependency and quantify in units

## Questioning patients

Medical interview is a special skill to develop. Begin each line of inquiry with an open-ended question and then use closed questions to fill in the gap. Never use leading questions.

- Open ended questions – allow patients to express their own thoughts and feelings E.g. "What was the problem that brought you to the hospital?"
- Closed questions – Requesting factual information; e.g. "When did the weakness start?"
- Leading questions – Asking questions based on your assumptions e.g. "Isn't your abdominal pain due to the meal you had last night?"

### 2.1.1 Common symptoms

You are required to manage patients with a range of clinical presentations. Some of these are commonly seen in a ward or clinic setting in Sri Lanka and are given below. Read the relevant textbooks on clinical examination to understand the pathogenesis of these symptoms and physical signs. Some are rare but life-threatening to the patient and therefore important. There are some presentations that demonstrate important principles in basic or applied sciences (e.g., the patho-physiology of the neuro-muscular junction in myasthenia gravis).

## Key topics of presenting complains

### Cardiovascular

- Chest pain
- Acute shortness of breath
- Chronic shortness of breath
- Palpitation
- Syncope
- Cardiac arrest
- Hypertension,
- Leg swelling

### Respiratory

- Cough
- Wheezing
- Shortness of breath
- Haemoptysis
- Pleuritic type chest pain
- Rhinorrhea and sore throat

## **Gastrointestinal**

- Abdominal distension and oedema
- Acute and chronic diarrhea
- Constipation
- Dyspepsia and heartburn
- Difficulty in swallowing (dysphagia)
- Jaundice
- Vomiting/ Hematemesis
- Acute and chronic abdominal pain
- Patient with chronic liver disease

## **Endocrine and Metabolic**

- Hyperglycaemia on routine clinical check up
- Hypoglycaemia
- Hypoglycemia in non-diabetic patient
- Obesity
- Dyslipidaemia
- Goiter
- Myxoedema
- Thyrotoxicosis
- osteopenia/ osteoporosis

## **Infections**

- Acute fever
- Fever with rash
- Pyrexia of unknown origin
- Sepsis and multi organ failure

## **Hematology**

- Anemia
- Bleeding under the skin/ excessive bleeding
- Cytopenias
- Leukocytosis
- Thrombocytosis, Erythrocytosis
- Thrombosis



## **Rheumatology**

- Polyarthritis
- Oligo or monoarthritis
- General pain syndrome
- Back ache
- Neck pain and pain radiation to limbs
- Soft tissue rheumatism

## **Neurology**

- Sudden hemiparesis
- Acute or progressive lower limb weakness
- Numbness of upper/lower limbs
- Blackouts/ Loss of consciousness
- Dizziness and vertigo
- Tremors of hands
- Diplopia
- Impaired vision
- Altered level of consciousness
- Headache
- Facial pain
- Unsteadiness /Ataxia
- Dysphasia
- Convulsions
- Cranial nerve palsies
- Impaired memory
- Muscle wasting

## **Nephrology**

- Oliguria, anuria and polyuria
- Dysuria
- Haematuria
- Increased frequency and polyuria
- Abnormal urinary sediment and proteinuria

## **Dermatology**

- Urticaria
- Generalized pruritus with and without rash
- Scaly eruptions
- Vesicular and bullous lesions
- Vasculitis and Skin ulcers
- Eczema

## **Toxicology**

- Snake bite
- Insect stings and exposures
- Exposure or ingestion of organophosphate and other agrochemicals and other common poisons
- Drug overdose
- Plant poisons

## **Care of elderly**

- Falls in elderly
- Frailty
- Acute confusion in elderly
- Incontinence

## **Other**

- Oedema
- Cachexia and weight loss
- Loss of appetite and nausea
- Pain
- Anaphylaxis
- Splenomegaly
- Clubbing
- Lymphadenopathy (regional and generalized)

## CHAPTER 3 ANALYSIS OF COMMON SYMPTOMS

We have given a few common symptoms and small assignments to understand how to analyze your patient's symptoms to arrive at a probable diagnosis or differential diagnosis

### 3.1 Chest pain



Meet a patient who is admitted with chest pain. The earlier you see the patient after admission, the more you will learn about the management, i.e., it is better to see the patient in the ETU or on admission to the casualty ward, than seeing him/her a day later in the medical ward.

How was the patient brought to hospital and what was the delay?

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Describe in detail the symptoms the patient had. (Characteristics, aggravating and relieving factors, associated other important symptoms)

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What were the differential diagnoses that were considered?

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Document the history in your patient  
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Describe the nerves and their pathways that caused chest pain in your patient  
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Outline the physiological basis of chest pain in your patient  
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List the complications of myocardial infarction and their symptoms

Complications	Time after MI when it's likely to occur	Symptoms

List 4 other causes of chest paint

1. ....
2. ....
3. ....
4. ....

### 3.2 Shortness of breath (dyspnoea)



Listen to the story of a person who is admitted to the casualty ward with shortness of breath. How did his/her symptoms begin? What exactly did he/she feel? Write down the history of his/her presentation

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What is the pathophysiological basis for the patient to feel short of breath?

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Complete the table on mechanism of dyspnoea

Condition	Mechanism
Asthma	
Neuromuscular disorders	
Chronic Obstructive Pulmonary Disease	
Pulmonary vascular disease	
Heart disease	
Paroxysmal nocturnal dyspnoea	

How will you classify the severity of dyspnoea?

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State differential diagnoses considered in your patient:

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Writte 3 associated clinical features to each of your differential diagnoses

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What are the concerns, worries or fears that the patient has about his illness?

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How has it affected his/her life at home and the lives of others at home?

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Did his/her job or occupation contribute to the illness?

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### 3.3 Cough



Listen to the story of a person who has a cough and note the duration, frequency and whether there is expectoration. If there is expectoration, note its colour, smell, approximate volume, and precipitating factors.

Describe the reflex pathway involved when a person coughs using a diagram

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Give the causes for the following

Acute cough	Chronic cough

List the causes for cough in the following table

Productive cough			Dry cough
White sputum	Yellow sputum	Pink sputum	

State complications of a severe cough

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### 3.4 Chronic diarrhea

What is the definition of chronic diarrhea?

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Briefly describe 5 mechanisms of chronic diarrhea

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Complete the table

Mechanism of diarrhea	One example	Points in the history	Macroscopic features of the stools
Osmotic			
Secretory			
Inflammatory			
Maldigestion			
Infections			

Write the symptoms that indicate that the patient with diarrhea may have a sinister cause such as a cancer of the colon or ulcerative colitis

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### 3.5. Headache

Describe the pathogenic mechanisms for headache

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Describe what do you mean by the term a 'sinister' headache?

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Give TWO examples of sinister headache

1. ....
2. ....

Complete the following table considering the characteristic features of different types of headache

Clinical features	Migraine	Space occupying lesion	Subarachnoid hemorrhage
Features in the history			
Typical features in the examination			

## CHAPTER 4 ANALYSIS OF COMMON PHYSICAL SIGNS

### 4.1 Physical Examination: An Introduction

The physical examination is when you carefully *inspect*, *palpate* (i.e., touch), *percuss* (i.e., tap using the index finger and the middle finger – details are given later) or *auscultate* (i.e. use a stethoscope to listen to sounds) a patient for normal features or abnormalities. This necessarily means you should know what is 'normal'! You will know what is normal, (e.g., normal sounds that arise from the heart) only if you have examined an adequate number of persons who have no disease. The Orientation Program was hopefully useful for you to gain these skills! Use your colleagues to practice the techniques of examination and to learn what is 'normal'

Your teachers will show how to proceed with the techniques of examination. Learn the skills of examination by watching (videos and your teachers) and practicing on each other. Embarrassing procedures (e.g. per rectal examination) or uncomfortable or painful procedures (e.g. the corneal reflex) should be first practiced on models in a clinical skills laboratory. Patients should NOT be used for you to begin practicing a skill. You can practice skills among yourselves or in healthy individuals before you start examining patients in the wards

#### Practical aspects

##### *Instruments:*

A few instruments are necessary for a complete physical examination. List, draw or collect the pictures (using online searching) of the essential equipment and items required for a physical examination and write down the reason to use them.

##### *Preparation of patient:*

- After 'taking a history' seek permission again from the patient to proceed with a physical examination, after explaining what you are going to do in simple language.
- Ensure that the doctors in the ward have given their approval that the patient is fit to be examined. There are rare instances where careless examination by a student could lead to a serious complication (e.g., rupture of a spleen that is enlarged during an acute infection).
- Position the patient in a comfortable manner (either seated or lying down flat). Some may find it difficult to lie down due to breathlessness or pain. Cover the screens to give privacy and expose adequately. In our culture, we should be cautious when exposing the chest, groin and lower limbs of females and the groin and lower limbs of males. All male students should have a chaperone when examining a female patient.

- Wash your hands, make sure there is good light, and expose the area adequately.
- Always ask the patient any distressing symptoms like pain, shortness of breath

*Principles of physical examination*

Physical examination is done in a systematic manner. There are four broad components of the physical examination:

- **Inspection** is when you observe a patient (for example, to look for a scar of a previous surgery).
- **Palpation** is when you touch the patient (for example to check where the cardiac apex beat is, or when you want to feel for internal organs such as the liver).
- **Percussion** is to tap the parts of the chest and abdomen and to listen to the sound that is produced. It is similar to listening to a drum.
- **Auscultation** is to use your stethoscope to amplify and listen to sounds that arise within the chest or abdomen or blood vessels.

We begin with a 'General Examination', followed by a structured examination of systems such as cardiovascular system, respiratory system, abdominal examination, neurological examination, examination of joints, and endocrine system. During the initial period of your clinical work, focus on the first four of the above areas/ systems, because they are commonly used during your assessments.

## 4.2 General Examination

Key physical signs in the general examination are listed below. We often begin by stating if the patient 'appears ill' or 'appears to be comfortable'. These are difficult to define but indicate if the patient is in distress or not. Write the definitions of the following terms and see pictures of these conditions.

Physical sign	Definition / description
Impression of patient	'Appears ill' or 'appears to be comfortable'
Characteristic face	Down's Syndrome or facial puffiness in nephritic syndrome
Wasting/overweight/obese/abnormal height	
Fever	
Clubbing	
Jaundice	
Pallor or plethora	

Physical sign	Definition / description
Cyanosis	
Throat inflammation	
Alopecia / hirsutism, skin pigmentation and rashes	
Lymphadenopathy	
Goitre	
Oedema	

The next section consists of a few selected features in the general examination for you to reflect on:

### 4.2.1 Fever

Fever with a short duration is a very common presentation. Causes of fever can vary from a minor viral infection (e.g., common cold) to severe dengue to the onset of a serious illness such as leukaemia



Speak to a person who was admitted with fever of less than 1-week duration. Note the symptoms accompanying the episodes of fever (e.g., feeling cold or chills when the temperature rises).

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Describe the pattern of fever (e.g., Intermittent, continuous,)

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List other associated clinical signs (e.g., cough, abdominal pain, dysuria etc.)

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Outline the pathogenesis of fever in your patient

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What was the differential diagnosis (i.e., diseases that are likely to have caused the fever)?

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Describe the features in the history that help to differentiate the diseases from each other

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On completion of the examination, state the most likely diagnosis made by the doctors in the ward

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Write at least one cause of acute fever with each of the following accompanying features:

Fever + macula-papular rash: .....

Fever + vesicular rash: .....

Fever + severe myalgia: .....

Fever + jaundice: .....

Fever + generalized lymphadenopathy: .....

Fever + low platelet count: .....

Define Pyrexia of Unknown Origin (PUO)

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Classify the main causes of PUO (e.g., infections.....).

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List the key symptoms in each of these causes of PUO using the table below

Cause of PUO	Symptoms

## 4.2.2 BMI (Body Mass Index)

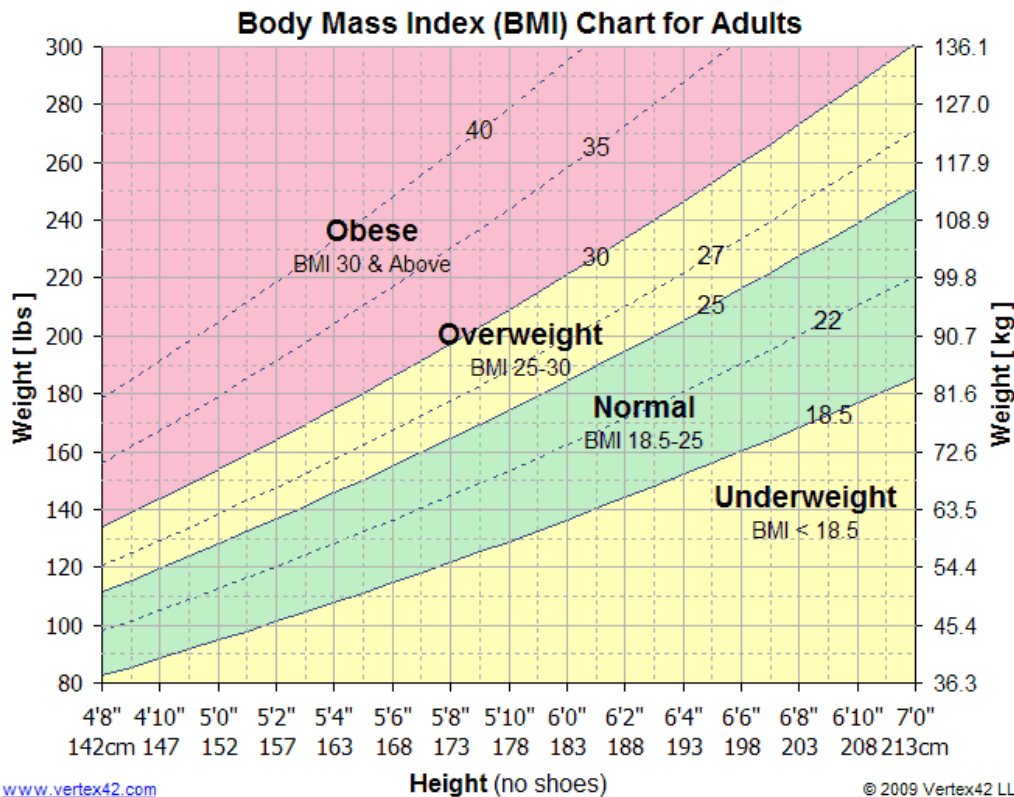
The body weight of a person is an important measure of 'healthiness'. Several illnesses are related to obesity (e.g., ischaemic heart disease) and unintentional weight loss may indicate a serious illness such as a malignancy. Body weight increases with height and therefore we use an index that helps to relate the height to weight. This is called the Body Mass Index (BMI).

State the formula used to calculate the BMI

BMI =



Use the following chart to estimate your own BMI and BMI of your patients. Observe the different cut-offs given to define obesity and overweight.



The normal values for South Asians are different. Why are their cut-off values different?

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.....

.....

Complete the following table:

	BMI for South Asians	BMI non-Asian
Underweight		
Normal		
Overweight		
Obese		
Morbidly obese		

Describe how you would measure the waist circumference

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### 4.2.3 Pallor

Where would you look for features of pallor in a patient?

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Select a patient with anaemia and describe the pathogenesis relevant to the patient

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Write down the haematological test results of your patient

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.....  
.....



Tabulate examples of diseases under the following main aetiological groups of anaemia

Decreased production of RBC or Hb			Increased loss of RBCs		
Anaemia due to decreased production			Anaemia due to chronic disorders	Hemolytic anaemia	Blood loss
Deficient haemopoietic factors	Marrow hypoplasia,	Marrow infiltration			

State the symptoms and physical signs you would note based on the type of anaemia

Decreased production of RBC or Hb			Increased loss of RBCs		
Anaemia due to decreased production			Anaemia due to chronic disorders	Hemolytic anaemia	Blood loss
Deficient haemopoietic factors	Marrow hypoplasia,	Marrow infiltration			

Complete the following table relating to investigations to look for the cause in anemia

Tests	Decreased production of RBC or Hb			Increased loss of RBCs		
	Anaemia due to decreased production			Anaemia due to chronic disorders	Hemolytic anaemia	Blood loss
	Deficient haemopoietic factors	Marrow hypoplasia,	Marrow infiltration			
MCV						
MCHC						
Blood picture						
Reticulocyte						
Serum iron						
Iron binding capacity						
Serum ferritin						

Draw the appearance of the blood picture in the following conditions:

Iron deficiency anaemia

Vitamin B12 deficiency

Thalassaemia

Another method to classify anaemia is based on the blood film and the size of the red cell (i.e., MCV). Select examples of causes for each of the blood films:

Microcytic anaemia	Normocytic anaemia	Macrocytic anaemia

## 4.2.4 Jaundice

Where would you examine to detect jaundice in a patient?

.....  
 .....

How does jaundice differ from carotinaemia?

.....

Draw the pathway of bilirubin metabolism.

List the main causes of jaundice based on the following simple classification:

Hemolytic jaundice	Hepatocellular jaundice	Obstructive jaundice

List the main symptom seen in patients based on the following simple classification:

Hemolytic jaundice	Hepatocellular jaundice	Obstructive jaundice

List the main physical signs expected based on the following simple classification:

Hemolytic jaundice	Hepatocellular jaundice	Obstructive jaundice

State the likely test results (i.e. ↓ , normal or ↑) in the 3 categories of jaundice:

	Hemolytic jaundice	Hepatocellular jaundice	Obstructive jaundice
Serum bilirubin (direct)			
Serum bilirubin (indirect)			
SGOT (AST)			
SGPT (ALT)			
Alkaline phosphatase			
GGT			
Urine bile			
Urine urobilin			



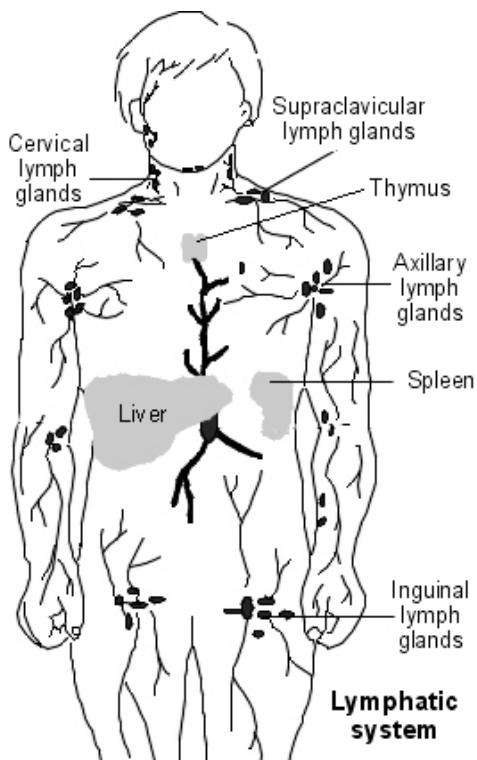
Select a patient having jaundice, considering the history given by the patient, to which the main category of jaundice she falls into. Give reasons for your answer

.....  
 .....  
 .....

Describe the pathology of the liver in your patient.

.....  
 .....  
 .....

### 4.2.5 Lymphadenopathy



How will you examine for cervical lymph nodes? (Write or draw a picture)

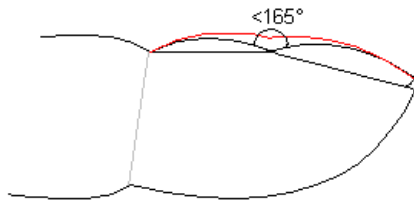
List 5 important causes of generalized lymphadenopathy

1. ....  
 .....
2. ....  
 .....
3. ....  
 .....
4. ....  
 .....

State the features in palpable lymph nodes that you would examine for and indicate a likely aetiology (e.g., examine for tenderness of nodes - indicates an acute inflammation)

.....  
.....  
.....  
.....

### 4.2.6 Clubbing



Define clubbing of fingers

.....  
.....  
.....



Look at your own fingers and note the angles between nail and nail bed  
What are the methods used to detect clubbing?

.....  
.....  
.....  
.....

What is the pathogenesis of clubbing?

.....  
.....  
.....  
.....

Describe the grades of clubbing.

.....  
.....  
.....  
.....

List 5 causes of clubbing

.....  
.....  
.....  
.....

## 4.2.7 Cyanosis

Define cyanosis

.....

.....

Define 'central cyanosis' and 'peripheral cyanosis'

.....

.....

.....

State the pathogenesis of central and peripheral cyanosis

Central cyanosis	Peripheral cyanosis

List the causes of cyanosis

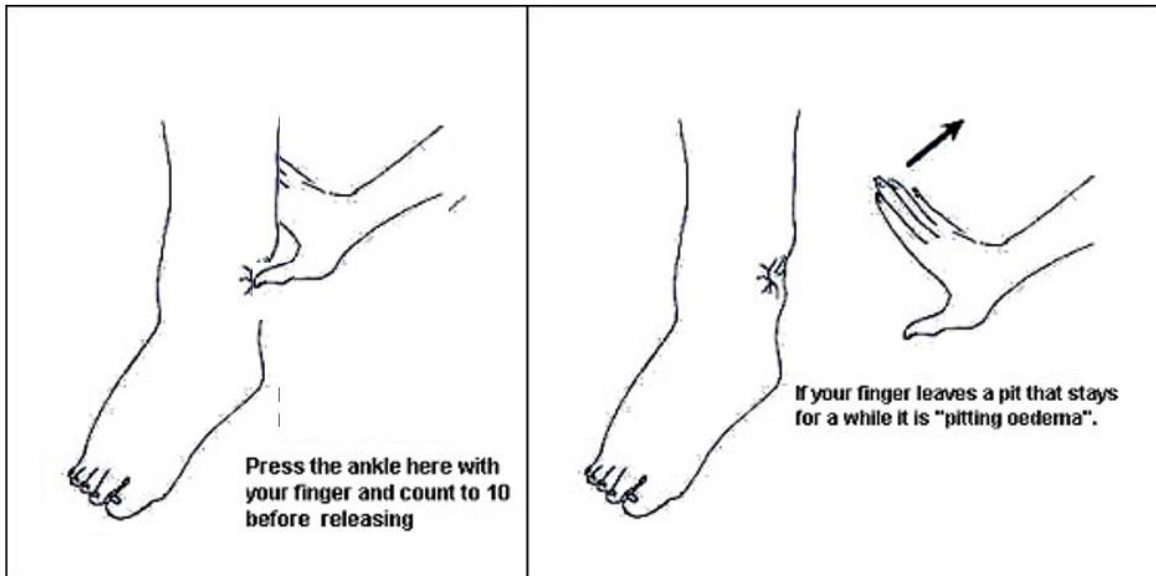
Central cyanosis	Peripheral cyanosis



Examine a patient who has central cyanosis and a patient with peripheral cyanosis and tick the distribution of bluish discoloration in areas of the body

Area of the body	Cyanosis	
	Central	Peripheral
Mucosa of lower eye lid		
Lips		
Tongue		
Hands		
Feet		

## 4.2.8 Oedema



What are the different areas of the body where you will look for oedema?

.....

.....

.....

.....



Ask a patient who has oedema as to what (s)he 'feels' when his/her feet are swollen

.....

.....

.....

.....

Use a diagram to illustrate the pathophysiology of oedema in relation to your patient.

List 5 causes of generalized oedema

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.....  
.....  
.....  
.....

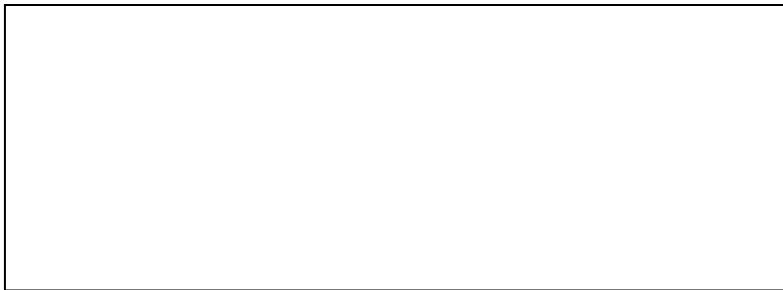
When does a patient develop unilateral lower limb swelling?

.....  
.....

What are the causes of non-pitting oedema?

.....  
.....  
.....

Draw a picture of patient with facial swelling associated with swelling of the feet



Briefly describe the pathophysiology of facial swelling

.....  
.....  
.....



Select a patient who has swelling of both lower limbs. Describe the presenting complaint in detail

.....  
.....  
.....  
.....  
.....



Complete the table using the list of the tests which were done in your patient:

Test	Normal values	Reason why it was done	Result obtained

Complete the table using the drugs which were given to your patient:

Name of drug	Dose	Route	Frequency	TWO important side effects	

State the mechanism of action of a diuretic drug used in your patient:

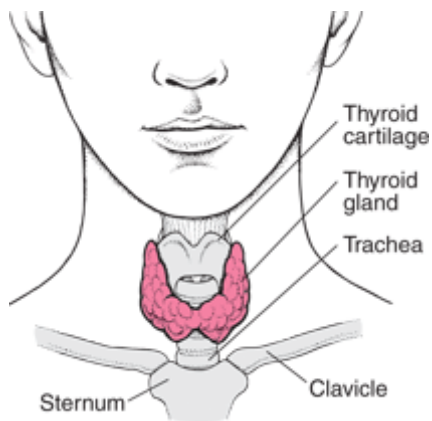
.....

.....

.....

.....

### 4.2.9 Thyroid



Paste a picture of a patient with Grave's disease



State THREE main complications of a large goiter

.....  
.....  
.....

Describe the method to examine for the thyroid gland

.....  
.....  
.....  
.....

List the associated clinical signs of thyrotoxicosis

.....  
.....  
.....  
.....  
.....

List the associated clinical signs of hypothyroidism

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.....

What are the clinical signs of Grave's disease?

.....  
.....  
.....  
.....  
.....  
.....



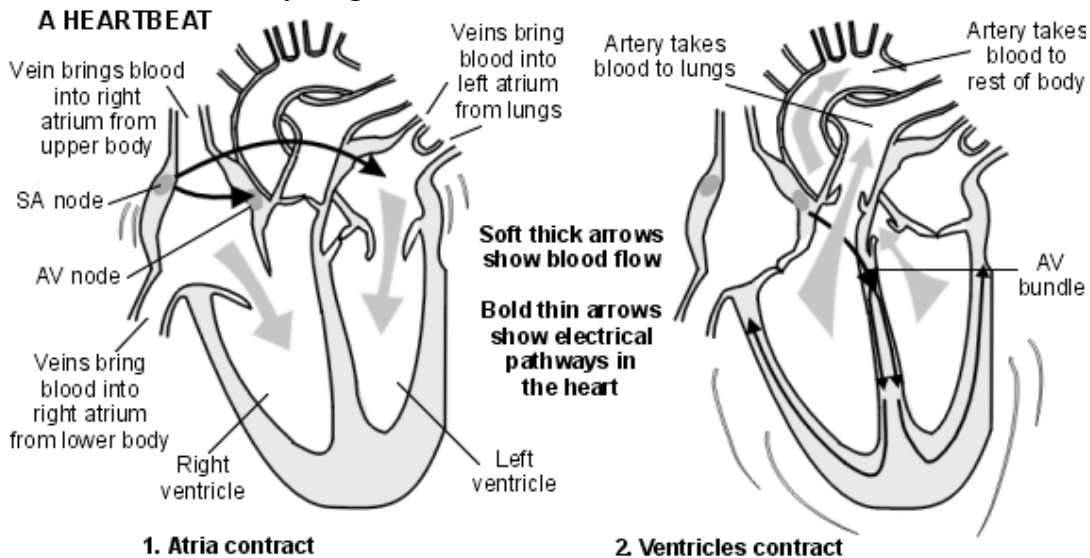
Practice examinations of the neck for thyroid gland and for lymph node in your colleague

## 4.3 Systems Examination

Once the General Examination is completed, you are expected to examine the 'organ-systems' in further detail (e.g., cardiovascular, respiratory, abdomen which combines gastrointestinal, renal and some aspects of the haematological system and the nervous system). With experience, you will realize that certain aspects of the General Examination are more relevant to a particular system (e.g., jaundice is most relevant to the abdominal examination).

### 4.3.1 Cardiovascular System

Revise the cardiac cycle given below:



Important features in the General Examination **commonly** relevant to the Cardiovascular System Examination include: dyspnoea, temperature (i.e., presence or absence of fever), clubbing, cyanosis, pallor, and oedema (facial, sacral and ankle), and features of infective endocarditis.

The sequence of features you would examine for in the cardiovascular system.

- Pulse (rate, rhythm, volume, character, peripheral pulses, delay in pulses)
- Blood pressures
- Jugular venous pulse (height, wave forms)
- Precordium (deformities, visible pulsations, scars)
- Palpation of apex (site, character of apex and area of the apex beat)
- Palpable heart sounds, parasternal heave and thrills
- Percussion of borders of heart (rarely useful in clinical practice)
- Auscultation for heart sounds, murmurs (whether systolic or diastolic, character, how loud it is, radiation) and bruits over carotids.

This is supplemented by examining of lower zones of lungs for crepitation (indicative of left ventricular failure) and examining abdomen for hepatomegaly (i.e., enlarged in right heart failure and pulsatile with tricuspid regurgitation) and enlarged spleen (e.g., soft mild enlargement in infective endocarditis).

## Pulse



Check your own pulse.

Draw the pulse in the following cardiac rhythms.

Arrhythmia	Pulse
Normal	
Atrial fibrillation	
Ventricular ectopic	
Supraventricular tachycardia	
Ventricular fibrillation	
Asystole	

## Blood pressure



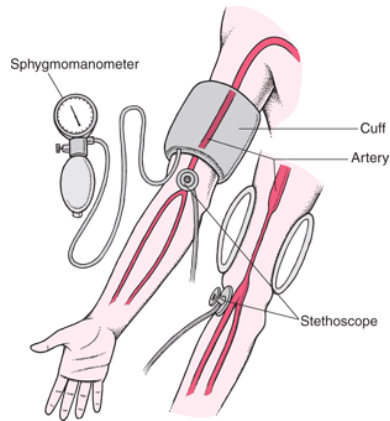
- Measure the blood pressure of your friend. Request him to measure your blood pressure and write the value here: Systolic: ..... mmHg Diastolic: ..... mm Hg
- Describe the steps in measuring blood pressure

.....

.....

.....

.....



Describe the origins of the sounds heard with the stethoscope during blood pressure measurement

.....

.....

.....

.....

### Jugular venous pulse

Describe the surface anatomy of the jugular venous pulse

.....

.....

.....

.....

.....

.....

List 5 differences between the arterial pulse and the JVP

Jugular venous pulse	Carotid pulse

Draw the normal waveform of the JVP

Draw the appearance of the JVP waveform in the following conditions and give the reason

	Wave form	Explanation
Complete heart block		
Tricuspid regurgitation		
Constrictive pericarditis		

### Points relating to palpation of the precordium

State the definition of the apex beat

.....  
 .....



Palpate the chest of a patient to detect the apex beat.

Define the mid clavicular line.

.....  
 .....

What are thrills and para-sternal heaves?

Thrill: .....

Para-sternal heave: .....

List THREE sites of parasternal impulses and their relevance

1. ....
2. ....
3. ....

## Points relating to auscultation

Briefly state the history of the stethoscope

.....  
.....  
.....  
.....

How does a stethoscope work?

.....  
.....

Why does a stethoscope have a 'bell' and a 'diaphragm'?

Bell: .....

Diaphragm: .....



Listen to your own heart sounds. Appreciate the first heart sound and the second heart sound. Time it, using the carotid pulse.

Describe, using the cardiac cycle, how the 1st and 2nd heart sounds are produced.

.....  
.....  
.....  
.....

Why is the second heart sound split? What is the louder component and why is it so?

.....  
.....  
.....  
.....

Define a murmur:

.....  
.....  
.....



Listen to a person with a cardiac murmur.

- Where is it heard loudest, and does it 'radiate' to other areas?
- Appreciate whether it is in the systolic or diastolic parts of the cardiac cycle.
- Note the character of the murmur (i.e., is it harsh?)
- What is the pitch of the murmur?
- How loud is it?
- Does it go through the whole of systole or diastole?
- Is it loud during one part of systole or diastole?

How do we classify murmurs using the cardiac cycle?

.....

.....

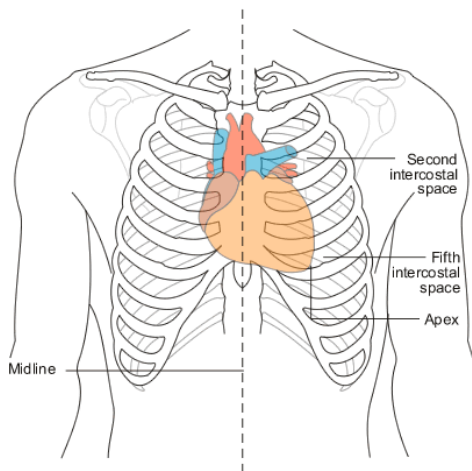
.....

.....

.....

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Mark the main auscultatory areas in the following diagram



Shade the areas where you hear systolic and diastolic murmurs that arise from the mitral and aortic valves.

How would you grade a murmur?

Grade 1: .....

Grade 2: .....

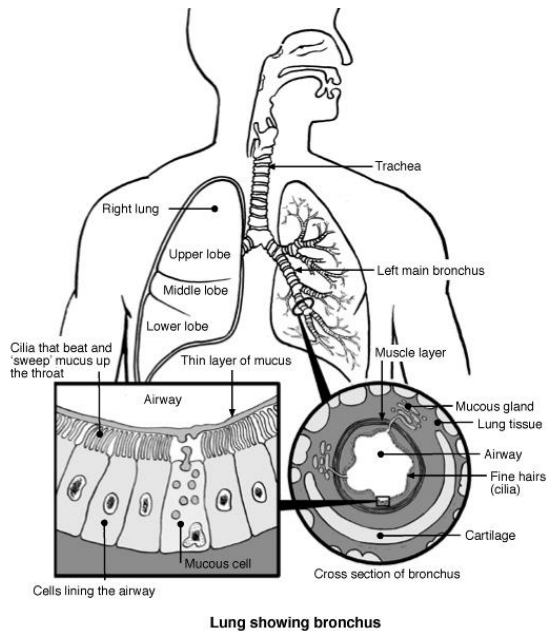
Grade 3: .....

Grade 4: .....

Grade 5: .....



## 4.3.2 Respiratory System



Important features in the General Examination **commonly** relevant to the Respiratory System Examination are mostly similar to the Cardiovascular System examination and include; appearance of dyspnoea, temperature (i.e. presence or absence of fever), clubbing, cyanosis, pallor, chest wall deformities, oedema (facial, sacral and ankle), and features of respiratory failure (such as confusion and tremors of the hands).

The sequence of features you would examine for in the respiratory system:

- Chest wall deformities, scars, use of accessory muscles during respiration such as sternocleidomastoid, subcostal recession, and symmetry of chest wall movement, flattening of the apical areas of the chest
- Respiratory rate
- Position of the mediastinum (whether trachea is in the mid-line and the apex beat is shifted)
- Chest wall movement, symmetry and expansion (by palpation)
- Vocal fremitus (rarely useful in clinical practice)
- Percussion (normal, dull or stony dull)
- Breath sounds (vesicular breathing [normal]/ bronchial breathing/ loudness)
- Added sounds such as wheezes or crackles and rubs
- Vocal resonance

This is supplemented by examining for loud second heart sound (P2) from pulmonary hypertension, examining abdomen for hepatomegaly (enlarged in patients with cor-pulmonale).

State the muscles used during respiration:

.....  
.....  
.....  
.....

Some patients who are breathless can stay comfortable only while seated. Can you explain why?

.....  
.....  
.....  
.....

### Points relating to inspection of the chest



Watch the patient's breath. Observe from the foot end of the bed and look for:

- a. Chest wall movements
- b. Movements of the abdominal wall (partly due to the attachment of diaphragm)
- c. Supraclavicular and intercostals areas for recessions (i.e., pulled-in during inspirations)
- d. Accessory muscle contraction (e.g., sternomastoids)

### Points relating to palpation of the chest

What are the causes of tracheal deviation?

.....  
.....  
.....



Do you know how to palpate for the position of the trachea and chest wall for its movements? Practice it on a colleague.

What is meant by the term 'vocal fremitus'?

.....  
.....  
.....

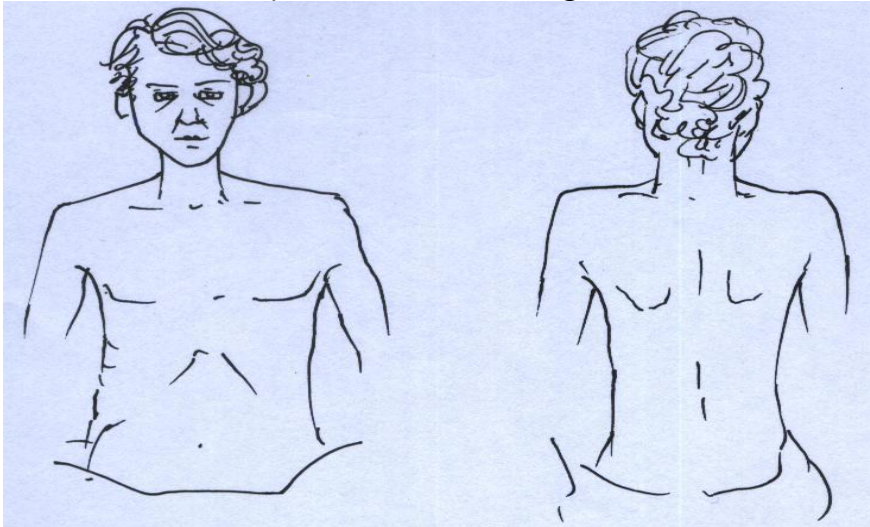
## Points relating to percussion of the chest

Draw the position of the percussing finger during percussion



Practice percussion on your own chest wall

Mark the areas for percussion in the diagram:



## Points relating to auscultation of the chest wall over areas of the lung

Define the following:

Vesicular breath sounds.....

Bronchial breath sounds.....

Crackles (or crepitations) .....

Wheezes (or rhonchi) .....

State briefly the principles in physics regarding the origin of these sounds?

Vesicular breath sounds.....

Bronchial breath sounds .....

Crackles.....

Wheezes...../.....



Place the diaphragm of the stethoscope on your neck in front of the trachea and listen to your own breathing. Notice that the breath sounds are louder and harsher than elsewhere of your chest. What are these breath sounds called?.....



Listen to the breath sounds of a patient with asthma. Appreciate that the expiration is prolonged and there are musical sounds (i.e., rhonchi or wheezes)

List TWO diseases each for the following:

Bronchial breath sounds	Crackles	Wheeze

List the physical signs in the following conditions

	Consolidation	Pneumothorax	Effusion	Collapse	Fibrosis
Respiratory movements					
Position of trachea					
Vocal fremitus					
Percussion note					
Breath sounds					
Added sounds					
Vocal resonance					

### 4.3.3 Examination of Abdomen

The Examination of the Abdomen is to detect physical signs relating mainly to the gastrointestinal system, genitor-urinary system and haemopoietic system.

Important features in the General Examination **commonly** relevant to the Examination of the Abdomen include: temperature (i.e. presence or absence of fever), features of malnutrition (e.g. glossitis), jaundice, clubbing, pallor, oedema (facial, sacral and ankle), and features of liver failure (such as confusion and flapping tremors of the hands).

The sequence of features you would examine in the abdomen:

- Distension (flanks, localized to an area or generalized distension)
- Symmetry of movement of the abdomen with respiration
- Scars (e.g., surgical), visible peristalsis (indicating intestinal obstruction), visible veins, pulsations (a feature of aortic aneurysm, and rarely epigastric pulsations from a pulsatile liver due to right heart failure or tricuspid valve regurgitation).
- Flat or everted umbilicus
- Light palpation: ask patient if there is pain in any area of the abdomen and instruct to relax and take deep breaths  
Start from one quadrant  
Look for tenderness, rigidity, guarding and masses
- Deep palpation (for organs such as enlarged liver, spleen and kidneys or masses and abdominal lymph nodes)
- Percuss for borders of enlarged organs
- Percussion of flanks for early ascites, horse-shoe dullness, and shifting dullness for ascites
- Fluid thrill seen in tense ascites
- Auscultation for bowel sounds, bruits (aortic aneurysm or increased vascularity of liver)
- Hepatic or splenic rub (perihepatitis or splenic infarctions respectively)

This is supplemented by examining hernial orifices, genitalia and rectal examination. During an assessment, please check with the examiner if these are required because the patient has to be exposed and the procedures are embarrassing.

## Points relating to inspection of the abdomen



Inspect the abdomen of a patient.

Write 4 abnormalities that you would observe when inspecting the abdomen of patients

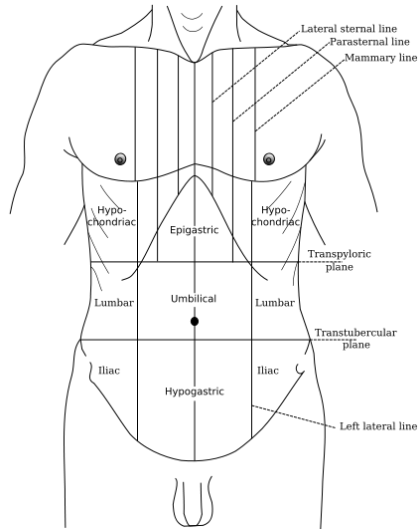
1. ....
2. ....
3. ....
4. ....

## Points relating to palpation of the abdomen

Define superficial tenderness and tenderness on deep palpation:

Superficial tenderness: .....

Tenderness on deep palpation: .....



Show with an arrow the organs that could enlarge and present as masses that could be felt in the areas of the abdomen

A common classification used to describe an enlarged organ is to comment on the consistency (i.e., the 'hardness'). In this context, what are the meanings of terms such as 'soft', 'firm' and 'hard'?

Soft: .....

Firm: .....

Hard: .....

Tabulate the causes of mild, moderate and massive hepatomegaly:

Mild	Moderate	Massive

Tabulate the causes of mild, moderate and massive splenomegaly:

Mild	Moderate	Massive

List the differences between a renal mass and an enlarged spleen:

Renal mass	Enlarging spleen

Why are the kidneys ballotable?

.....

.....

.....

.....

List TWO causes of ballotable kidneys:

1. ....
2. ....

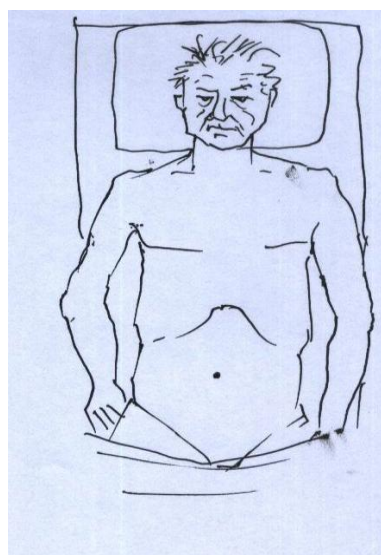
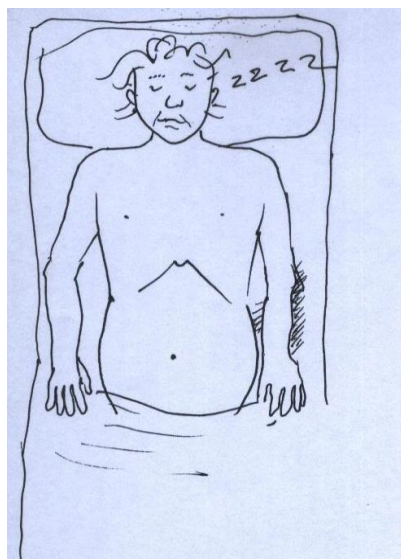
### Points relating to percussion of the abdomen



Percuss the abdomen of a friend or a patient

Draw the area of dullness with ascites

Draw the area of dullness when bladder is full



## Points relating to auscultation of the abdomen



Listen to and describe what you hear when you auscultate over your own abdomen

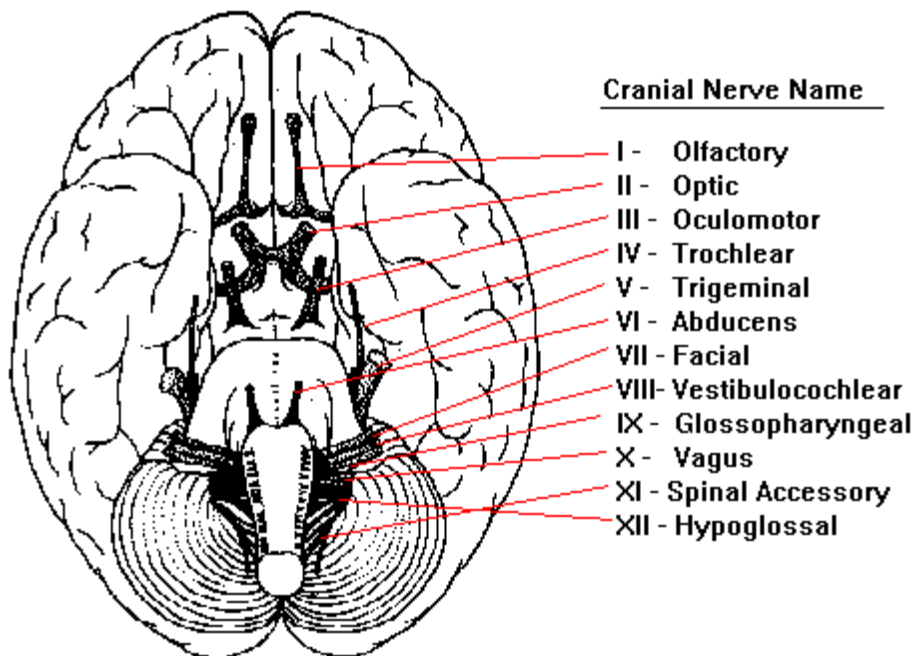
.....  
.....  
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.....

State TWO abnormal sounds you would hear when you auscultate over the abdomen:

1. ....
2. ....

There are other areas we examine in patients. These include inguinal region for the presence of inguinal hernias, groins and genitals, and rectal examination (wearing a pair of gloves). These points will be highlighted by the supervising consultant in relevant instances.

### 4.3.4 Nervous System



This section describes the examination of the Nervous System. There are a few important features in the General Examination relevant to its general appearance (lack of facial appearance in Parkinson Disease), temperature (i.e., presence or absence of fever), multiple skin lumps such as neurofibroma, and whether left or righthanded.



The sequence of features you would examine in the nervous system is:

- Higher functions: level of consciousness, rational, orientation in time and space, memory and intelligence. This area can be quite confusing for a student! Level of consciousness is often assessed objectively in hospitals using the Glasgow Coma Scale. Orientation (in time, place and person), memory, some aspects of intelligence etc., are tested in a detailed manner when one does the mental state examination (e.g., by using the mini-mental state examination). Psychiatrists go into further detail and also assess the mood (e.g., depressed or manic), thought disorders (e.g., contents of thoughts such as paranoid thoughts) etc.
- Speech
- Face (e.g., myotonia dystrophica), scalp (surgical scars or lumps), ear (for discharge)
- Neck stiffness
- Involuntary movements and gait (this could be described after the examination, too).
- Cranial nerves
- Upper limbs
  - Inspect for scars, tremors, fasciculations, involuntary movements, wasting of muscles, trophic changes
  - Tone at shoulder, elbow, wrist (resistance to passive movement)
  - Muscle power
  - Tendon reflexes (biceps, triceps and supinator jerks)
  - Sensation: light touch, pin (toothpick) prick, temperature (rarely done), joint-position sense and vibration. If above normal, sensory symptoms may be due to cortical lesions and this is tested by two-point discrimination, stereognosis, and graphaesthesia
  - Coordination: finger-nose test, disdiadokokinesia, dysmetria
- Lower limbs
  - Inspect for wasting, high arched foot, fasciculations, involuntary movements, footdrop, trophic changes
  - Tone: ankles and knees: if increased look for ankle clonus and patellar clonus
  - Muscle power
  - Superficial abdominal reflexes (when relevant and suspected paraparesis)
  - Tendon reflexes ankle and knees
  - Plantar response
  - Sensation: light touch, pin (tooth-prick) prick, temperature (rarely done), joint-position sense and vibration. If above normal, sensory symptoms may be due to cortical lesions and this is tested by two-point discrimination, stereognosis, and graphaesthesia
  - Coordination: heel-knee test
- Look for distended bladder/catheter
- Back for scars, deformities, tenderness
- Gait-if not already done

## Higher functions

How would you classify the level of consciousness in a patient?

.....  
.....  
.....  
.....  
.....  
.....  
.....  
.....

## Speech

What are the differences between dysphasia, dysarthria and dysphonia?

Dysphasia	Dysarthria	Dysphonia

State the TWO important types of dysphasia and draw the related areas affected in the cerebral cortex

Disorders of speech

1. ....
2. ....

Site of involvement

.....  
.....

## Neck stiffness



Examine for 'neck stiffness' on your friend

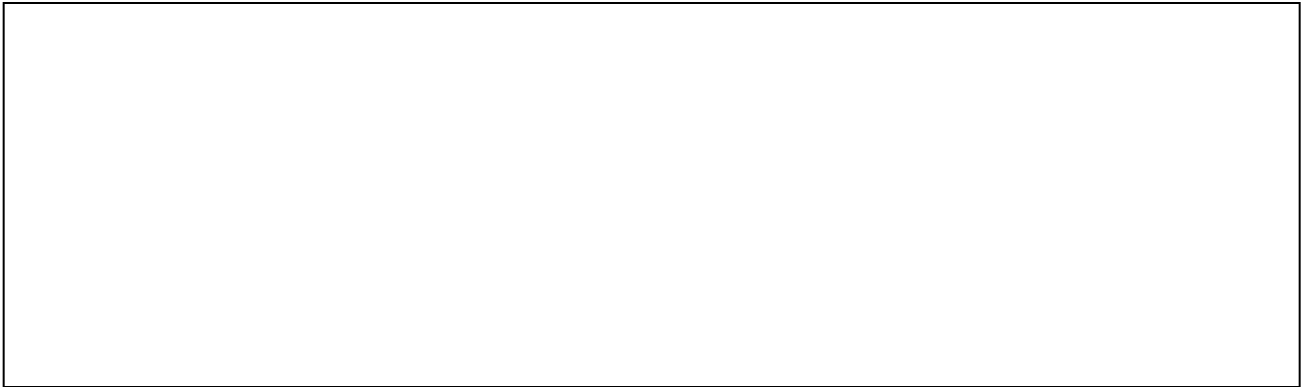
What is the physiological basis of 'neck stiffness'?

.....  
.....  
.....  
.....

## Examination of cranial nerves

How is the first cranial nerve (olfactory nerve) examined?

What are the parts of an ophthalmoscope? Use a diagram to show these:



Draw the appearance of the optic fundus in the following situations:

Normal	Papilloedema	Optic atrophy

Draw the position of the eyeball in the following nerve lesions – III, IV and VI:

III nerve palsy	IV nerve palsy	VI nerve palsy

Summarize the pathway of the light reflex:

.....  
.....

What is Horner Syndrome? .....

.....

Recall the functions of the Trigeminal Nerve:

.....  
.....  
.....  
.....  
.....

Draw the pathway of the Facial Nerve:



Draw diagrams of the faces of patients with UMN and LMN facial nerve involvement:

UMN type facial nerve palsy	LMN type facial nerve palsy

What is the neuroanatomical basis for the differences in appearance drawn above?

.....

.....

.....

How will you assess hearing using the tuning fork?

.....

.....

.....

Which cranial nerves supply the pallet, the shoulder muscles and the tongue?

.....

.....

.....

### Examination of upper limbs



Do the following movements on yourself, and complete the table:

Action	Muscles involved	Nerves involved	Myotomes involved
Shoulder abduction			
Shoulder adduction			
Shoulder Internal Rotation			
Shoulder external Rotation			
Elbow flexion			
Elbow extension			
Wrist flexion			
Wrist extension			
Finger flexion			
Finger extension			
Thumb abduction			
Thumb adduction			
Thumb opposition			
Finger abduction			
Finger adduction			

Draw a diagram showing the dermatomes of the upper limb:

List the nerve roots examined in each deep tendon reflex:

Reflexes	Nerve roots
Biceps	
Triceps	
Supinator	

How do you test for cerebellar function of the upper limbs?

.....

.....

.....

.....

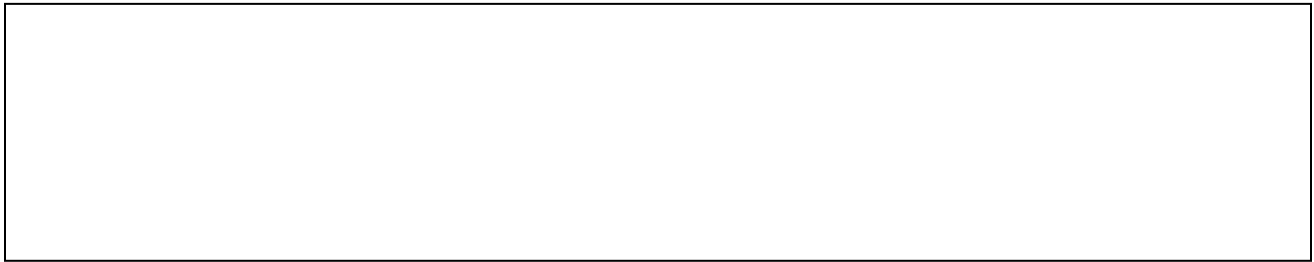
### Examination of lower limbs



Do the following movements on yourself, and complete the table:

Action	Muscles involved	Nerves involved	Myotomes
Hip flexion			
Hip extension			
Hip adduction			
Hip abduction			
Knee flexion			
Knee extension			
Ankle dorsiflexion			
Ankle plantar flexion			
Ankle inversion			
Ankle eversion			

Draw a diagram showing the dermatomes of the lower limb:



List the nerve roots examined in each deep tendon reflex:

Reflexes	Nerve roots
Knee	
Ankle	

Draw the pathway involved in the knee jerk (patellar reflex):

What do extensor plantar reflexes signify?

.....  
.....  
.....  
.....

How do you test for cerebellar function in the lower limbs?

.....  
.....  
.....  
.....

### **Gait**

List and describe THREE types of gait due to neurological disorders:

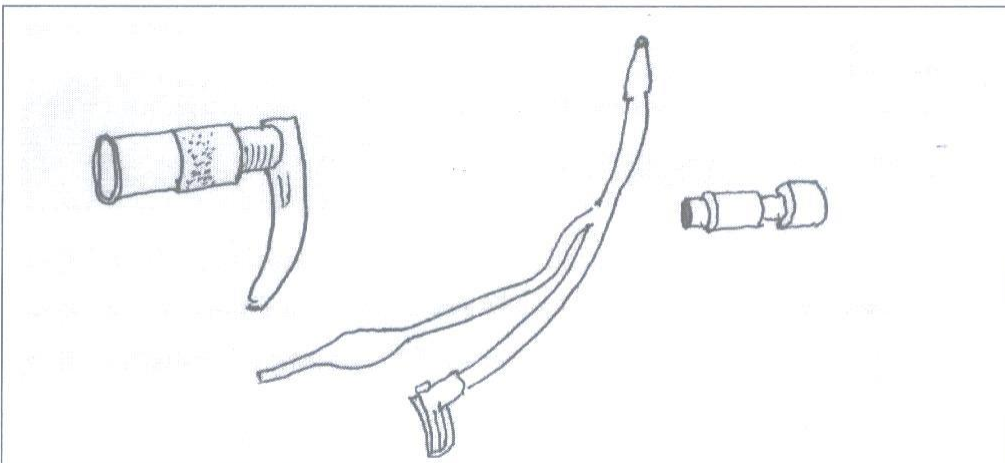
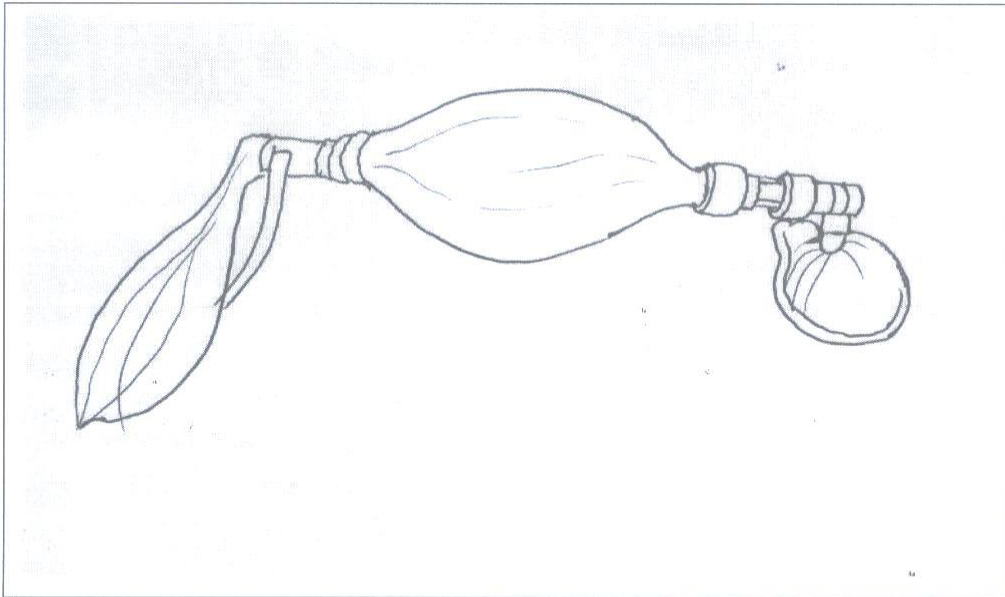
1. ....
2. ....
3. ....

## CHAPTER 5 PROCEDURES

We give below a few common procedures you should observe in the wards:

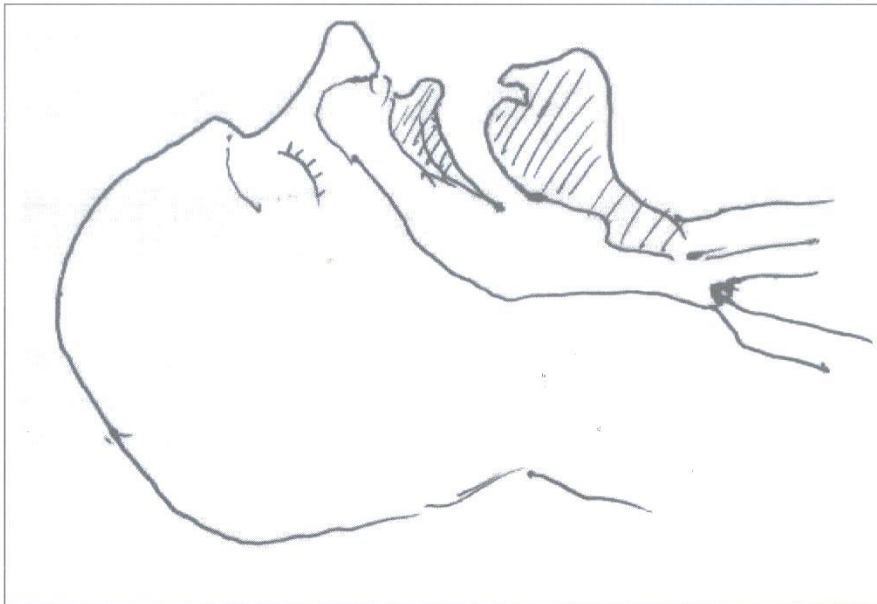
### Resuscitation

Identify the following instruments and name their parts



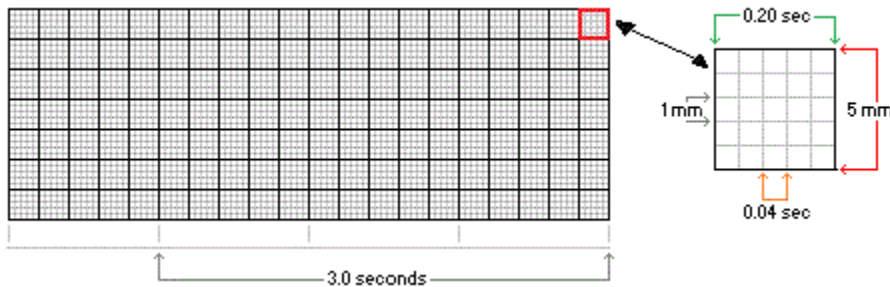


Draw the path of the endotracheal tube



Prior to the procedures listed below, observe how consent is obtained from the patient. Learn how to describe each of the procedures in simple Sinhala or Tamil.

### Electrocardiogram (ECG)



Observe how an ECG is done in the ward or clinic

What is the physiological basis of taking an ECG?

.....  
.....  
.....

Draw a diagram demonstrating where the leads are attached.

Draw or paste a normal ECG

Relate the waves of the electrical activity to the depolarization and repolarization of the cardiac muscle:

Wave / segment	Electrophysiological correlate	Relationship to systole and diastole
P		
PR		
Q		
R		
QRS		
S-T		
T		

What is the significance of the Q-T segment in the ECG?

.....

.....

.....

.....

## Pleural aspiration

When is it necessary to aspirate pleural fluid?

.....  
.....

Name the layers pierced by the pleural biopsy needle:

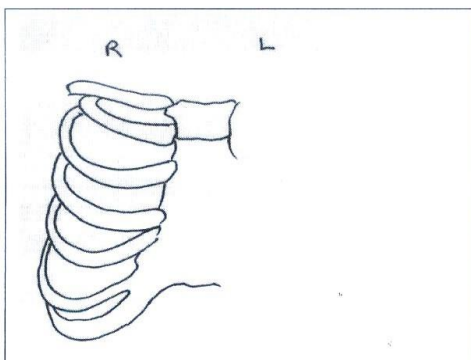


Describe the procedure of pleural aspiration:

.....  
.....  
.....  
.....

## Inter-costal tube

Draw the position for an intercostals drainage tube insertion:



Describe the insertion of an IC tube:

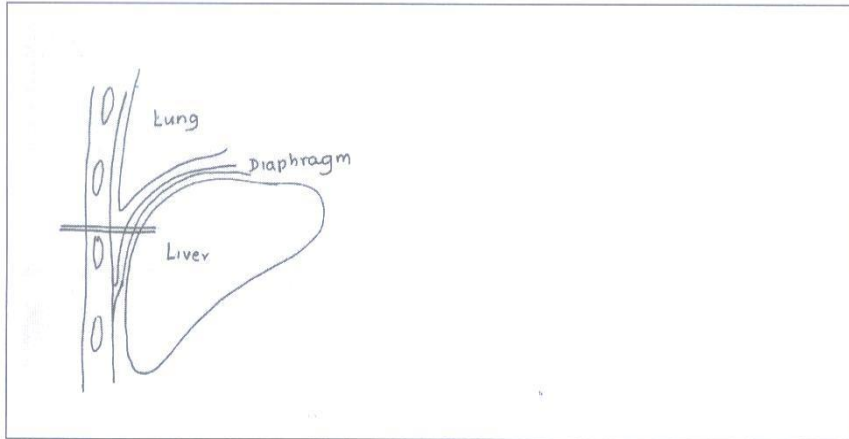
.....  
.....  
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## Liver Biopsy

State TWO conditions where the diagnosis often made in the microscopic examination of a liver biopsy:

1. ....
2. ....

Name the organs pierced by the liver biopsy needle:

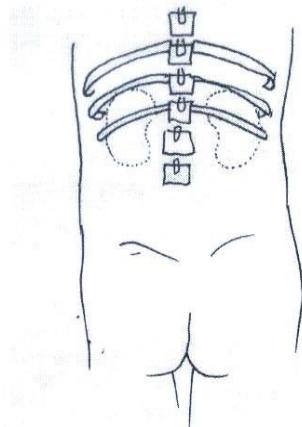


List the pre- and post- procedure precautions you would take prior to the biopsy:

.....  
.....  
.....  
.....  
.....

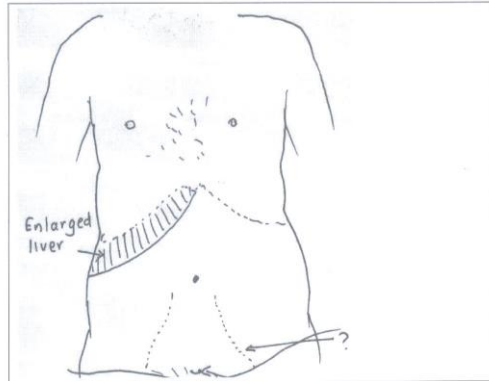
## Renal biopsy

Surface mark the position for a renal biopsy



## Peritoneal dialysis

Indicate the common site used for a peritoneal dialysis catheter:



Draw the layers that are pierced when the peritoneal catheter is passed:

## Insertion of a urinary catheter

State the anatomical structures that lie around the catheter from the bladder to the urethral meatus in a male and in a female:

Male

.....  
.....  
.....  
.....

Female

.....  
.....  
.....  
.....

Draw the equipments needed for catheterization:



Observe the procedure in a video (e.g. YouTube), and in the ward and practice it in a model available in the Clinical Skills Laboratory. Describe the technique of inserting a urinary catheter

.....

.....

.....

.....

## Lumbar puncture

Where does the spinal cord terminate? .....

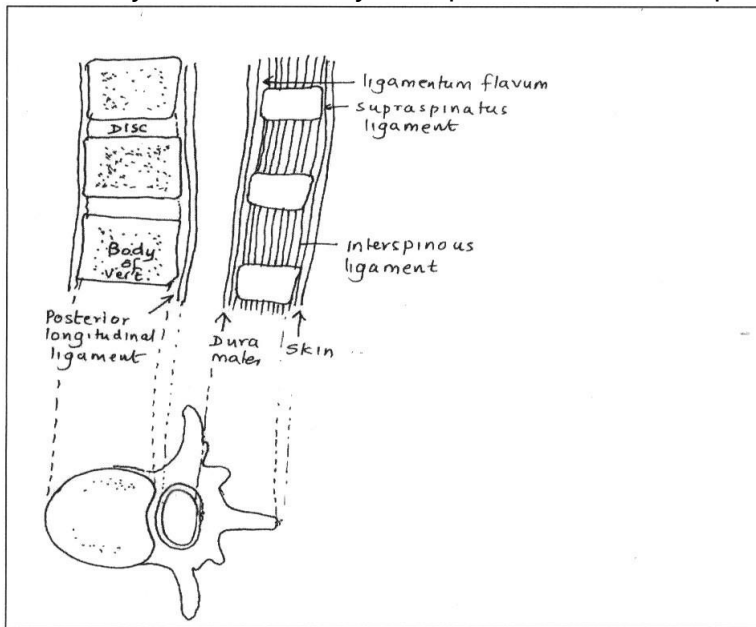
What is the entry point for lumbar puncture? How is this surface marked? .....

.....

.....

.....

Mark the layers traversed by the spinal needle when performing a lumbar puncture



Describe the technique for lumbar puncture:

.....

.....

.....

.....

What are the samples that are usually collected?

.....

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**Venepuncture and setting up an intravenous (IV) infusion**

List the common sites used for Venepuncture:

.....

.....

.....

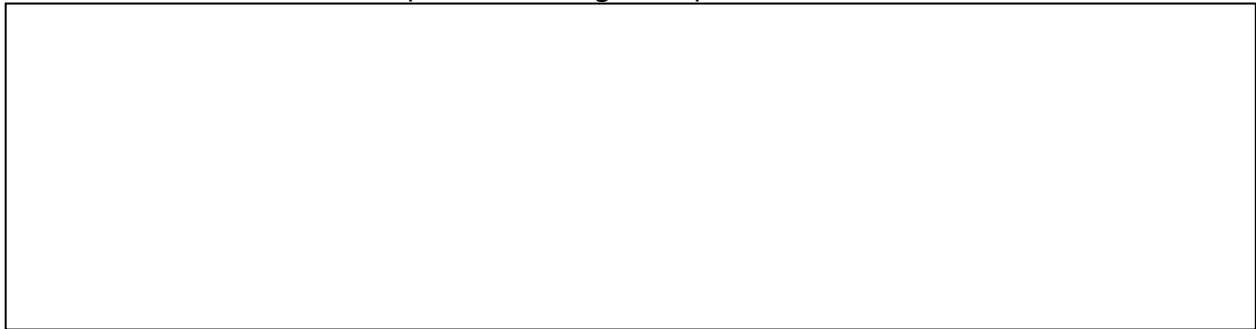
.....

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Draw the structures that are pierced during Venepuncture:



Describe the technique of Venepuncture:

.....

.....

.....

.....

.....

.....



Observe ten intravenous infusions in the ward and complete the following table:

Site used	Contents of infusion
1.	
2.	
3.	
4.	
5.	
6.	
7.	
8.	
9.	
10.	

### **Intramuscular (IM)/subcutaneous (SC)/intra-dermal injections (ID)**

Give examples of DRUGS administered via each of the above modes:

Drug	IM	SC	ID
1.			
2.			
3.			
4.			
5.			

Draw a diagram showing the structures that are pierced with the three types of injections:

IV	IM	SC



## Communication Skills

Communication with patients, their relatives and colleagues is a crucial skill you have to learn. These are often covered in classes on communication skills and behavioral sciences. However, you need to observe them in the clinical setting. They should be an integral part of what you do when you meet a patient. However, during the early stages of your training, it is easier to consider them as a separate skill.

A few situations that you should observe during your clinical rotation are given below. Read the basic principles of communication skills BEFORE you start your rotation. Learn the following:

- how doctors can help patients to take their medicines
- how to explain illnesses in a language the patient understands: (common illnesses listed in the first chapter such as diabetes, stroke, ischaemic heart diseases, asthma, snake bite)
- how to explain to patients on the correct use of devices (e.g. inhalers for asthma, insulin injections for diabetes)
- how to explain procedures (listed in chapter 3) in a language the patient understands
- methods available to encourage patients to quit smoking and alcohol



While in the wards, watch how the doctors communicate in the following situations, and in your own mind critically evaluate whether the correct steps were followed:

- how doctors explain when a patient is being discharged from hospital
- how doctors 'break bad news' to a patient who has a serious illness such as myocardial infarction or stroke or diabetes
- How doctors response to acute grief reactions of the patient/relatives when diagnose a life threatening condition
- how doctors inform relatives about a patient who is dying from a serious illness (e.g. widespread cancer)



Go through hospital notes and observe

- the parts of the Bed Head Ticket or BHT and observe how they are completed
- how prescriptions are written
- a 'notification form' and notifications of certain diseases are done
- the contents of a discharge summary or diagnosis card

## Ethics

There are a few basic points to be aware of when you begin to meet patients and examine them. These relate to ethics of your behavior, rather than ethics relating to patient care.

- You should speak to patients in polite language with due respect and kindness. NEVER shout or use harsh words
- Have a chaperone when examining patients, especially of the opposite sex.
- Patients are in hospital because they wish to cure themselves of an illness. Despite being ill, most of our patients are very kind and willingly allow students to examine them. Patients have the right to refuse examination by students. You should be aware that patients are granting YOU a favor by giving permission to you, to speak and examine.
- The information given by a patient to you is STRICTLY confidential. Do not speak to relatives without obtaining permission to do so from your patient. You should NOT divulge their identity and discuss their illness with lay persons. The latter includes your parents, siblings, your friends or relatives. Do not take photographs or patients or share patient details in social media (e.g. Facebook).
- Do not laugh at comments made by patients or their relatives.

*Hope you enjoyed this Workbook!*

*Submit your comments regarding the Workbook to the Department of Medicine, Faculty of Medicine, Sabaragamuwa University of Sri Lanka.*