



**MACQUARIE UNIVERSITY
DEPARTMENT OF HEALTH & CHIROPRACTIC
DIVISION OF ENVIRONMENTAL & LIFE SCIENCES
UNIT OUTLINE CHIR 886 DIAGNOSTIC IMAGE INTERPRETATION II**

Year and Semester: 2008 Semester 2

Unit convenor: Peter Bull

Prerequisites: CHIR885

Students in this unit should read this unit outline carefully at the start of semester. It contains important information about the unit. If anything in it is unclear, please consult one of the teaching staff in the unit.

The 2008 academic teaching year commences on Monday 25 February 2008 and concludes on Friday 5 December 2008.

ABOUT THIS UNIT

This unit builds on the diagnostic skills developed in CHIR885 and introduces advanced imaging interpretation, including CT, MRI and ultrasound. This unit is taught and assessed in conjunction with CHIR897 Clinical Internship II.

TEACHING STAFF

Unit Convenor

Dr Peter Bull pbull@els.mq.edu.au	E7A Rm 231 9850 9383
Consultation Hours	By Appointment

Unit Lecturers

Dr Peter Bull	As above
Consultation Hours	

CLASSES

- 1 x 1hr lecture pw
- 1 x 1hr tutorial pw
- 1 x 1hour on-line exercise pw
- Self-directed study in **RADLAB**: 1 - 2 hours/ week
- The timetable for classes can be found on the University web site at: <http://www.timetables.mq.edu.au/>
- Coloured timetables for both the Postgraduate and Undergraduate technique rooms as well as E5A 301 will be published in each location for students.
- It is an assessment requirement of this unit that students attend tutorials.

REQUIRED AND RECOMMENDED TEXTS AND/OR MATERIALS

- Yochum, T., Haug & Rowe, L. Radiology Study Guide
- Yochum, T., & Rowe, L., 2005, Essentials of Skeletal Radiology – Vols I & II, (3rd ed.) Lippincott, William & Wilkins, Baltimore.
- Beirman R, et al. Handbook of Clinical Diagnosis. 2005
- Bull PW, Class notes 2007

UNIT WEB PAGE

- The web page for this unit can be found at: www.chiro.mq.edu.au and following the links for either Postgraduate or Undergraduate students
- You will need a log in for access to the lecture notes, this will be provided to you in your first lecture.

LEARNING OUTCOMES

This Unit provides students an opportunity to build upon those theoretical skills learnt in previous years and to develop the practical art of x-ray interpretation and report writing.

At the completion of this course students will be expected to have a comprehensive knowledge of those common disease processes that affect the skeleton and to identify the hallmark x-ray appearances of those conditions. To understand the pathogenesis and to be

able to provide a logical differential diagnosis based on the various x-ray appearances, patient history and clinical features.

The student can then formulate a clinical plan of management including any appropriate referral for advanced imaging.

In addition to the discipline-based learning objectives, all academic programs at Macquarie seek to develop students' generic skills in a range of areas. One of the aims of this unit is that students develop their skills in the following:

1. Academic skills:

Able to become more reflective

Able to improve cognitive/reasoning skills

Able to problem solve

Able to think critically and independently

Able to apply and adapt knowledge to the real world

Able to understand data collection instruments

Able to analyse / interpret and work with data

Able to critique

Able to improve creative thinking

2. Information technology / literacy:

General computer literacy

Able to use the internet

Able to use library resources

3. Self-management skills:

Able to work independently

Able to plan and organize learning activities

Able to become more self aware

4. Communication skills:

Improve general literacy skills

Improve language skills (particularly for international students)

Improve general discussion skills

Improve listening and comprehension skills

Able to become flexible and open to the ideas of others

TEACHING AND LEARNING STRATEGY

Include lecture format augmented with slide presentations of x-ray cases. On-line WebCT modules and **RADLAB** teaching files are utilised along with various CD-ROM programs.

Students are presented with actual patient cases featuring the wide cross-section of problems encountered in the clinical setting. Students will develop the necessary skills expected to become completely familiar with the normal appearances and variances of the skeleton; and to know the hallmark appearances of diseases of the skeleton, chest & abdomen.

Developing the skills required to proficiently interpret radiological images is not an easy task but a number of learning strategies are employed to facilitate this learning process. These include small tutorial groups, plain film & advanced image interpretation, the **RADLAB** and an on-line teaching facility with its various links to other radiology sites.

The **RADLAB** is an interactive teaching resource comprising over 1000 catalogued x-ray pathological cases and in excess of 3000 patient x-ray files that students may review and practice line analysis and report writing.

Students are strongly advised to spend as much time as is possible in the **RADLAB** to assist in the development of pattern and differential recognition. Students should timetable at least 1 hour per week of self directed study in the **RADLAB**.

The on-line programme will require approximately 1 hour per week of participation, either at home or in the library. The Unit is conducted over two semesters during the second year of the Masters of Chiropractic programme.

The subject is a full-time, on-campus subject, which follows a regional approach to develop pattern recognition and differentials. Important prerequisites for this subject include Radiological Studies I & II and the radiographic anatomy in CHIR354 & 355; while your clinic internship forms an important co-requisite.

RELATIONSHIP BETWEEN ASSESSMENT AND LEARNING OUTCOMES

A written exam and a practical exam will be held at the end of each semester and will comprise 70% of the total end of semester mark.

Twenty percent (20%) of the total end of semester marks will be derived from the on-line

continuing assessment.

The final 10% will be derived from the report writing assignments involving the interpretation, narrative reporting and case presentation of selected x-ray cases from the clinic.

ASSIGNMENTS

Submission of Assignments in 2008

1 All assignments must be submitted to the appropriate assignment box for your unit. Assignment boxes are located in the reception area of the ELS Centre (Room 101), which is on the ground floor at the western end of building E7A. Campus maps are available at <http://www.bgo.mq.edu.au/campus.htm>. The Centre opens from 8.30am to 5.30pm on Monday to Friday.

2 All assignments are to be submitted by 9.00am on the date specified and must include a completed and signed coversheet stapled to the front cover. The Assignment Cover Sheet can be downloaded from the web at www.els.mq.edu.au, click on ***Assignment Cover Sheet***.

Examinations

The University Examination period in for First Half Year 2008 is from Wednesday 11 June to Friday 27 June 2008.

You are expected to present yourself for examination at the time and place designated in the University Examination Timetable. The timetable will be available in Draft form approximately eight weeks before the commencement of the examinations and in Final form approximately four weeks before the commencement of the examinations.

<http://www.timetables.mq.edu.au/exam>

The only exception to not sitting an examination at the designated time is because of documented illness or unavoidable disruption. In these circumstances you may wish to consider applying for Special Consideration. Information about unavoidable disruption and the special consideration process is available at

<http://www.reg.mq.edu.au/Forms/APSCon.pdf>

If a Supplementary Examination is granted as a result of the Special Consideration process the examination will be scheduled after the conclusion of the official examination period. (Individual Divisions may wish to signal when the Division's Supplementaries are normally scheduled.)

You are advised that it is Macquarie University policy not to set early examinations for individuals or groups of students. All students are expected to ensure that they are

available until the end of the teaching semester, that is the final day of the official examination period.

PLAGIARISM

The University defines plagiarism in its rules: "Plagiarism involves using the work of another person and presenting it as one's own." Plagiarism is a serious breach of the University's rules and carries significant penalties. You must read the University's practices and procedures on plagiarism. These can be found in the *Handbook of Undergraduate Studies* or on the web at: <http://www.student.mq.edu.au/plagiarism/>

The policies and procedures explain what plagiarism is, how to avoid it, the procedures that will be taken in cases of suspected plagiarism, and the penalties if you are found guilty. Penalties may include a deduction of marks, failure in the unit, and/or referral to the University Discipline Committee.

UNIVERSITY POLICY ON GRADING

Academic Senate has a set of guidelines on the distribution of grades across the range from fail to high distinction. Your final result will include one of these grades plus a standardised numerical grade (SNG).

On occasion your raw mark for a unit (i.e., the total of your marks for each assessment item) may not be the same as the SNG which you receive. Under the Senate guidelines, results may be scaled to ensure that there is a degree of comparability across the university, so that units with the same past performances of their students should achieve similar results.

It is important that you realise that the policy does not require that a minimum number of students are to be failed in any unit. In fact it does something like the opposite, in requiring examiners to explain their actions if more than 20% of students fail in a unit.

The process of scaling does not change the order of marks among students. A student who receives a higher raw mark than another will also receive a higher final scaled mark.

For an explanation of the policy see

<http://www.mq.edu.au/senate/MQUonly/Issues/Guidelines2003.doc> or
<http://www.mq.edu.au/senate/MQUonly/Issues/detailedguidelines.doc>.

STUDENT SUPPORT SERVICES

Macquarie University provides a range of Academic Student Support Services. Details of these services can be accessed at <http://www.student.mq.edu.au>.

MODULE II - PELVIS & SYMPHESIS PUBIS

- Normal developmental anatomy
- Developmental anomalies and anatomic variants
- Spinography
- Dysplasias
- Trauma
- Arthritides
- Neoplasms
- Metabolic, haematological & infectious disorders
- Other disorders

Learning Outcomes: After you have studied this module you should –

- identify normal pelvic anatomy on plain radiographs, CT and MRI.
- describe the various anomalies in the development of the pelvis.
- describe the various fractures and dislocations.
- differentiate between the clinical and radiologic features of the various inflammatory arthritides.
- describe the clinical and radiologic features of benign bone tumours
- describe the various differential patterns between benign & malignant tumours
- identify the various differential patterns of the various metabolic & infectious disorders.

MODULE III - LOWER LIMB

- Normal developmental anatomy
- Developmental anomalies and anatomic variants
- Dysplasias
- Trauma
- Arthritides
- Neoplasms
- Metabolic, haematological & infectious disorders
- Other disorders

Learning Outcomes: After you have studied this module you should –

- identify normal anatomy on plain radiographs, CT and MRI.

- describe the various anomalies in the development of the lower limb.
- describe the various fractures and dislocations.
- differentiate between the clinical and radiologic features of the various inflammatory arthritides.
- describe the clinical and radiologic features of benign bone tumours
- describe the various differential patterns between benign & malignant tumours
- identify the various differential patterns of the various metabolic & infectious disorders.

MODULE IV - UPPER LIMB

- Normal developmental anatomy
- Developmental anomalies and anatomic variants
- Dysplasias
- Trauma
- Arthritides
- Neoplasms
- Metabolic, haematological & infectious disorders
- Other disorders

Learning Outcomes: After you have studied this module you should –

- identify normal anatomy on plain radiographs, CT and MRI.
- describe the various anomalies in the development of the upper limb.
- describe the various fractures and dislocations.
- differentiate between the clinical and radiologic features of the various inflammatory arthritides.
- describe the clinical and radiologic features of benign bone tumours
- describe the various differential patterns between benign & malignant tumours
- identify the various differential patterns of the various metabolic & infectious disorders.

MODULE V - CHEST

- Normal developmental anatomy
- Developmental anomalies and anatomic variants
- Neoplasms
- Infectious disorders
- Other disorders

Learning Outcomes: After you have studied this module you should –

- describe the positioning techniques for plain radiography of the chest
- describe the normal chest anatomy
- identify common infiltrative lung diseases
- describe abnormalities of the heart & great vessels

MODULE VI - ADVANCED DIAGNOSTIC IMAGING

- CT
- MRI
- US
- Bone Scans
- Other modalities

Learning Outcomes: After you have studied this module you should –

- describe the application of advanced diagnostic imaging in clinical practice
- describe the normal anatomy as depicted by the above modalities
- identify common abnormalities found on the above modalities