



**McGILL UNIVERSITY**  
**Faculty of Medicine**  
**School of Communication Sciences & Disorders**  
**Winter 2020**

**Neuromotor Disorders**  
**SCSD-609**

**Number of Credits: 3 Credit**  
**Course Time: Fridays 8:45 to 10:45**  
**Location: SCSD, Room 862**

**Instructors**

**Suzanne Lalonde, M.Sc., S-LP(c) and Keren Ritter M.Sc., S-LP(c)**  
Speech-language Pathologist  
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**Office Hours:** Friday 8:00-8:45 in room 862 upon requests. Phone consultation is possible by appointment. Please contact us by email.

**COURSE OVERVIEW:** The focus of this course is on the assessment and management of motor speech disorders, associated with both acquired and developmental neuromotor disorders. It provides the basis to understand the organization and function of the nervous system in controlling speech production. The objective is to identify perceptual characteristics of various motor speech disorders, necessary to assess and treat motor speech disorders in children and adults.

**LEARNING OBJECTIVES:**

**ROLE 1: CENTRAL ROLE/CONTENT EXPERT**

<b>Foundational principles</b>	
<b>Apply knowledge of principles of clinical practice, including use of diagnostic and rehabilitation instrumentation and procedures, behavioural management, social interaction management and counselling.</b>	
Understand the structures implicated in motor speech activity, Describe the functional divisions of the motor speech system (brain structures and neurologic pathways) underlying speech.	myCourses: quiz 1 & 2 In class; Mid Term Exam
<b>Apply specialized knowledge of typical and atypical development, differences and disorders of human communication, including knowledge in each of the following areas: speech, communication modalities, cognitive and social aspects of communication, fluency, language, literacy, resonance and voice.</b>	
Differentially contrast 8 types of motor speech disorders in terms of symptoms/impairments and underlying brain damage according	In class; Mid Term Exam

to the classical taxonomy (based on Darley Aronson and Brown's classification).	
<b>Client-centeredness</b>	
<b>Incorporate client perspective of needs, values and goals into service provision.</b>	
Implement techniques on how to present assessment results and suggest a treatment plan to simulated parents of a child with childhood apraxia (CAS).	Present results of assessment to parents of a child with CAS. Present a treatment plan -SIM
<b>Assessment</b>	
<b>Conduct assessment</b>	
Conduct an oral mechanism exam with a dysarthric patient.	On site. Use the Robertson Dysarthria Profile
Analyze a sample of a motor speech disordered child	Present results of assessment to parents of a child with CAS.
Interpret the results of an assessment of a child presenting with CAS.	Write a treatment plan
Develop a realistic and measurable intervention plan for CAS	Present a CAS treatment plan -SIM
Integrate and interpret findings from the OME performed on a healthy adult. Develop a realistic and measurable intervention plan for an adult presenting with dysarthria.	Write a motor speech disorder report

## ROLE 2: COMMUNICATOR

<b>Oral and written communication</b>	
<b>Listen Actively</b>	
Actively listen to patient (simulated and live patient) to engage client and address client concerns	Present results of assessment of Childhood Apraxia of Speech-SIM Conduct an OME on a dysarthric patient
<b>Provide relevant information</b>	
Communicate with simulated parent in a manner that is appropriate and respectful to the patient (addresses parents' concerns, simplifies the information etc.), present a diagnosis and	Present results of assessment to parents of a child with CAS. Present a

help parents decide on a treatment plan.	treatment plan -SIM Present results of an OME assessment to a colleague.
<b>Documentation</b>	
<b>Comply with regulatory requirements</b>	
Comply with regulatory requirements for assessment report and treatment plan from neuromotor disorders case.	Case study report and treatment plan

### ROLE 5: SCHOLAR

<b>Evidence-informed practice</b>	
<b>Critically appraise research and other evidence in order to address client, service or practice questions.</b>	
Students will critically appraise three articles related to clinical approaches to management of neuromotor impairments.	Present clinical approaches (behavioural, surgical and instrumental) to the management of a specific neuromotor impairment.

Note: ROLE 3: COLLABORATOR, ROLE 4: ADVOCATE, ROLE 6: MANAGER and ROLE 7: PROFESSIONAL are not specifically targeted in this class

#### **INSTRUCTIONAL METHOD:**

This course consists of lectures, group presentation, simulation centre project and assignments

#### **REQUIRED COURSE MATERIALS (a copy of which is held at the school):**

Motor Speech Disorders: Substrates, Differential Diagnosis, and Management (2020) fourth edition By: Joseph Duffy, PhD, Head, Section of Speech Pathology, Department of Neurology, Mayo Clinic, Professor, Speech Pathology, Mayo Clinic College of Medicine, Rochester, MN

ISBN: 978-0-323-53054-5                      E-book available

#### **OPTIONAL COURSE MATERIALS**

American Speech-Language-Hearing Association. (2007). Childhood apraxia of speech [Technical report]. Available from: <http://www.asha.org/policy/tr2007-00278.htm>

Darley, F., Aronson, A., and Brown, J. Motor Speech Disorders. Philadelphia, W.B. Saunders Co., 1975.

Freed. D.B., Motor Speech Disorders: Diagnosis and Treatment Third edition. Plural Publishing Inc. San Diego. CA. 2020.

Lof, Gregory L. "Nonspeech Oral Motor Exercises: An Update on the Controversy." American Speech-Language-Hearing Association Convention New Orleans, LA November 20, 2009: pages 1-9 (*posted article*)

McNeil, M. (Ed) Clinical Management of Sensorimotor Speech Disorders. New York: Thieme, 1997

Murray E, McCabe P, Ballard KJ "A systematic review of treatment outcomes for children with childhood apraxia of speech." American Journal of Speech-Language Pathology 23 (3), 486-504 August 2014 (*posted article*)

Rvachew & Brosseau-Lapre, Developmental Phonological Disorders: Foundations of Clinical Practice ( 2nd Edition) San Diego, CA Plural Publishing 2016

Swigert, Nancy B. (2010) The Source for Dysarthria second edition. East Moline, IL, LinguSystems, Inc. ISBN 978-0-7606-1226-2

Yorkston, K., Beukelman, D., Strand, E., Hakel, M. Management of Motor Speech Disorders in Children and Adults. Austin, Texas: Pro-Ed, 2010

**COURSE CONTENT**

1. Knowledge of basic neuro-physiological principles of speech motor control
2. Knowledge of perceptual characteristics for differential diagnosis of various motor speech disorders
3. Acquire an understanding of the behavioral characteristics and underlying neuropathology of apraxia of speech and the various dysarthrias
4. Knowledge of assessment and treatment approaches and principles for apraxia of speech and dysarthria
5. Review of current literature in motor speech disorders
6. Knowledge of assessment and management of developmental motor speech disorders

<b>DATES</b>	<b>DESCRIPTION OF ACTIVITIES</b>	<b>READINGS page #</b>
<b>JAN. 10</b>	Introduction to Motor Speech Disorders	Duffy Chapter 1 p. 2-12 <i>Swigert p. 7-12</i> <i>Yorkston Chapter 1 p. 1-23</i>
<b>JAN. 17</b>	Neurologic bases of motor speech	Duffy Chapter 2 p. 13-56  <i>Swigert p.12-23</i>

<b>JAN. 24</b>	Examination of motor speech disorders	Duffy Chapter 3 p. 57-87  <i>Swigert p. 49-63</i> <i>Yorkston p. 25-79</i>
<b><u>JAN. 30</u></b>	<b><u>Integration Quiz – Listening skills</u></b>	<b><u>Open on myCourses from Thursday Jan. 27th 18:00 to 18:00 January 30th.</u></b>
<b>JAN.31</b>	Principles of Management of the Dysarthrias & Framework for Management  Flaccid Dysarthria & Spastic Dysarthria	Duffy Chapter 16 p. 366-391  <i>Yorkston Chapter 4 p. 113-136</i> Duffy Chapter 4 p.90-117 Duffy Chapter 5 p.118-136
<b><u>FEB. 6</u></b>	<b><u>Integration - Neurologic basis of motor speech.</u></b>	<b><u>Open on myCourses from Thursday Feb 3rd 18:00 to 18:00 February 6st.</u></b>
<b>FEB. 7</b>	<b>Guest Speaker: Arno Braman Speech-language Pathologist</b>  Ataxic Dysarthria & Mixed Dysarthria  Report writing	Duffy Chapter 6 p.137-158  Duffy Chapter 10 p.227-256
<b>FEB. 14</b>	<b>Guest Speaker: Arno Braman Speech-language Pathologist</b>  Unilateral upper motor neuron dysarthria  Acquired Apraxia of Speech: Assessment and Management	Duffy Chapter 9 p. 213-226  Duffy Chapter 11 p.257-279 Duffy Chapter 18 p.430-446
<b>FEB. 21</b>	<b>Guest: Keren Ritter, Speech-language Pathologist, “Developmental motor speech disorders-Assessment”</b>  <u>Transcription Assignment given</u>	Rvachew & Brosseau-Lapre Chapter 3 & p. 348-356
<b>FEB. 28</b>	<b>Guest: Keren Ritter, Speech-language Pathologist, “Developmental motor speech disorders-Treatment”</b>  SIM Centre Preparation Developmental Motor Speech Disorders- Assessment and Parent Feedback  Cases given for SIM Centre  <u>Transcription Assignment Due</u>	Loff, Gregory L.  Muray, McCabe, Ballard,  American Speech-Language-Hearing Association. (2007). Childhood apraxia of speech [Technical report]. Available from: <a href="http://www.asha.org/policy/tr2007-00278.htm">http://www.asha.org/policy/tr2007-00278.htm</a>
<b>MAR. 6</b>	<b>STUDY BREAK-NO CLASS</b>	

<b>MAR. 13</b>	Mid Term exam  <u>Report Assignment Given</u>	
<b>MAR. 17</b>	<b>OME WORKSHOP (group 1)</b> <b>225 Sherbrooke Street East</b> <b>Time and rooms to be determined.</b>	
<b>MAR. 19</b>	<b>SIMULATION CENTRE</b>  SIM Centre <b>Arnold and Blema Steinberg Medical Simulation Centre</b> 3575 Parc Ave, Suite 5640 514-398-8978	
<b>MAR. 24</b>	<b>OME WORKSHOP (group 2)</b> <b>225 Sherbrooke Street East</b> <b>Time and rooms to be determined.</b>	
<b>MAR. 27</b>	The Degenerative Dysarthrias: Hypokinetic Dysarthria, Hyperkinetic Dysarthria, including Amyotrophic Lateral Sclerosis, Multiple Sclerosis & Huntington's Chorea	Duffy Chapter 7 p. 159-182 Duffy Chapter 8 p. 183-212
<b>APR. 3</b>	<b>Group presentations:</b> <b>Management of respiration impairments</b> <b>Management of laryngeal impairments</b> <b>Management of velopharyngeal impairment</b>	
<b>APR. 14</b>	<b>Group presentations:</b> <b>Management of Rate Enhancing social function in MSD</b> <b>Management of Articulation and Prosody</b>  <u>Report Assignment Due</u> <u>* late submission will have 2% per day subtracted from the mark.</u>	

**EVALUATION:**

<b>Conduct OME on a patient</b>	<b>5%</b>	<b>Compulsory</b>
<b>Participation in SIM Centre Module</b>	<b>30%</b>	<b>Compulsory. Motor Speech clinical hours apply</b>
<b>Presentation/paper</b>	<b>20%</b>	
<b>Patient Report</b>	<b>20%</b>	
<b>Midterm Exam</b>	<b>20%</b>	
<b>Child Transcript Analysis</b>	<b>20%</b>	
<b>Quiz 1 &amp; 2</b>	<b>5%</b>	

**A description of the means of evaluation to be used in the course:** The purpose of evaluation is to provide feedback to students on their learning, as well as to permit the instructor to assign a fair grade at the end of the course. Providing explicit information about assignments and grading procedures will clarify expectations and allay student anxiety, while supporting students in pacing their studies, gauging their progress, and achieving learning outcomes.

Assignment	Date	Sub Roles Targeted	Expected Performance Level
<b>Quiz listening and diagnostic skills</b>	January 30 <sup>th</sup>	Assessment	Novice
<b>Quiz- Neurologic basis of motor speech-review</b>	February 6 <sup>st</sup>	Integration	Novice
<b>Transcription assignment</b>	February 28 <sup>th</sup>	Assessment	Novice
<b>6 groups of 4 to 5 students will present the Management of an impairment</b>	From March 28 <sup>th</sup> to April 11th	Evidence-informed practice	Advanced beginner
<b>Report assignment</b>	April 11th	Assessment; Documentation	Advanced beginner

**McGILL POLICY STATEMENTS:**

**Academic Integrity**

*McGill University values academic integrity. Therefore all students must understand the meaning and consequences of cheating, plagiarism and other academic offences under the Code of Student Conduct and Disciplinary Procedures (see [www.mcgill.ca/students/srr/honest/](http://www.mcgill.ca/students/srr/honest/) ) for more information).*

**Language of Submission**

*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.*

**Additional Statements**

**USE OF SMART PHONES, TABLETS AND LAPTOPS**

Students are permitted to use Smartphones, tablets, and computers in class for academic purposes e.g. taking notes, researching relevant information, calendar functions etc. They may not be used for social reasons e.g. texting, Facebook, Twitter, Instagram etc. If students are using technology for non-academic purposes in class they may lose the privilege of using these items in class.

**STUDENTS WITH DISABILITIES**

As the instructor of this course I endeavor to provide an inclusive learning environment. However, if you experience barriers to learning in this course, do not hesitate to discuss them with me and the [Office for Students with Disabilities](#), 514-398-6009.

