Harvard Orthopedic Trauma Fellowship
Massachusetts General Hospital/Brigham and Women’s Hospital

Introductory Manual

For Interested Orthopedic Surgeons
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Introduction and Welcome

Thank you for your interest in the Harvard Orthopedic Trauma Fellowship Program. This booklet is intended to give you a brief overview of the fellowship year.

Fellowship Structure

The program offers two one-year fellowships. The Fellow must successfully apply for a full Massachusetts license, and is then credentialed as an attending surgeon. The fellowship is divided into two 6-month blocks. One fellow will start at Massachusetts General Hospital (MGH) and the other will start at Brigham and Women’s Hospital (BWH) and rotate half-way through the year.

You will also work with Drs. E. Kenneth (Krod) Rodriguez, Paul Appleton, John (Jack) Wixted, and John Kwon, the Orthopaedic Trauma Faculty at Beth Israel Deaconess Medical Center (BIDMC). While BIDMC is not officially part of our program, we work closely with Drs. Rodriguez, Appleton, Wixted, and Kwon on research and teaching initiatives across the Harvard system. You will be credentialed at BIDMC so that you may operate with these faculty when there are cases in which you are interested and your schedule allows.

The fellow functions as a full attending physician, with a corresponding high degree of independence in the operating room and outpatient settings. He/She is expected to be proficient in the care of basic fractures and help take the residents through these fractures in the operating room. As the year goes along, the fellow is allotted increasing responsibility under staff supervision for progressively complex trauma cases. The fellows have trauma specialist backup at all times and all of their clinical activity is monitored daily by trauma specialists. Combined institutional specific educational conferences take place throughout the year. Both institutions are certified by the American College of Surgery as Level I Trauma Centers, and have designated orthopedic trauma operating rooms available for acute and emergent cases. A common database exists for purposes of retrospective research.

While you will practice at a single hospital for six months at a time, you are encouraged to travel to the other 2 hospitals whenever there are good cases at that hospital – i.e. pelvic and acetabular fractures; nonunions. You are also encouraged to attend trauma-related meetings and seminars at these hospitals whenever you are available. We encourage our fellows to stay in close contact with one another so that you stay aware of these cases and meetings.

* For information about Massachusetts licenses, please visit: [http://www.mass.gov/massmedboard](http://www.mass.gov/massmedboard).

Faculty

During the fellowship year, you will work closely with faculty on both the Trauma, Hand & Upper Extremity, and Foot & Ankle Services at the MGH and BWH. Below are the faculty and their affiliations.

Orthopedic Trauma Service

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**Neal Chen, MD**  
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**Foot and Ankle Service**

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**Eric M. Bluman, MD, PhD**  
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Jeremy Smith, MD  
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**Geriatric Medicine - GIFTS**
Both inpatient teams at BWH and MGH include physicians from the Geriatric Medicine Service who help us better coordinate the treatment and care of our older patients with complex medical issues. This program is called GIFTS (Geriatric Inpatient Fracture Service). Our geriatricians Houman Javedan, MD, (BWH), and Franco Esteban-Garcia, MD, (MGH) will work with you to ensure your patients receive age-appropriate care while they recover from their injuries.

In addition to the above faculty, we strongly encourage you to take advantage of the many areas of clinical expertise available both at MGH and BWH. You are encouraged to discuss cases with other services and when appropriate assist in cases with other attendings and fellows.

**Educational Program – Basic Curriculum**

**General Requirements:** In accordance with the general competencies endorsed by the ACGME, our Fellowship Program emphasizes the following core competencies: professionalism, patient care, medical knowledge, practice-based learning, interpersonal and communication skills and system-based practices.

**Professionalism:** The Fellow is expected to demonstrate respect, compassion, and integrity. He/She is expected to be responsive to the needs of his/her patients and demonstrate commitment to excellence and on-going professional development. Additionally, the Fellow will be expected to demonstrate a commitment to ethical principles pertaining to provision or withholding of clinical care, confidentiality of patient information, informed consent, and business practices. The Fellow will also be expected to demonstrate sensitivity and responsiveness to each patient’s culture, age, gender, and disability.

**Clinical Competence:** The Fellowship Program has been designed to permit fellows to develop advanced technical competence in the field of orthopedic trauma. The fellows must be able to provide patient care that is compassionate, appropriate, and effective for the treatment of health problems and the promotion of health. This will require effective communication and respectful behaviors when interacting with patients and their families. The Fellow will be responsible for making informed decisions about diagnostic and therapeutic interventions based on patient information and preferences, up-to-date scientific evidence, and clinical judgment. He/she will need to be able to develop and carry out patient management plans and to counsel and educate patients and their families.

Within each practice site the Fellow will be asked to practice cost-effective health care and resource allocation that does not compromise quality of care. He/she will need to advocate for quality patient care and assist patients in dealing with system complexities. Additionally, the faculty will emphasize the importance of knowing how to partner with health care managers and health care providers to assess, coordinate, and improve health care.

At each hospital the fellow will function as a junior attending with graduated responsibility as the year progresses and his or her abilities advance. Throughout the year, faculty will be available for consultation and assistance as necessary. Periodic performance reviews will occur with the
program director or the site director. These will be based on evaluation by the individual faculty and, separately, by the PGY5 residents.

**The surgical experience:** At each hospital the fellow is scheduled to be in the operating room 3-4 days per week along with an attending. Our fellows generally perform over 600 cases annually. Each morning the trauma services at each hospital meet to review surgeries and admissions from the previous day and to review that day’s operative cases. At this morning report the staff critically reviews the previous day’s cases and discusses operative strategies and logistics for the day’s cases. The staff then assigns cases to the fellow and residents based on the complexity of the cases. For complex cases the fellow operates with the attending either as the surgeon or first assistant depending on the case complexity and the fellow’s ability. For less complex cases the fellow may be assigned to work with the resident either as the surgeon or as first assistant to the resident. The faculty review and evaluate all of the fellow’s cases both pre- and post-operatively to provide constructive feedback.

Knowledge and skill sets that are specifically focused upon include but are not limited to:

a. An understanding and appreciation of the integral role of the orthopedist in the management of the multiply injured patient.
   1. Timing of orthopedic procedures
   2. Magnitude of procedures: Damage control vs. definitive treatment
   3. Indications for early or immediate limb amputation, fasciotomy for compartment syndromes, and the appropriate clinical setting for limb salvage and reconstruction
   4. Indications and techniques of for various types of internal and external fixation devices
   5. The diagnosis and management of complications related to orthopedic trauma
      a. Soft tissue
      b. Hardware related
      c. Boney complications: nonunions, malunions, osteomyelitis
      d. Psychological effects of trauma on the patient and family
      e. Familiarity with recuperative and rehabilitation techniques and the utilization of physical and occupational therapy enabling the injured patient to return to function.

The fellowship provides a busy operative experience with each fellow involved in well over 600 cases either as surgeon or first assistant. By the end of the program the fellow is expected to be proficient in the management of complex pelvic and acetabular trauma, complex intra-articular fractures, the multiply-injured patient, and to be expert in the management of basic fractures.

More specifically:

- Pelvic and acetabular fractures represent the most complex of orthopedic trauma cases. Over the last two years, our fellows have averaged over 70 pelvic and acetabular cases.
- Both campuses have trauma surgeons who have completed fellowship training that includes the management of spinal fractures. The Fellows will be afforded the opportunity to participate in these cases, but it will not be required.
We are acutely aware of the need to train our residents. The fellows are expected to be proficient in basic fracture surgery. Thus, basic fracture cases are reserved for the residents under the supervision of the faculty or the fellow. There will be active, on-going monitoring by the faculty to ensure that the fellowship educational and surgical experience does not interfere with the educational or surgical experience of the residents.

These arrangements are designed to accomplish three essential goals:
1. Teach the fellow how to do complex orthopedic trauma cases.
2. Provide the fellow with an independent operative experience with back up as necessary and next day constructive feedback.
3. Allow the fellow the experience of teaching the residents.

The outpatient clinics: At the MGH the fellow conducts 1 outpatient clinic per week to see an average of 30 patients total for the week. The full day clinic is conducted in conjunction with a faculty clinic. At the BWH the fellow conducts one half-day clinic per week to see an average of 15-20 patients and assists in faculty clinics when available. The outpatient clinics allow the fellow the chance to follow patients he or she has operated on and to see new patients and devise management plans. With these clinics the fellow has his “own patients” and is expected to deal with all patient phone calls and related paper work. The fellow has an administrative assistant at both sites.

Inpatient responsibilities: The PGY5 residents are expected to run the inpatient services. The fellow’s role is as an attending on the service.

Call responsibilities: The fellow is included in the regular call schedule as an attending and takes the same amount of call as other trauma attendings. The fellow is assigned one call day per week and one weekend per month. If the fellow volunteers to cover additional uncovered days he or she receives additional pay for that day. On average the fellows cover one additional day per month. While on call, the fellow is expected to operate only on true emergency cases. Faculty backup is always available. The fellow is expected to call the Faculty for advice and assistance before taking a complex case to the OR.

Educational Conferences and Meetings: In House: Our fellowship curriculum contains two main didactic components: a bimonthly faculty-run fellow-specific educational conference; and an annual cadaver skills session at a nearby surgical education center. The fellows are quite involved with the skills sessions, selecting the topics of interest and the guest sages for each.

Out of House: We believe strongly that training outside of the hospital is an important part of the fellowship experience. With this in mind, we pay for our fellows to attend up to four (4) educational conferences and meetings per year – including the OTA, the AONA Pelvic and Acetabular Fracture Management Course, and the Nottingham Fracture Forum. Fellows also attend the Annual Spring OTA Fellows Course.

Salary and Benefits: The Orthopaedic Trauma Fellow salary is commensurate with that of a PGY-6 in our system. The salary for the 2020-2021 academic year is $82,000.00. Salaries are generally adjusted by 2-3% each year. Benefits include many competitive health, dental, and
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vision coverage options.

**Research**

**General**
The Trauma Service has an active basic science and clinical research program. Fellows are expected to complete a research project during the academic year. By the end of the fellowship, you are expected to have a manuscript prepared for presentation at our annual Harvard Orthopedic Trauma Research Day with the ultimate goal of publication.

We have full-time research coordinators and a statistician to help you with your projects.

**Harvard Orthopedic Trauma Initiative Research Collaboration**
The trauma services of the four Harvard hospitals – MGH, BWH, BIDMC, and Boston Children’s Hospital – collaborate whenever possible on clinical research. Toward this end, we convene a Harvard-wide research monthly meeting where there are discussions about ongoing and future research ideas, projects, and collaborations. Attendees include clinical faculty, fellows, residents, research staff, and personnel from the labs. Anyone interested in working on or learning about how to do research is encouraged to attend. Fellows are expected to attend.

**Ortho DUDE – Data Utility for Documentation and Education**
In April 2002, we created a database application called Ortho DUDE to track all fractures, dislocations, and major soft tissue injuries and their operative treatments at Brigham and Women’s and Massachusetts General Hospitals. While the DUDE has been phased out and we are now utilizing RPDR (Research Patient Data Registry) there are a collection of approximately 140,000 patients listed in DUDE that you will be able to mine for projects and papers.

**Partners Healthcare System Research Patient Data Registry (RPDR)**
The RPDR gathers clinical data from several hospital systems at Partners Healthcare. (Enterprise Master Patient Index - EMPI, Hospital Decision Support System - EPSI (formerly TSI), Physician Billing System - IDX and EPIC, Longitudinal Medical Record - LMR, Corporate Provider Master - CPM, Clinical Data Repository - CDR, and Partners Personalized Medicine - PPM) and stores the data in one central data warehouse. Researchers can query this data by using an online query tool. The query tool returns aggregate totals of patient data that are populated with appropriately obfuscated, de-identified/encrypted data as per HIPPAA privacy rules and the HHS Common Rule. With the proper IRB approval, researchers may access the patients’ detailed medical records for their specified cohorts of patients. The detailed medical records are returned to researchers in an encrypted Microsoft Access file and text (.txt) files. Detailed medical records may include the following types of data: Transfusion, Cardiology, Contact Information, Demographics, Diagnoses, Discharge Notes, Endoscopy, Laboratory Tests, PEAR Allergies, LMR Health Maintenance, LMR Medications, LMR Notes, LMR Problems, LMR Vital Signs, Medications, Microbiology, Operative Notes, Pathology Reports, Procedures, Providers, Pulmonary, Radiology Reports, Radiology Tests and Transfusion. Furthermore, images from hospital image repositories can be returned and viewed online.
Hospital and Service Information
For more information about our hospitals and service in general, please visit our websites:

http://www.brighamandwomens.org/orthopedics/
http://www.massgeneral.org/ortho/
https://orthtrauma.hms.harvard.edu/

Alumni
We maintain great relationships with all of our former fellows. Please feel free to contact any of them.

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