



**DIVISION OF PHYSIATRY
PHYSICAL MEDICINE AND REHABILITATION**

**Department of Medicine
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**Longitudinal Graduated Responsibilities
(by PG Year/CBD Stage)
&
Graduated Responsibilities
For Core PM&R Rotations**

Background

The Physical Medicine & Rehabilitation (PM&R) Residency Program at the University of Toronto (U of T) recently completed an external Royal College accreditation and received the highest recommendation. However, one major area that was flagged as needing to be addressed relates to graduated responsibility. The PM&R Core Rotations at U of T currently have an informal understanding of progressive responsibility that is acquired as the resident progresses through the rotation. However, we have been asked to devise a more explicit, standardized system that ensures graduated responsibility and progressive acquisition of the knowledge, skills and attitudes necessary to achieve all objectives of the rotation. We see this as an opportunity to build on the already successful rotation structure, and to formalize processes that are already taking place.

Environmental Scan

Certain specialties, especially those that are procedure-heavy, tend to have more obvious progression of responsibility as residents advance through their training. We also found that the requirements for residency programs in the United States (US) are quite different, limiting the utility of comparative study. For that reason, we focused our scan to PM&R programs across the country, as well as other medical specialties at U of T such General Internal Medicine (GIM).

Two predominant themes for graduated responsibility emerged when looking at PM&R programs across Canada. The first is to divide core rotations into Junior and Senior blocks. The general idea is to focus on foundational knowledge as a junior, then return to the rotation as a senior, during which time consultant-level skills and attitudes can be developed. Advantages of this approach include opportunity for consolidation, and the option to teach junior learners as a senior resident when the two overlap. There is also the potential to train at multiple centres for the same rotation. Disadvantages of this approach include less time to integrate with a team and follow patients, and logistical/scheduling issues, particularly if the rotation time extends from 3 blocks to 4 blocks. The other option is to keep core rotations as 3 blocks together, and to instead create longitudinal objectives by year that can be accomplished irrespective of the specific rotation. We feel that this approach may be preferable to the former, given the strong advantages of more in-depth learning, integration and consolidation, with less frequent changes in rotation. We believe that our rotations in their current structure allow for graduated responsibility, and that there is an opportunity to standardize the process so that it maximally achieves this goal. We will outline our proposed strategy that includes stratification of current rotation objectives into Junior/Senior level, with some addition of consultant-level considerations. We have also adapted longitudinal, generic objectives provided to us by another PM&R program to our own context, and hope our rotation supervisors can incorporate these. We have created a document called "A Teaching Guide for Faculty and Residents" that is designed to support teaching and learning processes in general, as well as in light of our proposed changes; it is adapted from a document created for the Clinical Teaching Unit (CTU) within the GIM program at U of T. Finally, we have created defined objectives for CRISP clinic, recognizing that this is a great method of demonstrating graduated responsibility.

Proposed Changes to Core Rotations

Restructuring and review of objectives

- Division of current rotation-specific objectives into Junior (first 1/2) and Senior level (second 1/2)
- Creation of longitudinal objectives that are divided by PGY-year
- Planning during the beginning of the rotation with the resident and supervisor to determine strategy for achieving objectives
- Review of longitudinal, generic objectives with resident at start of rotation and at mid-point; resident to reflect on areas of development for that rotation

Explicitly documented strategy for graduated responsibility – first half areas of focus for combined inpatient/outpatient rotations

- Develop foundational knowledge for rotation
- Gradually build roster of patients as appropriate
- Consider limiting outpatient clinics for the beginning portion of the rotation, to allow for greater focus on inpatient responsibilities
- Observe therapy sessions as indicated/relevant to learning needs
- Learn how to do rotation-specific consultations, and review in depth with staff physician
- Create comprehensive, rotation-specific management plans
- Observe family meetings/rotation-specific counselling
- Participate in team rounds/interdisciplinary collaboration as it pertains to foundational rotation-specific PM&R knowledge

Explicitly documented strategy for graduated responsibility – second half areas of focus for combined inpatient/outpatient rotations

- Develop consultant-level knowledge for rotation
- Manage full roster of patients as appropriate
- Lead family meetings/rotation-specific counselling
- Lead team rounds discussions as it pertains to PM&R issues, including disposition planning
- Triage referrals/rehabilitation applications with service coordinator
- Perform rotation-specific procedures as applicable
- Refine time management skills by integrating inpatient and outpatient workflows (ie, clinics mixed in to inpatient rotation)

Other Process Changes

- Review of longitudinal objectives with PM&R resident at regular intervals (suggest every 6 months), with reflection of areas achieved and areas of growth for next 6 months (could be during PD progress meetings or with wellness representative, for example)
- Formal evaluation of residents following CRISP Clinic
 - Review of CRISP Objectives during CRISP orientation

OBJECTIVES FOR PHYSICAL MEDICINE & REHABILITATION RESIDENCY TRAINING

GRADUATED RESPONSIBILITIES GENERAL OBJECTIVES BASED ON PGY YEAR/CBD CURRICULUM STAGE

PGY 1 -Transition to Discipline (TTD) / Foundations of Discipline (FOD):

By the end of the PGY-1 year the PM&R resident will be able to:

Medical expert:

- Develop competence in the general medical history, physical examination, differential diagnosis, appropriate investigation and management of common acute medical illnesses/emergencies that may be seen in a Physical Medicine.
- Examples of common medical and Rehabilitation setting (inpatient or outpatient) issues include acute MI, CHF, DVT, PE, pneumonia, diabetes management and complications, acute and chronic renal failure, fluid and electrolyte imbalances, GI bleeds or obstruction.

Communicator:

- Develop competence in information gathering skills, oral and written case presentation skills and development of rapport with patients, families, other colleagues and health professionals.

Collaborator:

- Understand, and respect the role of acute medicine physicians in the management of acute medical illnesses and emergencies as well as acute allied health and nursing staff for optimal patient care.
- Accurately assess the limitation and scope of practice of acute medical practitioners vs physiatrists for appropriate referral and collaboration for optimal patient care.
- Contribute to the development of the PM&R program through activities such as participating for CaRMS Interview Day, and by participating as a Standardized Patient for Senior PM&R OSCEs, MSK Skills Workshops, etc

Leader:

- Develop time management skills in information gathering, learning and literature search skills, balancing work and extracurricular demands. Begin to develop an understanding of acute medical resources in health care, cost, waitlists, for example.

Health Advocate:

- Identify and assess risk factors for common medical illnesses that may be seen in Physical medicine and Rehabilitation setting (examples listed above, for example, cardiovascular disease)

Professional:

- Display appropriate professional behaviors during first year rotations such as punctuality, follow through, reliability, respect for patient confidentiality, respect and courtesy for allied health and support staff in acute care.

Scholar:

- Begin to develop skills in literature searches, and critical appraisal of the literature.
- Complete a literature search in preparation for the required research project to be completed during residency training in PM&R.
- Complete a poster or oral presentation at PM&R Resident Research Day.
- Begin to develop teaching skills at the bedside/on the wards, during academic half-days or in off-service education rounds to small groups of colleagues.

PGY-2 – Foundations of Discipline (FOD)/Core of Discipline (COD):

By the end of the PGY-2 year the PM&R resident will be able to:

Medical Expert:

- Develop competence in history-taking, physical examination skills, clinical reasoning, investigation and management knowledge of common musculoskeletal and neurological conditions
- In completed core rotations, the resident will have acquired skills in information gathering, clinical reasoning, and management of rehabilitation issues.

Communicator:

Continue to refine and develop further competence in information gathering skills, oral and written case presentation skills and development of rapport with patients, families, and other health professionals especially in the related specialties to PM&R (orthopedics, neurology, surgery)

Collaborator:

- Understand and respect the role of the orthopedic surgeon, and neurologist in the collaborative management of PM&R patients for optimal outcome
- Recognize the scope of practice and limitations in relation to PM&R specialists
- Make appropriate referral to these specialties when indicated
- Understand and demonstrate respect for the potential role of subspecialists in PM&R, and the Rehabilitation allied health inpatient and outpatient team members for optimal patient outcome.
- Provide mentorship and teaching to more junior learners, including medical students and junior residents.

Leader:

- Continue to develop time management skills in information gathering, learning and literature search skills, while balancing work and extracurricular demands.
- Begin to develop an understanding of limited health care resources such as cost and waitlists, especially in related PM&R specialties (ie. MRI, CT waitlists, surgery waitlists and resources)
- Gain leadership experience through formal roles as relevant including Division of PM&R Social Committee, PM&R Resident Council, Professional Association of Residents of Ontario (PARO) General Council (GC) representative, Ontario Medical Association (OMA) resident representative, etc

Health Advocate:

Identify and assess risk factors for common orthopedic, and neurological illnesses that may be seen in Physical medicine and Rehabilitation setting. For example, osteoarthritis, osteoporosis, stroke risk factors and epidemiology.

- Begin to identify and discuss racial disparities in medical care within the context of racial inequities in societal institutions
- Begin to apply the social determinants of health to patient care by raising relevant concerns with the health care team and by troubleshooting issues on the individual level

Professional:

- Continue to display appropriate professional behaviors during second year rotations such as punctuality, follow through, reliability, respect for patient confidentiality, respect and courtesy for allied health and support staff in acute care.
- Demonstrate understanding of patient autonomy, primacy of patients' welfare and other basic elements of health care ethics. Learn to identify examples of disruptive behavior in the health care workplace.

Scholar:

- Develop competence in literature searches in answering specific clinical or research questions.
- Continue to develop skills in critical appraisal of the literature through participation in monthly PM&R Journal Club.
- Develop research protocol based on previous year's literature review for the required research project to be completed during residency training in PM&R and continue to develop research presentation skills at PM&R research day as relevant.
- Continue to develop teaching skills at the bedside, on the wards, during academic half-days or in off-service education rounds to small groups of colleagues.

PGY 3 – Core of Discipline (COD):

By the end of the PGY-3 year the PM&R resident will be able to:

Medical Expert:

- Develop competence in knowledge and skills of a limited scope of Physical Medicine and Rehabilitation core areas depending on which rehabilitation rotations are completed in 3rd year.
- In completed core rotations, the resident will have acquired skills in information gathering, clinical reasoning, and management of rehabilitation issues.
- Perform basic procedural skills under indirect supervision such as simple joint injections (eg. shoulder, knee), and basic wound debridement.
- Begin to develop competence in EMG needling techniques and nerve conduction studies (if this rotation is started in PGY-3).

Communicator:

- Be competent in information gathering skills, oral and written case presentation skills and development of rapport with patients, families, other colleagues and health professionals.
- Continue to refine communication skills in the team and family meeting setting, and begin to develop skills in several core rehabilitation areas in explanation and communication of management plans to team members, patients, families, colleagues.
- Communicate effectively with members of the patient's circle of care, including acute care physicians where reassessment or follow up may be required, as well as with allied health team members in rehabilitation.

Collaborator:

- Understand and respect the role of acute care physicians and allied health, orthopedic surgeons, neurologists and other specialists in the collaborative management of PM&R patients.
- Understand and demonstrate respect for the potential role of subspecialists in PM&R, and the Rehabilitation allied health inpatient and outpatient team members for optimal patient outcome.
- Recognize the scope of practice and limitations of allied health in relation to PM&R specialists.
- Make appropriate referrals to allied health/team members for specific issues when indicated.

Leader:

- Achieve competence in time management skills in information gathering, learning and literature search skills, balancing work and extracurricular demands.
- Begin to develop understanding of the resources and limitations of inpatient and community rehabilitation services, cost, and waitlists, (eg. available allied health therapies, community agencies providing education, financial or other rehabilitative supports)
- Gain leadership experience through formal roles as relevant including Residency Program Committee (RPC) resident representative, Professional Association of Residents of Ontario (PARO) General Council (GC) representative, Ontario Medical Association (OMA) resident representative, PM&R Resident Council Lead, etc

Health Advocate:

- Achieve competence in identifying and assessing primary and secondary risk factors for common illnesses that may be seen in Physical medicine and Rehabilitation setting. (eg. osteoarthritis, osteoporosis, stroke risk factors and epidemiology)
- Developing understanding and knowledge of appropriate inpatient rehabilitation programs/evidence base for, and outpatient community agencies providing rehabilitation, financial, social or educational support for patients with limited activities and participation.
- Continue to identify and discuss racial disparities in medical care within the context of racial inequities in societal institutions. Deepen understanding of issues of racial inequity and/or colonialization through formal or informal educational opportunities (ex, completion of San'yas: Indigenous Cultural Safety Training Program)
- Continue to apply the social determinants of health to patient care by raising relevant concerns with the health care team and by troubleshooting issues on the individual level

Professional:

- Demonstrate appropriate professional behaviors during third year rotations such as punctuality, follow through, reliability, respect for patient confidentiality, respect and courtesy for allied health and support staff in acute care and rehabilitation settings.
- Demonstrate understanding of patient autonomy, primacy of patients' welfare and other basic elements of health care ethics.
- Identify examples of disruptive behavior in the health care workplace, develop understanding of, and start to practice strategies to address those types of issues.

Scholar:

- Demonstrate competence in literature searches.
- Continue to develop skills in critical appraisal of the literature during rotations and by leading PM&R journal club.

- Develop and submit ethics proposal for research protocol for the required research project.
- Continue to develop research presentation skills at the annual PM&R research day.
- Continue to enhance teaching skills at the bedside/on the wards or during academic half-days to small groups of colleagues and medical students, allied health and patients/families.
- Continue to participate in larger group presentation opportunities (eg. Department of Clinical Neuroscience Grand Rounds case presentations, or other rotation grand rounds including PM&R as applicable)
- Learn and apply principles of Quality Improvement (QI) through completion of the Centre for Quality Improvement and Patient Safety (C-QuIPS) Co-Learning Curriculum in Quality Improvement course, which includes completion of a group QI project

PGY 4 – Core of Discipline (COD):

By the end of the PGY-4 year, the PM&R resident will be able to:

Medical Expert:

- Attain competence in knowledge, skills and attitudes in all core areas of Physical Medicine and Rehabilitation and function at a consultant level.
- By this time all core rehabilitation rotations should be completed, and the resident should be competent in information gathering, explanation and management of rehabilitation issues for all subspecialty areas. (I.e. Stroke, ABI, SCI, Amputee, MSK, EMG, Pediatrics, Cardio-Pulmonary Rehab)
- Perform procedural skills in electromyography, basic nerve conduction studies, basic wound debridement, and injection techniques.

Communicator:

- Demonstrate competence in information gathering skills, explanation and management of medical and rehabilitation issues to team members, patients, families, and colleagues.
- Demonstrate competence in oral and written case presentation skills at or near the PM&R consultant level.
- Demonstrate competence in communication skills in the team and family meeting setting as well as at the bedside.

Collaborator:

- Demonstrate competence in knowledge, skills and attitudes of the role of acute care and PM&R physicians, acute and rehabilitation allied health care providers in the collaborative management of PM&R patients.
- Recognize the scope of practice and limitations of allied health in relation to PM&R specialists.
- Demonstrate understanding and practical skills in conflict management with team members, colleagues, patients and families.
- Make appropriate referrals to allied health and colleagues when indicated.
- Identify and address issues of diversity and inclusion as they relate to interactions with peers, health care teams and patients.
- Provide mentorship and teaching to more junior learners, including medical students and junior residents.

Leader:

- Demonstrate competence in managing resource limitations in inpatient and community rehabilitation patient populations. (eg. costs, waitlists)
- Gain leadership experience through formal roles as relevant including Chief Resident, Assistant Chief Resident, Residency Program Committee (RPC) resident representative, Professional Association of Residents of Ontario (PARO) General Council (GC) representative, Ontario Medical Association (OMA) resident representative, etc

Health Advocate:

- Continue demonstrating competence in identifying and assessing primary and secondary risk factors for issues seen in Physical medicine and Rehabilitation.
- Demonstrate comprehensive knowledge of appropriate inpatient and outpatient rehabilitation programs, and appropriately advocate for patients and families who have limitations in financial or psychosocial resources that impair their ability to participate in these programs.
- Continue to apply the social determinants of health to patient care by raising relevant concerns with the health care team and by troubleshooting issues on the **individual and societal level**

Professional:

- Fully demonstrate appropriate professional behaviors by the end of fourth year such as punctuality, follow through, reliability, respect for patient confidentiality, respect and courtesy for allied health and support staff in acute care and rehabilitation settings.
- Demonstrate full knowledge and competent skills in addressing issues of patient autonomy, primacy of patients' welfare and health care ethics.
- Demonstrate competence in identifying disruptive behavior in the health care workplace, and has developed skills in practical strategies to address those issues.

Scholar:

- Demonstrate competence in literature searches and critical appraisal during rotations and in PM&R Journal Club (the resident will present two journal articles during Journal Club by the end of their residency).
- Fully completed the data collection and analysis phase of research project and presentation of preliminary results at PM&R research day.
- Demonstrate competence in teaching skills at the bedside, in large group presentations and during academic allied health and small groups of colleagues and medical students, half-days to patients/families.

PGY 5 - Transition to Practice (TTP):

By the end of the PGY 5 year the PM&R resident will be able to:

Medical Expert:

- Be proficient and function independently with respect to all clinical duties at a PM&R consultant level with minimal appropriate supervision by PM&R staff.
- Have developed further knowledge, skills and attitudes over the year in core Rehabilitation areas of interest or subspecialty depending on ultimate career goals.
- During the course of the year, the PM&R resident may run an inpatient team or service independently/with minimal supervision or telephone review by staff
- Run a senior PM&R resident longitudinal clinic (CRISP), including triage of referrals, autonomous patient management and shadow billing, with minimal supervision.

Communicator:

- Be proficient in running team and family meetings, the explanation and management of rehabilitation issues to patients, families, teams and colleagues at a PM&R consultant level.

Collaborator:

- Be proficient as a team member, participant and leader of a rehabilitation or interdisciplinary team at a PM&R consultant level.

Leader:

- Be proficient in time management and utilization of limited resources in providing care to inpatient and outpatient PM&R patient populations at a PM&R consultant level.

Health Advocate:

- Be proficient at identifying and assessing primary and secondary risk factors of medical and rehabilitation issues at a PM&R consultant level.
- Demonstrates proficient knowledge of appropriate inpatient rehabilitation programs, outpatient community programs and agencies providing rehabilitation and support for the PM&R patient population.

Professional:

- Demonstrate professional behaviors in the complexity, uncertainty, and ambiguity inherent in medical practice at a PM&R consultant level.
- Demonstrates full knowledge and proficient skills in issues of patient autonomy, primacy of patients' welfare and health care ethics.

- Be proficient in identifying disruptive behavior in the health care workplace, and demonstrating practical strategies to address those issues at a PM&R consultant level.

Scholar:

- Demonstrate proficiency in literature searches and critical appraisal.
- Complete a written report of research results in journal format, and possibly present at scientific meeting.
- Be proficient in teaching skills at the bedside, in large group presentations and during academic half-days to small groups of colleagues and medical students, allied health and patients/families.

Approved by the RPC on November 17, 2021

Graduated Responsibility – PM&R Core Rotations

Acquired Brain Injury Rehabilitation

At the start of the ABI Rehabilitation rotation, residents initially admit and follow a few patients on the ward and gradually progress to managing the inpatient ABI rehab service as a consultant. In addition, they are scheduled in approximately one outpatient clinic per week for the first half of the rotation, and during the second half of the rotation this increases to two clinics per week. Over the course of the three months, they receive progressively less supervision and become increasingly independent in managing post-ABI complications, participating in intake decision-making, discharge planning, and liaising with the interprofessional team regarding issues which arise in therapy, and on the unit (such as managing agitation and/or developing a behaviour care plan). Where appropriate/applicable, procedures such as joint and spasticity injections progress from observing to performing select procedures with supervision by the end of the rotation. Residents initially observe family conferences and multidisciplinary team rounds but are expected to lead these independently by the end of the rotation. Consultations start with a foundation in thorough history taking and physical examination, including the neurological exam and mental status examination (i.e., cognitive and behavioural assessment) and evolve to adapting the exam to clinical findings and type/location of brain injury (e.g. DAI in TBI, SAH with or without associated infarct or hydrocephalus, ABI in the context of neuro-oncology/tumor location), using this data to determine prognosis and plan, while demonstrating entrustability for ABI-specific assessments such as cranial nerve injuries, headache, dizziness, visual/motor/sensory/coordination impairment, frontal lobe disorders, aphasia or cognitive-communication disorder, and neglect. By the completion of the rotation, residents should be able to guide patients and caregivers on ABI education and community resources, as well as have a deep understanding of various interdisciplinary team members' roles on ABI rehabilitation through observations, interactions and learning exposures.

Amputee Rehabilitation, Prosthetics & Orthotics:

The Amputee rehabilitation, Prosthetics, and Orthotics rotation embraces a philosophy of graduated responsibility for trainees. Progress through graduated responsibilities will vary according to the progress the resident makes along the way and may not be the same speed for all trainees. The rotation is comprised of 3 blocks – two combined Inpatient/Outpatient months at West Park Healthcare Centre typically followed by one primarily outpatient month at Sunnybrook/St .John’s Rehab.

Initially, the focus will be ensuring trainees have the appropriate core knowledge and clinical skills requisite to perform a comprehensive history and physical exam gathering the data necessary for diagnosis and treatment of limb loss and orthotics patients and communicating this information clearly, concisely and effectively to patients, families, other team members and other physicians. The resident will be responsible to round with staff on the inpatient unit and encouraged to round independently as well. The resident will be an active participant in weekly team rounds and patient conferences and within the first month will assume a leadership role on the team, effectively leading rounds and patient/family team conferences. The resident will be responsible for preparation of consultation reports, progress reports and outpatient clinic notes and required revisions as needed.

As the resident advances in their level of training, they will demonstrate proficiency in evaluating and managing health conditions and complications associated with limb loss or orthotic needs, and recognize conditions that may require additional evaluation, consultation and modification of treatment. By mid-rotation, the trainee will have gained the requisite knowledge regarding prosthetic and orthotic eligibility, funding implications, fitting, componentry and identifying prosthetic deviations and complications. The resident will progress to determining the etiology for prosthetic deviations and complications and how to best address them. The trainee will also have the opportunity to observe and then participate in patient wound care management, including sharp debridement when required. As the rotation progresses to the third month, residents will work with additional staff physiatrists, prosthetists/orthotists and allied health and will broaden their exposure to related specialty services (eg. trauma, burns, acute care consults).

In terms of education, trainees will prepare in advance for formal teaching sessions. Informal teaching sessions will also occur around clinical cases. The resident may also contribute to teaching of more junior resident trainees and medical students. Trainees will also be expected to present a relevant topic at Physiatry Rounds to interdisciplinary team members twice during a typical rotation, allowing for incorporation of feedback provided after the initial presentation.

Throughout the rotation, the supervisors will coach the trainee on report writing, communication skills, collaborating with colleagues and other disciplines. Inpatient and or outpatient volume gradually increase over time as the skills and confidence of the resident progresses through the rotation. The resident will not be expected or asked to perform patient evaluations or procedures that they have not prepared for without adequate supervision.

Formal feedback will be provided at the middle and end of the rotation, and at other points when required. All trainees will complete an end of rotation written and station-based evaluation, to reinforce the knowledge obtained during the rotation.

Spinal Cord Injury Rehabilitation

The SCI rehabilitation rotation embraces a philosophy of graduated responsibility for residents. Progress through graduated responsibilities will vary according to the progress the resident makes along the way and may not be the same speed for all residents.

Initially, the focus will be ensuring trainees have the appropriate core knowledge and clinical skills requisite to perform a comprehensive history and physical exam gathering the data necessary for diagnosis and treatment of a particular patient and communicating this information clearly, concisely and effectively to patients, families, other team members and other physicians. The resident will be responsible to round with staff on the inpatient unit and encouraged to round independently as well. The resident will be an active participant in weekly team rounds and patient conferences and by mid-rotation will assume a leadership role on the team and effectively lead team and family conferences. The resident will be responsible for preparation of consultation reports, progress reports and outpatient clinic notes.

As the resident advances in their level of training, they will demonstrate proficiency in evaluating and managing health conditions and complications associated with spinal cord injury, and recognize conditions that may require additional evaluation, consultation and modification of treatment.

By mid-rotation, the resident will be encouraged to work with other clinicians / staff physiatrists to broaden their exposure to specialty services such as wheelchair and seating clinic, assistive technology, respiratory assessment as well as their skills managing secondary SCI complications e.g. wound clinic, spasticity clinic (ITB and focal chemo denervation), bone health, neurological and urological investigation and management. Trainee's Data interpretation and report formulation will advance, so that little or no editing is required from supervisors in completing the required clinical documentations. The resident will propose clinical decisions utilizing methods, which integrate current research; evidence based and best practices with clinical expertise and patient centeredness. The resident will also provide follow up and preventative health care to maximize health and functional capacity, and coordinate care with the patient's primary care and specialists physicians including the remainder of the circle of care in the community.

In terms of education, trainees will prepare in advance for teaching sessions, including reading about the topic beforehand. The resident may also contribute to teaching of more junior resident trainees and medical students.

Prior to completing the rotation, the resident will present on a SCI related topic at the 'Best Practice Rounds' attended by physicians and interdisciplinary team members.

Throughout the rotation, the supervisor will coach the trainee on report writing, communication skills, collaborating with colleagues and other disciplines. Inpatient and or outpatient volume gradually increase over time as the skills and confidence of the resident progresses through the rotation. The resident will not be expected or asked to perform patient evaluations or procedures that they have not prepared for without adequate supervision.

Stroke Rehabilitation

At the start of the Stroke Rehabilitation rotation, residents initially follow a few patients on the ward and gradually progress to running the inpatient Stroke rehab service as a consultant, and as appropriate/applicable following patients in outpatient therapy.

Over the course of the three months, they receive progressively less supervision and become increasingly independent in managing post-stroke complications, participating in intake decision-making, discharge planning, and liaising with the interprofessional team regarding issues which arise in therapy. Where appropriate/applicable, procedures such as joint and spasticity injections progress from observing to performing select procedures with supervision by the end of the rotation. Residents initially observe family conferences and multidisciplinary team rounds but are expected to lead these by the end of the rotation. Consultations start with a foundation in thorough history taking and general neurological physical exam (such as risk factor and prevention assessment) and evolve to adapting the exam to clinical findings and stroke lesion location, using this data to determine prognosis and plan, while demonstrating entrustability for stroke-specific assessments such as aphasia, neglect, spasticity and return to driving.

By the completion of the rotation, residents should be able to guide patients and caregivers on stroke education and community resources, as well as have a deep understanding of various interdisciplinary team members' roles on stroke rehabilitation through observations, interactions and learning exposures.

Musculoskeletal Inpatient Rehabilitation (PGY4 Rotation)

The senior inpatient MSK rehabilitation rotation is a two month rotation, for residents who have already completed the junior inpatient MSK rehabilitation rotation. It is designed to build on skills and knowledge developed in the junior rotation, and add learning opportunities, responsibilities and objectives more targeted to a senior learner. With graduated responsibilities, the focus shifts from developing competencies of a senior resident in MSK inpatient rehabilitation to developing competencies of a junior staff.

The initial focus of the rotation is on skills necessary to be a competent senior resident in MSK Inpatient Rehabilitation. Residents will begin by creating a roster of patients on the unit for which they will be responsible, by adding patients as they are admitted until the resident is familiar with and following each patient on the unit, or a number of patients appropriate for their level of training and time management abilities. The focus is on competent history, examination, physiatric management, and appropriate report writing for MSK inpatient rehabilitation patients. This includes participating in multidisciplinary team rounds, clarifying orders or restrictions with therapists and/or physicians, participating in family meetings and performing appropriate procedures, with supervision. Residents may also be involved in off unit consultation for physiatric cases that contribute to their learning (eg. complex physiatry cases involving neurologic and/or MSK pathology, cases requiring procedural skills, or acute MSK cases).

For residents who prove competency and proficiency early in their rotation, they may be given the opportunity to step into a role of “junior attending”. The focus will be on developing skills necessary to be a competent staff Physiatrist in MSK inpatient Rehabilitation. This involves supervised autonomy over patient care, in which residents see patients independently, and are involved in all aspects of patient care without direct supervision. This includes independent patient consultation and management, participation in team rounds and family meetings, provision of procedures, discharge date setting, and post-discharge patient follow-up. The staff Physiatrist will review resident consultations, reports and performance regularly, but independent of the resident. The staff Physiatrist will be available at any time for assistance and the resident and staff will meet regularly to provide feedback on the graduated responsibilities.

Teaching is a main focus of this rotation, and is provided regularly in both formal and informal settings. The focus is to build on basic knowledge of MSK anatomy, physical examination and pathology, that may be covered in the junior MSK rotation, and introduce concepts at the level of the Royal College and MSK subspecialization. Residents are expected to provide teaching, formal or informal, to any medical students or junior residents who may be present during the rotation. Additionally, residents are required to present to medical staff and allied health at rounds presentation, on a topic relevant to their learning and interests.

Residents will be provided with an end of rotation exam that reflects the type of questions and content required for subspecialty expertise, but does not play formal role in end of rotation evaluation or assessment of resident clinical competency.

Musculoskeletal Outpatient Rehabilitation

The outpatient MSK rehabilitation rotation is a two month rotation. It is designed to build on skills and knowledge developed in the inpatient MSK rotation and academic half-day curriculum, and add learning opportunities, responsibilities and objectives more targeted to populations seen in the outpatient setting. With graduated responsibilities, the focus shifts from developing competencies of a senior resident to developing competencies of a junior staff with respect to the diagnoses and management of a broad range of musculoskeletal conditions in the outpatient setting.

The early part of the rotation is focused on acquiring and demonstrating the skills necessary to perform a competent MSK history and physical examination. Residents will begin by seeing fewer patients, with a focus on completing an assessment for commonly encountered clinical presentations. Over time, the learner will demonstrate an ability to take a pertinent history for a given presentation, and to perform the relevant physical examination.

With time and increased exposure to cases, the resident will be expected to provide a differential and likely diagnosis for commonly encountered clinical presentations, based on a synthesis of the findings from the history and physical exam. The resident will be expected to progress in his/her ability to provide a comprehensive diagnostic and/or management plan. This will include the appropriate use of diagnostics (e.g. imaging such as x-ray, CT, MRI, diagnostic and point of care ultrasound; electrodiagnostics; blood work, etc.) as well as various treatment arms (e.g. patient education, bracing/orthotics, pharmacological, exercise and rehabilitation principles, physiotherapy, occupational therapy, injection, surgical referral, etc.).

Once competency for the assessment, diagnosis, and management of routine or commonly encountered cases is demonstrated, the learner is challenged with more complex and/or rare musculoskeletal entities, in addition to a higher case load. Throughout the rotation, the resident will play an increasing role in counselling patients with respect to the management plan and follow-up, and demonstrate appropriate patient advocacy. Residents will be expected to demonstrate increasingly succinct and lucid medical documentation.

Teaching is a main focus of this rotation, and is provided regularly in both formal and informal settings. The focus is to build on basic knowledge of MSK anatomy, physical examination and pathology relevant to musculoskeletal medicine, and to introduce concepts at the level of the Royal College and MSK subspecialization. Residents are expected to provide teaching, formal or informal, to any medical students, and junior or off-service residents who may be present during the rotation. The staff Physiatrist will meet regularly to provide feedback on the graduated responsibilities. By the end of the senior MSK Outpatient Physiatry rotation, residents will have competency in the independent management of a wide array of musculoskeletal conditions, and understanding of concepts of MSK medicine at the level of the Royal College.

Electrodiagnostic & Neuromuscular Rehabilitation

The electromyography and neuromuscular rehabilitation rotation embraces a philosophy of graduated responsibility for residents during the four month rotation. Progress through graduated responsibilities will vary according to the progress the resident makes along the way and may not be the same speed for all residents.

Initially, the focus will be ensuring trainees have the appropriate core knowledge requisite to performing a comprehensive history and physical and understanding the anatomy, instrumentation and neurophysiology sufficient to start performing nerve conduction studies and needle electromyography.

Once they have sufficient working knowledge in anatomy, neurophysiology, instrumentation, and pathophysiology, trainees can then start progressing through the hands-on performance of basic studies. They will take on a progressive role in performing basic nerve conduction studies and commonly studied muscles needed with electromyography. They will also be responsible for initial report-writing and preparation of consultation reports.

As they become more advanced in their levels, trainees will then be introduced to more advanced and challenging nerve conduction studies and more advanced needle electromyography. They may perform needle EMG on less commonly studied or technically challenging muscles and perform more uncommon or technically challenging nerve conduction studies. Data interpretation and report formulation should advance as well, so that little or no editing is required from supervisors.

In terms of education, trainees will initially be expected to prepare in advance for teaching sessions, including reading about the topic beforehand. As time goes on, higher levels of preparation are expected and trainees may be asked to participate in teaching more junior trainees such as medical students.

In the final month of their rotation, trainees are encouraged to work with other teachers to broaden their exposure to neuromuscular conditions and electrodiagnostic techniques. In this setting, they perform histories and physical examinations, create differential diagnoses and perform studies to evaluate patients with more unusual or advanced disease processes.

Throughout the rotation, they will be coached on their report-writing, communication skills, and how to work best with colleagues and other disciplines. Volumes of patients will also increase over time; initially, they may start off with a relatively few number of patients per half day and the numbers will gradually increase as their skills expand. At no point will they be asked to perform patient evaluations or procedures that they are not prepared for without adequate supervision.