

MSc Anaesthesia-Anatomy Module 2004/5

Introduction

The detailed anatomic knowledge taught to medical students for many generations is not necessary for the anaesthetist. However, anaesthetists should be able to recall the basic anatomic information necessary to examine patients effectively and to allow us to safely execute the procedures we undertake. Ignorance of normal anatomy is a key causative factor in many complications of common medical procedures.

The recent increase in use of computerized tomography, resonance imaging, ultrasound and echo requires of us an increased knowledge of anatomy in order to interpret and use the findings.

In this series of 14 lectures we will provide a compact yet thorough outline of clinical anatomy relevant to anaesthetic practice. Each week (for 14 weeks) students will receive a lecture from a designated web site, which will include an examination (open book-MCQ format). Participants must return the completed MCQ to the course director prior to proceeding to the next lecture. This module also requires attendance in UCC on two occasions during the year. There will be a one day intensive course of clinical anatomy lectures which will provide opportunity to meet the lecturers and provide time for course revision. Secondly candidates will attend the ***Peripheral Nerve Blockade*** course at University College Cork. This two day course will include an intensive lecture series on limb anatomy and nerve blockade and also a number of hands-on workshops.

The completed course of lectures and UCC course will be followed by the final examination.

Course assessment

Continual assessment (30%):

The open book multiple-choice exams following each lecture will account for 30% of the final score. These MCQ's will entail 30 true or false statements. There will a mark deducted for each incorrect answer and a mark awarded for each correct answer. The passing score will be 70%.

If participants fail to acquire the pass mark in the continual assessments a second MCQ exam will be organized prior to the next lecture. A meeting with the college liaison will be requisite should the participant fail the second exam.

End of term exam: (70%)

The final exam will account for the remaining 70%. This will be comprised of a written MCQ, short notes and an OSCE . The passing score will be 70%.

Contacts

Course director and College Liaison: Dr Mary Walsh. Cork University Hospital.
Email:maryedelwalsh@ireland.com Telephone 087 2493528

Lecture outline and schedule:

1. Brain and Cranial Nerves

Lecturer: Dr R Meeke, Cork University Hospital

Date: Lecture will be available on Thursday October 14th, 2004.

The objective of this lecture is to review the anatomy of the brain and in particular the blood supply and cranial nerves.

- Relevant embryology
- Morphological anatomy
- Course and distribution of cranial nerves.
- Cerebral circulation
- Clinical anatomy e.g. raised intracranial pressure, brain death
- Paediatric differences e.g. suture lines and congenital hydrocephalus
- Radiology e.g. MRI/CT of common clinical scenarios.
- Anaesthetic blocks
- MCQ

Completed MCQ needs to be returned by electronic mail on or before Monday, October 18th 2004

2. Respiratory I - The Upper Airway

Lecturer: Dr P Seigne

Date: Lecture will be available on Thursday October 21st, 2004

The objective of this lecture is to review in detail the anatomy of the upper airway (above the larynx)

- Relevant embryology e.g. cleft formation etc
- Morphological anatomy e.g. nose, palate oral cavity etc
- Clinical anatomy e.g. laryngoscopy
- Anaesthetic considerations e.g. anatomical predictors of difficult airways
- Awake fiberoptic intubation.
- Paediatric considerations of the upper airway.
- Radiology e.g. epiglottitis
- MCQ

Completed MCQ needs to be returned by electronic mail on or before Monday, October 24th 2004

3. Respiratory II-The Larynx

Lecturer: Dr P Seigne

Date: Lecture will be available on Thursday October 28th, 2004

The objective of this lecture is to review the anatomy of the larynx in detail

- Relevant embryology
- Morphological anatomy e.g. (Cartilages, ligaments, etc)
- Surface anatomy of larynx
- Clinical anatomy e.g. laryngoscopy and laryngotomy
- Paediatric airway differences
- Anaesthetic considerations in perioperative laryngeal injury
- MCQ

Completed MCQ needs to be returned by electronic mail on or before Monday, November 1st 2004

4. Respiratory III-The Lower Respiratory Tract

Lecturer: Dr P Seigne

Date: Lecture will be available on Thursday November 4th, 2004

The objective of this lecture is to review the anatomy of the lower respiratory tract.

- Relevant embryology e.g. tracheo-oesophageal fistula formation
- Morphological anatomy from the cricoid down to the alveoli and pleura
- Clinical anatomy e.g. bronchoscopic anatomy and endobronchial intubation.
- Anaesthetic considerations e.g. tracheostomy
- Radiology
- MCQ

Completed MCQ needs to be returned by electronic mail on or before Monday, November 8th 2004

5. Thoracic cage, Mediastinum and Diaphragm

Lecturer: Dr J Barrett

Date: Lecture will be available on Thursday November 11th, 2004

The objective of this lecture is to instruct the student on the general arrangement of the thoracic cage, mediastinum and diaphragm.

- Relevant embryology e.g. diaphragmatic hernia
- Morphological anatomy
- The intercostal space
- Thoracic inlet
- Mechanics of respiration
- Clinical anatomy e.g. thoracocentesis and intercostals nerve block
- Paediatric chest wall differences
- Radiology
- MCQ

Completed MCQ needs to be returned by electronic mail on or before Monday, November 15th 2004

6. Cardiovascular I

Lecturer: Dr Gabriella Ioham

Date: Lecture will be available on Thursday November 18th, 2004

The objective of this lecture is to provide the student with a clear understanding of the anatomy of the heart.

- Relevant embryology e.g. the more common cardiac defects
- Morphological anatomy e.g. chambers, valves etc
- Surface anatomy
- Conduction System
- Coronary Vasculature
- Clinical anatomy e.g. coronary angiography
- Paediatric considerations e.g. fetal circulation
- Radiology and basic ECHO anatomy
- MCQ

Completed MCQ needs to be returned by electronic mail on or before Monday, November 22nd 2004

7. Cardiovascular II

Lecturer: Dr Gabriella Ioham

Date: Lecture will be available on Thursday November 25th, 2004

The objective of this lecture is to review the anatomy of the vasculature (arterial and venous).

- Relevant embryology e.g. coarctation
- Morphological anatomy –aorta, vena cava and their branches
- Porto-systemic anastomoses
- Clinical anatomy e.g. thrombosis and embolization
- Radiology –common angiography
- MCQ

Completed MCQ needs to returned by electronic mail on or before Monday, November 29th 2004

8 Vertebral column and contents

Lecturer: Dr Gabriella Ioham

Date: Lecture will be available on Thursday December 2nd, 2004

The objective of this lecture is to review the anatomy of the vertebral column and its contents.

- Relevant embryology e.g. spina bifida
- Morphological anatomy – vertebrae, ligaments,
- Epidural space and spinal meninges.
- CSF compartment
- Spinal cord tracts
- Clinical anatomy e.g. central neuroaxial blockade
- Radiology –cervical spine, abnormal curvatures
- Anaesthetic considerations in perioperative spinal injury.
- MCQ

Completed MCQ needs to returned by electronic mail on or before Monday, December 6th 2004

9 Autonomic Nervous System

Lecturer: Dr Dominic Harmon

Date: Lecture will be available on Thursday December 9th, 2004

The objective of this lecture is to review the anatomy of the autonomic nervous system (ANS) in detail.

- Relevant embryology
- Morphological anatomy of the sympathetic and parasympathetic nervous system.
- Clinical anatomy e.g. stellate and celiac plexus blocks
- Pheochromocytoma
- Anaesthetic considerations e.g. the effect of anaesthetic technique on the ANS.

Sympathetic nervous system

- MCQ

Completed MCQ needs to returned by electronic mail on or before Monday, December 13th 2004

10 Anatomy of pain-

Lecturer: Dr Dominic Harmon

Date: Lecture will be available on Thursday January 6th, 2005

Our understanding and treatment of pain has increased dramatically in the past 20 years. Sound knowledge of pain receptors and pathways is essential in anaesthetic practice. .

- Nociceptors
- Dorsal horn
- Spinothalamic tracts
- Spinoreticular tracts
- Pain modulation
- Gate control theory
- MCQ

Completed MCQ needs to returned by electronic mail on or before Monday, January 10th 2005

11 Anatomy of cannulation

Lecturer: Dr R Meeke,

Date: Lecture will be available on Thursday January 13th, 2005

The objective of this lecture is to review the anatomy of arterial and venous cannulation. Central venous access is an important technique for measuring central venous pressure, providing long-term intravenous nutrition, administering vasoactive drugs and for volume resuscitation after trauma.

- Morphological anatomy e.g. neck, groin and subclavian area.
- Surface anatomy
- Clinical anatomy e.g. techniques of venous and arterial cannulation
- Paediatric considerations e.g. umbilical and interosseous access
- Anaesthetic considerations e.g. common clinical pitfalls.
- MCQ

Completed MCQ needs to returned by electronic mail on or before Monday, January 17th 2005

12 Abdomen

Lecturer: Dr Avine Lydon

Date: Lecture will be available on Thursday January 20th, 2005

The objective of this lecture is to review the anatomy of the abdominal wall and viscera

- Embryology e.g. abdominal wall defects
- Morphological anatomy e.g. liver, spleen etc
- Clinical anatomy e.g. abdominal wall blocks
- Surface anatomy
- Blunt abdominal trauma
- Anaesthetic considerations e.g. laparoscopy
- MCQ

Completed MCQ needs to returned by electronic mail on or before Monday, January 24th 2005

13-Pelvis

Lecturer: Dr Avine Lydon

Date: Lecture will be available on Thursday January 27th , 2005

The objective of this lecture is to review the anatomy of the pelvis and perineum.

- Relevant embryology
- Morphological anatomy
- Placenta
- Clinical anatomy e.g. tubal pregnancy
- Penile and other perineal blocks
- MCQ

Completed MCQ needs to be returned by electronic mail on or before Monday, January 31st 2005

14- Positioning the surgical patient –

Lecturer: Dr J Barrett

Date: Lecture will be available on Thursday February 3rd , 2005

The objective of this lecture is to discuss optimum positioning for surgery and anaesthesia.

- Basic patient positions e.g. supine, prone, trendelenburg etc
- Complex patient positions e.g. jack-knife, lateral decubitus
- Common complications
- Pulmonary and cardiovascular considerations
- MCQ

Completed MCQ needs to be returned by electronic mail on or before Monday, February 7th 2005

Clinical Anatomy for Anaesthetists revision course will be held in Cork University hospital in December 2004/January 2005 .

Peripheral Nerve Blockade course will be held in the anatomy department of University College Cork in April 2004. Exact dates will be confirmed in the next few months.

Final exam will be held immediately following the UCC course in April.

Recommended References

1. Anatomy for Anaesthetist
Harold Ellis and Stanley Felman
Blackwell Publishing
Eight edition
ISBN 1405106638

2. Clinical Anatomy for Medical Students
Richard Snell
Lippincott, Williams and Wilkins
ISBN 0781715741

3. Essential Clinical Anatomy, Second Edition
Keith Moore and Anne Agur
Lippincott, Williams and Wilkins
ISBN 0781728304

4. Grant's Atlas of Anatomy tenth Edition
AMR Agur and M Lee
Lippincott, Williams and Wilkins
ISBN 0781722608