Image Interpretation and Evaluation

Semester 2 / Commences January 20 Credits

Each Course is composed of Modules & Activities.

Modules:
- Image Interpretation
- Thoracic radiography
- Abdominal – pelvic imaging
- Musculoskeletal Imaging
- Neuroimaging

Each Module is composed of Lectures, Reading Lists, MCQ self-assessments, & Discussion Boards.

The summary table above shows whether the modules are available in the Neuroimaging for Research (NI4R) programme or the Imaging (IMSc) programme or indeed both.
Image Interpretation and Evaluation

Image Interpretation:
Human and technical factors

Thoracic radiography:
Chest radiograph practicalities
Non-pulmonary pathologies
Pulmonary pathology

Abdominal – pelvic imaging:
Abdominal radiograph 1
Abdominal radiograph 2
Abdominal radiograph 3: Colitis

Musculoskeletal Imaging:
Bone Imaging

Neuroimaging:
CT head – acute pathology

We can also provide a more detailed syllabus showing what lectures will be given for each module, and the learning outcomes for each module.
Image Interpretation (IMSc only)

Lecture 1
Title: Human and technical factors
Description:
Author(s): Dr Andrew Farrall

Learning Objectives
On completion of this lecture, you should be able to:
- List stages in the imaging pathway
- Define perception and analysis in the context of image interpretation
- State Garland’s three objectives
- Discuss the sequelae of Garland’s three objectives
- List factors which influence interpretation error rates
- Describe solutions to causes of interpretation error

Thoracic radiography (IMSc only)

Lecture 1
Title: Chest radiograph practicalities
Description: Patient positioning & technical factors which influence interpretation
Author(s): Dr. Andrew Walker, Dr. AJ Farrall

Learning Objectives
- State basic chest radiograph principles
- Describe chest radiography acquisition
- List common chest radiograph views
- Discuss chest radiograph quality
- State key anatomy which can be assessed
- Explain the silhouette sign

Lecture 2
Title: Non-pulmonary pathologies
Description: Chest radiograph areas to review which are not the lungs; relevant associated pathologies & findings
Author(s): Dr. Andrew Walker, Dr. AJ Farrall

Learning Objectives
- State what regions other than the lungs require review
- Describe specific findings of common pathologies
- Explain common causes of the pathologies reviewed
- Identify lines and tubes common on chest radiography
Thoracic radiography contd.. (IMSc only)
Lecture 3
Title: Pulmonary pathology
Description: Chest radiograph pathologies & findings which opacify the lungs
Author(s): Dr. Andrew Walker, Dr. AJ Farrall
Learning Objectives
- List common causes of pulmonary opacification
- Use specific findings to locate lesions in the lungs
- State the different findings of consolidation versus collapse
- List the stages & findings of pulmonary oedema
- Explain common causes of the pathologies reviewed

Abdominal – pelvic imaging (IMSc only)

Lecture 1
Title: Abdominal radiograph 1
Description: Technique, approach to interpretation, bones, calcifications and viscera
Author(s): Dr. Michael Jackson, Dr. Andrew Walker
Editor(s): Dr Andrew Farrall
Learning Objectives
- State indications for, and limitations of, the abdominal radiograph
- Describe a systematic approach to abdominal radiograph review
- Identify common & important pathologies on abdominal radiograph review
- Relate the above specifically to the “bones, stones and mass” approach to the abdominal radiograph

Lecture 2
Title: Abdominal radiograph 2
Description: Technique, approach to interpretation, gas & bowel
Author(s): Dr. Michael Jackson, Dr. Andrew Walker
Editor(s): Dr. Andrew Farrall
Learning Objectives
- State indications for, and limitations of, the abdominal radiograph
- Describe a systematic approach to abdominal radiograph review
- Identify common & important pathologies on abdominal radiograph review
- Relate the above specifically to the “gas” approach to the abdominal radiograph

Lecture 3
Title: Abdominal radiograph 3: Colitis
Description: Abdominal radiographic findings in colitis, plus complimentary imaging modalities
Author(s): Dr. Michael Jackson, Dr. Andrew Walker
Editor(s): Dr. Andrew Farrall
Learning Objectives
- List causes of colitis
- Describe plain radiograph findings in colitis
- Recognise findings of toxic colitis
- Discuss complimentary imaging techniques in colitis
Musculoskeletal Imaging (IMSc only)

Lecture 1
Title: Bone Imaging
Description: Basic interpretation and description of bone radiographs
Author(s): Dr. Laura Cormack
Editor(s): Dr Andrew Farrall
Learning Objectives
- Describe radiographic projection for bone imaging
- State why orthogonal views are important
- State why non-orthogonal views are important
- Relate key bone features to radiographic appearances
- Use appropriate descriptive radiologic terminology
- List common bone pathologies identifiable and findings on bone imaging
- Use appropriate descriptive terminology to describe bone pathology

Neuroimaging (IMSc only)

Lecture 1
Title: CT head – acute pathology
Description: History, terminology & orientation
Author(s): Dr Ana Casado
Editor(s): Dr Andrew Farrall
Learning Objectives
- Recognize trauma situations where CT head scanning is appropriate
- List reasons why CT is more appropriate than other techniques
- Identify & describe CT imaging findings expected in cases of trauma situations