



THE UNIVERSITY OF  
BUCKINGHAM

MEDICAL SCHOOL

**MB ChB**

## **Unit Summary: Head and Neck**

## 1 *Educational Aims of the Unit*

The unit aims to enable students to make progress towards meeting some of the learning outcomes described in Tomorrow's Doctors (2009) relevant to 'The Doctor as a Scholar and Scientist' and 'The Doctor as a Professional'. The specific aims are

- to study the structures of the head and neck within functional and clinical contexts;
- to apply this knowledge to understand the basis of common clinical head and neck disorders and the procedures used to investigate them
- to integrate the module with a future module (neurobiology) and as the explicator of pathophysiology and disease in clinical domains (particularly ENT and Ophthalmology).

## 2 *Learning Outcomes From Tomorrow's Doctors (2009)*

### **Outcomes 1: The Doctor as a Scholar and Scientist.**

8. The graduate will be able to apply to medical practice biomedical scientific principles.

- a) Explain normal human structure and functions.
- b) Explain the scientific bases for common disease presentations.
- c) Justify the selection of appropriate investigations for common clinical cases.
- d) Explain the fundamental principles underlying such investigative techniques.
- g) Make accurate observations of clinical phenomena and appropriate critical analysis of clinical data.

12. Apply scientific method and approaches to medical research.

- a) Critically appraise the results of relevant diagnostic, prognostic and treatment trials and other qualitative and quantitative studies as reported in the medical and scientific literature.
- b) Formulate simple relevant research questions in biomedical science, psychosocial science or population science, and design appropriate studies or experiments to address the questions.
- c) Apply findings from the literature to answer questions raised by specific clinical problems.

### **Outcomes 3: The Doctor as a Professional**

20. The graduate will be able to behave according to ethical and legal principles. The graduate will be able to:

- e) Recognise the rights and the equal value of all people and how opportunities for some people may be restricted by others' perceptions.

21. Reflect, learn and teach others.

- b) Establish the foundations for lifelong learning and continuing professional development, including a professional development portfolio containing reflections, achievements and learning needs.
- c) Continually and systematically reflect on practice and, whenever necessary, translate that reflection into action, using improvement techniques and audit appropriately for example, by critically appraising the prescribing of others.
- d) Manage time and prioritise tasks, and work autonomously when necessary and appropriate.

- e) Recognise own personal and professional limits and seek help from colleagues and supervisors when necessary.
- f) Function effectively as a mentor and teacher including contributing to the appraisal, assessment and review of colleagues, giving effective feedback, and taking advantage of opportunities to develop these skills.

### *3 Teaching and Learning Strategies*

Principles will be introduced in formal lectures, and learning will be reinforced in practical classes and facilitator led small-group work immediately afterwards. Student will work in the same teams throughout Phase I to encourage team-working.

Some concepts will be discussed in more detail in tutorials, and Moodle- based tests and coursework will allow for formative assessment. Students will be provided with workbooks describing structured tasks to direct independent learning throughout the unit, and ongoing use of an e-portfolio will nurture and encourage reflective practice.

### *4 Unit Outline/Syllabus*

#### **Session 1: General Organisation of the Head & Neck**

Lecture: Regions & components of the Head & Neck

Group Work: Osteology, Radiology & Common Disorders of the Skull & Cervical Spine

Practical Class: Major Structures of the Head & Neck

#### **Session 2: The Orbit & the Eye Ball**

Lecture: Applied Anatomy & Common Disorders of the Eye & the Orbit

Practical Class: Anatomy and Examination of the Eye & Eyeball

Group Work: Case Studies & Follow-up Questions

#### **Session 3: The Ear**

Lecture: Applied Anatomy & Common Disorders of the Ear

Practical Class: Anatomy of the Temporal Bone & the Ear / Examination of the External Ear & Auditory Canal

Group Work: Case Studies & Follow-up Questions

#### **Session 4: The Nose, Nasal Cavities & Paranasal Sinuses**

Lecture: Applied Anatomy & Common Disorders of the Nose & Paranasal Sinuses

Practical Class: Anatomy of the Nose, Nasal Cavities & Paranasal Sinuses

Group Work: Case Studies & Follow-up Questions

#### **Session 5: Head & Neck Embryology I & The Temporal Region**

Lecture: Development of the Brain, Eye, Nose & Face

Group Work: The Temporal Region & the Temporomandibular Joint

Lecture: The Branchial Arches & their derivatives

#### **Session 6: Head & Neck Embryology II & Viscera of the Neck**

Lecture: Development of the Midline Structures

Practical Class: Muscles & Superficial Viscera of the Neck

Group Work: Case Studies & Follow-up Questions

### **Session 7: The Pharynx & the Larynx**

Lecture: Applied Anatomy & Disorders of the Pharynx & Larynx

Practical Class: Anatomy of the Pharynx & Larynx

Group Work: Case Studies & Follow-up Questions

### **Session 8: Lymphatic Drainage & Examination of the Head & Neck**

Lecture: Lymphatic Drainage of the Head & Neck

Practical Class: Inspection & Palpation of Structures in the Head & Neck

Group Work: Student presentations- Functional & Applied Anatomy of the Head & Neck Region

### **Session 9: Cranial Nerves & Assessment of Function**

Lecture: The Skull & Functional & Applied Anatomy of Cranial Nerves

Practical Class: Assessment of Cranial Nerve Function

Group Work: Student presentations- Functional & Applied Anatomy of the Trigeminal & Facial Nerves

### **Session 10: Clinical, Functional & Applied Anatomy Presentations**

Lecture: The Eye

Group Work: Student presentations- Functional & Applied Anatomy of the Orbit & the Eyeball

### **Session 11: Clinical, Functional & Applied Anatomy Presentations**

Lecture: The Ear

Group Work: Student presentations- Functional & Applied Anatomy of the Ear

### **Session 12: Module Overview & Review**

Lecture: Common Clinical Presentations of the Head & Neck

## **5 Secondary Learning Outcomes**

In addition to meeting the outcomes described in Tomorrow's Doctors, at the completion of the unit students will be able to:

- Describe and demonstrate clinically relevant features of the skull and its radiological images. These features will include the orbit and the context of the eyeballs, paranasal sinuses, air cells, auditory passages and temporomandibular joint.
- Describe the clinical sequelæ of fractures of the skull, face and cervical spine.
- Describe the clinical outcomes from common head and neck bone pathologies e.g. Paget's, 2° deposits and cervical spine arthritis.
- Outline the muscle groups involved in gaze and facial movements, mastication, swallowing and head movements.
- Describe the clinical assessment of and explain patterns of sensory loss plus weakness of these muscle groups in terms of damage to head and neck innervation.
- Describe the embryology of the eye, ear, nose and major visceral structures of the neck.
- Outline the anatomy and transducer function of special sense organs and the basis of their simple clinical testing and investigation.
- Discuss the basis of common disorders associated with olfaction, paranasal sinuses, epistaxis, airways obstruction, tonsillar, salivary and other neck swellings; ear pain, deafness and dysequilibrium.

- Demonstrate the position of the major nerves and vessels, discussing the clinical relevance of their surface anatomy in relation to clinical procedures (especially CVP line insertion and its complications) and explaining the basis of some common embryological defects.
- Outline the disposition of cervical lymph nodes and explain their role in draining local territories and their involvement in more widespread disorders.
- Outline the anatomical context of the thyroid (& parathyroids) and the consequences of enlargement related to cervical triangles and their role in localizing neck lumps generally.
- Outline the anatomical basis of interpreting endoscopic images of the nose, pharynx and larynx; the anatomical context of the front of the trachea related to laryngeal obstruction.
- Demonstrate knowledge of structures in anatomical cross sections and prosections in relation to interpreting radiological images of the head and neck.

## 6 Key Texts and/or Other Learning Materials

- Moore, K.L., Agur, A.M.R. & Dalley, A.F. *Essential Clinical Anatomy*, 4th Edition (2011) Lippincott Williams & Wilkins
- Moore, K.L. & Dalley, A.F. *Clinically Oriented Anatomy*, 7th Edition (2014)
- Lippincott Williams & Wilkins Drake, R.L., Vogl, W. & Mitchell, A.W.M. *Gray's Anatomy for Students* (2009) 2nd Edition Elsevier Churchill Livingstone
- eResources (via University of Leicester Library Portal)
- Acland's Video Atlas of Human Anatomy (<http://www.aclandanatomy.com>)
- Also available in the Moodle Learning Environment is a series of self-marking multiple-choice formative assessments to allow you to assess your learning in the Unit.

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*Document Version Information*

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