

**JINNAH SINDH MEDICAL UNIVERSITY**  
**3<sup>rd</sup> YEAR, MBBS**

**RESPIRATORY-II STUDY GUIDE 2020**

	<b>STUDY GUIDE 2019-20</b>
<b>MODULE TITLE</b>	<b>RESPIRATORY MODULE</b>
<b>TARGET STUDENTS</b>	<b>3rd year MBBS, 2020</b>
<b>DURATION</b>	<b>4 weeks</b>
<b>INTRODUCTION</b>	<p>The Respiratory-2 module is directly linked with Respiratory-1 held during the 1<sup>st</sup> year of this batch. This module builds on knowledge and skills imparted in the previous one. It helps learners utilize their knowledge of the gross and microscopic anatomy, the physiology and the relevant biochemical processes in order to comprehend how and where the system goes wrong, what can be done to prevent diseases and what medications are available for treatment.</p> <p>Students will need to demonstrate adequate skills in Respiratory system examination so that they are able to pick up relevant signs for accurate diagnoses. This will help them correlate the pathophysiology with its manifestations. It will also help learners rationalize outline of management plans relevant to the conditions. Key concepts related to Autopsies and Asphyxia in Forensic Medicine will be discussed in detail in this module.</p>
<b>RATIONALE</b>	<p>Respiratory-2 is developed in order to assist students when they come in more frequent and prolonged contact with patients in the 3<sup>rd</sup> spiral of the curriculum. Skills gained in this module will help them deal with respiratory related conditions especially in the Internal Medicine, Paediatrics and Surgical Wards in tertiary care hospitals.</p>
<b>DEPARTMENTS</b>	<ol style="list-style-type: none"><li>1. Anatomy</li><li>2. Medicine</li><li>3. Community Medicine</li><li>4. Pathology</li><li>5. Pharmacology</li><li>6. Forensic Medicine</li><li>7. Paediatrics</li></ol>

JINNAH SINDH MEDICAL UNIVERSITY  
3<sup>rd</sup> YEAR, MBBS

RESPIRATORY-II STUDY GUIDE 2020

<b>OBJECTIVES</b>	<b>By the end of the module, all the students of 3<sup>rd</sup> year MBBS will be able to:</b>
<b>ANATOMY</b>	<ul style="list-style-type: none"><li>• Discuss the gross overview of the respiratory system &amp; congenital anomalies related to the respiratory system</li><li>• Discuss the surface marking of clinically relevant areas of the respiratory system</li></ul>
<b>COMMUNITY MEDICINE</b>	<p><b><u>Pneumoconiosis and its Prevention</u></b></p> <ul style="list-style-type: none"><li>• Define pneumoconiosis</li><li>• List pneumoconiosis diseases</li><li>• Discuss the control and prevention of pneumoconiosis</li><li>• Discuss the epidemiology of Silicosis in relation to Pakistan</li></ul> <p><b><u>Tuberculosis and its Prevention</u></b></p> <ul style="list-style-type: none"><li>• Discuss the history &amp; causative organism of tuberculosis</li><li>• Discuss why Tuberculosis remains a world-wide problem</li><li>• Discuss situation in Pakistan</li></ul> <p><b><u>Asthma and prevention</u></b></p> <ul style="list-style-type: none"><li>• Define Asthma</li><li>• Discuss the sign and symptoms of Asthma</li><li>• Discuss the diagnosis criteria of Asthma</li></ul>

JINNAH SINDH MEDICAL UNIVERSITY  
3<sup>rd</sup> YEAR, MBBS

RESPIRATORY-II STUDY GUIDE 2020

	<ul style="list-style-type: none"><li>• Discuss the control and prevention of Asthma</li></ul> <p><b><u>Chicken pox and prevention</u></b></p> <ul style="list-style-type: none"><li>• Define Chicken pox disease</li><li>• Discuss the sign and symptoms of Chicken pox</li><li>• Discuss the diagnosis criteria of Chicken pox</li><li>• Discuss the control and prevention of Chicken pox</li></ul> <p><b><u>Influenza and Prevention</u></b></p> <p>Define influenza</p> <ul style="list-style-type: none"><li>• Discuss the sign and symptoms of influenza</li><li>• Discuss the control and prevention of influenza</li></ul> <p><b><u>Travel Medicine</u></b></p> <ul style="list-style-type: none"><li>• List the risk for travelers</li><li>• List of pathogen caused common disease to travelers</li><li>• Discuss the control measured for disease prevention among travelers</li><li>• Discuss the Role of international health regulation for travelers</li></ul>
<p><b>FORENSIC MEDICINE</b></p>	<p><b>By the end of the Module all the students of 3<sup>rd</sup> year MBBS will be able to Discuss:</b></p> <p><b><u>Autopsy Lecture - I</u></b></p> <ul style="list-style-type: none"><li>• Autopsy</li><li>• Aims and objects of autopsy</li><li>• Types of autopsy</li></ul>

JINNAH SINDH MEDICAL UNIVERSITY  
3<sup>rd</sup> YEAR, MBBS

RESPIRATORY-II STUDY GUIDE 2020

- Difference between Medico legal and Pathological autopsy
- Autopsy protocol

**Autopsy Lecture - II**

- External examination
- Types of incisions
- Techniques of autopsy
- Negative and Obscure autopsy
- Internal examination of head

**Autopsy Lecture - III**

- Internal examination of thoracic and abdominal cavities
- Dissection of respiratory tract
- Dissection of heart
- Dissection of abdominal viscera
- Dissection of pelvic organs
- Dissection of Spinal cord

**Autopsy Lecture - IV**

- Preservation of viscera for Chemical and Histopathological examination
- Preservatives used in mortuary
- Exhumation
- Postmortem artifacts

JINNAH SINDH MEDICAL UNIVERSITY  
3<sup>rd</sup> YEAR, MBBS

RESPIRATORY-II STUDY GUIDE 2020

	<p><b><u>Asphyxia Lecture – I</u></b></p> <ul style="list-style-type: none"><li>• Etiology &amp; pathophysiology of asphyxia,</li><li>• Hanging, types of hanging</li><li>• Autopsy findings of hanging</li></ul> <p><b><u>Asphyxia Lecture – II</u></b></p> <ul style="list-style-type: none"><li>• Strangulation</li><li>• Throttling</li><li>• Suffocation</li><li>• Smothering</li><li>• Chocking</li><li>• Traumatic Asphyxia</li></ul> <p><b><u>Asphyxia Lecture – III</u></b></p> <ul style="list-style-type: none"><li>• Drowning, its types</li><li>• Mechanism of drowning</li><li>• Causes of death in drowning</li><li>• Postmortem finding of drowning</li><li>• Diatoms and their medico legal significance</li><li>• Sexual asphyxia (auto erotic asphyxia)</li></ul>
<p><b>PATHOLOGY AND MICROBIOLOGY</b></p>	<p><b>Obstructive lung disease 1&amp;2</b></p> <ul style="list-style-type: none"><li>• Define obstructive lung disease (emphysema, chronic bronchitis, asthma, and bronchiectasis)</li><li>• List the causes of obstructive lung disease</li><li>• Discuss the pathogenesis of obstructive lung disease</li><li>• Discuss the morphology of obstructive lung disease</li></ul>

JINNAH SINDH MEDICAL UNIVERSITY  
3<sup>rd</sup> YEAR, MBBS

RESPIRATORY-II STUDY GUIDE 2020

- Discuss the signs and symptoms of obstructive lung disease

**Chronic Interstitial restrictive lung disease**

- Define Restrictive diseases of lung (idiopathic pulmonary fibrosis, Nonspecific Interstitial Pneumonia, Cryptogenic Organizing Pneumonia, and Pulmonary Involvement in Autoimmune Diseases)
- List the causes of Chronic Interstitial restrictive lung disease
- Discuss the pathogenesis of Chronic Interstitial restrictive lung disease
- Discuss the morphology of Chronic Interstitial restrictive lung disease
- Discuss the signs and symptoms of Chronic Interstitial restrictive lung disease

**Pneumoconiosis**

- Define Pneumoconiosis
- Classify Pneumoconiosis
- List the causative agents (type of dust) of Pneumoconiosis
- Discuss the pathogenesis of Pneumoconiosis
- Discuss the morphology of Pneumoconiosis
- Discuss the signs and symptoms of Pneumoconiosis

**Pulmonary Infections (Pneumonia)**

- Define Pulmonary Infections (Pneumonia)
- Classify Pulmonary Infections (Pneumonia)
- List the causative organism of Pulmonary Infections (Pneumonia)
- Discuss the pathogenesis of Pulmonary Infections (Pneumonia)
- Discuss the morphology of Pulmonary Infections (Pneumonia)
- Discuss the signs and symptoms of Pulmonary Infections (Pneumonia)

**Granulomatous diseases**

- Define Granulomatous diseases

JINNAH SINDH MEDICAL UNIVERSITY  
3<sup>rd</sup> YEAR, MBBS

RESPIRATORY-II STUDY GUIDE 2020

- Classify Granulomatous diseases
- Discuss the pathogenesis of Granulomatous diseases
- Discuss the morphology of Granulomatous diseases
- Discuss the signs and symptoms of Granulomatous diseases

**Pulmonary tuberculosis**

- Define Pulmonary tuberculosis
- Discuss the pathogenesis of Pulmonary tuberculosis
- Discuss the morphology of Pulmonary tuberculosis
- Discuss the signs and symptoms of Pulmonary tuberculosis
- Discuss the laboratory investigations of Pulmonary tuberculosis

**Lung Tumors 1&2**

- Define lung tumors
- list the risk factors of lung tumors
- Discuss the pathogenesis of lung tumors
- Discuss the morphology of lung tumors
- Discuss the signs and symptoms of lung tumors
- Discuss the staging & grading of lung tumors

**Pleural pathology**

- Define pleural pathology
- List the causes of pleural pathology
- Discuss the pathogenesis of pleural pathology
- Discuss the morphology of pleural pathology
- Discuss the signs & symptoms of pleural pathology

**Pulmonary vascular diseases**

- Define Pulmonary vascular diseases including (pulmonary embolisms, hemorrhage, infarction, hypertension and diffuse pulmonary hemorrhage syndrome)

JINNAH SINDH MEDICAL UNIVERSITY  
3<sup>rd</sup> YEAR, MBBS

RESPIRATORY-II STUDY GUIDE 2020

	<ul style="list-style-type: none"><li>• List the risk factors of pulmonary vascular disease</li><li>• Discuss the pathogenesis of pulmonary vascular disease</li><li>• Discuss the morphology of pulmonary vascular disease</li><li>• Discuss the signs and symptoms of pulmonary vascular disease</li></ul>
<p><b>PHARMACOLOGY</b></p>	<p><b><u>Anti-Histamines (H1 blockers)</u></b></p> <ul style="list-style-type: none"><li>• Define histamine drugs</li><li>• Classify anti-histamines (H1 blockers)</li><li>• Discuss the pharmacological effects and their mechanism of action and</li><li>• List the diagnostic uses of Histamine.</li><li>• Discuss its various side effects and drug-drug interactions</li><li>• List the clinical uses of anti-histamines (H1 blockers)</li></ul>
<p><b>CHEST MEDICINE/ PULMONOLOGY</b></p>	<p><b><u>Respiratory symptoms &amp; investigations</u></b></p> <ul style="list-style-type: none"><li>• Discuss abnormal assessment findings of pulmonary diseases</li><li>• List the investigations related to pulmonary diseases</li></ul> <p><b><u>Bronchial Asthma</u></b></p> <ul style="list-style-type: none"><li>• Define Bronchial Asthma</li><li>• Classify Bronchial Asthma</li><li>• List the causes of Bronchial Asthma</li><li>• Discuss the signs and symptoms of Bronchial Asthma</li><li>• List the investigations related to Bronchial Asthma</li></ul> <p><b><u>COPD</u></b></p> <ul style="list-style-type: none"><li>• Define COPD</li><li>• Classify COPD</li><li>• List the causes of COPD</li><li>• Discuss the signs and symptoms of COPD</li><li>• List the investigations related to COPD</li></ul>

JINNAH SINDH MEDICAL UNIVERSITY  
3<sup>rd</sup> YEAR, MBBS

RESPIRATORY-II STUDY GUIDE 2020

**Tuberculosis**

- Define Tuberculosis
- Classify Tuberculosis
- List the causes of Tuberculosis
- Discuss the signs and symptoms of Tuberculosis
- List the investigations related to Tuberculosis

**Pneumonia**

- Define pneumonia
- Classify pneumonia
- List the causes of pneumonia
- Discuss the signs and symptoms of pneumonia
- List the investigations related to pneumonia

**Pleural diseases**

- Define pleural diseases
- Classify pleural diseases
- List the causes of pleural diseases
- Discuss the signs and symptoms of pleural diseases
- List the investigations related to pleural diseases

**Spirometry & ABGs**

- Define Spirometry & ABGs
- List the indications/ contraindications of Spirometry & ABGs
- Discuss arterial blood gases
- List the indications/ contraindications of ABGs

**Respiratory failure type I & II**

- Define respiratory failure
- Classify respiratory failure

JINNAH SINDH MEDICAL UNIVERSITY  
3<sup>rd</sup> YEAR, MBBS

RESPIRATORY-II STUDY GUIDE 2020

	<ul style="list-style-type: none"><li>List the investigations related to Respiratory failure type I &amp; II</li></ul> <p><b><u>Approach to a patient with shortness of Breath (Tutorial)</u></b></p> <ul style="list-style-type: none"><li>Define shortness of breath</li><li>Classify shortness of breath</li><li>List the causes of shortness of breath</li><li>List the investigations related to shortness of breath with justifications</li><li>Discuss the preventive measures for shortness of breath</li><li>Justify outline of treatment plans</li></ul>
<b>RADIOLOGY</b>	<p><b><u>Chest x-ray basics</u></b></p> <ul style="list-style-type: none"><li>List different types of imaging techniques used to investigate respiratory disorders.</li><li>Interpret chest x-rays (CXR) based on a systematic pattern</li><li>Identify normal anatomic structures of the chest in a chest x ray</li><li>Identify the different CXR views</li><li>Discuss uses and limitation of various CXR views</li><li>Interpret plain radiographs of chest x-ray</li><li>List differential diagnoses for the relevant findings</li></ul>
<b>PAEDIATRICS</b>	<p><b><u>Asthma</u></b></p> <ul style="list-style-type: none"><li>Define Bronchial Asthma</li><li>List the causes of bronchial Asthma</li><li>Discuss the clinical features of bronchial Asthma</li><li>List the investigations related to bronchial Asthma</li></ul> <p><b><u>Pneumonia</u></b></p> <ul style="list-style-type: none"><li>Define pneumonia</li><li>List the causes of pneumonia</li><li>Discuss the clinical features of pneumonia</li></ul>

JINNAH SINDH MEDICAL UNIVERSITY  
3<sup>rd</sup> YEAR, MBBS

RESPIRATORY-II STUDY GUIDE 2020

	<ul style="list-style-type: none"><li>List the investigations related to pneumonia</li></ul>
<b>PRACTICALS</b>	<p style="text-align: center;"><b><u>PATHOLOGY</u></b></p> <p><b>Histopathology of Chronic Obstructive Pulmonary Disease (COPD)</b></p> <ul style="list-style-type: none"><li>Discuss histopathology of Chronic Obstructive Pulmonary Disease</li></ul> <p><b>Pathology of lung tumors</b></p> <ul style="list-style-type: none"><li>Discuss etiology, morphology and manifestations of lung tumors</li></ul> <p><b>Histopathology of Pulmonary Tuberculosis</b></p> <ul style="list-style-type: none"><li>Discuss detailed morphology and pathogenesis of Pulmonary Tuberculosis.</li></ul> <p style="text-align: center;"><b><u>PHARMACOLOGY</u></b></p> <p><b>Activity of Histamine and Antihistamines on bronchial smooth muscles</b></p> <ul style="list-style-type: none"><li>List the pharmacological effect of histamine and anti-histamine by using isolated tissue on power lab</li><li>Interpretate the graph formed by these drugs on power lab</li></ul>
<b>TUTORIALS</b>	<p style="text-align: center;"><b>FORENSIC MEDICINE</b></p> <p><b>1) Autopsy Protocol :</b></p> <ul style="list-style-type: none"><li>How to write a Post Mortem Report</li><li>Mortuary SMC</li></ul> <p><b>2) How to send the viscera's during</b></p>

JINNAH SINDH MEDICAL UNIVERSITY  
3<sup>rd</sup> YEAR, MBBS

RESPIRATORY-II STUDY GUIDE 2020

- postmortem and how to dispatch them &
- Preservatives used in Mortuary.
- Mortuary SMC

**3) Corrosive Poisoning :  
Inorganic Mineral acids**

- Sulphuric acid
- Hydrochloric acid
- Nitric acid
- Vitriolage

Department's museum & National Poisoning Control Center, ward 5, JPMC

**4) Organic Acids and Alkalis:**

Oxalic acid, carbolic acid, salicylic acid. Hydrocyanic acid & cyanides.

**Alkalies**

- Caustic Soda
- Caustic Potash

Department's museum & National Poisoning Control Center, ward 5, JPMC

**PHARMACOLOGY**

**Anti-Asthmatic drugs**

- Define Anti-Asthmatic drugs

**JINNAH SINDH MEDICAL UNIVERSITY**  
**3<sup>rd</sup> YEAR, MBBS**

**RESPIRATORY-II STUDY GUIDE 2020**

	<ul style="list-style-type: none"> <li>• Classify various anti-asthmatic drugs</li> <li>• Discuss their mechanisms of action.</li> <li>• List the adverse effects of various drugs used in the treatment of bronchial asthma and COPD.</li> </ul> <p><b><u>Drugs used in the treatment of Tuberculosis and Leprosy</u></b></p> <ul style="list-style-type: none"> <li>• Define anti-tuberculosis drugs.</li> <li>• List anti-tuberculosis drugs.</li> <li>• Classify anti-tuberculosis drugs according to WHO criteria.</li> <li>• Discuss the mode of action,</li> <li>• List adverse effects &amp; contraindications of ATT.</li> <li>• Discuss the drugs used in multi-drug resistant (MDR) tuberculosis.</li> <li>• Define anti-leprosy drugs</li> <li>• Classify anti-leprosy drugs.</li> <li>• Discuss pharmacokinetic, mechanism of actions and</li> <li>• List the adverse effects of anti-leprosy drugs.</li> </ul> <p><b><u>Anti-Tussives &amp; Mucolytics (Expectorants)</u></b></p> <ul style="list-style-type: none"> <li>• List anti-tussives and mucolytic drugs</li> <li>• Discuss their role in respiratory tract diseases.</li> <li>• Discuss the basic and clinical pharmacology of anti-tussives and mucolytic drugs.</li> </ul>
<b>SKILL LAB</b>	<p><b>Respiratory Examination</b></p> <ul style="list-style-type: none"> <li>• Perform respiratory examination on a manikin</li> </ul>
<b>INTERNAL ASSESSMENT</b>	<ul style="list-style-type: none"> <li>• Internal assessment carries 20% weightage in Annual examination.</li> <li>• Examination should be held according to institutional policies for internal assessment.</li> </ul>

JINNAH SINDH MEDICAL UNIVERSITY  
3<sup>rd</sup> YEAR, MBBS

RESPIRATORY-II STUDY GUIDE 2020

<b>ANNUAL EXAMINATION</b>	Final exam will consist of One Correct MCQs, One Best MCQs and OSPE (observed + unobserved stations).
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