



ENT Module

4th Year MBBS

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Khyber Medical University (KMU) Vision:

Khyber Medical University will be the global leader in health sciences academics and research for efficient and compassionate health care.

Khyber Medical University (KMU) Mission:

Khyber Medical University aims to promote professional competence through learning and innovation for providing comprehensive quality health care to the nation.

Institute of Health Professions Education & Research (IHPER) Mission:

To produce leaders, innovators and researchers in health professions education who can apply global knowledge to resolve local issues.

Teaching Hours Allocation

Table 1: Themes & Hours Allocation

| Themes | Total Hours | In class teaching (Hours) | Clinical (Hours) |
|---|-------------|---------------------------|------------------|
| Theme 01: Foundation of Otorhinolaryngology & Head and Neck | 11 | --- | 11 |
| Theme 02: Sore Throat | 21 | 15 | 06 |
| Theme 03: Difficulty in Swallowing | 09 | 05 | 04 |
| Theme 04: Hoarseness & Stridor | 36 | 19 | 17 |
| Theme 05: Deafness, Ear Discharge & Dizziness | 27 | 19 | 08 |
| Theme 06: Nasal Obstruction | 29 | 19 | 10 |
| Theme 07: Swelling Neck | 14 | 06 | 08 |
| Total | 147 | 83 | 64 |

Learning Objectives

By the end of ENT Module, 4th year MBBS students will be able to:

1. Describe the anatomy and physiology of Ear, Nose, Throat & Neck.
2. Obtain appropriate history, examine Ear, Nose, oral cavity, pharynx, larynx and Neck including mirror examinations and functional examinations of these areas.
3. Describe benign and malignant tumors involving the ENT and Head & Neck.
4. Assist in diagnostic procedures and take swab for culture and sensitivity from ear, Nose & throat under supervision.
5. Prescribe hematological investigations, x-ray paranasal sinuses, CT/MRI scan of paranasal sinuses, temporal bone and Head & Neck & interpret it.
6. Perform clinical tests of hearing, tuning fork tests and balance independently
7. Interpret pure tone audiogram & tympanogram.
8. Describe the ABC protocol for resuscitation of traumatic patients.
9. Discuss differential diagnosis of membrane on the tonsils and describe diphtheria.
10. Describe sialadenitis, sialolithiasis and enumerate the benign and malignant salivary tumors.
11. Discuss a treatment plan for the patients with various common diseases of the ENT and Head and Neck region.
12. Describe dysphagia and its causes, Plummer-Vinson Syndrome and malignant tumors of hypopharynx that could lead to dysphagia and hoarseness along with their management.
13. Describe the management of corrosive ingestion and foreign body in the esophagus.
14. Describe various congenital and acquired disorders of the ENT and Head & Neck region.

15. Describe the significance of hoarseness and stridor & enumerate their causes and clinical features of respiratory obstruction.
16. Differentiate clinically between various types of stridor and possible site of obstruction.
17. Describe tracheostomy and indications for this procedure.
18. Describe squamous cell carcinoma of the larynx and the impact of stage of disease on management and survival of patient.
19. Explain the mutual association of hearing and balance disorders & the various conditions that give rise to these disorders.
20. Describe the clinical features and course of otosclerosis, Meniere's disease, vestibular neuronitis & BPPV.
21. Diagnose suppurative otitis media & describe its intracranial and extra cranial complications.
22. Describe the 'rehabilitation of deaf and mute child' and the impact of hearing impairment in children.
23. Describe rhinosinusitis, its various types of rhino-sinusitis and its complications.
24. Describe the diseases of the nasal septum & define DNS and enumerate its various types.
25. Describe the pathophysiology, types, and management of Sino nasal polyposis.
26. Enumerate various conditions resulting in nasal obstruction & discharge.
27. Describe various types of allergic & non-allergic rhino-sinusitis.
28. Enumerate fungal and other granulomatous diseases of the nose & paranasal sinuses and describe their management.
29. Categorize various conditions benign & malignant neoplasms of the nose & paranasal sinuses.
30. Classify various types of neck swellings and describe clinical differentiating features of benign & malignant neck masses.

31. Describe a classification of various lymph nodes levels in the neck and describe the lymphatic drainage of the head and neck.
32. Obtain informed consent from patient and communicate with the patients, their families and community regarding diseases & its relevant issues.
33. Describe the anatomy and physiology of salivary glands
34. Describe benign & malignant diseases of the salivary glands

Theme I - Sore Throat

Table 1: Sore Throat

| TOPIC | HOURS | LEARNING OBJECTIVES |
|--|---------|---|
| Anatomy & physiology of oral cavity, Pharynx & salivary glands | 2 hours | <ol style="list-style-type: none">1. Discuss the anatomy of oral cavity and site classification of oral cavity.2. Discuss applied anatomy of pharynx & mechanism of deglutition3. Discuss applied anatomy of nasopharynx and anatomy and physiology of adenoids4. Discuss applied anatomy of oropharynx and anatomy and physiology of pharyngeal tonsils5. Discuss the anatomy of minor and major salivary glands |
| Acute Pharyngitis | 1 hour | <ol style="list-style-type: none">6. Discuss classification, types, aetiology, clinical features, diagnosis and treatment of acute pharyngitis |
| Chronic Pharyngitis | 1 hour | <ol style="list-style-type: none">7. Discuss classification, types, aetiology, clinical features, diagnosis and treatment of chronic pharyngitis |

| | | |
|--|---------|---|
| Acute Tonsillitis/ Peritonsillar abscess (Quinsy) | 1 hour | 8. Discuss classification, types, aetiology, clinical features, diagnosis and treatment of acute tonsillitis 9. Discuss the aetiology, clinical features and treatment of quinsy |
| Chronic Tonsillitis | 1 hour | 10. Discuss classification, types, aetiology, clinical features, diagnosis and treatment of chronic tonsillitis |
| Oral ulceration | 1 hours | 11. Enumerate differential diagnosis of oral ulcers and discuss management of Aphthous ulcers |
| Trauma to the palate and Oropharynx | 1 hour | 12. Discuss the principles of soft tissue & bone repair in palatal and pharyngeal trauma. |
| Carcinoma of oral cavity | 1 hour | 13. Discuss the aetiology , clinical features and treatment of oral carcinoma |
| Approach to a patient with sore throat | 1 hour | 14. Enumerate differentials of sore throat and discuss important differentiating points |
| Anatomy & physiology of salivary glands | 1 hour | 15. Describe the anatomy & physiology of parotid, submandibular, sublingual & minor salivary glands |
| Non neoplastic disorders of the salivary glands | 1 hour | 16. Describe non neoplastic disorders of salivary glands, its management and treatment |

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|--|--------|---|
| Sialolithiasis and sialectasis | 1 hour | 17. Describe stone formation and stasis of secretions in the salary glands and its management |
| Neoplasm of salivary glands | 1 hour | 18. Describe the features, course and management of benign and malignant, submandibular, sublingual and minor salivary glands |
| Complications of salivary gland surgeries | 1 hour | 19. Describe in detail different surgical procedures of salivary glands and its complications |

Theme II - Difficulty in Swallowing

Table 2 : Difficulty in Swallowing

| TOPIC | HOURS | LEARNING OBJECTIVES |
|--|--------------|---|
| Dysphagia & Plummer Vinson Syndrome | 1 hour | 20. Discuss Dysphagia & the anatomy and physiology of Esophagus and the appropriate medical and surgical treatment of dysphagia. 21. Discuss PVS & the predisposing factors for causation & management |
| Pharyngeal and esophageal Pouches | 1 hour | 22. Discuss Pharyngeal pouch & the predisposing factors, clinical features, and treatment. |

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|-------------------------------|--------|---|
| Oropharyngeal Tumors | 1 hour | 23. Enumerate oropharyngeal tumors. Discuss the types, aetiology and treatment of oropharyngeal carcinoma. |
| Hypo pharyngeal Tumors | 1 hour | 24. Enumerate oropharyngeal tumors. Discuss the aetiology and treatment of hypo pharyngeal carcinoma. |
| Tumors of Esophagus. | 1 hour | 25. Classify esophageal tumors & describe the etiology, clinical features, and treatment options. |

Theme III - Hoarseness & Stridor

Table 3 Hoarseness & Stridor

| TOPIC | HOURS | LEARNING OBJECTIVES |
|--|--------------|---|
| Applied anatomy of potential spaces in & around the larynx and neck | 2 hour | 26. Discuss applied anatomy of larynx. 27. Discuss the pre-piglottic, paraglottic & Rinke's space. |
| Anatomy of Potential neck spaces | 3 hour | 28. Discuss anatomy of deep fascia of neck & anatomy of potential pharyngeal and neck spaces. |

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|---|---------|---|
| | | <p>29. Discuss surgical anatomy of peritonsillar, parapharyngeal & submandibular spaces.</p> <p>30. Discuss anatomy of retro pharyngeal space.</p> |
| Applied anatomy & physiology of Larynx/neck , Voice physiology | 2 hour | <p>31. Discuss applied anatomy of Larynx.</p> <p>32. Discuss the physiology of larynx.</p> <p>33. Discuss the physiology of voice, speech production & its regulation</p> |
| Acute Laryngitis | 1 hour | 34. Discuss aetiology, clinical features, diagnosis, and treatment of acute simple laryngitis |
| Chronic Laryngitis | 1 hour | 35. Discuss chronic laryngitis including chronic granulomatous conditions of the larynx, its clinical features, diagnosis, and treatment. |
| Vocal nodules & vocal polyps | 1 hour | 36. Discuss differentiating points between vocal nodules & polyps, its aetiology, clinical features, diagnosis, and treatment. |
| Vocal cord paralysis | 1 hour | 37. Discuss paralytic causes of hoarseness, its types, clinical features, diagnosis, and treatment. |
| Stridor | 1 hours | 38. Enumerate causes of stridor. Explain types of stridor. Discuss management of congenital stridor |

| | | |
|--|--------|--|
| Apyrexial causes of stridor | 1 hour | 39. Discuss the aetiology and management of acquired apyrexial causes of stridor |
| Pyrexial causes | 1 hour | 40. Discuss the aetiology and management of pyrexial causes of stridor |
| Laryngeal trauma | 1 hour | 41. Discuss the management of laryngeal trauma |
| Acute Respiratory obstruction | 1 hour | 42. Discuss signs of respiratory obstruction. Enumerate alternate airways & discuss tracheostomy. |
| Laryngotracheal Foreign body | 1 hour | 43. Discuss the aetiology, types & treatment of Laryngotracheal Foreign bodies. |
| Malignant Tumours of the Larynx / Carcinoma of Larynx | 1 hour | 44. Discuss incidence, epidemiology, risk factors, Pathology & classification of carcinoma larynx. 45. Discuss UICC classification of laryngeal sites & subsites. Discuss management of carcinoma of all the subsites |
| Approach to a patient with hoarseness | 1hour | 46. Discuss the differentials diagnosis of hoarseness and explain management approach to a patient presenting with hoarseness |

Theme IV - Deafness, Ear Discharge & Dizziness

Table 4 Deafness, Ear Discharge & Dizziness

| TOPIC | HOURS | LEARNING OBJECTIVES |
|--|---------|---|
| Applied Anatomy and Physiology of Ear | 2 hours | <p>47. Describe the applied anatomy of the external, middle & internal ear.</p> <p>48. Discuss the functions of the ear.</p> <p>49. Discuss basic principles & interpretation of various tuning fork tests.</p> <p>50. Discuss the interpretation of PTA & impedance audiometry</p> |
| Trauma to External Ear and the Temporal Bone | 1 hour | <p>51. Classify the trauma to external ear and the temporal bone.</p> <p>52. Describe the appropriate imaging investigations & treatments.</p> |
| Otitis Externa | 1 hour | <p>53. Discuss Otitis Externa, its clinical features, differential diagnosis and relevant clinical & radiological investigations and treatment.</p> |
| Acute Suppurative otitis media | 1 hour | <p>54. Discuss acute suppurative otitis media.</p> |

| TOPIC | HOURS | LEARNING OBJECTIVES |
|---|--------|---|
| | | 55. Describe its clinical features, differential diagnosis and relevant clinical & radiological investigations and treatment |
| Chronic Suppurative Otitis Media without chloesteatoma | 1 hour | 56. Discuss Chronic Suppurative Otitis Media and its clinical features, differential diagnosis and relevant clinical & radiological investigations and treatment. |
| Chronic Suppurative Otitis Media with Cholesteatoma | 1 hour | 57. Discuss cholesteatoma and its clinical features, differential diagnosis and relevant clinical & radiological investigations and treatment. |
| Complications of Suppurative Otitis Media. | 1 hour | 58. Discuss intracranial & extracranial otogenic complications and enumerate the appropriate clinical & radiological investigations and treatment. |
| Mastoiditis: Acute and Chronic | 1 hour | 59. Discuss mastoiditis, its clinical features, differential diagnosis and relevant clinical & radiological investigations and treatment. |
| Acoustic Neuroma | 1 hour | 60. Discuss acoustic neuroma & the appropriate clinical, audiological, and imaging studies used in diagnosis and treatment of acoustic neuroma. |

| TOPIC | HOURS | LEARNING OBJECTIVES |
|--|-------------------------|--|
| Approach to patient with a Conductive hearing loss | 1hour 1 hour hour | 61. Discuss the differential diagnosis of hearing loss & the medical and surgical management of CHL. 62. Discuss otosclerosis & its medical & surgical treatment of otosclerosis. 63. Discuss OME & its medical and surgical treatment |
| Approach to patient with a Sensorinueral Hearing Loss(SNHL) | 2 hours | 64. Discuss SNHL & its differential diagnosis. 65. Discuss tinnitus & its management. 66. Discuss Ototoxicity & its management. |
| Vertigo Vestibular Neuronitis Meniere's Diseases BPPV | 1 hour | 67. Discuss true vertigo & its types, pathophysiology, investigations & management. 68. Discuss Meniere's disease & its treatment. 69. Discuss BPPV & its clinical features, diagnoses & treatment. |
| Approach to a deaf patient | 1 hour | 70. Discuss the approach to a deaf patient. |
| Approach to Management of Deaf Child | 1 hour | 71. Differentiate congenital, developmental, and acquired hearing loss & describe the impact of hearing impairment at various ages and their management. |

Theme V - Nasal Obstruction

Table 5 Nasal Obstruction

| TOPIC | HOURS | LEARNING OBJECTIVES |
|---|--------|--|
| Applied Anatomy, Physiology of Nose & Paranasal Sinuses | 2 hour | 72. Discuss the surgical anatomy, physiology & congenital disorders of the nose & PNS. 73. Discuss the congenital disorders of the nose, palate & choanal atresia |
| Diseases of the Nasal Septum | 1 hour | 74. Discuss DNS, its types, the clinical features, medical & surgical treatment of nasal obstruction. |
| Sino-Nasal Polyposis | 1 hour | 75. Discuss sino-nasal polyposis, its types and describe the clinical features, medical & surgical treatment of nasal polyps. |
| Fungal Rhinosinusitis | 1 hour | 76. Discuss various fungi implicated in fungal rhinosinusitis and the appropriate clinical, radiological investigations and treatment of fungal rhinosinusitis. |
| Sino-Nasal Tumors | 1 hour | 77. Discuss various benign and malignant tumors affecting the nose and paranasal |

| TOPIC | HOURS | LEARNING OBJECTIVES |
|--|--------|---|
| | | sinuses and their clinical features, step involved in diagnosis and treatment options. |
| Trauma to Nose and Face and CSF rhinorrhea | 1 hour | 78. Discuss the Le Forte classification of mid face fractures & the appropriate clinical and radiological investigations & management of these fractures. 79. Discuss CSF rhinorrhea and the predisposing factors, types, clinical features, investigations and treatment. |
| Headaches and Facial Pain | 1 hour | 80. Discuss rhinogenic headaches and the appropriate clinical, radiological investigations and treatment. |
| Granulomatous Diseases of the Nose | 1 hour | 81. Discuss various granulomatous disorders affecting the nose & the clinical features, investigations & treatments. |
| Adenoids | 1 hour | 82. Discuss anatomy diseases of adenoids and treatment |
| Juvenile Nasopharyngeal Angiofibroma | 1 hour | 83. Enumerate diseases of the nasopharynx. |

| TOPIC | HOURS | LEARNING OBJECTIVES |
|--|--------|--|
| | | 84. Discuss Juvenile nasopharyngeal angiofibroma, clinical features, investigations and treatment. |
| Nasopharyngeal Carcinoma | 1 hour | 85. Discuss the risk factor, clinical features, investigation, treatment and follow up nasopharyngeal carcinoma |
| Acute Sinusitis | 1 hour | 86. Discuss acute sinusitis & the appropriate clinical, radiological investigations and steps involved in treatment of patients. |
| Chronic Sinusitis | 1 hour | 87. Discuss chronic sinusitis & the appropriate clinical, radiological investigations and steps involved in treatment of patients. |
| Complications of Sinusitis | 1 hour | 88. Enumerate the predisposing factors for development of complications due to sinusitis. 89. Discuss treatment. |
| Allergic Rhinitis (AR) and Non- allergic | 1 hour | 90. Discuss allergic rhinitis and its types, pathophysiology, investigations & the medical and surgical treatment. |

| TOPIC | HOURS | LEARNING OBJECTIVES |
|--|--------|---|
| | | 91. Discuss non -allergic rhinitis and the appropriate clinical and radiological investigations and its treatment. |
| Infective Rhinitis: Acute. & Chronic. | 1 hour | 92. Discuss infective rhinitis and the medical and surgical treatment of various types of acute and chronic infective rhinitis. |
| Foreign Body, Rhinolith, Maggots Nose | 1 hour | 93. Discuss Rhinolith and maggots in the nose and the appropriate medical and surgical treatment of patients with these conditions. |
| Approach to a patient with Epistaxis | 1 hour | 94. Approach to a patient with epistaxis 95. Discuss epistaxis & the appropriate clinical, radiological & hematological investigations & treatment of the condition. |

Theme VI - Neck Swelling

Table 6 Neck Swelling

| TOPIC | HOURS | LEARNING OBJECTIVES |
|---|--------|--|
| Para pharyngeal Abscess | 1 hour | 96. Discuss the aetiology and management of each Para pharyngeal abscess. |
| Retropharyngeal Abscess | 1 hour | 97. Discuss the types, aetiology, treatment and complications of each retropharyngeal abscess. |
| Submandibular Abscess | 1 hour | 98. Discuss the causes and treatment of submandibular abscess. |
| Trauma of the Larynx and Neck | 1 hour | 99. Classify the nature of trauma to the neck & larynx. 100. Discuss clinical features, investigations and treatment. |
| Approach to a neck swelling | 1 hour | 101. Discuss the approach to a neck swelling. |
| Evaluation of metastatic lymph nodes and occult primary in Neck (Occult Primary). | 1 hour | 102. Discuss Occult primary & the predictable nodal drainage in head and Neck region. 103. Discuss the signs and symptoms of occult primary & the appropriate clinical and radiological investigations & different treatment options. |

Clinical Schedule

Table 7 : Theme I - Foundation of Otorhinolaryngology & Head and Neck

| Topic | Hours | Learning objectives | Assessment method |
|---|-------|--|-------------------|
| History taking | 01 | 1. Obtain detailed history of sore throat | OSCE |
| Examination | 02 | 2. Perform Examination in a sore throat patient including general physical, local and systemic examination | OSCE |
| Nasopharyngeal examination | 02 | 3. Perform mirror examination of nasopharynx | OSCE |
| Examination of oral cavity and oropharynx | 02 | 4. Examine oral cavity and oropharynx in a systematic way | OSCE |
| Hypopharyngeal Examination | 01 | 5. Perform Indirect hypopharyngoscopy with mirror | OSCE |
| Mouth gauge and other instruments | 01 | 6. Assemble mouth gauge and name the instrument used in tonsillectomy with utility of each instrument. | OSCE |
| Examination of Neck | 02 | 7. Perform systematic examination of Neck | OSCE |

Table 8 : Theme II - Sore Throat

| Topic | Hours | Learning objectives | Assessment method |
|---|--------------|--|--------------------------|
| Communicate with patient of tonsillectomy | 01 | 1. Obtain a pre-operative informed consent from a patient of tonsillectomy | OSCE |
| Tonsillar surgery & its instruments | 02 | 2. Observe tonsillectomy surgery and identify instruments used | OSCE |
| Conservative management of sore throat | 01 | 3. Discuss a conservative management plan for inpatient acute follicular tonsillitis | OSCE |
| Scrubbing technique | 01 | 4. Demonstrate scrubbing hands using proper solution & take proper time by proper method | OSCE |
| Biopsy from oral ulcer | 01 | 5. Assist to take a biopsy from tongue ulcer | OSCE |

Table 9 : Theme III - Difficulty in Swallowing

| Topic | Hours | Learning objectives | Assessment method |
|-------------------------------------|--------------|---|--------------------------|
| Rigid Endoscopy system | 01 | 1. Identify instruments & equipment used in rigid endoscopy system, describe rigid endoscopies. | OSCE |
| Oral & oropharyngeal mass palpation | 01 | 2. How to palpate a mass in the oral cavity and oropharynx | OSCE |
| Oesophagoscopy | 02 | 3. Observe rigid oesophagoscopy done for pharyngeal growth or dysphagia | OSCE |

Table 10 : Theme IV - Hoarseness and Stridor

| Topic | Hours | Learning objectives | Assessment method |
|---|--------------|---|--------------------------|
| History taking | 02 | 1. Obtain detailed history of hoarseness & stridor | OSCE |
| Examination | 02 | 2. Perform Examination in a patient with hoarseness & stridor, including general physical, local and systemic examination | OSCE |
| Indirect laryngoscopy examination | 01 | 3. Perform mirror examination of Laryngopharynx | OSCE |
| Examination of Neck | 01 | 4. Perform systematic examination of Neck | OSCE |
| Investigations of Laryngeal diseases | 01 | 5. Fill requisition form for different types of investigations for Laryngeal diseases. | OSCE |
| Video laryngoscopy | 01 | 6. Observe a video of laryngoscopy for the diagnosis of hoarseness in clinical setting | OSCE |
| Conservative management of Hoarseness | 01 | 7. Discuss a conservative management plan for a patient of hoarseness due to voice abuse. | OSCE |
| Laryngoscopy | 02 | 8. Observe rigid system laryngoscopy under general anesthesia and identify instruments used in the procedure | OSCE |
| Communicate with a patient for voice rest | 01 | 9. Counsel a patient on voice rest | OSCE |

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|---|----|--|-----------|
| Stridor in bilateral abductor vocal paralysis | 02 | 10. Council bilateral abductor paralysis patient & its management in a post thyroidectomy patient | OSCE |
| Biopsy from laryngeal growth. | 01 | 11. Observe the procedure for taking biopsy from laryngeal growth. | Formative |
| Tracheostomy | 01 | 12. Demonstrate the procedure of tracheostomy | Formative |
| Communicate with patient on laryngectomy | 01 | 13. Demonstrate the procedure how to Obtain informed consent from a patient for total laryngectomy | OSCE |

Table 11 : Theme V - Deafness, Ear Discharge & Dizziness

| Topic | Hours | Learning objectives | Assessment method |
|---|-------|--|-------------------|
| History taking | 02 | 1. Obtain detailed history from a patient with ear discharge/deafness/dizziness | OSCE |
| Local Examination | 01 | 2. Perform clinical examination of the hearing & balance system. | OSCE |
| Otoscopy Tuning fork test Balance testing Examination under microscope | 03 | 3. Perform otoscopic examination of the ear 4. Perform tuning fork tests 5. Perform test of balance, peripheral & central 6. Assist in performing EUM | OSCE |
| Investigations of ear diseases | 01 | 7. Discuss & fill requisition form for different types of investigations for ear diseases. | OSCE |
| Interpretation of audiogram and Impedance | 01 | 8. Discuss the interpretation of audiogram and impedance. | OSCE |

Table 12 : Theme VI - Nasal Obstruction

| Topic | Hours | Learning objectives | Assessment method |
|---|-------|--|-------------------|
| History taking | 02 | 1. Obtain detailed history from a patient with nasal obstruction | OSCE |
| Local Examination | 01 | 2. Perform clinical examination of the nose & paranasal sinuses. | OSCE |
| Anterior & posterior Rhinoscopy | | 3. Perform anterior & posterior Rhinoscopies with mirror | |
| Probe test | | 4. Perform probe test | |
| Nasendoscopy | 01 | 5. Assist in performing nasendoscopy. | OSCE |
| Pus culture / sensitivity | 01 | 6. Perform Take swab from nose for different purpose | |
| X - Rays nasopharynx / PNS | | 7. interpret X - Rays nasopharynx/PNS for enlarged soft tissues shadow | OSCE |
| Nasal patency & adenoid facies in enlarged adenoids | 01 | 8. Perform examination for nasal patency in enlarged adenoids. | OSCE |

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|---|----|---|-----------|
| Adenoid surgery | 01 | 9. Observe adenoid surgery being done in operating room | Formative |
| CT scan nose & nasopharynx | 01 | 10. Interpret CT scan in nasopharyngeal angiofibroma, describe bowing sign. | Formative |
| Nasopharyngeal Biopsy | 01 | 11. Observe surgery for nasopharyngeal biopsy | Formative |
| Investigations of nose & paranasal sinuses diseases | 01 | 12. Document Fill requisition form for different types of investigations for nose & paranasal sinuses diseases. | Formative |

Table 13 : Theme VII - Swelling Neck

| Topic | Hours | Learning objectives | Assessment method |
|--|-------|---|-------------------|
| Examination of Neck Nodes | 02 | 1. Perform systematic examination of all groups of neck nodes | OSCE |
| Examination of lump in the neck | 01 | 2. Perform examination of lump in the neck in a systematic way. | OSCE |
| Surgery on a pharyngeal abscess | 01 | 3. Observe surgery on a pharyngeal abscess & describe drainage of peritonsillar abscess | OSCE |
| Thyroid examination | 01 | 4. Perform Thyroid Examination both anatomically & functionally | OSCE |
| Pharyngeal abscess surgery related instruments | 01 | 5. Identify instruments used in drainage of pharyngeal abscess surgery | OSCE |
| Examination of parotid | 01 | 6. Perform examination of parotid swelling | OSCE |
| Examination of thyroid | 01 | 7. Perform examination of thyroid gland | OSCE |

Learning Resources

Table 15: References Textbooks

| S# | Subjects | Resources |
|----|--------------------|---|
| 1. | Anatomy | <p>A. GROSS ANATOMY</p> <p>1. K.L. Moore, Clinically Oriented Anatomy</p> <p>B. EMBRYOLOGY</p> <p>1. Keith L. Moore. The Developing Human</p> <p>2. Langman’s Medical Embryology</p> |
| 2. | Community medicine | <p>1. Preventive and Social Medicine by K Park</p> <p>2. Community Medicine by M. Ilyas</p> <p>3. Basic Statistics for the Health Sciences by Jan W Kuzma</p> <p>4. Textbook of Community Medicine and Public Health, 2018. Saira Afzal, Sabeena Jala</p> |
| 3. | Physiology | <p>1. Textbook Of Medical Physiology by Guyton And Hall</p> <p>2. Ganong ‘ S Review of Medical Physiology</p> <p>3. Human Physiology by Lauralee Sherwood</p> <p>4. Berne & Levy Physiology</p> <p>5. Best & Taylor Physiological Basis of Medical Practice</p> |
| 4. | ENT | <p>1. Diseases of Ear, nose and Throat by Logan Turner, 11th edition</p> <p>2. Lecture notes Ear, Nose and Throat Notes by P. D. Bull, 10th edition</p> |

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|----|--------------|---|
| | | 3. Diseases of Ear, Nose and Throat by P.L. Dhingra, 6th edition (optional reading) Reference Books 1. Current medical diagnosis & treatment by Maxine A. Papadakis 2. Scott-Brown's Otorhinolaryngology, Head & Neck Surgery |
| 5. | Pathology | 1. Robbins & Cotran, Pathologic Basis of Disease, 9th edition. 2. Rapid Review Pathology, 4th edition by Edward F. Goljan MD |
| 5. | Pediatrics | 1. Nelson Textbook of Pediatrics, 19th Edition 2. Textbook of Pediatrics by PPA, preface written by S. M. Haneef 3. Clinical Pediatrics by Lakshmanaswamy Aruchamy, 3rd Edition |
| 6. | Pharmacology | 1. Lippincott Illustrated Pharmacology 2. Basic and Clinical Pharmacology by Katzung |

Assessment Plan - 4th Year MBBS

The year-4 will be assessed in 4 blocks

- 1) Block-1 (Neurosciences-2 module) will be assessed in **paper-J**
- 2) Block-2 (GIT and hepatobiliary module) will be assessed in **paper-K**
- 3) Block-3 (Renal-2, Endocrine & Reproduction-2 module) will be assessed in **paper-L**
- 4) Block-4 (ENT and EYE modules) will be assessed in **paper-M**
- 5) Each written paper consists of 120 MCQs.
- 6) Internal assessment will be added to final marks in KMU as shown in below table.
- 7) In OSPE, each station will be allotted 6 marks, and a total of 120 (+10% marks of internal assessment) marks are allocated for each OSPE/OSCE examination.

4th Year MBBS Modules Assessment Plan

| Theory paper | Modules | Theory marks | Internal assessment theory (10%) | OSPE/OSPE | Internal assessment OSPE/OSPE (10%) | Total Marks |
|--------------------|-------------------------------------|--------------|----------------------------------|------------|-------------------------------------|-------------|
| Paper J | Neurosciences-2 | 120 | 13 | 120 | 13 | 266 |
| Paper K | GIT-2 | 120 | 13 | 120 | 13 | 266 |
| Paper L | Renal-2, Endocrine & Reproduction-2 | 120 | 14 | 120 | 13 | 267 |
| Paper M | ENT and EYE | 120 | 13 | 120 | 13 | 266 |
| Research* | | | | 20 | 15 | 35 |
| Total Marks | | 480 | 53 | 500 | 67 | 1100 |

*Research viva of 20 marks will be conducted in paper-L. However, the rest of 15 marks will be decided by the concerned department internally for the contribution of the students in research project/thesis.

Assessment Blueprints

Table 16: Paper M (ENT)

| Subject | Total MCQs |
|--------------|------------|
| ENT | 60 |
| EYE | 60 |
| Total | 120 |

Table 17: ENT OSCEs

| Subject | Total OSCE stations |
|--------------|---------------------|
| ENT | 10 |
| EYE | 10 |
| Total | 20 |

A minimum of 20 stations will be used in final exams. Total marks will be 120 (6 marks for each station).