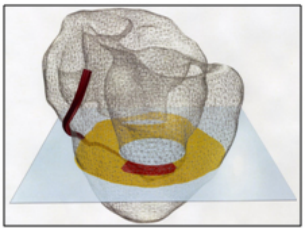
Université de Montréal






Position for Ph.D or post-doctoral student(S)

Research Supervisor : Dany Gagnon, pht, PhD
School of Rehabilitation
Faculty of Medicine, University of Montreal
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Research Group : Center for Interdisciplinary Research in Rehabilitation of the Greater Montreal
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Proposed Research Projects in Rehabilitation Sciences, Biomedical Sciences or Bio-Engineering:

Project #1: Biomechanical Assessment of Manual Wheelchair Propulsion Among Individuals with a Spinal Cord Injury: Toward a Better Understanding

Project #2: Preserving Upper Extremity Integrity and Optimizing Performance During Sitting Pivot Transfers in Individuals with a Spinal Cord Injury]

Aims of the Research Projects:

- **Advancing Knowledge on Manual Wheelchair Propulsion and Wheelchair-Related Activities**

  Specific aim: To better understand upper extremity exposure to physical strains (forces, moments, etc.) and to identify the determinants and limiting factors (upper extremity strength, seated postural stability, etc.) of manual wheelchair propulsion and wheelchair-related functional activities using comprehensive biomechanical approaches.

- **Proposing Prevention Strategies and Creating Innovative Rehabilitation Training Programs**

  Specific aim: To refine clinical practice guidelines and to test innovative rehabilitation interventions aimed at preserving U/E integrity, reducing the risk of falls, and optimizing performance during manual wheelchair propulsion and wheelchair-related functional activities.

Références :

Gagnon, D., Desjardins, P., Nadeau, S., Noreau, L. (2008) Biomechanical assessment of sitting pivot transfer tasks using a newly-developed instrumented transfer system. Journal of Biomechanics 41(5); 1104-1110.

Gagnon, D., Desjardins, P., Nadeau, S., Noreau, L. (2008) Biomechanical assessment of sitting pivot transfer tasks using a newly-developed instrumented transfer system. Journal of Biomechanics 41(5); 1104-1110.

Gagnon, D., Nadeau, S., Dehail, P., Noreau, L., Gravel, D. (2008) Quantification of reaction forces during independent sitting pivot transfers performed by individuals with spinal cord injury. Journal of Rehabilitation Medicine, 40 (6); 468-476.

Gagnon, D., Verrier MC, Masani K, Nadeau S, Aissaoui R, Popovic, M. (2009) Effects of trunk impairments on wheelchair propulsion and wheelchair-related activities among individuals with spinal cord injury: Present knowledge and future directions. Topics in Spinal Cord Injury Rehabilitation 15(2); 59-70.

Rice I,* Gagnon D, Gallagher J, Boninger M. Hand-rim wheelchair propulsion training using biomechanical real time visual feedback based on motor learning theory principles. Journal of Spinal Cord Medicine [Accepted]

Collinger JL,* Gagnon D, Jacobson J, Impink BG, Boninger ML. Reliability of quantitative ultrasound measures of the biceps and supraspinatus tendons. Academic radiology [In Press].

Key Words : Rehabilitation, Spinal Cord Injury, Functional Activities, Upper Extremity, Balance, Biomechanics

Requirements :

- Capability to read, write and speak English or French is highly desirable
- Previous experience of conducting research in Higher Education in areas related to human performance/biomechanics (kinematics, kinetics, electromyography or dynamometry assessment(s)) is welcomed; Computer programming skills are welcomed; Knowledge of statistics software (i.e., SPSS et SAS) is welcomed.

Contact: Interested candidates should send their complete CV, university transcripts as well as 2-3 references, to the attention of : dany.gagnon.2@umontreal.ca