

**Adult Reconstruction Rotation**  
Rotation Specific Objectives (RSO)

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The purpose of this document is to clarify and outline the objectives of the Adult Reconstruction Rotation. This will present the educational objectives of the rotation and delineate the expectations and responsibilities of the Resident and the Faculty. The educational experience will comply with the concepts of the core competencies outlined by the AGCME and mandated by the Residency Review Committee (RRC):

**1. Medical Knowledge**

The resident is expected to demonstrate an analytic approach to clinical problems and apply basic and clinical science to solving problems.

**2. Patient Care**

The resident is expected to provide care that is compassionate, appropriate, and effective. This care is to be based on the most current scientific information and to incorporate the knowledge of other health professionals as appropriate.

**3. Practice-Based Learning Improvement**

The resident is expected to analyze clinical results and use methodologies for ongoing improvement. Appropriate use of information technology, the literature, and statistical analysis are tools to be employed in this endeavor.

**4. Interpersonal Communication**

The resident is expected to function effectively as a member of the health care team and demonstrate skillful information exchange with patients, fellow residents, and faculty.

## **5. Professionalism**

The resident is expected to act at all times in an ethical manner. The resident will demonstrate a commitment to excellence and treat all patients with respect, compassion, and a right to privacy.

## **6. Systems-Based Practice**

The resident is expected to advocate for quality medical care. In this context, the resident must practice cost effective care without compromising quality.

These basic core competencies are to be taught by the staff by role modeling and by serving as preceptors in surgery, clinics, and office settings. Other effective tools to be employed are conferences, case presentations, and day-to-day interaction with the faculty. The resident will meet with faculty members mid-rotation to assess his/her progress toward the RSO and address any deficiencies. An end of rotation evaluation form completed.

# EDUCATIONAL OBJECTIVES

## **Adult Reconstruction Rotation**

### **PGY1**

The PGY1 resident will spend a three-month rotation on the adult reconstruction team at the Memorial Campus. The resident will obtain an introduction to the diagnosis and physical examination of patients with musculoskeletal pathology of the hip and knee. The resident will learn a systematic approach to the development of a differential diagnosis for patients with hip and knee pathology and begin to develop both conservative and operative strategies to treat the condition.

**The basic knowledge to be mastered in order to achieve these objectives includes:**

- The musculoskeletal history
- The directed physical exam
- Proper use of radiologic examinations
- Recognition of the full spectrum of arthritis

- Understand the pathophysiology of osteoarthritis
- Understand the pathophysiology of rheumatoid arthritis
- Suture and knot tying skills
- Introduction to surgical approaches to the hip and knee
- Introduction to arthroscopy
- Introduction to arthroplasty of the hip and knee
- Diagnosis and treatment of septic arthritis
- Pre-operative and post-operative care of the surgical patient
- Anesthetic considerations for hip and knee reconstruction
- Blood transfusion medicine
- Application of bone inductive and conductive agents to hip and knee reconstruction
- Use of Bone grafts
- Biomechanics of the hip and hip reconstruction
- Biomechanics of the knee and knee reconstruction
- Principles of Rehabilitation after reconstruction of the hip and knee

**The expectations to be met by the PGY1 resident are:**

- The resident will make morning and afternoon rounds on all in-patients
- The resident will interview the patient in the holding area and familiarize himself/herself with the medical and orthopedic details of the patient's history
- The resident will assist in the operating room
- The resident will actively participate in the post-operative care of surgical patients
- The resident will spend one day per week in the Arthritis and Joint Replacement Center
- The resident will take in house call with back up by the PGY4 resident
- The resident will attend all University teaching conferences including Grand Rounds and the Core Curriculum.
- Compliance with Massachusetts State Health Department Code Regulations regarding:
  - Resident work-hours are mandatory.
  - The resident should arrange appropriately transfer of in-patient care when he/she must leave the hospital.

EDUCATIONAL OBJECTIVES  
**Adult Reconstruction Rotation**  
**JUNIOR RESIDENTS**

The educational objectives for the Junior Resident are to build upon the foundation of knowledge gained during the PGY1 rotation. The resident is expected to develop the knowledge base and skills to assess and treat more complex adult reconstruction pathology. The resident will learn the surgical skills to manage typical adult reconstruction operative cases. The resident will also be responsible for the preparation of the patient for surgery and the post-operative management of the surgical patients.

**The knowledge to be mastered in order to achieve these objectives includes:**

- Knowledge and Understanding Implant Materials to include Metal Alloys, Polyethylene,
  - Polymethacrylate and Ceramics
- Outcomes assessment in hip and knee replacement
- Pathophysiology and Treatment of DVT and PE
- Imaging techniques in adult reconstruction surgery patients
- Surgical approaches and anatomic consideration of the hip
- Osteonecrosis; etiology, pathophysiology, and treatment
- Cementless primary total hip arthroplasty
- Hybrid total hip arthroplasty
- Design evolution of the cemented total hip arthroplasty
- Design evolution of the cementless total hip arthroplasty
- Surgical approaches and anatomic consideration of the knee
- Cemented primary total knee arthroplasty
- Biomechanics of total knee replacement design
- Surgical principals of ligamentous balancing techniques
- Planning surgical incisions around the knee in the multiply operated knee
- Long-term results of total knee replacement patients
- Unicompartmental replacements

**The expectations to be met by the Junior Resident include:**

- The resident will make morning and afternoon rounds on all patients
- The resident will assist in the operating room as assigned
- The resident will take in house call on a rotating basis
- The resident will attend all teaching conferences; to include Grand Rounds and the Core Curriculum
- The resident will spend a minimum of one day per week in the Arthritis and Joint
  - Replacement Center
- The resident will assist in the instruction of the PGY1 and medical students on the Service
- The resident will adequately prepare for all surgical cases in which he/she will participate
- The resident will seek appropriate consultation from other services when the patient's condition warrants it
- Compliance with Massachusetts State Health Department Code Regulations regarding
  - Resident work-hours are mandatory.
  - The resident should arrange appropriate Transfer of in-patient care when he/she must leave the hospital.

**EDUCATIONAL OBJECTIVES**

**Adult Reconstruction Service**

**SENIOR RESIDENT**

The educational objective for the Senior resident is to be fully competent in the diagnosis, examination, differential diagnosis and development of a treatment plan for a patient with an adult reconstructive disorder of the musculoskeletal system. This includes both surgical and non-surgical conditions encountered in general practice. The Senior resident will also have an introduction to revision joint replacement. The goal is to develop the resident's knowledge base and surgical skills to support an independent general orthopedic practice.

**The knowledge to be mastered to achieve these objectives includes mastery of those described for the Junior Resident and in addition:**

- Surgical exposures in revision hip arthroplasty
- Complication in total hip replacement; their prevention, recognition and management
- Dislocation
- Mechanical failure; loosening and wear
- Osteolysis; pathophysiology, treatment and prevention
- Revision total hip replacement
- Femoral component considerations in revision total hip replacement
- Acetabular component considerations in revision total hip replacement
- Structural bone grafting in revision hip surgery
- Treatment of deep infection complicating total hip arthroplasty
- Hip osteotomy
- Hip resurfacing
- Revision total knee replacement
- Complications in total knee replacement; prevention, recognition and management
- Extensor mechanism complications
- Diagnosis and treatment of infection complicating total knee arthroplasty
- Nonarthroplasty alternatives in knee arthritis
- Alternative Bearing Surfaces
- Surgical exposures in revision knee arthroplasty
- Structural bone grafting in revision knee arthroplasty

**The expectations to be met by the PGY5 resident include:**

- All in-patients are the responsibility of the PGY5
- The resident will supervise morning and afternoon rounds on all patients
- The resident will participate in the operating room as assigned
- The resident will attend all teaching conferences; to include Grand Rounds and the Core Curriculum and assist in the preparation of the conferences.
- The resident will spend a minimum of one day per week in the Arthritis and Joint
  - Replacement Center

- The resident will assist in the instruction of the Junior residents, PGY1 and medical students on the Service
- The resident will adequately prepare for all surgical cases in which he/she will participate
- Compliance with Massachusetts State Health Department Code Regulations regarding
  - Resident work-hours are mandatory.
  - The resident should arrange appropriate transfer of in-patient care when he/she must leave the hospital.