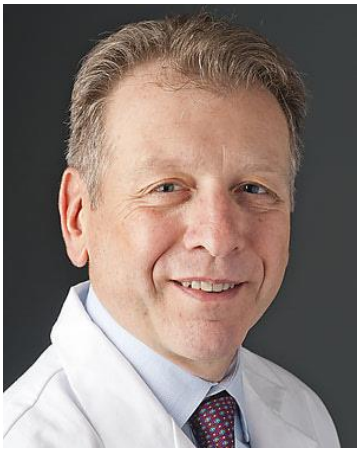
*Roberta and Stephen R. Weiner*
*Department of Surgery*

# Neurological Surgery Residency Program

Beth Israel Deaconess Medical Center

HARVARD MEDICAL SCHOOL
TEACHING HOSPITAL

## Welcome from the Chair



Greetings from the Beth Israel Deaconess Medical Center Division of Neurosurgery! We are very proud of the clinical, research, and educational programs we have built here over the last decade and are equally proud of the success our residency program has achieved over its first seven years. Our division boasts world renowned faculty in a number of sub-specialties including Cerebrovascular Neurosurgery, Functional Neurosurgery and Neurotrauma. We are an ACS Level I trauma center and a Certified Stroke Center. Our residents benefit from a surgical volume that far exceeds what is required to train one resident per year, and provides a broad surgical experience that exposes our residents to the full range of neurosurgical interventions. Because we are a smaller and newer program, our residents interact directly with the faculty in clinic and in the operating room, allowing them to progress technically from the outset of their training.

As a teaching affiliate of the Harvard Medical School, all of our faculty hold HMS appointments. More importantly, that relationship provides our residents with direct access to the wealth of research and educational opportunities both at Harvard and elsewhere in Boston. As it is our goal to become one of the premier training programs in the U.S., we seek outstanding individuals of any gender, race or ethnicity who have a track record of high achievement, individuals who will take advantage of these opportunities in order to launch productive careers in academic Neurosurgery. Our goal is not only to teach you how to be a superb technical neurosurgeon. In addition, we hope to inspire and train leaders who will move our field forward. We are delighted you've taken the time to interview with us and learn more about our program. We, in turn, are excited to learn more about you. We wish you the best of luck in this process and hope you agree that BIDMC is an outstanding place to train.

Ron L. Alterman, MD
Chief, Division of Neurosurgery
Beth Israel Deaconess Medical Center
Associate Professor of Neurosurgery
Harvard Medical School

"We were trained to be both patient- and research-focused, *encouraged to think about the disease process, and look for data. As a result, the program produced people who were especially thoughtful, and thus more likely to become surgical leaders."*

**— Susan Love, MD, MBA** (1979), Founder and Chief Visionary Officer, Dr. Susan Love Foundation for Breast Cancer Research; Author of *Dr. Susan Love's Breast Book*

## Welcome from the Program Director

On behalf of the faculty of the Beth Israel Deaconess Medical Center and Boston Medical Center Departments of Neurosurgery, I welcome your interest in our residency training program. With a wealth of clinical experience and exceptional research opportunities, we are committed to training superior neurosurgeons who will become future leaders in American medicine. We are proud of our commitment to surgical education and innovation at every level.

Our residents form a diverse group of individuals selected from the top of their graduating classes who have demonstrated dedication to and excellence in research, service, and leadership. Interested individuals are encouraged to apply through ERAS. We appreciate your interest and look forward to meeting you.

James Holsapple, MD
Chair of Neurosurgery, Boston Medical Center
Program Director, Neurological Surgery Residency Program
Associate Professor of Neurosurgery and Pediatrics,
Boston University School of Medicine

"I left Chile to get the best possible training at BIDMC, *for which I am extremely grateful, and I have brought that training back to help the people of Chile and Latin America. My story demonstrates the truly international impact of the BIDMC Surgery training program."*

**— Martín J. Dib, MD** (2014), Chief of Transplant, Hospital Clínico Pontificia Universidad Católica de Chile; Assistant Professor of Surgery, Pontificia Universidad Católica de Chile

## Training Program Leadership

James Holsapple, MD
*Program Director*
*Chair, Department of Neurosurgery*
Boston Medical Center
Associate Professor of Neurosurgery and Pediatrics
Boston University School of Medicine

Urvashi Upadhyay, MD
*Site Director*
Boston Medical Center
Associate Professor of Neurosurgery
Director of Skull Base Surgery
Boston University School of Medicine

Ron L. Alterman, MD
*Chief, Division of Neurosurgery*
Beth Israel Deaconess Medical Center
Associate Professor of Neurosurgery
Harvard Medical School

Martina Stippler, MD
*Site Director*
Beth Israel Deaconess Medical Center
Associate Professor of Neurosurgery
Harvard Medical School

"The residency promoted core values such as honesty, compassion, *professionalism, stamina, and evidence-based practice — all under a ubiquitous demand for excellence. These were the most transformative years of my life."*

**— C. Keith Ozaki, MD** (1995), Director, Vascular Surgery Research and Vice Chair, Department of Surgery, Brigham and Women's Hospital; John A. Mannick Professor of Surgery, Harvard Medical School

# About Beth Israel Deaconess Medical Center

Beth Israel Deaconess Medical Center, a major teaching affiliate of Harvard Medical School, is renowned for excellence in patient care, research, teaching, and community service. Located in the heart of Boston's medical community, it serves more than a half million patients annually from Boston and surrounding communities, as well as patients from around the nation and the world.

The roots of the Harvard Surgical Service at Beth Israel Deaconess Medical Center reach back to 1864, establishing it as one of the oldest academic programs in the nation. Our explicit mission is to provide advanced surgical care of the very highest quality to those in need, improve health through innovation and discovery, and prepare future leaders in American surgery.

In 1864, a brilliant young surgeon named David Williams Cheever, MD (standing, center) joined the staff at the newly established Boston City Hospital, which was one of two Boston hospitals associated with Harvard Medical School.

Dr. Cheever, the son and grandson of physicians who trained under Dr. Oliver Wendell Holmes Sr., created and grew a vibrant surgical program that rapidly established itself as a vital center for clinical care, training, and research of Harvard Medical School. A pioneering surgeon and man of immense dedication and integrity, Dr. Cheever served as the second Chair of Surgery at Harvard Medical School, succeeding Henry J. Bigelow at the Massachusetts General Hospital. He was editor of the *Boston Medical and Surgical Journal* (a predecessor of the *New England Journal of Medicine*), and in 1889 served as President of the American Surgical Association. In 1915, the year of Dr. Cheever's death, the Harvard Surgical Service was renamed the Fifth (Harvard) Surgical Service.

In 1973, following Boston City Hospital's change in affiliation, William V. McDermott, MD, Director of the Fifth (Harvard) Surgical Service and Cheever Professor of Surgery at Harvard Medical School, moved the entire surgical service — staff, residents, students, and research activities alike, as well as the Cheever Chair — to New England Deaconess Hospital, where he assumed the position of Chief of Surgery.

The Beth Israel and New England Deaconess hospitals came together as Beth Israel Deaconess Medical Center in 1996, but for nearly a century each was a national leader in health care with a long history of excellence in patient care, innovative research, and outstanding medical education. The New England Deaconess Hospital was originally founded to care for the city's underserved residents in 1896 as part of the charter of the Methodist deaconess movement. In 1916, Beth Israel Hospital was established by Boston's Jewish community to meet the needs of the growing immigrant population.

Today, the medical center is a tertiary/quaternary hospital with a wide range of multidisciplinary, cutting-edge clinical programs. Nearly 30,000 operative procedures are performed each year at Beth Israel Deaconess Medical Center, making it one of the busiest centers for surgical care in the United States.

Beth Israel Deaconess Medical Center is part of Beth Israel Lahey Health, a health care system that brings together academic medical centers and teaching hospitals, community and specialty hospitals, more than 4,000 physicians, and 35,000 employees in a shared mission to expand access to care and advance the science and practice of medicine through groundbreaking research and education.

Klarman building - 350,000-square-foot, 10-story – opened 2023

## Patient Care

Beth Israel Deaconess Medical Center is a nonprofit health care institution providing care for patients of any race, creed, color, or nationality.

### The medical center features:

- A state-of-the-art inpatient clinical center, as well as a new 350,000-square-foot, 10-story clinical tower on the main campus and an ambulatory surgery center nearby, both of which will open in 2022. Combined, these facilities have a total of 51 operating rooms
- 749 licensed beds, including 106 critical care unit beds
- Emergency care provided in the modern 23,000-square-foot Berenson Emergency Department, which has more than 55,000 patient visits a year and offers a full range of emergency services, including a Level I Trauma Center and heliport
- The Carl J. Shapiro Clinical Center, a nine-story, technologically advanced ambulatory care center. The majority of ambulatory surgery takes place in the Shapiro Clinical Center and its connected Feldberg operating rooms

"My top residency choice was BIDMC, *largely because of its clinical and research strengths. I am grateful to the program not only for the excellent training I received, but also for the support of so many outstanding faculty throughout my residency and beyond."*

**—Prathima Nandivada, MD** (2018), Department of Surgery, Boston Children's Hospital; Assistant Professor of Surgery, Harvard Medical School


## Research

Innovative biomedical and clinical research is supported by grants from private foundations and government agencies. Beth Israel Deaconess Medical Center is one of the top independent teaching hospitals in the nation in terms of research funding from the National Institutes of Health. The medical center shares important clinical, research, and educational programs with institutions such as the Harvard-wide Dana-Farber/ Harvard Cancer Center, Joslin Diabetes Center, Boston Children's Hospital, Wyss Institute for Biologically Inspired Engineering of Harvard University, Harvard Stem Cell Institute, Harvard-MIT Broad Institute, and the Consortia for Improving Medicine with Innovation & Technology (CIMIT).

# Medical Education

Beth Israel Deaconess Medical Center has a longstanding commitment to educating medical students, residents, and postgraduate fellows.

## — UNDERGRADUATE MEDICAL EDUCATION

As one of Harvard Medical School's major teaching sites, BIDMC provides major core clerkships for the school's second-year students, and each department offers a wide variety of clinical electives for fourth-year students.

## — GRADUATE MEDICAL EDUCATION

In addition to its Neurological Surgery Residency Program, BIDMC sponsors residencies in anesthesiology, medicine, emergency medicine, obstetrics/gynecology, general surgery, ophthalmology, orthopedics, otorhinolaryngology, pathology, plastic and reconstructive surgery, podiatric surgery, psychiatry, radiology, urologic surgery, and integrated vascular surgery.

## — POSTGRADUATE MEDICAL EDUCATION

BIDMC sponsors clinical fellowships in breast surgical oncology, cardiothoracic surgery, colon and rectal surgery, neurovascular surgery, GI and minimally invasive surgery, hand/upper extremity surgery, interventional pulmonology, plastic surgery, surgical critical care, minimally invasive urologic surgery, and vascular surgery, in addition to a wide variety of medical specialties.

"I benefited from the broad and diverse training and research *opportunities offered by the BIDMC surgical residency, which in my view is the best in Boston."*

— **David C. Linehan, MD** (1997), Seymour I. Schwartz Professor and Chair, Department of Surgery, University of Rochester Medical Center

# Neurological Surgery Residency Program

The Neurological Surgery Residency Program consists of 7 residents ranging from PGY-1 to PGY-7. Each resident's time is split evenly between Boston Medical Center and Beth Israel Deaconess Medical Center. All neurological surgery residents hold academic appointments at both Harvard Medical School and the Boston University School of Medicine.

The neurosurgical training program produces the country's future surgical leaders. Clinical excellence is the foundation upon which that leadership is built, and our training programs strive to help young surgeons develop technical, cognitive, and leadership expertise. At all levels, the housestaff receive training and practical experience in the pre-operative, operative, and post-operative care of patients.

The Beth Israel Deaconess Medical Center / Boston Medical Center program places a strong emphasis on resident-faculty interaction to enhance trainees' education. Teaching conferences and seminars for housestaff capitalize on working relationships developed with the attending staff.

While our program is still quite young, our residents have obtained outstanding sub-specialty fellowships in areas such as spine surgery and neurosurgical oncology.

## — PGY-1 Year

The internship year focuses on the acquisition of basic principles and clinical skills in surgery. The rotations include 3 months of neurology, 3 months of neuro critical care, and 6 months of surgical sub-specialty rotations. The 6 months of surgical sub-specialty rotations include rotations on the neurosurgery services at both Beth Israel and Boston Medical Center.

## — PGY-2 and PGY-3

The second and third years of residency are divided evenly into four 3-month rotations on neurosurgical sub-specialty rotations. The sub-specialties include neurosurgical oncology, neuro spine surgery, neuro vascular surgery, and neuro trauma. The program is designed to take full advantage of what both institutions have to offer by assigning residents to the high volume neuro vascular surgery service at Beth Israel and the equally high volume neuro trauma service at Boston Medical Center.

## — PGY-4

The PGY-4 year is a protected research year that is fully funded by the residency program. PGY-4 residents are expected to create a plan for this year during their first 3 years of residency. The research year is designed to be an opportunity for residents to pursue neurosurgical topics that interest them personally. Residents have spent the PGY-4 year in a variety of ways ranging from data driven lab work to masters programs.

## — PGY-5 and PGY-6

In the fifth and sixth years of residency, the schedule reverts to the quarterly neurosurgical sub-specialty rotations that were described for the PGY-2 and PGY-3 years. In the PGY-5 year two of the four quarters are dedicated to pediatric neurosurgery at Boston Children's Hospital. As one of the top children's hospitals in the world, Boston Children's Hospital is well equipped to provide top tier pediatric neurosurgical training to supplement surgical skills developed earlier in residency.

The remaining neurosurgical sub-specialty rotations included in the PGY-5 and PGY-6 years consist of neuro spine surgery, neuro trauma, neuro vascular surgery, and neuro surgical oncology.

## — PGY-7 Chief Residency

During the seventh year of training, chief residents further hone their clinical skills, performing more than 300 operations as surgeons in their final year. In their chief year, residents are also encouraged to develop their administrative and teaching skills by leading didactic sessions, heading inpatient teams, and teaching junior residents.

## BOSTON CHILDREN'S HOSPITAL

Boston Children's Hospital is the largest pediatric hospital in the United States with one of the largest pediatric surgery programs in the world. The Department of Surgery at Boston Children's Hospital provides general and specialized surgical services to infants, children, and adolescents suffering from a wide range of congenital and acquired conditions. The rotation at Boston Children's Hospital for BIDMC/BMC neurosurgical residents in their fifth year offer a concentrated experience in pediatric neurosurgery.

"I am very fortunate to have trained at BIDMC, where I had fantastic *mentors and a broad experience with many high-risk, high-acuity patients. When I went into combat, I felt so well trained that I was able to walk into the OR without fear and get to work."*

**— Jeremy W. Cannon, MD** (2005), Colonel, U.S. Air Force Reserves; Trauma Medical Director and Section Chief of Trauma, Perelman School of Medicine, University of Pennsylvania; recipient of the U.S. Air Force 2011 Paul W. Myers Award

## Didactic Teaching

The faculty and resident trainees have worked in close concert to develop a robust neurosurgery didactic program on both hospital campuses. The goal of the didactic program is to promote resident-led education, but with significant engagement and mentorship from faculty. The conferences range from a weekly, longitudinal curriculum-based conference to more clinically-focused working conferences. There are a vast array of multi-disciplinary clinical conferences in subspecialty areas including a neurosurgery-led neuro-oncology conference, spine conference, cerebrovascular conference, and epilepsy conference.

Regular weekly conferences include:

| | |
|---|---|
| Monday | BIDMC Brain Tumor Conference |
| Tuesday | BMC Cerebrovascular/Stroke Conference |
| | BIDMC Spine Clinic |
| Wednesday | BIDMC Cerebrovascular Conference |
| | BIDMC Mock Oral Boards Conference |
| | BIDMC Neurosurgery Conference |
| | BMC ENT Temporal Bone Anatomy Lab |
| Thursday | BIDMC Cerebrovascular Clinic |
| Friday | Curriculum Conference |
| | BMC Neuro-Oncology Tumor Board |
| | BMC Case Conference |
| | BMC Neuroradiology and Neuropathology Conference |
| | BMC Journal Club |
| | BMC Epilepsy Conference |

## Advanced Simulation and Skills Center

In 2006, the Carl J. Shapiro Simulation and Skills Center (SASC) at Beth Israel Deaconess Medical Center became the first regional Simulation and Skills Center in North America accredited by the American College of Surgeons. The SASC offers the latest advances in medical simulation technology combined with progressive teaching methods to replicate real-life patient-care situations, from routine procedures to acute management crises. The scale and scope of the SASC make it one of the most comprehensive centers in the country. In addition to high-fidelity mock operating and intensive care unit rooms, the SASC features two skills lab areas, providing learners with hands-on training for basic clinical procedures; open surgical skills; and endoscopic, ultrasonography, and laparoscopic skills.

In the SASC, residents have the opportunity to learn and practice skills that are specific to their rotation through formal training sessions. During the PGY-1 year, interns attend an additional 75 hours of practical skills sessions taught by BIDMC faculty members and senior residents. These sessions include: laparoscopic and minimally invasive skills, central line and chest-tube placement, use of electrosurgical and stapling instruments, and ultrasound imaging. PGY-2 to PGY-5 residents also have scheduled skills sessions.

Residents interact with Distinguished Visiting Professors throughout the academicyear.

## Distinguished Visiting Professors

As part of our commitment to surgical education, the Department of Surgery invites a dozen or more distinguished national leaders in surgery as visiting professors each year. During their tenure, each visiting professor has the opportunity to interact closely with surgical residents in small group forums. Visiting professors also present at Grand Rounds, providing faculty and residents with the opportunity to gain insight into their areas of expertise.

## Surgical Horizons Seminar Series

Emerging and senior leaders from both surgical and nonsurgical disciplines who are currently pursuing endeavors that promise to dramatically alter the landscape of care for surgical patients are invited to speak as part of our monthly Surgical Horizons Seminar Series. Topics range from data science, machine learning, precision medicine, device development, immunotherapy, regenerative medicine, and drug discovery.

## Mentorship

Mentorship and Sponsorship are central to your success as a resident, and we have found many different ways to mentor, support and sponsor our residents during their time with us and beyond. As residents advance in our program, different mentorship needs may arise. Initially, clinical guidance and help with academic productivity might be more at the forefront. Leadership skills and help with research funding and career choices might be more important during the senior resident years.

Each resident will select a mentor aligned with his research and career interest. Many of our residents have multiple mentors and sponsors to help them establish their neurosurgery footprint.

The faculty mentor will support the resident to be academically productive, obtain research funding and sponsor them to present at national meetings. Mentors are also there to help with leadership and work-life integration challenges. We understand that our residents come with responsibilities outside of work, and mentorship can help to integrate all these aspects of one's life with your neurosurgery residency.

Peer mentorship also plays a vital role in your journey to becoming a neurosurgeon, and our program stands out in the support and help our residents land each other.

Our diverse faculty will allow incoming residents to find a mentor they can connect with and work together successfully. Formoste, the commitment of our faculty to your success as a neurosurgeon will help you to thrive and flourish here.

## The FIRST Program

The FIRST (Facilitating Innovative Research and Surgical Trials) Program provides surgery faculty and residents with an accessible, robust research infrastructure. The goal is to provide current and emerging surgeon-investigators in the Department of Surgery with the expertise, resources, assistance, and support they need to conduct clinical research in today's increasingly complex environment.

FIRST offers a comprehensive range of customized, essential services, all of which are designed to make it as easy and efficient as possible for Surgery faculty and trainees to pursue clinical research. Support may be as straightforward as answering a question to providing hands-on assistance with managing the myriad tasks associated with study design, implementation, and analysis. In 2021, the FIRST Program received a Program Award for a Culture of Excellence in Mentoring (PACEM) from Harvard Medical School.

## Resident as Educator Program

Throughout training, a primary responsibility of senior residents is to teach more junior surgical residents and medical students on their service. Senior residents are also responsible for assigning cases, clinically supervising medical students and residents, and preparing material for service and teaching conferences. Our Resident as Educator Program facilitates and supports the development of our residents as outstanding surgeon-educators. Senior residents are encouraged to apply for admission to the BIDMC Academy of Medical Educators (see below). The Resident as Educator Program curriculum includes two components:

### *Seminars*

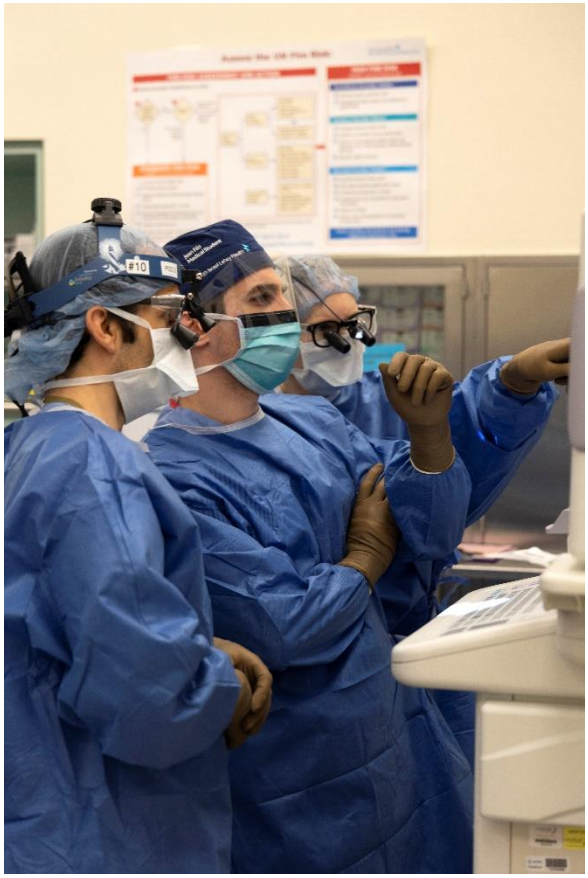
Interactive, team-based learning seminars are held with the goal of introducing the theory and practice of adult teaching and learning, including bedside and intraoperative teaching that promotes the transmission of clinical and technical knowledge, behavior, and skills. In addition, annual sessions on the learning environment are conducted for new and returning trainees.

### *Self-study*

A multidisciplinary curriculum includes a series of five videos and an accompanying facilitator guide that reviews effective adult learning principles with the following goals: review knowledge, skills, and methods associated with best clinical teaching practices; encourage application of adult learning principles in any clinical setting; and develop experience serving in supervisory roles, providing effective feedback, leading small-group discussions, and teaching procedural skills to medical students and resident colleagues.

## BIDMC Academy of Medical Educators

The BIDMC Academy of Medical Educators is an important forum for residents interested in medical education. Open to senior residents at or above the PGY-3 level, Academy membership provides the opportunity to participate in professional development seminars, engage in collaborative projects, and take advantage of educational services for the advancement of innovation and science in medical education. Academy offerings include workshops on the flipped classroom, navigating educational change, and providing feedback to the difficult learner.



## Committee on Social Responsibility

The Department of Surgery's Committee on Social Responsibility, comprising faculty, trainees, and staff, focuses on several important areas of social responsibility: hunger, homelessness, human trafficking, health equality, childhood education, and medical missions. During orientation, incoming interns have an opportunity to volunteer at the Greater Boston Food Bank. Other volunteer opportunities are available throughout surgery residency.

Harvard Medical School selected the Department of Surgery for its 2021 Harold Amos Faculty Diversity Group Award, accepted by faculty members Anne Fabrizio, MD, and Sidhu Gangadharan, MD, MHCM.

## Committee on Diversity, Equity, and Inclusion

The mission of the Department of Surgery's Committee on Diversity, Equity, and Inclusion (DEI), which was established in 2018, is to foster a culture where everyone in the department can excel, regardless of age, race, sexual orientation, gender identity or expression, religion, country of origin, immigration status, or disability. Committee membership consists of faculty, residents, and fellows who volunteer to serve on sub-committees focused on issues related to sustaining a diverse, equitable, and inclusive community. In 2021, Harvard Medical School awarded the Department of Surgery the Harold Amos Faculty Diversity Group award, which recognizes those who have made significant achievements in moving the medical school toward being a diverse and inclusive community.

## Harvard Program in Global Surgery and Social Change

The mission of the Harvard Program in Global Surgery and Social Change (PGSSC) is to achieve excellence and equity in global surgical and anesthesia care through leadership and innovation in education, training, research, clinical care, and advocacy. Projects undertaken by the PGSSC consist of sustainable efforts to improve delivery of quality surgery and anesthesia in low- and middle-income countries in the Americas, Africa, and the Caribbean. Successful applicants for support through the Paul Farmer Global Surgery Research Fellowship obtain the medical and non-medical skills they need to improve the health of some of the world's most impoverished people.

## Harvard Surgical Program in Innovation (SPIN)

The Harvard Surgical Program in Innovation (SPIN) is open to all Neurosurgery Surgery residents at BIDMC. The program enables residents to become surgical innovators, by combining the collaborative spirit of a hackathon with a more structured series of educational workshops. Residents meet for a series of monthly Saturday sessions in which they learn computer and electronic skills necessary to design and produce a medical device prototype. In between these formal sessions, they meet as teams and individually with the course directors and expert advisors from the Boston innovation ecosystem of biotech and medtech entrepreneurs and venture capitalists. Assigned readings and videos demonstrating techniques are posted online. The experience culminates in a "pitch finale" where the teams pitch their ideas before a panel of expert judges.

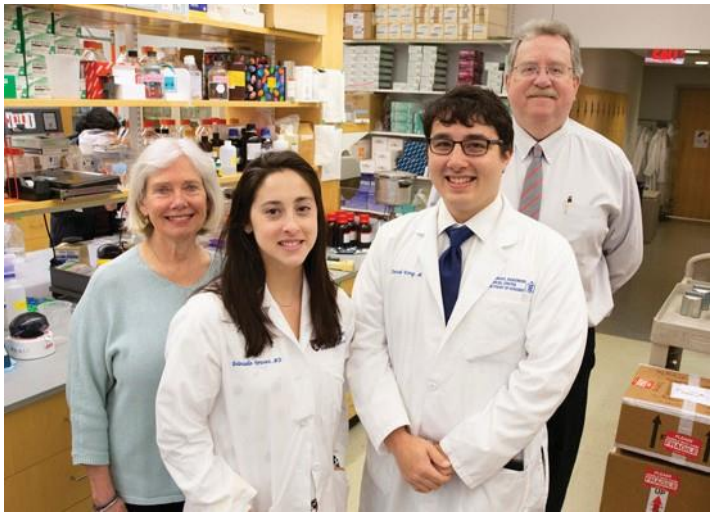
## Research

Beth Israel Deaconess Medical Center consistently ranks as a national leader among independent hospitals nationwide in funding from the National Institutes of Health. The Department of Surgery's robust research program receives more than $21 million in funding from the NIH and other federal sources, foundations, private industry, and philanthropists. With faculty appointments at Harvard Medical School and Massachusetts Institute of Technology (MIT), our surgical faculty are members of the Harvard Stem Cell Institute, the Wyss Institute of Biologically Inspired Engineering, the Harvard-MIT Broad Institute, the Harvard Program in Global Surgery and Social Change, and the Consortia for Improving Medicine with Innovation & Technology (CIMIT).

*"For my PGY4 research year, I am obtaining a master's degree in biomedical informatics from Harvard Medical School, which offers an accelerated program for physicians that can be completed in one year. As part of this program, I am collaborating on a capstone research project with one of the spine surgeons in our department, Dr. Ziev Moses, to use machine learning to predict the need for rehab following elective ACDF.*

*In addition to this program, I am also engaged in several cost-analysis research projects with the Codman Center for Clinical Effectiveness in surgery at Massachusetts General Hospital as well as with the orthopedic spine group at New England Baptist Hospital."*

*– Andrew Powers, MD*
*BIDMC/BMC Neurological Surgery Resident*



Two recent recipients of the Sandra and Richard Cummings Resident Research Fellowship in Surgery.

These opportunities are intended to teach residents the requisite skills to become surgeon-investigators engaged in clinical or translational research and leaders in academic surgery. BIDMC surgery residents have been very successful in obtaining high-quality research and clinical fellowships in Boston and nationwide. There are multiple mechanisms, listed below, to provide residents with salary support to help defray the costs of an advanced degree, research supplies, or a research technician. Residents may also obtain full salary support through a commitment to clinical moonlighting at BIDMC during the fellowship period.

- The Sandra and Richard Cummings Resident Research Fellowship in Surgery is awarded to five residents annually based on the merits of their proposed research.
- Institutional research training grants (Surgical Critical Care, Gastrointestinal Diseases, Vascular Surgery, Transplantation, Pediatric Surgery, and Global Health) supported through the NIH and other sources
- A prospective fellow and principal investigator may apply for a fellowship grant from the NIH, American College of Surgeons, Society of University Surgeons, or other foundations
- A principal investigator may support the research fellow directly

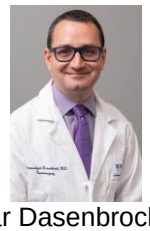
During their clinical training, opportunities are also available for surgical housestaff to participate in clinical research conducted by members of the Department of Surgery.

## Boston Medical Center Faculty

James Holsapple, MD
Program Director
Chair of Neurological Surgery

Urvashi Upadhyay, MD
Associate Program Director

Emanuela Binello, MD, Ph.D
Attending Neurosurgeon

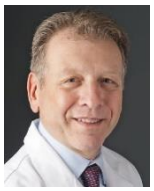


Hormuzdiyar Dasenbrock, MD, MPH
Attending Neurosurgeon

Pratik Rohatgi, MD
Attending Neurosurgeon

Jose Fernandez, MD
Attending Neurosurgeon

## Beth Israel Deaconess Medical Center Faculty



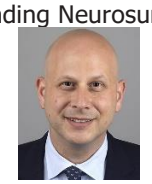
Ron Alterman, MD
Chief of Neurological Surgery

Martina Stippler, MD
Associate Program Director

Christopher Ogilvy, MD
Attending Neurosurgeon

Efstathios Papavassiliou,MD
Attending Neurosurgeon

Rafael Vega, MD
Attending Neurosurgeon



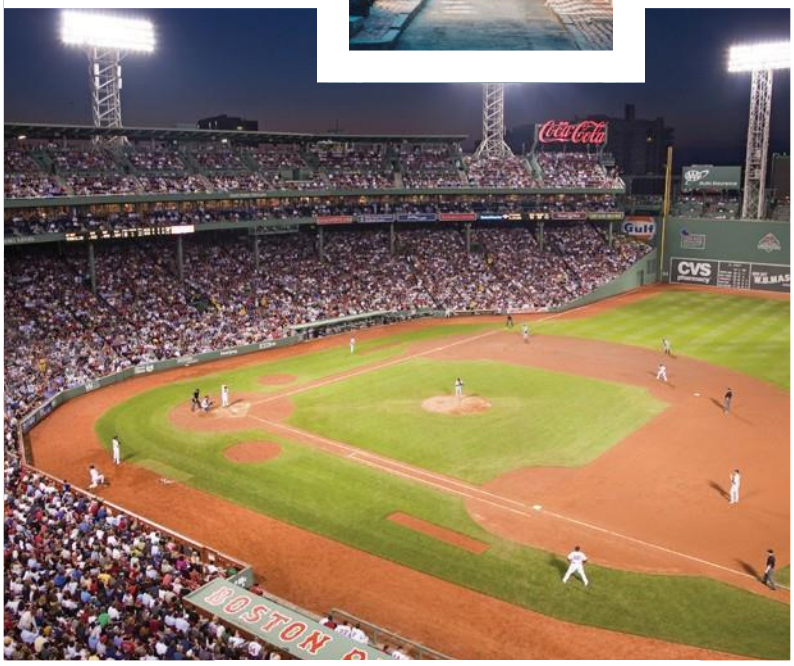
Philipp Taussky, MD
Attending Neurosurgeon

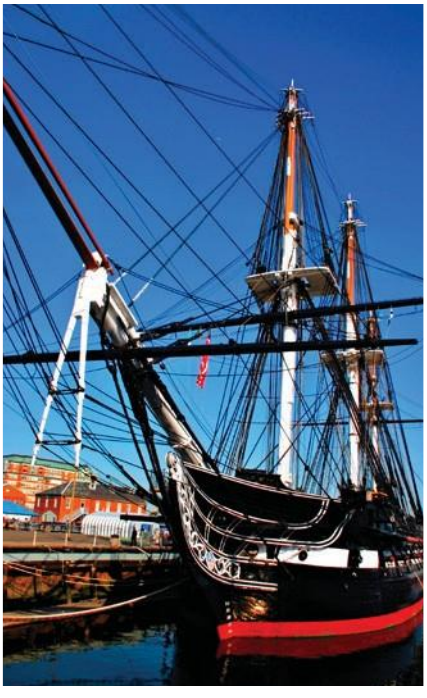
Ziev Moses, MD
Attending Neurosurgeon

Joshua Aronson, MD
Attending Neurosurgeon

# About Boston

Founded in 1630, Boston is rich in history and culture. The city is an academic center with more than 100 colleges and universities, and a center of technology, with more than 3,000 computer and biotech businesses. Boston is also home to three medical schools and more than 20 hospitals. Boston offers historic sites, beautiful parks, world-class museums, a renowned symphony orchestra, excellent dining, a diverse population, and five professional sports teams. For more information about Boston, please visit www.visitboston.org or www.bostonusa.com.



The residents' weekly running club fosters camaraderie and wellness.

## Houseofficer Salaries and Benefits

The program provides a wide range of benefits, including malpractice insurance coverage, on-call meals, and short- and long-term disability insurance. The program also offers the opportunity to purchase several types of health, dental, and life insurance. Each resident is allotted four weeks of vacation per year; all chief residents are allotted funds for travel to one conference or other educational program. In addition, the program has a liberal leave of absence policy for residents who are new parents, require medical leave, or need to care for a seriously ill family member. BIDMC also offers numerous resources to promote work/life balance and overall wellness.

## Licensure

All residents and clinical fellows appointed to the Beth Israel Deaconess Surgical Service must have either a current limited license or a full license to practice medicine in the Commonwealth of Massachusetts. Applications for the limited license may be obtained from the Surgery Education office. Limited licenses must be renewed every year, up to a maximum of seven years. The cost of the license is $100 annually.

"The culture was intensely focused on providing the best patient care *possible and I've always strived to maintain that focus."*

**— Richard Hodin, MD** (1990), Chief of Academic Affairs, Department of Surgery; Surgical Director, Massachusetts General Hospital Center for Inflammatory Bowel Disease; Chief of Endocrine Surgery, Massachusetts General Hospital; Professor of Surgery, Harvard Medical School

## Application Process and Deadline

The Beth Israel Deaconess Medical Center Neurological Surgery Residency Program participates in the Electronic Residency Application Service (ERAS). The program selects interns through the National Resident Matching Program (NRMP) in accordance with the policies established by the NRMP. The deadline for receipt of all application documents is September 28th. All applicants are required to pass USMLE Step-2 before starting in a first-year position. Please note that the program supports J-1 visas for international trainees.

## Interviews

Each application is reviewed holistically with an eye toward a combination of overall academic excellence, leadership ability, career-development potential, and personal character. Qualified individuals will be invited to interview. Interviews are held on selected Fridays in November, December and January. No interviews are scheduled without an invitation, and no individual interviews are scheduled outside of the scheduled sessions.

2022-2023 resident class


Beth Israel Deaconess Medical Center

HARVARD MEDICAL SCHOOL
TEACHING HOSPITAL

Surgery Education Office
Roberta and Stephen R. Weiner Department of Surgery
Beth Israel Deaconess Medical Center
110 Francis Street, Suite 9B
Boston, MA 02215, USA
617.632.9513
bidmc.org/surgery

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