



CHIR917

Diagnostic Imaging 2

S2 Day 2014

Chiropractic

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Disclaimer

Macquarie University has taken all reasonable measures to ensure the information in this publication is accurate and up-to-date. However, the information may change or become out-dated as a result of change in University policies, procedures or rules. The University reserves the right to make changes to any information in this publication without notice. Users of this publication are advised to check the website version of this publication [or the relevant faculty or department] before acting on any information in this publication.

General Information

Unit convenor and teaching staff

Unit Convenor

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C5C 347

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Credit points

4

Prerequisites

CHIR916

Corequisites

Co-badged status

Unit description

This unit builds on the principles and concepts developed in CHIR916. It develops further differential diagnostic skills for radiological pathologies of the spine, skeleton, chest and abdomen and instructs in radiographic positioning of the spine. This unit forms part of a suite of units in radiological science that leads to eligibility for licensure to own and operate x-ray equipment.

Important Academic Dates

Information about important academic dates including deadlines for withdrawing from units are available at <https://www.mq.edu.au/study/calendar-of-dates>

Learning Outcomes

On successful completion of this unit, you will be able to:

To be able to thoroughly assess plain-film x-rays for abnormalities and be able to describe specific radiographic appearances.

To be able to interpret plain-film x-rays and appropriate advanced imaging findings to aid diagnosis and direct patient management within chiropractic clinical practice.

To be able to describe the indications and contraindications for plain-film and advanced imaging with respect to chiropractic clinical practice

To be able to discuss the ethical considerations associated with the use of imaging in chiropractic practice

To be able to write a narrative x-ray report for use in clinical chiropractic practice.

To demonstrate competency in spinal radiographic positioning and radiography as applicable to chiropractic practice.

To demonstrate familiarity with the x-ray machines at the chiropractic outpatient clinics and be able to take a radiographic image to clinic requirements

General Assessment Information

ASSIGNMENTS

All assignments must be submitted to the appropriate assignment box for your unit. Assignment boxes are located in the reception area of the Faculty of Science Centre (Room 101), which is on the ground floor at the western end of building E7A. The Centre opens from 8.30am to 5.30pm on Monday to Friday.

All assignments are to be submitted by 1pm on the date specified and must include a completed and signed coversheet stapled to the front cover. The Assignment Cover Sheet should be downloaded from the web at science.mq.edu.au/current-students/assignments-coversheets/

Extensions to assignments is at the discretion of the unit convenor and must be applied for through the disruption to studies process, prior to the submission of the assignment. It is the responsibility of the student to prove to the convenor that there has been unavoidable disruption. Marks will be deducted for late submissions in the absence of an approved extension (10% per day late).

EXAMINATIONS

The University Examination period in for Semester 2, 2014 is from November 17th to December 5th 2014.

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.

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 disruption to studies. Information about unavoidable disruption and the disruption to studies process is available at <http://studentadmin.mq.edu.au/disruption%20to%20studies.html>

If a Supplementary Examination is granted the examination will be scheduled after the conclusion of the official examination period.

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

Assessment Tasks

Name	Weighting	Due
<u>On-going Assessment</u>	5%	Weekly in tutorial
<u>Practical Exam</u>	5%	Week 6 In Tutorial
<u>Slide Exam</u>	15%	Week 7 In lecture 1
<u>Assignment</u>	15%	Week 8
<u>Practical Exam</u>	5%	Week 13
<u>Slide Exam</u>	15%	Week 13
<u>Theory Exam</u>	40%	Exam Period

On-going Assessment

Due: **Weekly in tutorial**

Weighting: **5%**

Weekly quizzes within the radiographic interpretation tutorials. Closed book, no collaboration and 5min time limit.

On successful completion you will be able to:

- To be able to interpret plain-film x-rays and appropriate advanced imaging findings to aid diagnosis and direct patient management within chiropractic clinical practice.
- To be able to describe the indications and contraindications for plain-film and advanced

imaging with respect to chiropractic clinical practice

Practical Exam

Due: **Week 6 In Tutorial**

Weighting: **5%**

Radiographic Positioning Practical Exam 1. Set-up for radiographic images in the cervical, thoracic, lumbar spine and pelvis (including sacrum, coccyx and hip)

On successful completion you will be able to:

- To demonstrate competency in spinal radiographic positioning and radiography as applicable to chiropractic practice.

Slide Exam

Due: **Week 7 In lecture 1**

Weighting: **15%**

Radiographic Interpretation Slide Exam 1: Exam in lecture 1 on radiographic images from the spine, pelvis, chest and abdomen. All previous material from CHIR916 is assumed knowledge.

On successful completion you will be able to:

- To be able to thoroughly assess plain-film x-rays for abnormalities and be able to describe specific radiographic appearances.
- To be able to interpret plain-film x-rays and appropriate advanced imaging findings to aid diagnosis and direct patient management within chiropractic clinical practice.
- To be able to describe the indications and contraindications for plain-film and advanced imaging with respect to chiropractic clinical practice

Assignment

Due: **Week 8**

Weighting: **15%**

Written assignment: Radiographic reporting and critique; Ethical use of x-rays in chiropractic practice

On successful completion you will be able to:

- To be able to thoroughly assess plain-film x-rays for abnormalities and be able to describe specific radiographic appearances.
- To be able to discuss the ethical considerations associated with the use of imaging in chiropractic practice
- To be able to write a narrative x-ray report for use in clinical chiropractic practice.

- To demonstrate competency in spinal radiographic positioning and radiography as applicable to chiropractic practice.

Practical Exam

Due: **Week 13**

Weighting: **5%**

Radiographic Positioning Practical Exam 2: Combination exam run at EMC clinic and in radiographic positioning rooms. Will involve taking a radiograph of a phantom on the operating x-ray machine at the clinic and setting up for views on the dummy x-ray machines. All spinal and extremity views are examinable.

On successful completion you will be able to:

- To demonstrate competency in spinal radiographic positioning and radiography as applicable to chiropractic practice.
- To demonstrate familiarity with the x-ray machines at the chiropractic outpatient clinics and be able to take a radiographic image to clinic requirements

Slide Exam

Due: **Week 13**

Weighting: **15%**

Radiographic Interpretation Slide Exam 2: Exam in lecture 1 on radiographic images from the extremities and a spinal narrative x-ray report. All previous material from CHIR916 is assumed knowledge.

On successful completion you will be able to:

- To be able to thoroughly assess plain-film x-rays for abnormalities and be able to describe specific radiographic appearances.
- To be able to interpret plain-film x-rays and appropriate advanced imaging findings to aid diagnosis and direct patient management within chiropractic clinical practice.
- To be able to describe the indications and contraindications for plain-film and advanced imaging with respect to chiropractic clinical practice
- To be able to write a narrative x-ray report for use in clinical chiropractic practice.

Theory Exam

Due: **Exam Period**

Weighting: **40%**

Radiographic interpretation and positioning theory exam

On successful completion you will be able to:

- To be able to interpret plain-film x-rays and appropriate advanced imaging findings to aid diagnosis and direct patient management within chiropractic clinical practice.
- To be able to describe the indications and contraindications for plain-film and advanced imaging with respect to chiropractic clinical practice
- To be able to discuss the ethical considerations associated with the use of imaging in chiropractic practice
- To be able to write a narrative x-ray report for use in clinical chiropractic practice.
- To demonstrate competency in spinal radiographic positioning and radiography as applicable to chiropractic practice.

Delivery and Resources

Lecture and Tutorial Times:

Radiographic Positioning Lecture: Friday 8-9am E7BT3

Radiographic Interpretation Lectures: Wednesday 8-10am E7BT3 and Friday 9-10am E7BT3

Radiographic Positioning Tutorials (x1): Monday 1-2pm, 2-3pm, Tuesday 11am-12pm, 12-1pm E5A 340

Radiographic Interpretation Tutorials (x1): Thursday 1-2pm, 2-3pm, 3-4pm, 4-5pm E5A 350 (RADLAB)

Technology:

Audiovisual: all lectures will be recorded and available on ECHO

iLearn: all lecture, tutorial, assignment and on-going assessment material will be available. Due to the large number of pictures within these presentations download times can be slow

Changes since the last offering of this unit:

The distribution of work offered between CHIR916 and CHIR917 has changed to allow for increased revision and consolidation of the fundamentals of radiographic interpretation. There is an additional 1hr lecture per week for radiographic interpretation.

There has also be a change to the requirements for a pass grade or higher in this course since the last offering. Please see the Grading section at the end of this document for more information.

Resources:

Required Texts:

Yochum, T & Rowe, L; 2005; Essentials of Skeletal Radiology Vol I & II (3rd Ed); Lippincott, William & Wilkins; Baltimore

Radiographic Library:

The radiographic library (RADLAB) houses over 1000 xrays and is available for your use in E5A 350 whenever classes are not occurring within the room. It is expected that the RADLAB is utilised for your revision for 1-2hrs per week. It is expected that the RADLAB is kept clean and tidy and that the xrays are re-catalogued correctly at the end of your study session. Failure to do this may lead to lack of further access to the RADLAB.

iLearn:

iLearn will be used to post all information regarding the course. This includes all course materials and information about assessments.

Internet:

Google images is a great resource for sourcing specific xrays. There are many websites available with extensive xray libraries and this is also a valuable revision tool.

Unit Schedule

Week	Wednesday 8am Lecture	Friday 8am Lecture	Radiographic Interpretation Tutorial	Radiographic Positioning Tutorial
1 (4/8)	Spine and lower limb positioning	Arthritis	No Tutorial	No Tutorial
2 (11/8)	Arthritis/Tumours	Tumours	Arthritis	Cervical
3 (18/8)	Tumours/Week 2 Tutorial Material	Endocrine/Cervical Spine	Tumours	Thoracic
4 (25/8)	Cervical spine/Week 3 Tutorial Material	Thoracic Spine	Cervical Spine	Lumbar
5 (1/9)	Report Writing/Week 4 Tutorial Material	Lumbar Spine	Thoracic Spine	Sacrum and Coccyx
6 (8/9)	Ethics of Imaging: chiropractic use, misuse, research	Week 5 and 6 Tutorial Material	Lumbar Spine	Practical Exam 1
7 (15/9)	Slide Exam 1	Pelvis and Hip	No Tutorial	Knees
8 (7/10) Public Holiday Monday; Assignment due 8/10 1pm at Science Centre	Upper limb positioning/ Knee, Ankle, Foot	Knee, Ankle and Foot/ Week 8 Tutorial material	Pelvis and Hip	No Tutorial
9 (13/10)	Shoulder	EMC Visit	Knee, Ankle and Foot	Foot and Ankle

10 (20/10)	Week 9 Tutorial Material/ Elbow, Wrist, Hand	EMC Visit	Shoulder	Shoulder Girdle
11 (27/10)	Week 10 Tutorial Material/ Elbow, Wrist/Hand	Advanced Imaging	Elbow, Wrist and Hand	Elbow and Wrist
12 (3/11)	Revision/Week 11 Tutorial Material	Advanced Imaging	Revision	Hand
13 (10/11)	Slide Exam 2	No Lecture	No Tutorial	Practical Exam 2

Policies and Procedures

Macquarie University policies and procedures are accessible from [Policy Central](#). Students should be aware of the following policies in particular with regard to Learning and Teaching:

Academic Honesty Policy http://mq.edu.au/policy/docs/academic_honesty/policy.html

Assessment Policy <http://mq.edu.au/policy/docs/assessment/policy.html>

Grading Policy <http://mq.edu.au/policy/docs/grading/policy.html>

Grade Appeal Policy <http://mq.edu.au/policy/docs/gradeappeal/policy.html>

Grievance Management Policy http://mq.edu.au/policy/docs/grievance_management/policy.html

Disruption to Studies Policy http://www.mq.edu.au/policy/docs/disruption_studies/policy.html *The Disruption to Studies Policy is effective from March 3 2014 and replaces the Special Consideration Policy.*

In addition, a number of other policies can be found in the [Learning and Teaching Category](#) of Policy Central.

Student Code of Conduct

Macquarie University students have a responsibility to be familiar with the Student Code of Conduct: https://students.mq.edu.au/support/student_conduct/

Student Support

Macquarie University provides a range of support services for students. For details, visit <http://students.mq.edu.au/support/>

Learning Skills

Learning Skills (mq.edu.au/learningskills) provides academic writing resources and study strategies to improve your marks and take control of your study.

- [Workshops](#)
- [StudyWise](#)

- [Academic Integrity Module for Students](#)
- [Ask a Learning Adviser](#)

Student Services and Support

Students with a disability are encouraged to contact the [Disability Service](#) who can provide appropriate help with any issues that arise during their studies.

Student Enquiries

For all student enquiries, visit Student Connect at ask.mq.edu.au

IT Help

For help with University computer systems and technology, visit <http://informatics.mq.edu.au/help/>.

When using the University's IT, you must adhere to the [Acceptable Use Policy](#). The policy applies to all who connect to the MQ network including students.

Graduate Capabilities

PG - Discipline Knowledge and Skills

Our postgraduates will be able to demonstrate a significantly enhanced depth and breadth of knowledge, scholarly understanding, and specific subject content knowledge in their chosen fields.

This graduate capability is supported by:

Learning outcomes

- To be able to thoroughly assess plain-film x-rays for abnormalities and be able to describe specific radiographic appearances.
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- To be able to write a narrative x-ray report for use in clinical chiropractic practice.
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- To demonstrate familiarity with the x-ray machines at the chiropractic outpatient clinics and be able to take a radiographic image to clinic requirements

Assessment tasks

- On-going Assessment

- Practical Exam
- Slide Exam
- Assignment
- Practical Exam
- Slide Exam
- Theory Exam

PG - Critical, Analytical and Integrative Thinking

Our postgraduates will be capable of utilising and reflecting on prior knowledge and experience, of applying higher level critical thinking skills, and of integrating and synthesising learning and knowledge from a range of sources and environments. A characteristic of this form of thinking is the generation of new, professionally oriented knowledge through personal or group-based critique of practice and theory.

This graduate capability is supported by:

Learning outcomes

- To be able to thoroughly assess plain-film x-rays for abnormalities and be able to describe specific radiographic appearances.
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- Slide Exam
- Assignment
- Practical Exam
- Slide Exam
- Theory Exam

PG - Research and Problem Solving Capability

Our postgraduates will be capable of systematic enquiry; able to use research skills to create new knowledge that can be applied to real world issues, or contribute to a field of study or practice to enhance society. They will be capable of creative questioning, problem finding and problem solving.

This graduate capability is supported by:

Learning outcome

- To be able to interpret plain-film x-rays and appropriate advanced imaging findings to aid diagnosis and direct patient management within chiropractic clinical practice.

Assessment tasks

- On-going Assessment
- Slide Exam
- Slide Exam
- Theory Exam

PG - Effective Communication

Our postgraduates will be able to communicate effectively and convey their views to different social, cultural, and professional audiences. They will be able to use a variety of technologically supported media to communicate with empathy using a range of written, spoken or visual formats.

This graduate capability is supported by:

Learning outcomes

- To be able to thoroughly assess plain-film x-rays for abnormalities and be able to describe specific radiographic appearances.
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Assessment tasks

- On-going Assessment
- Practical Exam
- Slide Exam
- Assignment
- Practical Exam
- Slide Exam
- Theory Exam

PG - Engaged and Responsible, Active and Ethical Citizens

Our postgraduates will be ethically aware and capable of confident transformative action in relation to their professional responsibilities and the wider community. They will have a sense of connectedness with others and country and have a sense of mutual obligation. They will be able to appreciate the impact of their professional roles for social justice and inclusion related to national and global issues

This graduate capability is supported by:

Learning outcomes

- To be able to describe the indications and contraindications for plain-film and advanced imaging with respect to chiropractic clinical practice
- To be able to discuss the ethical considerations associated with the use of imaging in chiropractic practice

Assessment tasks

- On-going Assessment
- Slide Exam
- Assignment
- Slide Exam
- Theory Exam

PG - Capable of Professional and Personal Judgment and Initiative

Our postgraduates will demonstrate a high standard of discernment and common sense in their professional and personal judgment. They will have the ability to make informed choices and decisions that reflect both the nature of their professional work and their personal perspectives.

This graduate capability is supported by:

Learning outcomes

- To be able to describe the indications and contraindications for plain-film and advanced

imaging with respect to chiropractic clinical practice

- To be able to discuss the ethical considerations associated with the use of imaging in chiropractic practice
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- Assignment
- Practical Exam
- Slide Exam
- Theory Exam

Grading

This subject is comprised of 2 distinct strands: radiographic interpretation and radiographic positioning. Each of these strands must be passed for a final (overall) grade of a pass or higher to be awarded.

To pass the radiographic interpretation strand a minimum mark of 50% must be achieved from the cumulative marks of the slide exams (1 and 2) and the radiographic interpretation components of the theory exam.

To pass the radiographic positioning strand a minimum mark of 60% must be achieved from the cumulative marks of the practical exams (1 and 2) and the radiographic positioning components of the theory exam

Achievement of grades will be based on the following criteria:

Grade	
High Distinction (85-100)	A minimum mark of 50% achievement in radiographic interpretation and 60% achievement in radiographic positioning, PLUS a minimum 85% total raw mark
Distinction (75-84)	A minimum mark of 50% achievement in radiographic interpretation and 60% achievement in radiographic positioning, PLUS a minimum 75% total raw mark

Credit (65-74)	A minimum mark of 50% achievement in radiographic interpretation and 60% achievement in radiographic positioning, PLUS a minimum 65% total raw mark
Pass (50-64)	A minimum mark of 50% achievement in radiographic interpretation and 60% achievement in radiographic positioning, PLUS a minimum 50% total raw mark
Fail (< 50)	Less than 50% achievement in radiographic interpretation and/or 60% achievement in radiographic positioning, AND/OR less than 50% total raw mark

NOTE: Raw mark vs SNG

"The Standard Numerical Grade (SNG) is the number that is associated with the grade (high distinction, distinction, credit and so on) that a student is awarded. It is called a grade as it does not represent the raw marks, it reflects where within the grading structure the student sits."

<http://www.mq.edu.au/glossary/term/StandardisedNumericalGrade>

It is NOT necessarily the same as your RAW mark, which represents the total of your marks for each assessment task.

What does each grade mean?

High Distinction: provides consistent evidence of deep and critical understanding in relation to the learning outcomes. There is substantial originality and insight in identifying, generating and communicating competing arguments, perspectives or problem solving approaches; critical evaluation of problems, their solutions and their implications; creativity in application.

Distinction: provides evidence of integration and evaluation of critical ideas, principles and theories, distinctive insight and ability in applying relevant skills and concepts in relation to learning outcomes. There is demonstration of frequent originality in defining and analysing issues or problems and providing solutions; and the use of means of communication appropriate to the discipline and the audience.

Credit: provides evidence of learning that goes beyond replication of content knowledge or skills relevant to the learning outcomes. There is demonstration of substantial understanding of fundamental concepts in the field of study and the ability to apply these concepts in a variety of contexts; plus communication of ideas fluently and clearly in terms of the conventions of the discipline.

Pass: provides sufficient evidence of the achievement of learning outcomes. There is demonstration of understanding and application of fundamental concepts of the field of study; and communication of information and ideas adequately in terms of the conventions of the discipline. The learning attainment is considered satisfactory or adequate or competent or capable in relation to the specified outcomes.

Fail: does not provide evidence of attainment of all learning outcomes.

There is missing or partial or superficial or faulty understanding and application of the fundamental concepts in the field of study; and incomplete, confusing or lacking communication

of ideas in ways that give little attention to the conventions of the discipline.

Changes since First Published

Date	Description
05/08/ 2014	Unit schedule updated and assignment due time changed to 1pm on Wednesday 8/10/14