Focused Goals and Objectives for the Orthopaedic Surgery Resident
McGill Orthopaedic Spine (MGH & MNI)

The following competencies are required to be completed by each candidate during each rotation. At the beginning of each rotation the CTU director or his representative will provide the candidates the following document. It is the candidate's responsibility to complete these in a timely fashion. At mid rotation, the CTU director will provide feedback as well as remind the candidate's obligation as to the objectives of the rotation. At the end of the rotation, a formal evaluation will be completed by the CTU director and will be based on the completion of the following goals and objective.

1. History & Physical Examination

Candidate R1, R2

Candidate will need to present the CTU director or one of the staff's on the spine service a detailed work up investigations and management plan for **two** patients with one of the follow diagnosis:

- Cervical spine fracture
- Thoraco-lumbar fracture
- Lumbar Discectomy
- Spinal stenosis
- Discitis

If candidate does not encounter any patient during the rotation with the preceding diagnosis, then the candidate will need to write up the classic signs and symptoms expected with **two** of these diagnoses

Candidate R3, R4, R5

Candidate will need to present the CTU director or one of the staff's on the spine service a detailed history and physical for **two** patients with one of the follow diagnosis:

- Occipital Cervical fracture dislocation fracture
- Degenerative scoliosis
- Cervical Myelopathy
- Spinal Tumor
- Thoracic Disc
- Epidural abscess

These H&E will be used to judges whether or not a trainee has acquired the skills needed to complete a medical history and performs an adequate physical examination to permit a valid formulation of the patient's problem. The factor should also judge whether or not the information elicited and observed is recorded in an organized and sequential manner, which permits a clear definition of the problem and a rational approach to differential diagnosis and management.

2. Relevant Investigation & Management

Candidate R1, R2

Candidates will need to illustrate and document to the CTU director or one of the Staff's on the spine service they have order the appropriate investigation and they have instigated the appropriate treatment of two patients with one of the follow diagnosis:

- Cervical spine fracture
- Thoraco-lumbar fracture
- Lumbar Discectomy
- Spinal stenosis
- Discitis

In addition, the candidate will need to document which factors (clinical signs, classifications) have dictated there clinical management. As previously stated if the candidates have not encountered any patient with the preceeding diagnosis, then the candidate will need to write up treatment algorithms for **two** of these diagnoses

Candidate R3, R4, R5

Candidates will need to illustrate and document to the CTU director or one of the staff's on the spine service they have order the appropriate investigation and they have instigated the appropriate treatment of two patients with one of the follow diagnosis:

- Occipital Cervical fracture dislocation fracture
- Degenerative scoliosis
- Cervical Myelopathy
- Spinal Tumor
- Thoracic Disc
- Epidural Abscess

These objectives will judge whether or not the candidates are able to interpret correctly the information gathered and shows discrimination in identifying the important and less important information that will allow the identification of the problems affecting the health of the patient. The trainee's concern for the cost of unnecessary investigation and sensitivity to patient inconvenience and discomfort will also be assessed. In addition, these objectives will judge whether or not the candidates have initiated appropriate treatment for each diagnosis.

3. Technical Surgical skills

Candidate R1, R2

Candidates will need to perform for the CTU director or one of the staff's on the spine service the following surgical procedures:

- Posterior Exposure of the Cervical, thoracic, lumbar spine
- Identification of the entry points for:
    - Thoracic, Lumbar pedicle screws
    - Cervical lateral mass screws
- Orientation of pedicle screws and lateral mass screws

Candidate R3, R4, R5

Candidates will need to perform for the CTU director or one of the staff's on the spine service the following surgical procedures:

- Posterior Exposure of the Cervical, thoracic, lumbar spine
- Insertion of:
  - Thoracic, Lumbar pedicle screws
  - Cervical lateral mass screws
    (in patients with normal anatomy)
- Laminectomy of the lumbar spine

4. Communication Skills

Stating the Obvious

1 - Residents, fellows and staff are expected to round daily on all admitted patients. If the staff did not manage to round on a patient then the residents and or fellows are expected to contact the staff on that day to inform them of the progress of their patients.

2 - All consults must be reviewed in an expedient fashion with a spine staff's. N.B. Fellows on the spine service are considered like R6 hence the consults still need to be reviewed by a staff. The timing of the review is dictated by the urgency and clinical management of the specific consults. Any consults from the ICU must be completed with in one hour, and a clear treatment must be writing in the chart and transmitted to the attending in the ICU. "Will review with staff is not an acceptable management"

3 - Weekly clinical spine activities (OR, Clinics) are reviewed on Wednesday during preop rounds. Residents and fellows will be assigned to specific activities. The distribution of the activities must be fair and equilibrated across the residents and fellows. The senior resident must present the weekly distribution to the CTU director for approval.

4 - Monthly schedules of all spine staff's will also be provided to residents on the service. Hence at any given time in the week, the resident on call will know where the spine staff on call can be reached. If the resident on call has paged the staff on call and the staff has not respond with in 10 min, then the resident can check the master schedule or check with the staff secretary in order to know were the staff on call can be found to review the pending consult. If the staff is in the OR and then the resident on call can review the case with a spine staff not on call, to expedite the management of the urgent consult. The resident, having the master schedule of all spine staff will be able to contact an attending in the clinic. Below you will find the contact information for each of the spine attending, to facilitate communication with the spine staff. Dr Weber, who is based full time at the MGH, is the "second on call" during regular hours, and Dr Golan is the "second on call" at the JGH.

5 - Resident and fellows are expected to actively participate in teaching rounds (Wednesday preop spine rounds – prepare cases, Thursday Journal club - must read the papers, Peds fellow is to attend the preop peds rounds on Thursday and then go to the Journal club)

Attending	Office/Secretary	Pager	Cellphone	Home
Dr. Jean A Ouellet	MCH Paula 24464 MGH Mary 48508 Shriners Josee 514-282-7150	406-3488	514-825-1069	514-938-1069
Dr. Michael Weber	MGH Sonia 45476		514-224-8864	514-488-7587
Dr. Peter Jarzem	MGH Mary 48508		514-865-7533	514-941-7533
Dr. Rudy Reindl	MGH 42595	406-0836	514-726-3300	
Dr Jeff Golan	JGH	413-1793	514-443-3732	514-439-1430

Awaiting Dr Turcotte / MGH to provide pagers

Revised – November 2018

Goals and Objectives for the Orthopaedic Surgery Resident
McGill Orthopaedic Complex Spine (MGH & MNI)

Complex Spinal Rotation

General Objectives

Independent of trainee's background (orthopedics or neurosurgery residency) we anticipate the trainees will be integrated fully into the orthopedic service to acquire the skill sets to manage all spinal pathologies as per the CanMeds objectives. Basic mechanical orthopedic principles are required to better understand the biomechanical constraints of spinal ailments.

Complex Spine rotations are to be undertaken with the concept that junior and senior residents as well as the spine fellows work in close collaboration. Objectives are divided per years of training not to dictate the task the trainees are limited to undertake but rather to delineation the expectation of the acquisition of knowledge.

A. Medical Expert

Complex Spinal Rotation R1, R2

Trainees should master in an incremental fashion the patho-physiology underlying congenital, acquired, degenerative spinal ailment. The trainees need to concentrate on the non-surgical management of spinal ailments. They need to familiarize themselves with the peri-operative complications of spinal disease. Focus on history and physical is expected in the R1 / R2 years

History & physical examination:

1. Display clinical competence in evaluating spinal disorders:
    - Relevant history taking to all spinal disorders
    - Relevant physical exam assessing for spinal deformity, spinal instability
    - Relevant neurological exam

Basic scientific knowledge to be acquired:

1. Detailed knowledge of anatomy, embryology and physiology of the spinal cord
2. Congenital, developmental and acquired non-traumatic conditions of the spinal column
3. Musculo-skeletal anatomy of cervical, thoracic, lumbar spine; osseous ligamentous and neural elements including Inter vertebral disc morphology
4. Biomechanical and functional anatomy of the spine

This factor judges whether or not a trainee takes a complete medical history and performs an adequate physical examination to permit a valid formulation of the patient's problem. The factor should also judge whether or not the information elicited and observed is recorded in an organized and sequential manner which permits a clear definition of the problem and a rational approach to differential diagnosis and management.

Complex Spinal Rotation R3, R4, R5

Trainees should master in an incremental fashion from R3 through R5, the fundamental sciences, clinical and therapeutic knowledge to treat patients with simple and urgent spinal disorders. By spinal disorders we specifically expect the trainees to initiate (conservative) management of the following pathologies:

1. Cervical, thoracic, lumbar fracture and dislocation
2. Scoliosis, Kyphosis, spondylolysis-lesthesis
3. Degenerative disc disease: cervical, thoracic, lumbar disc herniations; cervical or lumbar spinal stenosis
4. Spinal infections
5. Spinal tumors

For the following pathologies we expect the trainees to acquire the surgical skills to safely manage these pathologies.

1. Cervical and lumbar discectomies
2. Stabilization of sub axial cervical fractures, thoracic and lumbar fractures.
3. Cervical, thoracic, lumbar laminectomies.

Basic scientific knowledge to be acquired:

1. Natural degeneration of the spine
2. Systemic inflammatory illness affecting the spine

Basic clinical knowledge:

1. Appreciation of Classification (discal, degenerative disorders, mechanical instabilities, spinal deformities).
2. Display knowledge of appropriate investigative techniques
3. Interpretation of advanced investigative techniques:
    - Computerized axial tomography.
    - CT Myelography.
    - Magnetic resonance imaging.
4. Display a detailed knowledge of operative approaches to the spinal column.

These factors are judged using standardized rating system described below.

A low rating indicates the trainee shows serious gaps in his/her knowledge of clinical sciences or that he/she does not apply this knowledge correctly. A satisfactory rating indicates that the trainee has a good knowledge of clinical sciences that he/she applies well in problem- solving and other aspects of patient care. This factor should also consider the trainee's knowledge of current scientific literature and his/her application of this knowledge to case presentation and daily patient management.

Interpretation and utilization of information:

1. Role of physiotherapy and occupational therapy in the management of spinal disorders - acute and chronic
2. Display competence in the non operative management of spinal disorders

3. Understand indications, contraindications and complications related to surgical intervention

This factor judges whether or not the trainee is able to interpret correctly the information gathered and shows discrimination in identifying the important and less important information that will allow the identification of the problems affecting the health of the patient. The trainee's concern for the cost of unnecessary investigation and sensitivity to patient inconvenience and discomfort should also be considered.

Clinical judgment & decision making:

1. Display competence in the non-operative management of spinal disorders.
2. Display adequate knowledge in advanced non operative management of spinal disorders - bracing techniques, physiotherapy
3. Appreciate indications for surgery for spinal disorders
4. Understand principle of fusion levels in spinal deformity with their implication regarding complications, and natural history
5. Recognize and manage postoperative complications.
6. Recognize and evaluate vertebral sepsis: Osteomyelitis, Discitis.

This factor judges the trainee's ability to effectively and efficiently establish a program of investigation and management adapted to the patient's condition, recognizing the limits of his/her ability, the hazards of drugs and other therapy and the need to modify therapy when indicated. The trainee should also demonstrate his/her appreciation for the total needs of the patient, recognizing factors that may limit compliance with prescribed therapy and the non-medical (socio-economic and other) factors that may affect the patient's health.

Technical skills required in the specialty:

1. Display surgical competence in the following areas:
   Lumbar decompression: i.e. Laminectomy, discectomy
   Lumbar fusion with or with out instrumentation
   Cervical discectomy
2. Display surgical competence in spinal instrumentation:
   Transpedicular vertebral fixation (pedicle screws – lumbar fusions)
   Anterior cervical plating
   Cervical Lateral mass screws
3. Display a detailed knowledge of the principles of internal fixation with regards to:
   - Fracture management cervical thoracic lumbar.
   - Specific are Gardners Well
     - Tongs application
     - Halo & Vest application
     - Usage of pedicle fixation and
     - Rod constructs to stabilize

This factor judges if the trainee can carry out professional techniques correctly and efficiently.

B. Communicator

Interprofessional relationships with physicians:
This factor judges if the trainee can work effectively with other physicians in the healthcare team, shows consideration and tact for junior members of the team and is respectful of team members. Ability to communicate the urgency of spinal cord compression or neurological deficits due to spinal pathology to other members of the medical profession

Communications with other allied health professionals:
This factor judges the trainee's ability to communicate and work effectively with the other members of the healthcare team.

Communications with patients:
This factor judges if the trainee is able to communicate easily with patients, showing respect for his/her patients and gaining their cooperation and confidence. Post spinal injury paralysis or motor deficit requires a certain skills which will be conveyed to the trainee.

Communications with families:
This factor judges if the trainee is able to communicate easily with patients' families, showing respect for his/her patients and gaining their cooperation and confidence.

Written communication and documentation:
History, physical, diagnostic formulation, progress notes, plans; discharge summaries and consultation reports are complete and accurate with satisfactory organization and assessment. Clear, focus documentation is critical in the management of spinal patients as transfer of information is key in optimization of clinical outcome

C. Collaborator

Interacts and consults effectively with all health professionals by recognizing and acknowledging their roles and expertise
Delegates effectively:
This factor judges that the trainee delegates effectively to other members of the healthcare team.

D. Manager

Understands & uses information technology:
This factor judges if the trainee is able to use current information technology in the course of their professional life. The ability to evaluate spinal condition heavily relies on ever growing multimodality imaging

Uses health care resources cost-effectively:
This factor judges that the trainee has concern for the cost of unnecessary investigation and sensitivity to patient inconvenience and discomfort in the course of their professional duties. Make usage of MRI or other imaging will be assessed as a marker of cost effectiveness.

Organization of work & time management:
This factor judges whether or not the trainee effectively organizes his/her work in such a way that priorities are established and that coordination occurs with the other members of the team

ensuring total, acute, and continuing care of his/her patients. Prioritization of consult is critical when managing patient with spinal ailments as delayed of diagnosis and treatment leads to poor outcomes.

E. Health Advocate

Advocates for the patient:
This factor judges the trainee's ability to advocate for the patient.
Health habits, weight loss, smoking cessation, osteoporosis treatment, all have a direct impact on management of spinal pathology

Advocates for the community:
This factor judges the trainee's ability to advocate for society and the community.

E. Scholar

Motivation to read and learn:
This factor judges the trainee's knowledge of current scientific literature and his//her application of this knowledge to case presentation and daily patient management. Weekly rounds with focus topics are reviewed as resident are expected to have read up on recurrent topics.

Critically appraises medical literature:
This factor judges the trainee's ability to critically-appraise research methodology and medical literature. Spine Journal Club participation and preparation

Teaching skills:
This factor judges whether the trainee takes the initiative and develops the ability to teach other health care professionals and/or patients about specific relevant health care issues.
Per rotation trainees organize a Friday morning spine rounds.

Completion of research/project:
This factor judges that the trainee is able to organize and complete successfully research, or a project.

F. Professional

Integrity & honesty:
This factor judges whether the trainee is dependable, reliable, honest and forthright in all information and facts.

Sensitivity & respect for diversity:
This factor judges that the trainee is able to understand and be sensitive to issues related to age, gender, culture and ethnicity.

Responsible and self-disciplined:
This factor judges whether the trainee adequately accepts professional responsibilities, placing the needs of the patients before the trainee's own, ensuring that the trainee or his/her replacement are at all times available to the patients, recognizing the limits of competence, and seeking and giving assistance when necessary. The trainee is punctual, and respects local regulations relating to the performance of his/her duties.

Communicates with patients with compassion and empathy
Recognition of own limitations, seeking advice when needed:
This factor judges that the trainee is able to understand his/her limits of competence, and is able to seek and give assistance when necessary.

Understands principles of ethics; applies to clinical situations:
This factor judges the trainee's ability to understand the principles and practice of biomedical ethics as it relates to the specific specialty or subspecialty, and to practice medicine in an ethically responsible manner.

Global evaluation of competence and progress

This factor judges the total professional competence and progress of the trainee in consideration of his/her stage of training in his/her specialty. This judgment synthesizes the assessments given in the above criteria, keeping in mind their relative importance and indicating the degree to which the trainee has shown progress and diligence during his/her rotation.

Explanation of Ratings:

Please assess the trainee's overall clinical competence using the following ratings:

Superior: Far exceeds reasonable expectations.
Satisfactory: Meets reasonable expectations.
Borderline: Often falls short of reasonable expectations.
Unsatisfactory: Falls far short of reasonable expectations.
"**Reasonable expectations**" should be appropriate to the level of training of the candidate.
"**Could not judge**" in the global evaluation of competence and progress: This means that the trainee did not complete the rotation.

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