Adult Reconstruction and Joint Replacement Fellowship Program at Hospital for Special Surgery
Adult Reconstruction and Joint Replacement Service

- Comprised of the Hip Service, Knee Service, and Surgical Arthritis Service

- Led by 20 full-time Surgeons
  - Thomas Sculco, MD, Surgeon-in-Chief
  - Douglas Padgett, MD, Chief, Hip Service
  - Steven Haas, MD, Chief, Knee Service
  - Mark Figgie, MD, Chief, Surgical Arthritis Service
  - Michael Alexiades, MD
  - Friedrich Boettner, MD
  - Mathias Bostrom, MD
  - Robert Buly, MD
  - Charles Cornell, MD
  - Alejandro Gonzalez Della Valle, MD
  - David Mayman, MD
  - Bryan Nestor, MD
  - Michael Parks, MD
  - Paul Pellici, MD
  - Amar Ranawat, MD
  - Chitranjan Ranawat, MD
  - Eduardo Salvati, MD
  - Edwin Su, MD
  - Geoffrey, Westrich, MD
  - Russell Windsor, MD

- Collective volume of nearly 7,500 cases per year
ARJR Fellowship Overview

- Established over 40 years ago
- Rotations across 20 faculty members provides broad range of experience over the course of the year
- Participation in outpatient visits, including private office and clinic settings

John N. Insall, MD
Eduardo A. Salvati, MD
Significant exposure to a broad range of surgical procedures:

- **Primary total hip replacement**
  - Cementless and cemented fixation
  - Metal on UHMWPE and alternative bearing surfaces
  - Hip resurfacing
  - Custom made hip replacement for deformity

- **Revision total hip replacement**
  - Modular and non-modular options
  - Cementless fixation for proximal or distal loading
  - Impaction grafting
  - Custom made revision implants
  - Management of bone loss – bone grafting and bone graft substitutes
ARJR Fellowship Overview (cont.)

- Knee replacement surgery
  - Total knee replacement
  - Unicondylar knee replacement
  - Patellofemoral replacement

- Revision knee replacement surgery
  - Cemented – hybrid –cementless fixation
  - Management of gaps
  - Management of bone loss – bone grafting and bone graft substitutes

- Minimally invasive surgery of the hip and knee

- Computer assisted surgery – robotic surgery of the hip and knee

- Hip/knee preservation surgery
  - Hip/knee arthroscopy
  - Hip peri-acetabular osteotomies; knee osteotomies
Academic Conferences and Career Training

- Weekly academic conferences covering the most relevant aspects of joint reconstruction surgery, including unique and complex cases

- Weekly tutorials between Fellows and Surgeons

- Monthly journal clubs for Arthroplasty and Hip Preservation.

- Fellows work closely with and provide training to residents on the Service in coordinating patient care, teaching conferences, in the operating room

- Monthly sessions in the Bioskills Education Laboratory
Distinguished Visiting Professors (2001-2010)

- Cecil Rorabeck, MD
  - University of Western Ontario
- Richard Scott, MD
  - New England Baptist Hospital
- William H. Harris, MD
  - Massachusetts General Hospital
- Leo A. Whiteside, MD
  - St. Louis University
- John J. Callaghan, MD
  - University of Iowa
- Michael A. R. Freeman, MD
  - Royal London Hospital/University College of London
- Robert T. Trousdale, MD
  - Mayo Clinic
- Robert Bourne, MD
  - London Health Sciences Centre/University of Western Ontario
- Lawrence Dorr, MD
  - Dorr Institute at Good Samaritan Hospital
- Arlen D. Hanssen, MD
  - Mayo Clinic
Research

- Fellows build upon existing research skills with extensive exposure to research methodology, study design, and critical data review.

- Fellows are expected to pursue active research with at least two research projects completed during the Fellowship year.

- The Program sets aside one day per week for research.
Registries

- HSS registries acquire prospective data that supports clinical studies focused on improving short- and long-term surgical outcomes

- Most of the Hospital’s joint replacement patients are currently enrolled in one of the Hospital’s registry databases:
  - CORRe (Collaborative Orthopaedic Replacement Registry)
    - Enrollment as of January 2010: 12,877 patients
  - CERT (Centers for Education & Research on Therapeutics)
    - Enrollment as of November 2009: 14,204 patients
    - 35 ongoing studies utilizing CERT data
Facilities

In order to enhance the Fellow’s clinical, educational, and research experience, Fellows have access to the Hospital’s state-of-the-art facilities including:

- Bioskills Education Laboratory (BSEL)
- Computer Assisted Surgery (CAS) Center
- Biomechanics Laboratory
- Implant Retrieval Archives
- Core Research Facilities
- Leon Root, MD Motion Analysis Laboratory
Bioskills Education Laboratory (BSEL)

- Established in 2000
- Simulates surgical procedures with equipment identical to that used in HSS operating rooms
- Procedures in the lab can be performed on cadaver specimens or sawbones – plastic models of bones and joints
Computer-Assisted Surgery (CAS) Center

- Created to investigate innovative methods of utilizing computer technology to assist in orthopedic surgery.
- HSS is positioned to develop and expand upon current CAS technologies
Biomechanics Laboratory

- Houses a robotics system that allows sophisticated testing of joint mechanics.
- Applies the principles of engineering and material science to solve orthopedic problems by conducting basic and applied research.
- Research translates into the development of orthopedic devices and instrumentation aimed at improved patient care.
Implant Retrieval Archives

- House nearly 20,000 retrieval implants, which provide critical data that is helping to drive the development and refinement of implant materials and design.
Core Research Facilities

- Epidemiology and Biostatistics
- Flow Cytometry
- Musculoskeletal Repair and Regeneration
- Analytic Microscopy
- Imaging
- Mechanical and Material Assessment
- Scanning Electron Microscopy
Leon Root, MD Motion Analysis Laboratory

- Incorporates force sensors for gait evaluation, as well as multiple high-speed video cameras, to conduct formal video analysis of human motion.
- Allows telemetered electromyographic evaluation of muscle function.