

PHTH 623 DIFFERENTIAL DIAGNOSIS AND MANAGEMENT

Credits:	4
Prerequisites:	Successful completion of all U3/qualifying year courses including Clinical Affiliation requirements
Instructors:	Julien Bernier, Pht, FCAMPT, MSc (Course co-coordinator/Instructor) Office: HH 203, Email: Julien.bernier@mcgill.ca Jasmine Pollice, pht, FCAMPT, MCISc (Course co-coordinator/instructor) Office: HH 203, Email: jasmine.pollice@mcgill.ca Various clinicians during in-person labs Office hours available by appointment (In-person or virtual via Zoom)

Course Description: This course is the last in a series of 3 courses constituting the core musculoskeletal curriculum. In this course, more complex musculoskeletal conditions will be addressed in order to provide students with higher level Physical Therapy skills in patient evaluation and treatment.

The course will provide M1 students with the opportunity to build upon their previous musculoskeletal skills gained in PHTH 550 and 560, and to integrate assessment and treatment approaches with client care experiences gained from their clinical rotations. The course will prepare the students for differential diagnosis in a clinical setting.

Course Structure: The course is made up of a combination of lectures, directed labs and clinical reasoning workshops (CRW) over 13 weeks. Classes are currently scheduled to be held in a synchronous, in-person format.

On a weekly basis, the schedule is as follows (subject to change):

- 1 lecture of 3 hours
- 1 lab of 4 hours

There are 4 CRWs (3 hours) scheduled throughout the semester.

Open labs will be scheduled based on approval from the school direction and the availability of instructors and facilities as per students' request.

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Note that the number of hours will vary from one week to another and at times could be more or could be less than what is listed above. Course schedule details will be posted at the beginning of the term on MyCourses.

Instructional Method:

All class material will be posted either on MyCourses or on Microsoft SharePoint.

Lectures will be taught in-person. However, remote lecture may be used if needed. Clinical skills labs will be practiced during in-person labs at the School of Physical and Occupational Therapy. Videos of the clinical skills labs will be posted on Microsoft SharePoint. Clinical reasoning workshops (CRW) will be delivered in-person (subject to change).

The course emphasizes a gradual increase in student responsibility for the course material.

Polling may be used at times during this course during remote classes. Polling may be done via the polling system integrated in Zoom, Kahoot, or via the official McGill polling system, Vevox. When used in the course, polling will be used to enhance students' engagement and increase interaction in the class.

- During a class with polling questions, you will respond to questions from the instructor from a personal device (smartphone, tablet, or laptop).
- Students should come to class with their devices charged and connected to the Internet.
- For any technical problems with polling, please contact the IT Service Desk: <http://www.mcgill.ca/it/get-started-it/need-help>.
- If you do not have a phone, tablet, or laptop to use to respond to polling questions, please contact the instructor immediately such that appropriate arrangements can be made.
- To maintain a safe and respectful classroom environment, please ensure that any polling responses you submit are appropriate and relevant to the question asked. Please note that unless the poll is labelled as anonymous, your responses are identifiable to the instructor. Please see the Code of Student Conduct and Disciplinary Procedures.

Expectations for Student Participation: All students are expected to attend in-person lecture and prepare any related material (readings, videos, flexible lectures) prior to the lectures. When necessary, students are also expected to watch pre-recorded lectures or attend fixed remote lectures. All students are also expected to attend all in-person labs unless they receive prior approval from the course coordinators or have a University accepted reason for not participating

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in a specific lab (refer to Attendance policy below). Although videos will be shown in class or live demonstration will be done in class, students are strongly encouraged to watch pre-recorded lab videos prior to their respective in-person labs. Students are also expected to attend any remote mandatory fixed sessions on Zoom. During Zoom's fixed remote session, students are expected to participate via the chat when the chat is open for questions or click on the "Raise Hand" sign when discussion are done with the whole class. Although not mandatory, students are strongly encouraged to turn on their videos during small groups discussions and breakout rooms of clinical reasoning workshops. All students are expected to participate during the small group discussion in breakout rooms. All students are expected to adhere to the instructors' class conduct/instructions during remote online fixed sessions. During in-person clinical reasoning workshops, all students are expected to attend and participate in the discussion. Attendance will be taken for all in-person labs, in-person clinical reasoning workshops and all remote online mandatory fixed sessions. When offered, office hours will be optional. Appropriate attire must be worn during practical sessions (ie shorts, tank tops that allow for easy assessment of regions being evaluated/treated). Please adopt appropriate hand hygiene throughout lab sessions.

Recording of Sessions: Please read the Guidelines on Remote Teaching and Learning [<https://www.mcgill.ca/tls/instructors/class-disruption/strategies/guidelines-remote>] and the course outline for this course in myCourses. You will be notified through a 'pop-up' box in Zoom if a lecture or portion of a class is being recorded. By remaining in sessions that are recorded, you agree to the recording, and you understand that your image, voice, and name may be disclosed to classmates. You also understand that recordings will be made available in myCourses to students registered in the course. If needed, some remote mandatory fixed sessions may be recorded and posted on MyCourses. Labs, CRW and office hours will not be recorded unless otherwise specified. In-person lectures may or may not be recorded via the McGill lecture recording system when classes are taught in classrooms allowing this service. Otherwise, lectures will not be recorded.

Course Content: The course focuses on the assessment and treatment of simple orthopedic conditions.

Lectures and preparatory Lecture material will consist of a review of the relevant anatomy, biomechanics, clinical presentation, and treatment options of less common/more complex musculoskeletal conditions. Labs will consist of learning spinal and extremity biomechanical exams

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and further develop treatment techniques. The CRWs will focus on developing clinical reasoning skills via a case-based, client-centered approach (using H-SOAPIER format) and involve problem-solving of clinical scenarios.

Professional, ethical, functional, and psychosocial issues will be considered when assessing and treating patients of different age groups with different orthopedic conditions/injuries.

The structure of the course is divided into three (3) modules as follows:

1. Module 1: Lumbosacral spine, hip, knee, ankle/foot and pelvic floor (4 weeks)
2. Module 2: Shoulder, elbow, wrist/hand, cervical spine (5 weeks)
3. Module 3: Headache differentiation, dizziness differentiation, thoracic spine (3 weeks)

Learning Outcomes

General Learning outcomes: This course will cover essential competencies and milestones related to the domains of physiotherapy expertise, communication, collaboration, management, scholarship and professionalism. Upon completion of this course and building on previously learned orthopaedic knowledge, the student will be able to evaluate and treat clients with *more complex conditions* (medical diagnosis) affecting the musculoskeletal system, using an evidence-informed approach.

Specific Learning Outcomes

Learning objectives	Milestones
1. Demonstrate evidence of theoretical knowledge and practical skills in the following areas relevant to musculoskeletal rehabilitation:	
a. Theory of Manual Therapy 1. Evidence-informed application to the practice of physiotherapy • Role of joint and soft-tissue mobilisation • Principles of joint mobilisations ○ Osteokinematics and arthrokinematics ○ Passive accessory glides ○ End feel - normal vs. abnormal ○ Biomechanical vs neurophysiological effects	6.1.1
b. Aetiology, epidemiology, pathophysiology, assessment & management of simple musculoskeletal pathologies of the extremities and the spine.	6.1.1
c. Basic and advanced components of a physiotherapy scan/assessment 1. Self-reported outcome measures / screening questionnaires 2. Lower quadrant scan / Lumbar assessment	1.3.7, 1.4.1, 6.1.1

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Learning objectives	Milestones
3. Upper quadrant scan / Cervical assessment 4. Assessment of the extremities 5. Assessment of the thoracic spine and sacro-iliac joint 6. Introduction to assessment of pelvic floor dysfunctions	
d. Stability tests and special tests related to simple musculoskeletal pathologies 1. Application 2. Interpretation 3. Psychometric properties 4. Individual vs. clusters of tests	1.3.7, 1.4.1, 6.1.1
e. Introduction to manipulation theory and techniques, compliant with OPPQ guidelines to obtain the peripheral manipulation attestation upon successful completion of the course (requests to obtain the attestation upon course completion must be made via the following form: Formulaire de demande de délivrance après moins de 3 ans de la réussite de la formation donnant accès à l'attestation) 1. Indications 2. Contra-indications 3. Informed-consent 4. Practical manipulation techniques 5. Post-manip care	1.5.3, 6.1.1
2. Relate the theoretical knowledge and practical skills described above in order to perform a full physiotherapy assessment of clients with simple and complex musculoskeletal conditions affecting the extremities and spine.	
a. Demonstrate verbal and written communication skills in order to 1. Interact with clients, care-givers and other health care professionals in a manner which promotes: 1. the clients' and/or care-givers' dignity and autonomy 2. respectful, ethical and professional relationships 2. Conduct a client interview, including 1. relevant past medical history 2. relevant subjective information 3. personal, medical, environmental, psychosocial and cultural factors which may affect management 3. Write a client assessment and intervention using the H-SOAPIER format	1.1.1 to 1.1.6, 1.3.1 to 1.3.6, 2.1.1 to 2.1.4, 2.2.1 to 2.2.3, 2.3.1 to 2.3.3, 2.3.5, 7.4.1., 7.4.2, 7.4.5

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Learning objectives	Milestones
4. Document the findings of standardized outcome measures 5. Write a progress note	
b. Collect relevant objective findings	1.3.7
c. Select and apply manual therapy techniques and special tests appropriate to adult patient's condition	1.3.7
d. Ensure a safe environment for client and therapist at all times 1. Identify contraindications to orthopedic conditions 2. Recognize "red flags" which indicate the presence of serious pathology (and need for physician referral)	1.2.1 to 1.2.3, 1.4.6
3. Further develop the application of clinical reasoning skills in order to establish a physiotherapy diagnosis	
a. Collect subjective and objective findings in order to 1. Name the structures that could be at fault 2. Differentiate potential sources of pain and likely causes 3. Identify the severity, irritability and nature of the condition 4. Recognize the supporting and negating evidence related to the patient's condition 5. Interpret assessment techniques including manual therapy techniques, stability tests and special tests 6. Elaborate simple or complex working PT hypotheses	1.4.1, 1.4.3, 1.4.4, 6.1.1, 6.1.3
4. Develop and apply an evidence-informed intervention plan related to the physiotherapy diagnosis for clients with simple or complex musculoskeletal conditions affecting the extremities and spine.	
a. Make use of treatment protocols and clinical practice guidelines	1.5.2, 1.5.3, 6.1.1 to 6.1.5
b. Make use of technologies and evidence-informed online resources	2.4.2, 2.4.3, 6.1.1 to 6.1.5
c. Write a problem list based on the WHO International Classification of Functioning, Disability and Health Model	1.4.2, 3.1.1
d. Determine short and long-term client-centered goals	1.1.1, 1.1.3, 1.5.1, 3.1.2
e. Identify appropriate outcome measures that will be used to reassess client status and needs	1.5.6
f. Develop and apply treatment plan to address the problem list and goals which consists of education, modalities, manual therapy,	1.5.2 to 1.5.5, 7.2.1

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Learning objectives	Milestones
taping, exercise prescription, gait training, postural retraining and functional or work-related retraining	
g. Predict a realistic prognosis, anticipate frequency of visits and discharge planning	1.4.4, 1.6.2
h. Educate client regarding his/her condition and its management 1. Promote active self-management	1.5.4
i. Monitor client status by evaluating the effectiveness of the interventions and adapt/modify the interventions, treatment plan and goals based on the client's response and progress	1.5.5 to 1.5.7
j. Recognize the need for referral to other services/health care professionals if required including 1. MD if client came from direct access 2. OT for return to work or ergonomics 3. Psychologist as needed 4. Other health care professionals as needed	1.4.6, 3.1.1, 3.2.1
k. Determine when client discharge is appropriate and develop a discharge or transition of care plan	1.5.2, 1.6.2

Course Materials

In order to participate in this course, you will need to ensure that you have adequate access to the internet and IT devices to be able to: i) download/upload content on MyCourses, ii) stream recorded lectures and videos (MyCourses, Microsoft SharePoint), iii) participate in remote fixed session via Zoom if applicable, iv) participate in polling activities and v) submit assignments for this course.

Required texts: None

Reference texts:

1. Whitmore, S., Gladney, K. & Driver, A. (2008). The upper Quadrant: A workbook of Manual Therapy Techniques, 2nd Edition. Whitmore Physiotherapy Consulting Inc. Canada.
2. Whitmore, S., Gladney, K. & Driver, A. (2008). The lower Quadrant: A workbook of Manual Therapy Techniques, 2nd Edition. Whitmore Physiotherapy Consulting Inc. Canada.

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3. Dutton (2020). Orthopaedic Examination, evaluation & intervention. 5th ed. McGraw-Hill Education.
4. Magee, D. J., & Manske, R. C. (2021). Orthopedic physical assessment (Seventh, Ser. Musculoskeletal rehabilitation series), Saunders (Elsevier), St. Louis, MO. Available online at the McGill Library.
5. Olson Kenneth A. (2016). Manual physical therapy of the spine. 2nd ed. Elsevier. Available online at the McGill Library.

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Assignments and Evaluation

Assignment/Evaluation	Value	Description	Milestones Assessed
Participation (quizzes, lab presence)	5%	4 Clinical Reasoning Workshops Informal spot-checks	1.3.4, 1.3.5, 1.3.6, 1.4.1 to 1.4.6, 1.5.1, 1.5.2, 1.6.2, 2.2.3, 2.4.3, 6.1.1, 6.1.2
Mini-Project (Concussion CRW)	5%	10-minute group presentation on various concussion-related outcome measures	1.3.4, 1.3.5, 1.3.6, 1.4.1 to 1.4.6, 1.5.1, 1.5.2, 1.6.2, 2.2.3, 2.4.3, 6.1.1, 6.1.2
Written exams (in-person):	45%	Module 1 (15%) Module 2 (15%) Module 3 (15%)	1.2.1, 1.3.5, 1.3.7, 1.4.1 to 1.4.4, 1.5.2, 1.5.7, 2.2.1, 2.2.3, 6.1.1, 6.1.2, 6.1.4 1.1.1, 1.2.1, 1.4.1 to 1.4.4, 1.5.2, 2.2.1, 2.2.3, 6.1.1, 6.1.2
Objective Structured Clinical Examination (OSCE):	45%	Midterm OSCE (20%) Final OSCE (25%)	1.1.1, 1.1.4, 1.1.5, 1.1.6, 1.2.1 to 1.2.4, 1.3.5, 1.3.7, 1.4.1, 1.4.3, 1.4.4, 1.4.5, 1.5.2 to 1.5.5, 1.5.7, 2.1.1 to

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Assignment/Evaluation	Value	Description	Milestones Assessed
			2.1.4, 2.3.1 to 2.3.5, 4.2.3, 4.2.4, 4.3.4, 6.1.1 to 6.1.4, 7.4.5, 7.4.6

***In the event of extraordinary circumstances beyond the University's control, the content and/or evaluation scheme in this course is subject to change.**

Review of marks: Students who are dissatisfied with a mark must discuss the matter with the course instructor within **one calendar week** of receiving their mark. Following a discussion of the student's concerns, the instructor may decide to change their mark or leave it unchanged (please refer to the 2022-2023 SPOT Rule & Regulations document found on the SPOT website for further details).

Special Requirements for Course Completion and Program Continuation: In order to pass the course, a grade of at least B- (65%) must be obtained as a total course mark. This course falls under the regulations concerning theoretical and practical evaluation as well as individual and group evaluation. Please refer to the section on marks in the Rules and Regulations for Student Evaluation and Promotion of the Physical Therapy Course Guides.

Plagiarism/Academic Integrity: McGill University and the Faculty of Medicine and Health Sciences value academic integrity. Therefore, all students must understand the meaning and consequences of cheating, plagiarism and other academic offences under the [McGill University Code of Student Conduct and Disciplinary Procedures](#) and the [Faculty of Medicine and Health Sciences Code of Conduct](#)

L'université McGill et Faculté de Médecine et des Sciences de la Santé attachent une haute importance à l'honnêteté académique. Ils incombent par conséquent à tous les étudiants de comprendre ce que l'on entend par tricherie, plagiat et autres infractions académiques, ainsi que les conséquences que peuvent avoir de telles actions, selon le [Université de McGill Code de conduite de l'étudiant et des procédures disciplinaires](#) et [Faculté de médecine et des sciences de la santé](#).

Right to submit in English or French written work that is to be graded: In accord with McGill University's Charter of Students' Rights, students in this course have the right to submit in English or in French any written work that is to be graded. Conformément à la Charte des droits de l'étudiant de l'Université McGill, chaque étudiant a le droit de soumettre en français ou en anglais tout travail écrit devant être noté (sauf dans le cas des cours dont l'un des objets est la maîtrise d'une langue).

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Consequences of not completing assignments as requested: An individual who does not complete a required assignment and does not have a university recognized reason for deferral would receive a 0 in that portion of the evaluation.

Equity, Diversity and Inclusion: The instructors in this course recognize the importance of equity, diversity and inclusion as well as safe learning environment. We understand the various backgrounds and identities that compose this group and want to ensure that these identities are respected. If you identify yourself to a group and would like to be acknowledged a certain way, please let us know via email or in-person. If you would like us to refer to you by a different name indicated in your student record, please also let us know via email or in-person.

Course Accessibility: As the instructors of this course, we endeavor to provide an inclusive and safe learning environment. If you have a disability, please contact the instructor to arrange a time to discuss your situation. It would be helpful if you contact the [Student Accessibility and Achievement office](#) at 514-398-6009 before you do this. Please refer to the SPOT Process – McGill’s Student Accessibility and Achievement Office at: https://www.mcgill.ca/spot/files/spot/accommodation_information_pt_2022.pdf.

Mental Health: Many students may face mental health challenges that can impact not only their academic success but also their ability to thrive in our campus community. Please reach out for support when you need it; many [resources](#) are available on-campus, off-campus and online

Attendance: Students are expected to attend all lectures and are required to attend all clinical reasoning workshops and labs. Students who have missed more than 15% of laboratory or small group sessions, or who miss any required professional workshop or seminar, without prior approval, will receive 0/5 for participation in the course. If a course does not have a participation mark, then the final course mark will be deducted by a 5% mark. This rule applies to labs and to all required workshops, seminars or professional activities.

Dress Code: Students are expected to demonstrate professional behaviour and wear appropriate attire at all times, in accordance with clinical sites specific regulations. It is each student’s responsibility to have appropriate attire during all class assignments and learning activities. When working with clients or simulated patients, **students must be dressed professionally.**

*Appropriate attire must be worn during practical sessions (i.e. shorts and tank tops that allow for easy assessment of back and limbs being examined).

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*Please adopt appropriate “hand hygiene” (regularly washing hands, clean and short fingernails) during hands-on techniques.

Professional Conduct: Professionalism and accountability are expected throughout the course of the semester. This includes the on-going respectful nature of teacher-student as well as student-student interactions. **Should you have any concerns, please do not hesitate to communicate with the course coordinators.**

Technology in Class: Your respectful and attentive presence is expected; therefore while you are permitted to use your laptop and tablets in class, it is understood that you will not be using any electronic devices for social purposes during class time. All devices should be on silent during class time and phone calls should only take place during the break or after class.

Course evaluations: End-of-course evaluations are one of the ways that McGill works towards maintaining and improving the quality of courses and the students’ learning experience. You will be notified by e-mail when the evaluations are available.

Additional policies governing academic issues which affect students can be found in the [Academic Rights and Responsibilities](#)