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

## Adult Reconstruction and Joint Replacement Service

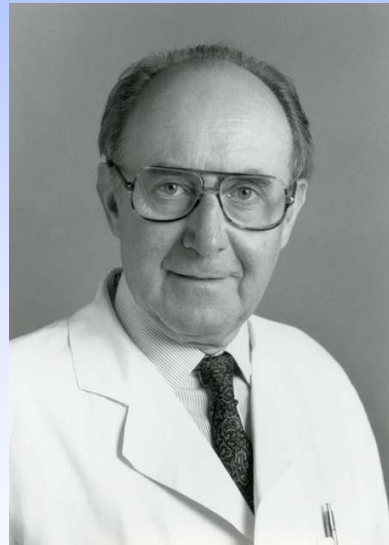
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- Comprised of the Hip Service, Knee Service, and Surgical Arthritis Service
- Led by 20 full-time Surgeons
  - Thomas Sculco, MD, *Surgeon-in-Chief*
  - Douglas Padgett, MD, *Chief, Hip Service*
  - Steven Haas, MD, *Chief, Knee Service*
  - Mark 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

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- 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

# ARJR Fellowship Overview (cont.)

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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.)

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- 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

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- 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)

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- 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

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- 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

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- 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

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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)

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- 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

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- 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

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- 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

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- 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

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- 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.