

## **Rotation Specific Objectives - Spine**

The following document is intended to guide you in some of the specific knowledge and skills you should develop on this rotation. This document is intended to augment but not replace the “Objectives of Training and Specialty Training Requirements in Orthopedic Surgery” and the “Specific Standards of Accreditation for Residency Programs in Orthopedic Surgery”. A copy of these documents is supplied in your residency handbook and is also available on the Royal College website.

The resident is expected to be able to describe the rotation specific objectives prior to or at the commencement of the rotation.

It is understood that a residency in Orthopaedics is a continuum. Senior residents will be able to meet the same objectives as junior residents as well as the senior objectives.

### **1. MEDICAL EXPERT**

**At the conclusion of residency, the resident should meet all of the following objectives in spite of variations in rotation durations and resident exposure.**

#### **1.1. Cognitive and Diagnostic**

##### **1.1.1. Junior Resident**

- 1.1.1.1. Recognize emergency conditions (specifically acute cauda equina syndrome, acute neurological deterioration, acute traumatic spinal cord injury) with accurate prioritization
- 1.1.1.2. Recognize the significance of injury in high-risk spinal conditions such as osteoporosis, inflammatory arthritis, DISH and ankylosing spondylitis.
- 1.1.1.3. Record a complete, accurate, well-organized history specific for disorders involving the spinal column and associated neurological conditions with an emphasis on understanding the patient's context and preferences in addition to appreciating the impact of the spinal disorder on the patient's quality of life, disability and function.
- 1.1.1.4. Perform a specific and complete physical exam for the entire spinal column and associated neurological structures with an emphasis on the assessment of deformity and dysfunction for the individual patient.
- 1.1.1.5. Develop an effective differential diagnosis based on information gathered on history and physical examination.
- 1.1.1.6. Understand and advise patients regarding non-surgical treatment options.
- 1.1.1.7. Formulate a management plan including appropriate frequency and goals of outpatient follow-up for patients managed surgically and non-surgically.
- 1.1.1.8. Participate in pre-operative planning for patients scheduled for surgery.
- 1.1.1.9. Understand the indications for spine surgery relative to the affecting pathophysiology.

- 1.1.1.10. Understand the risks, complications and expected outcomes of common spine procedures.

#### 1.1.2. Senior Resident

- 1.1.2.1. Demonstrate a familiarity with contemporary spine literature.
- 1.1.2.2. Demonstrate the ability to interpret contemporary spinal radiological investigations.
- 1.1.2.3. Provide a treatment plan for common disorders of the spine.
- 1.1.2.4. Demonstrate a thorough knowledge of anterior and posterior surgical approaches to the cervical, thoracic and lumbar spine.
- 1.1.2.5. Demonstrate knowledge of basic principles of spine arthrodesis including an understanding of the role of spinal instrumentation and stabilization.

### 1.2. Technical

#### 1.2.1. Junior Resident

- 1.2.1.1. Demonstrate proficiency in:
  - 1.2.1.1.1. Patient positioning, prepping, and draping for anterior and posterior spine surgery.
  - 1.2.1.1.2. Proficiency in applying external fixation devices (tongs, halos)
  - 1.2.1.1.3. Bone graft harvesting techniques
  - 1.2.1.1.4. Posterior spinal approaches
  - 1.2.1.1.5. Recognize and manage common post-operative complications and initiate treatment.

#### 1.2.2. Senior Resident

- 1.2.2.1. Demonstrate proficiency in the following areas:
  - 1.2.2.1.1. Performing a primary lumbar discectomy for relief of radicular symptoms/signs.
  - 1.2.2.1.2. Performing a primary cervical, thoracic, lumbar laminectomy either for urgent or elective decompression of central or peripheral neurologic structures
  - 1.2.2.1.3. Performing a primary posterior instrumented lumbar fusion.
  - 1.2.2.1.4. In closed reduction techniques and using external fixation devices (tongs, halos)

## 2. **COMMUNICATOR**

- 2.1. Maintain clear, accurate and organized patient records in both in-patient and outpatient settings.
- 2.2. Discuss the patient's beliefs, concerns, illness experience and specifically focus on the patient's expectations in terms of pain relief and improved function.
- 2.3. Include other relevant sources of information from the patient's family, caregivers and other professionals when appropriate.
- 2.4. Deliver information to a patient and family, colleagues and other professionals in a humane manner particularly as it relates to end-of-life discussions in spine

- metastases, spinal cord injury and/or complications post-spine surgery.
- 2.5. Encourage patients, families and relevant health professionals in shared decision-making specifically as it relates to treatment.
- 2.6. Perform clear and succinct oral presentations

### **3. COLLABORATOR**

- 3.1. Participate in an interdisciplinary spine team, demonstrating the ability to accept, consider and respect the opinions of the other team members, while contributing spine specific expertise.
- 3.2. Demonstrate an understanding of the role for complimentary and alternative forms of therapy.

### **4. MANAGER**

- 4.1. Participate in systemic quality process evaluation and improvement such as patient safety initiatives, multidisciplinary spine rounds or morbidity / mortality rounds.
- 4.2. Learn time management for clinical activity, learning needs, family needs and recreational activities.

### **5. HEALTH ADVOCATE**

- 5.1. Have knowledge of population-based approaches to spine health care services and their implication for medical practice particularly focusing on topics such as industrial low back pain, epidemiology of spine trauma, ergonomic issues and spine injury prevention.
- 5.2. Demonstrate knowledge of public policy for spine health and identify current policies and preventative measures that affect spine health.

### **6. SCHOLAR**

- 6.1. Demonstrate critical appraisal of the literature as it applies to spine health and discuss how this might apply to clinical practice
- 6.2. Demonstrate an understanding of effective teaching techniques.

### **7. PROFESSIONAL**

- 7.1. Fulfill medical, legal and professional obligations as they relate to spine pathology particularly as it relates to occupational spinal injuries and traumatic spinal injuries.
- 7.2. Meet deadlines and be punctual.
- 7.3. Demonstrate self-assessment, insight into limitations and accept feedback when necessary.