**Teaching Outline of Otorhinolaryngology**

Chapter 1 Rhinology

Objectives:

1. Clinical anatomy of nose and paranasal sinus: Mastering the important anatomical structures of the nose, the relationship between nasal cavity and paranasal sinus and its clinical significance. Knowing the relationship of nasal cavity and paranasal sinus with orbit and skull cavity and its clinical significance. Recognizing physiological functions of the nose.

2. Examination of nose and paranasal sinus: Mastering the correct use of frontal mirror and nasal speculum. Knowing the clinical application of nasoendoscope. Knowing the tests of olfaction and respiration. Knowing the normal appearance of external nose and nasal cavity. Knowing the imaging examinations of nasal cavity and paranasal sinus.

3. Emergency of rhinology: Mastering the common causes and the management of epistaxis. Knowing the diagnosis, treatment and prevention of fracture of nasal bones, nasal vestibulitis, nasal furuncle and foreign bodies in nasal cavity. Knowing the clinical manifestations and the treatment algorithm of cerebrospinal rhinorrhea.

4. Inflammation of nasal cavity: Mastering the diagnosis and the treatment of acute rhinitis, chronic rhinitis, atrophic rhinitis and allergic rhinitis. Mastering the difference between simple and hypertrophic rhinitis. Recognizing the influence of dust and chemical gas on nose.

5. Inflammation of paranasal sinus: Recognizing the diagnosis and the treatment algorithm of acute suppurative sinusitis. Mastering the diagnosis of chronic suppurative sinusitis and the difference between different types of chronic rhinitis. Knowing the therapeutic methods of chronic sinusitis (puncture and irrigation of maxillary sinus, drug displacement method and surgery, etc.)

6. Recognizing the etiology, diagnosis and management of nasal polyps.

7. Recognizing the diagnosis and treatment algorithm of the deviation of nasal septum.

8. Nasal cyst: Knowing the clinical manifestations and the management of nasal sinus cyst.

9. Tumors of nose: Mastering the clinical manifestations of benign tumors (papilloma, hemangioma and osteoma) and its difference from malignant tumors. Mastering the diagnosis and management algorithm of malignant tumors of nasal cavity and paranasal sinus.

Contents:

1. Clinical anatomy and physiology of the nose

Anatomical structures of external nose, nasal cavity and paranasal sinus. Distribution of blood vessels, nerves and lymph nodes in nasal cavity. Physiological functions of the nasal cavity.

2. Examination of the nose

Examination of the nasal cavity: anterior, posterior rhinoscopy and endoscopy. Imaging studies of nasal cavity and paranasal sinus. Investigation of respiration and olfactory functions.

3. Injuries of nose

The diagnosis and management algorithm of the fracture of nasal bone and paranasal sinus.

4. Inflammation of external nose

The clinical manifestations, complications and management algorithm of furuncle of the nose.

5. Inflammation of nasal cavity

The etiology, clinical manifestations, complications and treatment of acute rhinitis. The etiology, pathology, clinical manifestations (differentiation between simple and hypertrophic rhinitis) and treatment of chronic rhinitis. The pathology and clinical manifestations of atrophic rhinitis.

6. Allergic disorder of the nose

The pathogenesis, clinical manifestations, diagnosis and treatment of allergic rhinitis. The clinical manifestations, differential diagnosis and treatment of nasal polyps.

7. Disorder of nasal septum

The clinical manifestations and treatment of deviation of the nasal septum.

8. Epistaxis

The etiology and treatment of epistaxis.

9. Foreign bodies in nasal cavity and paranasal sinus

The diagnosis and treatment of foreign bodies in nasal cavity and paranasal sinus.

10. Inflammation of paranasal sinus

The etiology, clinical manifestations, diagnosis and treatment algorithm of the acute suppurative sinusitis. Puncture and irrigation of maxillary sinus. The diagnosis and treatment of chronic suppurative sinusitis.

11. Tumors of nose-anterior skull base

The clinical manifestations and treatment of nasal papilloma. The clinical manifestations, diagnosis and treatment of malignant tumors of nasal cavity and paranasal sinus.

Chapter 2 Pharyngology

Objectives:

1. Anatomy of the pharynx: Mastering the important anatomical structures of the nasopharynx, oropharynx and laryngopharynx. Recognizing the structural features of the pharyngeal lymphoid ring and the anatomy of parapharyngeal space. Recognizing the physiological functions of the pharynx.

2. Examination of the pharynx: Mastering the normal appearance of nasopharynx, oropharynx and laryngopharynx. Mastering the examination methods of oropharynx. Knowing the examination methods of nasopharynx and laryngopharynx.

3. Inflammation of pharynx: Recognizing the diagnosis and treatment of acute and chronic pharyngitis. Recognizing the clinical manifestations and management of adenoidal hypertrophy. Mastering the clinical manifestations, management of acute and chronic tonsillitis and the difference between pharyngitis and diphtheria. Mastering the surgical indications and contraindications of tonsillectomy.

4. Pharyngeal abscess: Recognizing the diagnosis and treatment of peritonsillar abscess. Knowing the clinical manifestations and management algorithm of retropharyngeal and parapharyngeal abscess.

5. Recognizing the diagnosis and treatment of foreign bodies in the pharynx.

6. Tumors of the pharynx: Mastering the clinical manifestations, diagnosis and treatment of nasopharyngeal carcinoma, which is one of the most common malignant tumors in China. Recognizing the diagnosis and treatment of nasopharyngeal fibroangioma. Knowing the main clinical manifestations and treatment algorithm of tumor of infratemporal fossa.

7. Knowing the clinical manifestations of aids of the ear, nose, pharynx and larynx.

Contents:

1. Clinical anatomy and physiology of the pharynx

Composition of the pharynx. Space of the pharynx: retropharyngeal and parapharyngeal space. Lymph nodes, blood vessels and nerves of the pharynx. Physiological functions of the pharynx.

2. Examination of the pharynx

Examination and the normal appearance of nasopharynx, oropharynx and laryngopharynx.

3. Pharyngitis

The diagnosis and treatment of acute and chronic pharyngitis.

4. Tonsillitis

The etiology, clinical manifestations, complications, diagnosis, differential diagnosis and treatment of acute and chronic tonsillitis. The indication and contraindication of tonsillectomy.

5. Adenoiditis

The clinical manifestations, diagnosis and treatment of adenoidal hypertrophy.

6. Pharyngeal abscess

The etiology, pathology, clinical manifestations, diagnosis, differential diagnosis and treatment of peritonsillar abscess. The etiology, pathology, clinical manifestations, diagnosis and treatment of retropharyngeal abscess. The etiology, clinical manifestations, diagnosis and treatment of parapharyngeal abscess.

7. Tumors of the pharynx

The clinical manifestations, diagnosis and treatment of nasopharyngeal fibroangioma. The etiology, clinical manifestations, diagnosis and treatment of nasopharyngeal carcinoma.

Chapter 3 Laryngology

Objectives:

1. Clinical anatomy and physiological functions of the larynx: Recognizing cartilage framework of the larynx (the role and clinical significance of cricoid cartilage), laryngeal muscles, structure of the laryngeal cavity (supraglottic, glottic and infraglottic portion), nerves and lymph nodes of the larynx. Recognizing the anatomical features and clinical significance of the larynx in children. Recognizing the physiological functions of the larynx.

2. Examination of the larynx: Recognizing indirect laryngoscopy. Knowing direct laryngoscopy, fibrolaryngoscopy, microlaryngoscopy, strobolaryngoscopy, investigation methods of laryngeal functions and imaging studies of the larynx.

3. Inflammation of larynx: Recognizing the clinical manifestations, diagnosis and treatment of acute laryngitis, chronic laryngitis, acute laryngitis in children and acute epiglottitis. Knowing the difference of chronic laryngitis from polyp of vocal cord, vocal nodules and hysterical aphonia and the prevention and treatment algorithm.

4. Injuries of the larynx: Recognizing the clinical manifestations and salvage measures of contusion, cutting and burning injuries of the larynx. Knowing the diagnosis and treatment of stenosis of the larynx.

5. Mastering the etiology, clinical manifestations, differential diagnosis and management of laryngeal obstruction. Recognizing the indications, surgical procedures and common complications of tracheotomy.

6. Neural disorders of the larynx: Knowing the clinical manifestations, diagnosis and treatment algorithm of laryngeal paralysis.

7. Tumors of larynx and neck: Recognizing the clinical manifestations, diagnosis and treatment algorithm of laryngeal papilloma. Mastering the clinical manifestations, differential diagnosis and management of laryngeal carcinoma. Knowing the clinical manifestations and treatment algorithm of thyroglossal duct cyst, ectopic thyroid gland and cervical lymph node metastases.

Contents:

1. Clinical anatomy and physiology of the larynx

Cartilage framework of the larynx. Composition of laryngeal muscles. Structure of laryngeal cavity: supraglottic, glottic and infraglottic portion. Blood vessels, nerves and lymph nodes of the larynx. Anatomical features and clinical significance of the larynx in children. Physiological functions of the larynx: respiration, phonation, protection and holding breath.

2. Examination of the larynx

Indirect laryngoscopy, direct laryngoscopy, fibrolaryngoscopy, microlaryngoscopy, strobolaryngoscopy, and investigation of laryngeal function.

3. Injuries of the larynx

The etiology, clinical manifestations and treatment of contusion of the larynx. The etiology, clinical manifestations and treatment of cutting injury of the larynx. The etiology, clinical manifestations and treatment of scald, burning injury of the larynx. The etiology, clinical manifestations, diagnosis and treatment of stenosis of the larynx.

4. Acute inflammatory disorders of the larynx

The etiology, pathology, clinical manifestations, diagnosis and treatment of acute epiglottitis. The etiology, pathology, clinical manifestations, diagnosis and treatment of acute laryngitis. The clinical manifestations, diagnosis and treatment of acute laryngitis in children.

5. Chronic inflammatory disorders of the larynx

The etiology, pathology, clinical manifestations, diagnosis and treatment of chronic laryngitis. The clinical manifestations, diagnosis and treatment of vocal nodules. The clinical manifestations, diagnosis and treatment of polyp of vocal cord.

6. Neural and psychiatrical disorders of the larynx

The etiology, clinical manifestations, diagnosis and treatment of hysterical aphonia. The etiology, clinical manifestations, diagnosis and treatment of laryngeal paralysis.

7. Laryngeal obstruction

The etiology, clinical manifestations, diagnosis, differential diagnosis and treatment of laryngeal obstruction.

8. Tracheotomy

The clinical anatomy of trachea. Surgical indication and procedures. Postoperative care and complications.

9. Tumors of the larynx

The etiology, pathology, clinical manifestations and treatment of laryngeal papilloma.

The diagnosis and treatment of other benign tumors of the larynx (hemangioma, fibroma and neurofibroma). The etiology, pathology, staging, clinical manifestations, metastasis, diagnosis, differential diagnosis and treatment of laryngeal carcinoma.

Chapter 4 Tracheoesophgology

Objectives:

1. Clinical anatomy of the trachea and bronchi: Recognizing the anatomical features and clinical significance of principal bronchi.

2. Knowing bronchoscopy and its therapeutic role.

3. Mastering the etiology, pathology, clinical manifestations, differential diagnosis, prevention and treatment of foreign bodies in the larynx, trachea, bronchi.

4. Recognizing the clinical anatomy of the esophagus and the clinical significance of the four physiological strictures.

5. Knowing esophagoscopy and its therapeutic role.

6. Mastering the etiology, clinical manifestations, prevention and treatment of foreign bodies in the esophagus. Knowing the common complications of foreign bodies of the esophagus.

7. Recognizing the etiology, pathology, clinical manifestations, prevention and treatment of chemical injuries of the pharynx and esophagus.

Contents:

1. Clinical anatomy of the trachea, bronchi and esophagus

The clinical anatomy of trachea and bronchi: anatomical features and clinical significance of principal bronchi. The clinical significance of the four physiological strictures of the esophagus.

2. Endoscopy of the trachea, bronchi and esophagus.

The indications and contraindications of esophagoscopy.

3. Foreign bodies in the trachea and bronchi.

The etiology, sorts, location, clinical manifestations, diagnosis and treatment of foreign bodies in trachea and bronchi.

4. Foreign bodies in the esophagus

The etiology, clinical manifestations, diagnosis and treatment of foreign bodies of the esophagus. Complications of foreign bodies of the esophagus.

5. Caustic injuries of the esophagus

The etiology, pathology, clinical manifestations, prevention and treatment of caustic injuries of the esophagus.

Chapter 5 Otology

Objectives:

1. Anatomy and physiological functions of the ear: Mastering the structure and clinical significance of middle ear and its accessory. Recognizing the physiology of hearing and equilibrium and functions of Eustachian tube. Knowing the anatomical structures of the external and inner ear.

2. Examination of the ear: Mastering the examination methods of external ear and tympanic membrane. Recognizing tuning-fork test. Knowing pure tone audiometry, acoustic impedance, auditory brainstem response audiometry, vestibular function test, and Eustachian tube inflation. Knowing the imaging studies of the ear, pneumatic otoscopy, and myringoscopy.

3. Injuries of the ear: Recognizing the clinical manifestations and management of injury of tympanic membrane. Knowing the clinical manifestations and treatment of fracture of temporal bone.

4. Disorders of the external ear: Knowing the diagnosis and management of otitis externa and furuncle of the external acoustic meatus. Knowing the clinical manifestations and management of foreign bodies in external acoustic meatus and impacted cerumen.

5. Disorders of the middle ear: Mastering the etiology, pathogenesis, clinical manifestations and treatment of non-suppurative otitis media. Mastering the etiology, pathology, clinical manifestations and treatment of acute suppurative otitis media. Mastering the etiology, pathology, clinical manifestations and treatment of chronic suppurative otitis media (simple type and cholesteatoma) and difference between the two types. Knowing the pathogenesis of congenital and acquired cholesteatoma.

6. Complications of otitis media: Knowing the clinical manifestations and management algorithm of acute mastoiditis, postauriclar subperiosteal abscess, labyrinthitis, sigmoid sinus thrombophlebitis, otitic meningitis and otogenic brain abscess.

7. Recognizeing the etiology, clinical manifestations, differential diagnosis and treatment algorithm of Ménière disease, facial paralysis and otosclerosis.

8. Recognizing the etiology, diagnosis and management of conductive, sensorineural and mixed deafness. Recognizing the etiology, clinical feature, prevention and treatment of noised induced hearing loss. Knowing the principle of compensation and rehabilitation of hearing.

9. Tumor of the ear: Recognizing the clinical manifestations and treatment of papilloma of the external auditory canal. Knowing the clinical manifestations and treatment of cancer of middle ear and tumors of lateral skull base and internal auditory canal.

Contents:

1. Clinical anatomy and physiology of the ear

Anatomy of the external, middle and internal ear. Physiology of hearing and equilibrium.

2. Examination of the ear

Examination of the external ear and tympanic membrane. Investigation of Eustachian tube function. Tuning-fork test, pure tone audiometry, acoustic impedance, auditory brainstem response audiometry and vestibular function test.

3. Injuries of the ear

The clinical manifestations and management of injury of the tympanic membrane. The clinical manifestations and management of fracture of the temporal bone.

4. Inflammation of the external ear

The clinical manifestations and management of otitis externa and furuncle of the external acoustic meatus. The clinical manifestations and management of foreign bodies of the external acoustic meatus and impacted cerumen.

5. Otitis media with effusion

The etiology, pathology, clinical manifestations, diagnosis, differential diagnosis and treatment of otitis media with effusion

6. Acute suppurative otitis media and mastoiditis

The etiology, pathology, clinical manifestations and treatment of acute suppurative otitis media and mastoiditis. The differentiation between acute mastoidits and furuncle of the external acoustic meatus.

7. Chronic suppurative otitis media

The etiology, pathology, clinical manifestations and treatment of chronic suppurative otitis media.

8. Complications of suppurative otitis media and mastoiditis

The etiology, diffuse approach, classification, diagnosis and treatment of complications of suppurative otitis media and mastoiditis.

9. Disorder of the facial nerve

The etiology, pathophysiology, clinical manifestations, diagnosis and treatment of peripheral facial paralysis.

10. Otosclerosis

The etiology, clinical manifestations, diagnosis, differential diagnosis and treatment of otosclerosis.

11. Ménière disease

The etiology, pathology, clinical manifestations, diagnosis, differential diagnosis and treatment of Ménière disease

12. Hearing loss

The etiology, clinical features, diagnosis, treatment and prevention of conductive, sensorineural and mixed deafness.

13. Tumors of the ear

Clinical manifestations, diagnosis and treatment of papilloma of the external auditory canal, cancer of the middle ear and tumors of lateral skull base and internal auditory canal.

Questions

Chapter 1 Rhinology

1. Describe the anatomical structures of lateral wall of nasal cavity and its clinical significance.

2. What are the physiological functions of the nasal cavity?

3. Describe treatment algorithm of fracture of the frontal sinus.

4. Why extrusion of furuncle of nose is forbidden?

5. Describe the definition of blow-in and blow-out fracture.

6. What are the pathological features of atrophic rhinitis?

7. Formulate a comprehensive differential diagnosis of allergic rhinitis.

8. How to deal with epistaxis based on the severity of the condition?

9. Explain the role of the puncture and irrigation of maxillary sinus.

10. Formulate a comprehensive differential diagnosis of papilloma of nose.

11. Describe the clinical manifestations of malignant tumors of the nasal cavity and paranasal sinus.

Chapter 2 Pharyngology

1. Describe the composition and lymph node distribution of the pharynx.

2. Describe the clinical manifestations and differential diagnosis of pharyngitis.

3. Describe the diagnosis, differential diagnosis and management of tonsillits.

4. Formulate the indication and contraindication of tracheotomy.

5. What are the local and systemic changes caused by long-term obstruction of the nose in infant?

6. Why the swelling of posterior pharyngeal wall is located in one side for acute retropharyngeal abscess, whereas it is in center for chronic retropharyngeal abscess?

7. Describe the types of peritonsillar abscess. Formulate a comprehensive differential diagnosis of peritonsillar abscess.

8. Describe the clinical manifestations, diagnosis and treatment algorithm of nasopharyngeal carcinoma.

Chapter 3 Laryngology

1. Describe the composition of cartilage framework of the larynx.

2. Describe the anatomical features and clinical significance of the larynx in children.

3. Describe the clinical manifestations, diagnosis and treatment algorithm of acute laryngitis in children.

4. Describe the clinical manifestations, diagnosis and treatment algorithm of acute epiglottis.

5. Describe the diagnosis and treatment algorithm of contusion, cutting and burning injuries of the larynx.

6. Describe the etiology, clinical manifestations, diagnosis and treatment algorithm of laryngeal obstruction.

7. Formulate the indication and common complications of tracheotomy.

8. Describe the clinical manifestations, diagnosis and treatment algorithm of laryngeal papilloma.

9. Describe the clinical manifestations, diagnosis and treatment algorithm of laryngeal carcinoma.

Chapter 4 Tracheoesophgology

1. Describe the anatomical feature and its clinical significance of the trachea, bronchi and esophagus.

2. Formulate the physiological strictures of the esophagus and its clinical significance.

3. Generate a differential diagnosis for dysphagia.

4. What are the common complications of foreign bodies of the esophagus?

5. What are the clinical manifestations of foreign bodies of the trachea and bronchi?

Chapter 5 Otology

1. Describe the anatomical structures of the middle ear.

2. Describe the physiology of hearing.

3. What are the complications and management algorithm of otitis media?

4. Describe the diagnosis and treatment algorithm of carcinoma of the middle ear.

5. Describe the etiology, pathogenesis and treatment algorithm of non-suppurative otitis media.

6. How to differentiate between simple otitis media and cholesteatoma? What is the treatment algorithm?

7. Describe the diagnosis, differential diagnosis and management algorithm of conductive and sensorineural deafness.

8. How to diagnose otosclerosis?