



CHIR873

Neuromusculoskeletal Diagnosis 1

S1 Day 2018

Dept of 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

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Credit points

4

Prerequisites

Admission to MChiroprac and (CHIR311 or CHIR316 or (CHIR602 and CHIR603 and CHIR604 and CHIR605 and CHIR606 and CHIR607))

Corequisites

Co-badged status

Unit description

This unit introduces you to common neurological and orthopaedic conditions. A variety of teaching methods are employed, from didactic lectures based on current evidence that are made available online, to tutorials that are underpinned by a social constructivist approach to building knowledge, using the discussion of case studies to develop diagnostic skill. You will develop competency in neurological and orthopaedic examination and in developing a differential diagnosis based on the patient's signs and symptoms at clinical presentation. The knowledge and skills acquired during this unit are fundamental for diagnostic competence in chiropractic practice.

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:

Perform the clinical neuromusculoskeletal history taking and examination competently
Show an ability to draw on acquired theoretical knowledge (anatomy, physiology, pathology, diagnostic test accuracy and clinometrics) in order to tailor the physical examination to the clinical presentation of the patient and from this develop a differential diagnosis and clinical management plan.

Develop strong clinical reasoning skills and the ability to diagnose conditions that are suitable or contraindicated in chiropractic care, including conditions of non-musculoskeletal origin

Demonstrate the ability to find, select and critique appropriate literature to answer an identified question to direct clinical diagnosis and management. Use acquired knowledge to evaluate conditions, research these cases further using appropriate reference material and communicate findings

Participate in practical sessions in which the knowledge acquired from texts and lectures is applied in a group situation. Reason, question and communicate your understandings to your peers and tutors as you complete tasks set in the practicals. It is intended that you demonstrate foundational learning skills including active engagement in the learning process

Develop a respect and empathy for patients, and an ethical and professional attitude to health care. In this regard, you should develop a commitment to remain informed and up-to-date in your profession

General Assessment Information

The Semester 1 University Examination period is from: 12th of June – 29th of June, 2018.

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. The University's Special Consideration Policy can be found at <https://staff.mq.edu.au/work/strategy-planning-and-governance/university-policies-and-procedures/policies/special-consideration>. Information can also be found at <https://students.mq.edu.au/study/my-study-program/special-consideration>

Students with a pre-existing disability/health condition or prolonged adverse circumstances may be eligible for ongoing assistance and support. Such support is governed by other policies and may be sought and coordinated through [Campus Wellbeing and Support Services](#).

If a supplementary examination is granted as a result of special consideration, the examination will be scheduled after the conclusion of the official examination period.

If you receive special consideration for the final exam, a supplementary exam will be scheduled in the interval between the regular exam period and the start of the next session. By making a special consideration application for the final exam you are declaring yourself available for a resit during the supplementary examination period and will not be eligible for a second special consideration approval based on pre-existing commitments. Please ensure you are familiar with the policy prior to submitting an application. You can check the supplementary exam information page on FSE101 in iLearn (bit.ly/FSESupp) for dates, and approved applicants will receive an individual notification one week prior to the exam with the exact date and time of their supplementary examination.

NOTE: Supplementary exams will be set at a higher difficulty level than exams scheduled in the normal examination period. Supplementary exams may also be in a different format to the exam set in the normal examination period e.g. oral examination.

You are advised that it is Macquarie University policy not to set early examinations for individuals or groups of students. You are expected to ensure that you are available until the end of the teaching semester that is the final day of the official examination period.

Returning Assessment Tasks

1. The case study will be returned in the first tutorial of semester 2, and feedback will be given.
2. OSCE: Scoring sheets will be returned to students for feedback purposes.
3. Examination: Papers will not be returned. Marks will be incorporated into the final unit grade.

Extensions and penalties

Extensions to assignments are at the discretion of the unit convenor. It is your responsibility 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.

Assessment Tasks

Name	Weighting	Hurdle	Due
<u>Orthopaedics OSCE I</u>	15%	No	Week 6
<u>Neurology OSCE I</u>	10%	No	Week 8
<u>Orthopaedics OSCE II</u>	15%	No	Week 12
<u>Neurology OSCE II</u>	10%	No	Week 13
<u>Neurology Case Study</u>	10%	No	Week 11
<u>Final Examination</u>	40%	No	Examination Period

Orthopaedics OSCE I

Due: **Week 6**

Weighting: **15%**

Invigilated practical assessment

On successful completion you will be able to:

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- Participate in practical sessions in which the knowledge acquired from texts and lectures is applied in a group situation. Reason, question and communicate your understandings to your peers and tutors as you complete tasks set in the practicals. It is intended that you demonstrate foundational learning skills including active engagement in the learning process
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Neurology OSCE I

Due: **Week 8**

Weighting: **10%**

Invigilated practical assessment

On successful completion you will be able to:

- Perform the clinical neuromusculoskeletal history taking and examination competently
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Orthopaedics OSCE II

Due: **Week 12**

Weighting: **15%**

Invigilated practical assessment

On successful completion you will be able to:

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Neurology OSCE II

Due: **Week 13**

Weighting: **10%**

Invigilated practical assessment

On successful completion you will be able to:

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Neurology Case Study

Due: **Week 11**

Weighting: **10%**

Non-invigilated case study write up

On successful completion you will be able to:

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- Develop strong clinical reasoning skills and the ability to diagnose conditions that are suitable or contraindicated in chiropractic care, including conditions of non-musculoskeletal origin
- Demonstrate the ability to find, select and critique appropriate literature to answer an identified question to direct clinical diagnosis and management. Use acquired knowledge to evaluate conditions, research these cases further using appropriate reference material and communicate findings

Final Examination

Due: **Examination Period**

Weighting: **40%**

3 hour closed-book invigilated final examination

On successful completion you will be able to:

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- Show an ability to draw on acquired theoretical knowledge (anatomy, physiology, pathology, diagnostic test accuracy and clinometrics) in order to tailor the physical examination to the clinical presentation of the patient and from this develop a differential diagnosis and clinical management plan.
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Delivery and Resources

Strand 1: Orthopaedics

One 2 hour lecture for orthopaedics is scheduled on Mondays in weeks 1-13 , and one 2 hour lecture in weeks 3 - 11 on Wednesday in Semester 1, 2018

A 2 hour tutorial for orthopaedics is scheduled on Thursdays in weeks 2-12 in Semester 1, 2018

Notes are summarised under 'Lectures' and 'Tutorials' on iLearn for CHIR 873

Required:

1. Magee D.J. (2013). *Orthopaedic Physical Assessment*. 6th Edition. W.D Saunders, Philadelphia

Recommended Reading

1. Brukner P, Khan, K. (2011) Brukner & Khan's Clinical Sports Medicine. 4th Ed. McGraw-Hill Book Company Australia.
2. Souza TA. (1997) Differential Diagnosis for the Chiropractor. Aspen Publications.
3. Hammer W. 3rd Ed. Functional Soft Tissue Examination & Treatment by Manual Methods. Jones and Barlett, Sudbury Massachusetts.
4. Evans RC. (2008) Illustrated Orthopaedic Physical Assessment. Mosby.

NOTE: Weekly tutorial case reports, clinimetric tools, and readings will be made available through iLearn.

Strand 2: Neurology

One 2 hour lecture for neurology is scheduled on Tuesdays in weeks 1-12, and one 2 hour lecture in weeks 1 - 2, and 12 on Wednesday, in Semester 1, 2018

A 2 hour tutorial for neurology is scheduled on Wednesdays in weeks 2-13 in Semester 1, 2018

Notes are summarised under 'Lectures' on iLearn for CHIR 873 and in the tutorial course manual for neurology, available at the Co-Op.

Required:

1. Blumenfeld H (2010) *Neuroanatomy through Clinical Cases*. 2nd ed. Sinauer Associates Inc, Massachusetts. Distributed by Palgrave Macmillan, Victoria, Australia.
2. CHIR873 - Neurology *Tutorial Course Manual* – available at Co-op bookshop. Macquarie University Printery.

Recommended:

- Gates P (2010) *Clinical Neurology A Primer*. Churchill Livingstone Elsevier, Sydney, Australia
- Kandel ER et al (2000) *Principles of Neural Science*, 4th ed. McGraw-Hill, New York.
- Souza TA (2005) *Differential diagnosis and management for the chiropractor* 3rd ed. Jones & Bartlett Pub, Massachusetts.

Required Diagnostic Equipment (Neurological Diagnosis Kit):

1. A diagnostic set with otoscope and ophthalmoscope (Welsh Allen series 97200-BI

recommended - ~\$515)

2. A tailor's measuring tape
3. A 128 and 512Hz tuning fork (Al weighted)
4. Neurotips (no sewing pins or pinwheels allowed strictly by OHS/Biosafety regulations)
5. Large stem ear buds
6. Disposable tongue depressors
7. Tomahawk reflex hammer

Please note that: You must attend and participate in at least 10 of the 12 weekly practical classes to pass this unit. This is a hurdle requirement . Student roll will be taken.

Unit Schedule

The Neurology Timetable:

Start Date of wk	Lecture (Tuesday, 10 – 12 am)	Lecture (Wednesday, 9-11am)	Tutorial (Wednesday 2 - 4, 4 - 6 pm)
26 Feb	Introduction to Clinical Neurology Pain	Nerve Tension Tests	None
5 Mar	Pain	Nerve Tension Tests and Mobilisations	Nerve Tension Tests and Mobilisations
12 Mar	Altered cognition		Nerve Tension Tests and Mobilisations
19 Mar	Psychiatric disorders Seizures		Neurological History Taking The Neuroexam: mental status
26 Mar	Eye Presentations		Neuroexam: mental status
Easter3 April	Eye Presentations continued Hearing and Balance Presentations		Neuroexam: cranial nerves
9 April	Hearing and Balance Presentations Continued		Neuroexam: cranial nerves
16 April – 27 April: Mid-semester Break			

30 April	Cerebrovascular Disease and Brain Neoplasms		Neuroexam: OSCE
7 May	Lesions of the Spinal Cord and Localisation of the Lesion		Neuroexam: cranial nerves
14 May	Lesions of the Spinal Cord and Localisation of the Lesion continued		Neuroexam: motor
21 May	Common Lesions of the NS		Neuroexam: motor
28 May	Common Lesions of the NS continued	Common Lesions of the NS continued	Neuroexam: sensory
4 June			OSCE

Orthopaedics Timetable

WEEK	LECTURE 1	LECTURE 2	Tutorial
1	Introduction to Orthopaedics (M.Fernandez)	Neurology Lecture	No Tutorial
2	Lower Back Pain due to Serious pathology (M.Fernandez)	Neurology Lecture	Orthopaedic Assessment of the Lumbar Spine – Part I
3	Lower Back Pain with Associated Radiculopathy I (M.Fernandez)	Lower Back Pain with Associated Radiculopathy II (M.Fernandez)	Orthopaedic Assessment of the Lumbar Spine – Part II
4	Lumbar Spine Spondylosis and Stenosis (M.Fernandez)	Lumbar Spine Spondylolysis and Spondylolisthesis (M.Fernandez)	Orthopaedic assessment of Lumbar Spine Stability, and Generalised Hypermobility

5	Lumbar Instability and Hypermobility (M.Fernandez)	Non-Specific Lower Back Pain (M.Fernandez)	Orthopaedic Assessment of the Sacroiliac Joint and Coccyx
6	Disorders of the sacroiliac Joint and Coccyx (M.Fernandez)	Leg Length Discrepancy (M.Fernandez)	Orthopaedics OSCE 1
Mid Semester Break April 16th – 27th, 2017			
7	Orthopaedic Assessment of the Older Patient (M.Fernandez)	Soft tissue causes of hip pain (M.Pribicevic)	Orthopaedic Assessment of the Hip - Part I
8	Myofascial & neural causes of hip pain (M.Pribicevic)	Osteological Causes of Hip Pain (M.Pribicevic)	Orthopaedic Assessment of the Hip - Part II and Knee - Part I
9	Meniscal and cruciate ligament injuries (M.Fernandez)	Collateral injuries, rotatory instability and myofascial disorders of the knee (M.Fernandez)	Orthopaedic Assessment of the Knee – Part II
10	Patellofemoral and growth plate disorders of the knee (M.Fernandez)	Injuries of the lower leg and ankle (M.Fernandez)	Orthopaedic Assessment of the Foot and Ankle - Part I
11	Nerve entrapment in the lower extremity (M.Fernandez)	Joint & ligament disorders of the ankle (M.Fernandez)	Orthopaedic Assessment of the Foot and Ankle - Part II

12	Disorders of the mid-foot, forefoot and toes (M.Fernandez)	Neurology Lecture	Orthopaedics OSCE 2
13	No Lecture	Review Lecture (B.Brown)	No Tutorial

Policies and Procedures

Macquarie University policies and procedures are accessible from [Policy Central](https://staff.mq.edu.au/work/strategy-planning-and-governance/university-policies-and-procedures/policy-central) (<https://staff.mq.edu.au/work/strategy-planning-and-governance/university-policies-and-procedures/policy-central>). Students should be aware of the following policies in particular with regard to Learning and Teaching:

- [Academic Appeals Policy](#)
- [Academic Integrity Policy](#)
- [Academic Progression Policy](#)
- [Assessment Policy](#)
- [Fitness to Practice Procedure](#)
- [Grade Appeal Policy](#)
- [Complaint Management Procedure for Students and Members of the Public](#)
- [Special Consideration Policy](#) (**Note:** *The Special Consideration Policy is effective from 4 December 2017 and replaces the Disruption to Studies Policy.*)

Undergraduate students seeking more policy resources can visit the [Student Policy Gateway](https://students.mq.edu.au/support/study/student-policy-gateway) (<https://students.mq.edu.au/support/study/student-policy-gateway>). It is your one-stop-shop for the key policies you need to know about throughout your undergraduate student journey.

If you would like to see all the policies relevant to Learning and Teaching visit [Policy Central](https://staff.mq.edu.au/work/strategy-planning-and-governance/university-policies-and-procedures/policy-central) (<https://staff.mq.edu.au/work/strategy-planning-and-governance/university-policies-and-procedures/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/study/getting-started/student-conduct>

Results

Results shown in *iLearn*, or released directly by your Unit Convenor, are not confirmed as they are subject to final approval by the University. Once approved, final results will be sent to your student email address and will be made available in [eStudent](#). For more information visit ask.mq.edu.au.

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://www.mq.edu.au/about_us/offices_and_units/information_technology/help/.

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

Graduate Capabilities

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

- Perform the clinical neuromusculoskeletal history taking and examination competently
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diagnosis and clinical management plan.

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Assessment tasks

- Orthopaedics OSCE I
- Neurology OSCE I
- Orthopaedics OSCE II
- Neurology OSCE II
- Neurology Case Study
- Final Examination

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

- Perform the clinical neuromusculoskeletal history taking and examination competently
- Show an ability to draw on acquired theoretical knowledge (anatomy, physiology, pathology, diagnostic test accuracy and clinometrics) in order to tailor the physical examination to the clinical presentation of the patient and from this develop a differential diagnosis and clinical management plan.

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Assessment tasks

- Orthopaedics OSCE I
- Neurology OSCE I
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- Neurology OSCE II
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- Final Examination

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

- Perform the clinical neuromusculoskeletal history taking and examination competently
- Show an ability to draw on acquired theoretical knowledge (anatomy, physiology, pathology, diagnostic test accuracy and clinometrics) in order to tailor the physical examination to the clinical presentation of the patient and from this develop a differential diagnosis and clinical management plan.

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- Final Examination

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 outcomes

- Perform the clinical neuromusculoskeletal history taking and examination competently
- Show an ability to draw on acquired theoretical knowledge (anatomy, physiology, pathology, diagnostic test accuracy and clinometrics) in order to tailor the physical examination to the clinical presentation of the patient and from this develop a differential diagnosis and clinical management plan.
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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

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and communicate findings

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- Final Examination

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

- Perform the clinical neuromusculoskeletal history taking and examination competently
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