

**STUDENT WORKBOOK  
IN MEDICAL ONCOLOGY**

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

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Faculty of Medicine  
Sabaragamuwa University of Sri Lanka*

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## CLINICAL APPOINTMENT IN ONCOLOGY

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1. Name of the student

.....

2. Year passed GCE Advanced level Examination

.....

3. Duration of the appointment

From: ...../...../..... To: ...../...../.....

4. Name of the consultant

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## **PREFACE**

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Students of the Faculty of Medicine, Sabaragamuwa University of Sri Lanka, study medical oncology as a separate appointment of one week at Teaching Hospital Rathnapura. During this period, they will be attached to the oncology unit under the consultant oncologists appointed by the Ministry of Health.

This workbook in oncology is compiled to help students achieve essential knowledge and skills in oncology, expected from an undergraduate when they qualify to work in medical wards as intern house officers. Thus, the workbook will guide the student during their oncology short appointment.

This Workbook is a joint effort between academic staff of the Department of Medicine, SUSL and the current consultant oncologists of the Teaching Hospital Ratnapura. Students are expected to organize their classes and do self-studies in order to complete the tasks set out in the workbook.

We value your feedback to improve the workbook.

Dr Udayangani Ramadasa  
Dr Champika Gamakaranage  
Professor Saroj Jayasinghe

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### **Contribution**

CG – Compiled the investigations and exercises sections and updated all the sections  
UR – Wrote the initial draft, compiled the history taking section and updated all the sections  
SP – Assessed and updated all the sections  
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## CHAPTER 1

### INTRODUCTION

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Dear Students,

We have prepared a series of workbooks to guide you during your medical appointments. These include 3<sup>rd</sup> year workbook, 4<sup>th</sup> year workbook and workbook for each short appointment and a workbook for the professorial appointment.

The appointments in finer specialties are organized based on the University Grants Commission guidelines and according to the needs of the Ministry of Health.

The short appointment in Oncology will give you the opportunity to study Oncology with exposure to specific case scenarios in more detail. This workbook is prepared to provide guidance to the students during the Oncology appointment to cover the essential areas expected from an undergraduate. You are expected to learn the management plans in further detail. This includes the investigation, treatment of common medical conditions, management of common emergencies, which are essential clinical topics for an intern medical officer. This knowledge, skills and experience you gather during the short appointments will help you to understand patient problems in greater depth.

Your continuous assessments will be based on these workbooks.

## Learning Outcomes in Medical Oncology

At the end of the appointment students should be able to

1. Obtain histories, elicit physical signs and interpret physical signs, describe pathophysiology, principles of management and prognosis of patients having malignancies.
2. Understand mechanisms of action, indications, complications, and expected outcomes of different therapeutic modalities such as chemotherapy, hormonal therapy, biologic therapy, immunotherapy, stem cell transplantation, supportive care medications, radiation therapy, surgery, alone or in combined-modality treatment
3. Describe the emergency management of following conditions
  - a. Spinal cord compression
  - b. SVC obstruction
  - c. Acute bleeding
  - d. Neutropenic sepsis
  - e. Tumor lysis syndrome
4. Identify different aspects of management of cancers arising in special populations, immunosuppressed hosts, pregnant women, geriatric groups, adolescents and young adults, and patients in remote geographic locations.
5. Know management of symptoms, modalities for pain relief, supportive care and palliative care.
6. Evaluate and assess the needs of caregivers and family of the patient.
7. Understand acute, subacute, long-term and late toxicities, and adverse outcomes of therapeutic modalities.
8. Identify issues related to cancer survivorship, including but not limited to physical, psychological, emotional, vocational, sexual, financial, lifestyle, and fertility
9. Communicate under supervision, options for therapies and explaining prognosis to patients having cancer, and their carers
10. Write case notes, daily status, referrals, discharge summaries, clinic notes and prescriptions.
11. Demonstrate empathy and maintain high ethical standards
12. Be an effective member of the healthcare team and know the health facilities and social support available to care for malignant diseases in Sri Lanka



## CHAPTER 2

### CORE CLINICAL KNOWLEDGE AND SKILLS

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At the end of the Oncology appointment, you should be competent in the technique of history taking, physical examination (general examination and examination of abdomen) and clinical reasoning at a level of a student about to enter the Final Year.

#### 2.1 EMERGENCIES

Following is a list of common oncological emergencies

- a. Spinal cord compression
- b. SVC obstruction
- c. Electrolyte imbalances (Eg: hypercalcaemia)
- d. Neutropenic sepsis
- e. Tumor lysis syndrome
- f. Pericardial effusion
- g. Large pleural effusion

## CHAPTER 3

### HISTORY TAKING

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The taking of history from the patient with cancer and his or her family members is different as compared with the standard medical history. Ask the patient whether he/she like to talk to you or whether he or she prefer to be with one of the family members or a caregiver accompanied.

Objectives of taking history

1. Gather information according to the tumor type
2. Determine the appropriate manner of diagnoses and how much investigations done so far
3. Obtain specific information relevant to the cancer type and for staging
4. Relevant information in order to determine the treatment modality.
5. Distressing symptoms that the patient has. Those may be physical, psychological, social or spiritual. In physical symptoms ask about onset, location, duration, progression, characteristics, aggravating and relieving factors. Also find out other associated symptoms.
6. Observe emotions, respect the patient and be empathetic throughout your conversation

Once the history of cancer story is taken, gather all other relevant information.

### SYSTEMIC REVIEW

Systemic review is done to collect information from all systems which were not taken during the history of presenting complaint.

**General** – fever, malaise, weight, appetite, performance status

**Cardiac**- palpitations, shortness of breath, chest pain

**Respiratory**- wheezing, pleuritic type chest pain,

**Renal**- urinary symptoms like, dysuria, hematuria, dark urine, polyuria, oliguria or anuria

**Gastro intestinal**- Nausea, vomiting, constipation, abdominal pain, alteration of bowel habits, per rectal bleeding or Malena

**Musculoskeletal** – Pain, joint pain

**Neurological**- Numbness, peripheral neuropathy, sleep pattern, headache, confusion

**Psychological**- mood, coping style, depression, believes, emotions, anxiety

**Spiritual**- understanding about life

### PAST MEDICAL HISTORY

Chronic long-standing diseases such as ischaemic heart disease, hypertension, diabetes mellitus, with details about length of the illness, medications, life style changes and control, any malignancy or any other disease which has risk of malignancy

## **DRUG HISTORY**

History of drug allergy, any long-standing medication, supplements or complementary therapies.

## **FAMILY HISTORY**

Family history of diabetes mellitus, hypertension, ischaemic heart disease or any other chronic disease. In patients with cancer, find out family history of cancer in the immediate family members as well as extended family members. If present, the tumor type, the histology and the course of the illness and the patient's reaction to that need to be asked. Find out whether any genetic evaluation had been performed.

## **SMOKING AND ALCOHOL HISTORY**

Find out whether the patient is a smoker or an ex-smoker and if yes, calculate the pack years. If patient used to take alcohol, find out the type of alcohol, the amount for a week and any complications or whether the patient is alcohol dependent.

## **SOCIAL HISTORY**

Find out who is the care provider to the patient at this time. Financial status of the patient as well as the family. Who is the breadwinner of the family and how they cope with role changes within the context of the family? How the patient is coping with the role changes within the family and in the working place and the society.

Find out more details about the emotional response of the patient and family at the time of the diagnosis and how it progressed during the course of the illness.

Find out the patient's psychology with the disease progression and empathic response of the family members or care givers.

Find out the impact of the illness to the family, to the patient, to the employment and the activities of daily living, family responsibilities. Ask about the social support, financial problems, food stability, transportation and the added burden due to therapy.

Find out the patient's insight about the illness and the prognosis and how the patient and family are coping with it. Ask some questions to find out the spiritual wellbeing of the patient.

Find out the details about physical, social, psychological and spiritual burden of the care givers in detail.

## CHAPTER 4

### EXAMINATION OF A PATIENT WITH MALIGNANCIES

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#### General examination

Look for cachexia, pallor, jaundice, skin colour, integrity, hydration level, burns due to radiotherapy, scars or deformities due to surgery, stomas, catheters, any drains, mood and appearance.

And tachypnoea, fever, tachycardia and hypotension in very ill patients.

Physical examination of the tumor proper should include examination of the tumor, site, size, sub sites, adjacent skin or mucus membranes, mobility, tenderness, direct extension, involvement of adjacent structures: organs, vessels, nerves and the regional lymphadenopathy.

Examine for distant metastasis such as liver metastasis, ascites, pleural effusion, lung collapse, bony deposits, lymphadenopathy, hepatosplenomegaly and brain metastasis.

Examine for Horner's syndrome in patients who are suspected with lung malignancies.

Digital rectal examination and per vaginal examination (in female) has to be performed if relevant.

Examine for clinical features of paraneoplastic syndrome such as muscle wasting, peripheral neuropathy, muscle pain and tenderness, myopathies.

Examination should focus on the adverse effects of chemotherapy and radiotherapy such as evidence of neurotoxicity.

All the systems should be examined in detail to find out complications of advanced cancer and due to treatment.

Mini mental examination will be done where relevant.

Assess the ability to self-care such as grooming, bathing and dressing.

Standard performance scales would be valuable in determining progression of the illness.

- a. List the performance scales you can use to determine the progression of the disease

b. Write down the components of Eastern Cooperative Oncology Group (ECOG) performance status scale.

c. Write your findings of three patients from each (group)

## CHAPTER 5

### COMMON INVESTIGATIONS

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1. Following investigations are useful in finding information about the possibility of malignancies.

Explain how they are useful.

a. Stool occult blood

b. Pap-smear

c. Mammogram

d. UFR

e. Liver profile

f. FBC

g. Tumor markers

h. ESR



3. CT abdomen



- a. Briefly describe the most important radiological abnormalities of this CT film
  
  
  
  
  
  
  
  
  
  
- b. What is your diagnosis or differential diagnoses?
  
  
  
  
  
  
  
  
  
  
- c. Name the malignancies which give rise this complication







6. A 68-year-old patient presented with recent onset constipation and bleeding per rectum from time to time. He complained of severe loss of appetite and recent weight loss. Basic investigations revealed haemoglobin of 9 g/l, and ESR 70mm 1<sup>st</sup> hour

a. Mention the specific investigations/procedure you would arrange in order to come to a diagnosis?

b. What do you do next to arrive at a complete diagnosis including staging of the disease?

7. A 58 years old patient presented with progressive difficulty in swallowing solids for the past two months. He has lost 7 kg over past 3 months.

a. List possible causes to this presentation

b. What is the most likely cause and give reasons?

c. Mention a specific investigation/procedure you would arrange to this patient

8. This is a skull x ray of a 78-year-old patient who presented with severe back pain



a. What is your most probable diagnosis?

b. What are the diagnostic criteria for the condition you mentioned above?

c. What other investigations would you request for a definitive diagnosis





11. This is a chest x ray of a patient who presented with cervical lymphadenopathy



- a. What radiological abnormality do you see?
  
  
  
  
  
  
  
  
  
  
- b. What are the likely causes?
  
  
  
  
  
  
  
  
  
  
- c. What other clinical signs you will expect to see?
  
  
  
  
  
  
  
  
  
  
- d. What histological types you would see in cervical lymph node biopsy of this patient?

## CHAPTER 6

## EXERCISES

1. Following table contains common symptoms and conditions that could be the presentation of a neoplastic condition. Write most likely neoplastic diseases against the given condition. The space given in addition for you to add if you find more symptoms/conditions.

Symptom/ Condition	Neoplastic cause(s)
Headache	
Abdominal distension	
Epistaxis	
Hoarseness of voice	
Dysphagia	
Haemoptysis	
Haematemesis	
LOA and LOW	
Jaundice	
Pallor	
Goitre	
Abdominal mass	
Gynaecomastia	
Breast lump	
Nipple discharge	



<b>Postmenopausal bleeding</b>	
<b>Clubbing</b>	
<b>Cervical lymphadenopathy</b>	
<b>Rash</b>	
<b>Scrotal lump</b>	
<b>Unusual site thrombosis</b>	
<b>Back pain</b>	
<b>Neuropathy</b>	
<b>Recurrent pneumonia/ unresolving pneumonia</b>	
<b>Skin lesion</b>	
<b>Constipation/ Diarrhoea</b>	

2. Obtain a history from a patient with a Bowel cancer and complete the following section
  - a. Write a summary of the history in patient's language and in English language
  - b. List the investigations carried out on your patient to establish and evaluate your patient
  - c. What is the Duke's stage of your patient? Explain how it was decided.
  - d. What are the available treatment options in a patient with bowel cancer?
  - e. Outline, how do you break the bad news of diagnosis of bowel cancer in a patient presented and investigated for rectal bleeding?
3. Write a summary of a patient with breast cancer in patient's language and in English language, that you encountered
  - a. What are the specific investigations performed on your patient to diagnose and further evaluate the patient? Explain why were they done.
  - b. What are the poor prognostic indicators of breast cancer?
  - c. What are the distressing physical symptoms that the patient is having?
  - d. How do you manage each symptom?
  - e. What is the definitive treatment that the patient is offered?
4. Obtain history from a patient with oesophageal cancer
  - a. Write the summary of the history below
  - b. What are the investigations done to diagnose the condition?
  - c. What are the available treatment options?
  - d. What distressing physical symptoms do you expect in patients with esophageal cancer?
5. Chemotherapy
  - a. List 3 chemotherapeutic agents
  - b. Write common side effects you expect in each agent you mentioned above
6. Radiotherapy
  - a. List three malignant conditions you offer Radiotherapy
  - b. What are the side effects of radiotherapy in general and local?
7. Endocrine therapy
  - a. What is endocrine therapy?
  - b. Mention two malignancies you use hormone therapy
  - c. Describe the pathophysiological basis of each hormone therapy you mentioned
8. Pain in cancer patients
  - a. List the causes of pain in a patient with cancer?
  - b. What is the WHO pain ladder?
  - c. Mention the different opioid medications available in Sri Lanka
  - d. What are adjuvant medications?
9. Haematological Malignancies
  - a. List 5 haematological malignancies
  - b. Analyze different presentations of each condition
  - c. List available management options in each condition

10. Obtain a history from a patient managed for Neutropenic sepsis (Febrile neutropenia)
  - a. How do you classify the severity of neutropenia?
  - b. What is neutropenic sepsis?
  - c. Write 5 investigations you order when you recognize neutropenic sepsis giving reasons
  - d. Outline the concepts of management of neutropenic sepsis
  - e. What is the dietary advice you give?
  
11. Obtain a history from a patient presented with tumor lysis syndrome?
  - a. Write the summary of the history below
  - b. How do you diagnose the tumor lysis syndrome?
  - c. Outline treatment your patient received, with explaining the basis of the treatment.
  
12. Take a history from a patient diagnosed with tumor lysis syndrome
  - a. Write the summary of the history below
  - b. What are the investigations carried out in your patient? Explain why they are important.
  - c. Outline the management of your patient and explain the basis of the treatment
  
13. Hypercalcemia
  - a) Mention two malignancies you expect hypercalcemia
  - b) List the clinical features of hypercalcemia.
  - c) How do you manage hypercalcemia?
  
14. Screening and prevention  
How do you screen following cancers?
  - a. Breast cancer
  - b. Bowel cancer
  - c. Ovarian cancer
  - d. Cervical cancer

## CHAPTER 7

### CASE SCENARIOS

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In this section we expect you to write 3 histories of patients with malignancies that you encountered during your oncology appointment.

**This book is peer reviewed and recommended as a teaching and learning material for the Department of Medicine, Faculty of Medicine Sabaragamuwa University of Sri Lanka, by the following experts,**

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