

***Goals and Objectives for the Orthopaedic Surgery Resident
McGill Arthroplasty (JGH, MGH & SMH)***

At the completion of the rotation, the resident will have acquired the following competencies and will function effectively as:

1. Medical Expert/Clinical Decision-Maker

General Requirement for R1-R5s:

- a. Demonstrate diagnostic and therapeutic skills for ethical and effective patient care.
- b. Access and apply relevant information and therapeutic options to clinical practice.
- c. Demonstrate effective consultation services with respect to patient care, education and legal opinions.
- d. Recognise personal limits of expertise.

Specific Requirements:

PGY 1 – PGY 3

- a. Appreciate the normal anatomy and physiology of diarthrodial joints.
- b. Understand the pathophysiology of inflammatory, degenerative and infectious joint processes.
- c. Understand treatment modalities and investigative techniques as they relate to joint reconstruction.
- d. Recognize the importance of postoperative complications. Understand the role of physiotherapy and occupational therapy.
- e. Understand the indications, contradictions and complications associated with non-steroidal and anti-inflammatories.
- f. Understand the principles of surgery as they relate to intra-articular and extra articular reconstructive procedures of the lower extremity.

Based on a careful history and physical exam, the resident will be able to propose a rational approach to the evaluation of patients with pain at various intervals after a total hip replacement.

- i. Differentiate the bursal and soft tissue diseases about the hip/knee and then outline a treatment plan during office sessions, clinic and rounds.
- ii. Distinguish other diseases predisposing to arthritis (Paget's Disease, AVN, Charcot arthropathy, ochronosis) - optional.
- iii. Obtain an accurate history and perform a thorough physical exam on patients with an inflamed knee and hip. They will be able to generate differential diagnosis of this condition with the pertinent positives and negatives of these disorders: rheumatoid arthritis, septic arthritis, acute/chronic osteomyelitis, primary/post traumatic, osteoarthritis, gout, psuedogout, SLE, Reiter's disease, ankylosing spondylitis, PVNS, hemophilia, osteonecrosis. The resident must be able to formulate a plan for the work-up of these patients including laboratory and radiographic evaluation.
- iv. Explain preoperative planning of standard total hip/knee replacement.

PGY 4

- a. Acquire as detailed knowledge of joint biomechanics reconstructive procedures for the lower extremity.
- b. Develop detailed knowledge of osteotomy, athrodesis and joint arthroplasty: indications, contraindications, complications as well as prosthetic options.
- c. Recognize and manage postoperative complications.
- d. Recognize and evaluate septic arthroplasties.

Hip Surgery:

Hemiarthroplasty (unipolar, bipolar).
Core decompression.
Arthrotomy.
Total Hip Arthroplasty (primary)

Knee Surgery:

Patellar alignment procedures.
Arthrotomy.
Arthroscopy (sepsis).
Synovectomy.
High tibial osteotomy.
Total Knee Arthroplasty (primary)

- a. Understand the general principles of Evaluating a painful joint replacement
- b. Understand the general principles of Evaluating an unstable joint replacement
- c. Understand the general principles and surgical technique for the cemented/cementless femoral and acetabular components.
- d. Understand the classification of acetabular and femoral deficiencies.
- e. Understand the classification of tibial and femoral deficiencies about the TKA.
- f. Based on a careful history and physical examination, the resident will be able to formulate an approach to the evaluation of patients with pain at various intervals after a total hip and knee replacement.
- g. Explain the rationale for implant selection (type, size, and configuration) for primary and revision THA/TKA cases.
- h. Understand basic biomaterials issues in total joint arthroplasty. Discuss the following materials and their use in orthopaedic implants: Ceramics, polyethylene, metals, and methyl methacrylate.
- i. Understand the perioperative considerations for THA and TKA including: preoperative medical evaluation; blood conservation; DVT prophylaxis; and rehabilitation.
- j. Understand the principles of femoral and pelvic osteotomies and be able to draw accurate preoperative plans for the procedure.
- k. Understanding and treating sever deformities around the hip and knee (i.e., Valgus or Varus knee deformity)

PGY 5

- a. Display a detailed knowledge of complex hip and knee arthroplasty and understand prosthetic options as well as technical considerations required to achieve the desired surgical goal.

- b. Display a detailed knowledge of the principles of revision surgery with bone loss, and the principles of autograft/allograft reconstruction.
- c. Display the ability to manage complex postoperative complications. Understand the principles of management of septic arthroplasties.

Hip Surgery:

- Arthrodesis.
- Osteotomies: femoral and pelvic.
- Arthroplasty: primary and simple revision
- Arthroscopy

Knee Surgery:

- Arthrodesis.
- Osteotomy: femoral and tibial
- Arthroplasty: primary and simple revision
- Use and indication of unicompartmental arthroplasty

2. Communicator

General Requirement for R1-R5s:

- a. Establish therapeutic relationships with patients/families.
- b. Obtain and synthesise relevant history from patients/families/communities.
- c. Listen effectively.
- d. Discuss appropriate information with patients/families and the health care team.

Specific Requirements:

- a. Understand that effective patient-physician communication can foster patient satisfaction and compliance as well as influence the manifestations and outcome of a patient's illness and surgical intervention.
- b. Establish relationships with the patient that is characterized by understanding, trust, respect, empathy and confidentiality.
- c. Recognize the emotional stress for patients and families faced with orthopaedic conditions and their associated surgical management, a stress especially accentuated in the treatment of children.
- d. Gather information not only about the disease but also about the patient's beliefs, concerns and expectations about the illness, while considering the influence of factors such as the patient's age, gender, ethnic, cultural and socioeconomic background, and spiritual values on that illness and on any proposed surgical intervention. (R4-5)
- e. Deliver information to the patient and family in a humane manner and in such a way that it is understandable; encourage discussion and promote patient's participation in decision-making to the degree that they wish.
- f. Obtain informed consent; appreciate alternative means of achieving consent if the patient is incompetent to provide consent, be it on the grounds of age or mental status, or other disqualifier.
- g. Understand and demonstrate the importance of cooperation and communication among health professionals involved in the care of individual patients such that the roles of these professionals are delineated and consistent messages are delivered to patients and their families.

- h. Maintain clear, accurate and appropriate written records.
- i. Write well-organized and legible orders and progress notes.
- j. Complete concise hospital discharge summaries promptly.
- k. Write well-organized letters, providing clear direction to the referring physician and other physician and allied personnel, where indicated.

3. Collaborator

General Requirement for R1-R5s:

- a. Consult effectively with other physicians and health care professionals.
- b. Contribute effectively to other interdisciplinary team activities.

Specific Requirements:

- a. Identify and describe the role, expertise and limitations of all members of an interdisciplinary team required to optimally achieve a goal related to patient care, a research problem, an educational task, or an administrative responsibility. (R4-5)
- b. Develop a care plan for a mutual-interest patient, that includes investigation, treatment and continuing care, whether preoperatively or postoperatively, as well as in both hospital and community settings. (R3-R5)
- c. Participate in an interdisciplinary team, demonstrating the ability to accept, consider and respect the opinions of other team members, while contributing specialty-specific expertise.

4. Manager

General Requirement for R1-R5s:

- a. Utilize resources effectively to balance patient care, learning needs, and outside activities.
- b. Allocate finite health care resources wisely.
- c. Work effectively and efficiently in a health care organisation.
- d. Utilize information technology to optimise patient care, life-long learning and other activities.

Specific Requirements:

- a. Have basic knowledge of how to function effectively in health care organizations, ranging from an individual clinical practice to organizations at the local, regional and national level. (R4-5)
- b. Have basic knowledge of the structure, financing, and operation of the Canadian health system and its facilities; and function effectively within it. (R4-5)
- c. Have ability to access and apply a broad base of information to the care of patients in ambulatory care, hospitals and other health care settings.
- d. Make clinical decisions and judgments based on sound evidence for the benefit of individual patients and the population served. This allows for an advocacy role primarily for the individual but in the context of societal needs when monitoring and allocating needed resources. (R3-5)
- e. Be open to working effectively as a member of a team or a partnership and to accomplish

tasks whether one is a team leader or a team member.

- f. Have basic knowledge of population-based approaches to health care services and their implication for medical practice.

5. Health Advocate

General Requirement for R1-R5s:

- a. Identify the important determinants of health affecting patients.
- b. Contribute effectively to improved health of patients and communities.
- c. Recognise and respond to those issues where advocacy is appropriate.

Specific Requirements:

- a. Demonstrate knowledge of determinants of health by identifying the most important determinants of health (i.e., poverty, unemployment, early childhood education, social support systems), being familiar with the underlying research evidence, and applying this understanding to common problems and conditions in orthopedics. (R4-5)
- b. Demonstrate knowledge of public policy for health by describing how public policy is developed; identifying current policies that affect health, either positively or negatively (i.e., communicable diseases, tobacco, substance abuse); and citing examples of how policy was changed as a result of actions by physicians. (R3-5)
- c. Demonstrate knowledge of the management of individual patients, by identifying the patient's status with respect to one or more of the determinants of health (e.g., unemployment); adapting the assessment and management accordingly (e.g. the medical history to the patient's social circumstances); and assessing the patient's ability to access various services in the health and social system. (R4-5)
- d. Demonstrate knowledge of the key issues currently under debate regarding changes in the Canadian health care system, indicating how these changes might affect societal health outcomes and advocating to decrease the burden of illness (at a community or societal level) of a condition or problem relevant to orthopedics through a relevant orthopedic society, community-based advocacy group, other public education bodies, or private organizations. (R4-5)

6. Scholar

General Requirement for R1-R5s:

- a. Develop, implement and monitor a personal continuing education strategy.
- b. Critically appraise sources of medical information.
- c. Facilitate learning of patients, house staff/students and other health professionals.
- d. Contribute to development of new knowledge.

Specific Requirements:

1. Demonstrate the following clinical skills:
 - a. Pose a clinical question.
 - b. Recognize and identify gaps in knowledge and expertise around the clinical question.

- c. Formulate a plan to fill the gap including to:
 - i. conduct an appropriate literature search based on the clinical question;
 - ii. assimilate and appraise the literature;
 - iii. develop a system to store and retrieve relevant literature;
 - iv. consult others (physicians and other health professionals) in a collegial manner.
 - d. Propose a solution to the clinical question.
 - e. Implement the solution in practice. Evaluate the outcome and reassess the solution (re-enter the loop at a) or b).
 - f. Identify practice areas for research.
2. Demonstrate the following research skills:
- a. Pose a research question (clinical, basic or population health).
 - b. Develop a proposal to solve the research question including to:
 - i. conduct an appropriate literature search based on the research question;
 - ii. identify, consult and collaborate with appropriate content experts to conduct the research; and to
 - iii. propose a methodological approach to solve the question.
 - c. Carry out the research outlined in the proposal.
 - d. Defend and disseminate the results of the research.
 - e. Identify areas for further research that flow from the results.
3. Acquire the following educational experience:
- a. Demonstrate knowledge of, and the ability to apply, the principles of adult learning, with respect to oneself and others.
 - b. Demonstrate knowledge of preferred learning methods in dealing with students, residents, and colleagues.

7. Professional

General Requirement for R1-R5s:

- a. Deliver highest quality care with integrity, honesty and compassion.
- b. Exhibit appropriate personal and interpersonal professional behaviours.
- c. Practise medicine ethically consistent with obligations of a physician.

Specific Requirements:

- 1. Achieve the following discipline-based objectives:
 - a. Display attitudes commonly accepted as essential to professionalism.
 - b. Use
 - c. .0appropriate strategies to maintain and advance professional competence.
 - d. Continually evaluate his/her abilities, knowledge and skills and know his/her limitations of professional competence.
- 2. Achieve the following personal/professional boundary objectives:
 - a. Adopt specific strategies to heighten personal and professional awareness and explore and resolve interpersonal difficulties in professional relationships.

- b. Consciously strive to balance personal and professional roles and responsibilities and to demonstrate ways of attempting to resolve conflicts and role strain.
3. Achieve the following objectives related to ethics and professional bodies:
- a. Know and understand the professional, legal and ethical codes to which physicians are bound.
 - b. Recognize, analyze and attempt to resolve in clinical practice ethical issues such as truth-telling, consent, advanced directives, confidentiality, end-of-life care, conflict of interest, resource allocation, research ethics, etc.
 - c. Have basic knowledge of and be able to apply relevant legislation that relates to the health care system in order to guide one's clinical practice. (R4-R5)
 - d. Recognize, analyze and know how to deal with unprofessional behaviors in clinical practice, taking into account local and provincial regulations.

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