

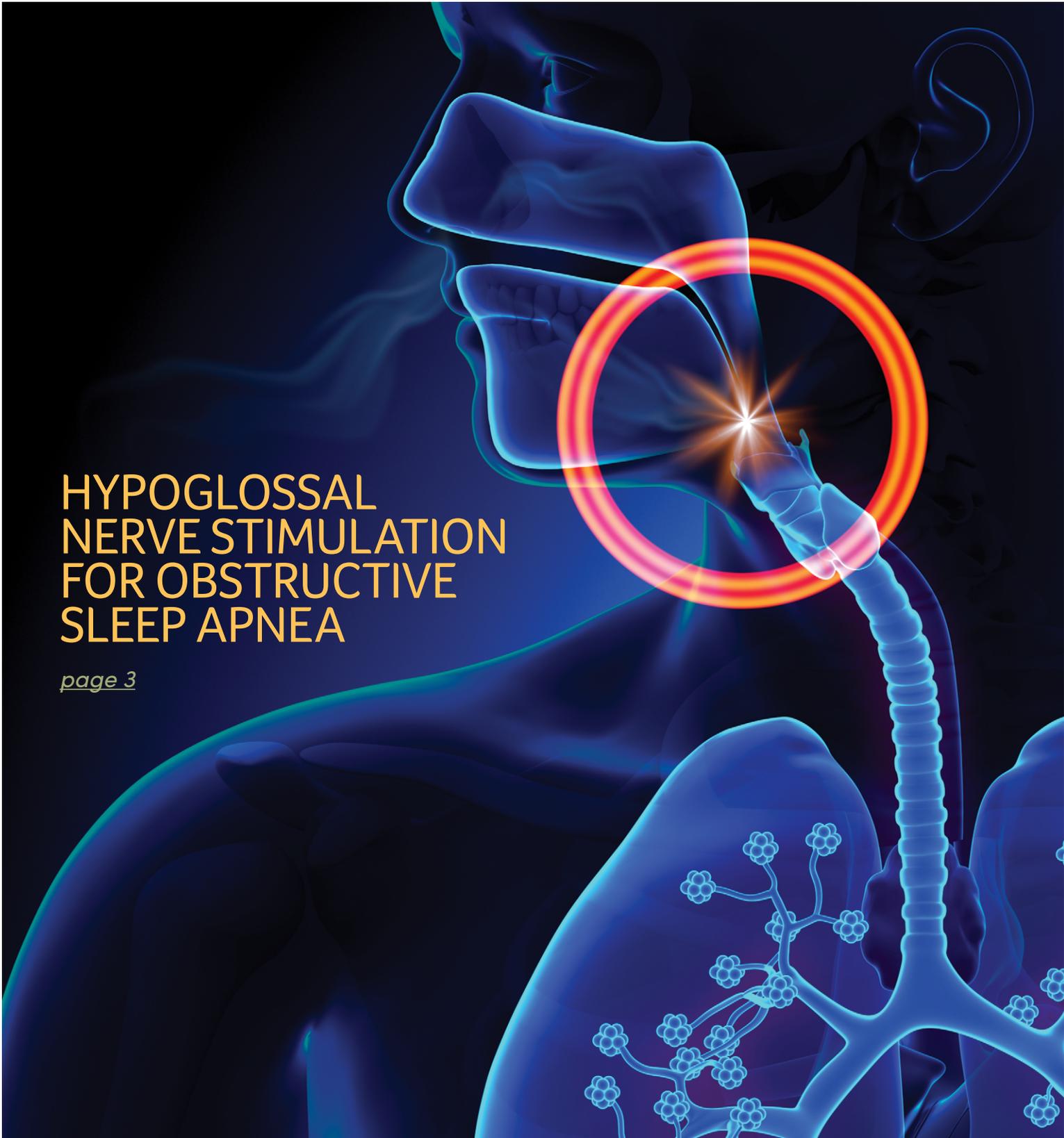
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News from the Roberta and Stephen R. Weiner Department of Surgery  
at Beth Israel Deaconess Medical Center

# INSIDE SURGERY



## HYPOGLOSSAL NERVE STIMULATION FOR OBSTRUCTIVE SLEEP APNEA

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## Message from the Chair

Although once solely the domain of science fiction, artificial intelligence (AI) is something most of us rely on every day, from facial recognition to unlock our smart phones to asking our digital assistants to calculate how long it will take to drive to a destination. But AI has far-reaching implications for other, more consequential, aspects of human life, such as health care, and is accordingly a burgeoning area of research and discussion in the health care field.

In this issue of *Inside Surgery*, we highlight the research of surgeon-scientist Dr. Gabriel Brat, who is harnessing the enormous potential of data science and powerful AI technologies, such as machine learning and computer vision, to develop innovative tools to improve health care.

But while AI offers myriad opportunities in health care, it also poses new challenges. In Brian Christian's thought-provoking book, "The Alignment Problem: How Can Machines Learn Human Values?" he describes the potential ethical and existential risks that can arise when the systems we attempt to teach will not do what we want or expect, which is known as the alignment problem. If we are to succeed in using AI to augment human judgment in a manner that reflects our values and benefits humanity, we must first identify and address biases and blind spots in algorithms that contribute to the alignment problem. To do otherwise will in all likelihood lead to more harm than good.

I recently co-chaired a National Academy of Medicine symposium on "Human Health and Equity in an Age of Robotics and Intelligent Machines." One of the topics addressed by a panel of international experts was human-robot interaction, well-being, and responsible AI design; another focused on how social robots can support well-being and health equity. As these topics suggest, opportunities to improve human health using AI abound, but as clinicians and scientists, we must proceed with caution and humility so that we can realize its full potential.



Elliot Chaikof, MD, PhD

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- Improve health through innovation and discovery
- Prepare future leaders in American surgery
- Serve our communities with sensitivity and compassion

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# Hypoglossal Nerve Stimulation Treats Obstructive Sleep Apnea

*For Patients Unable to Tolerate CPAP, a Game-Changer*

For people who suffer from obstructive sleep apnea (OSA), a disorder in which breathing slows or stops and starts hundreds of times during sleep, there is good news and bad news.

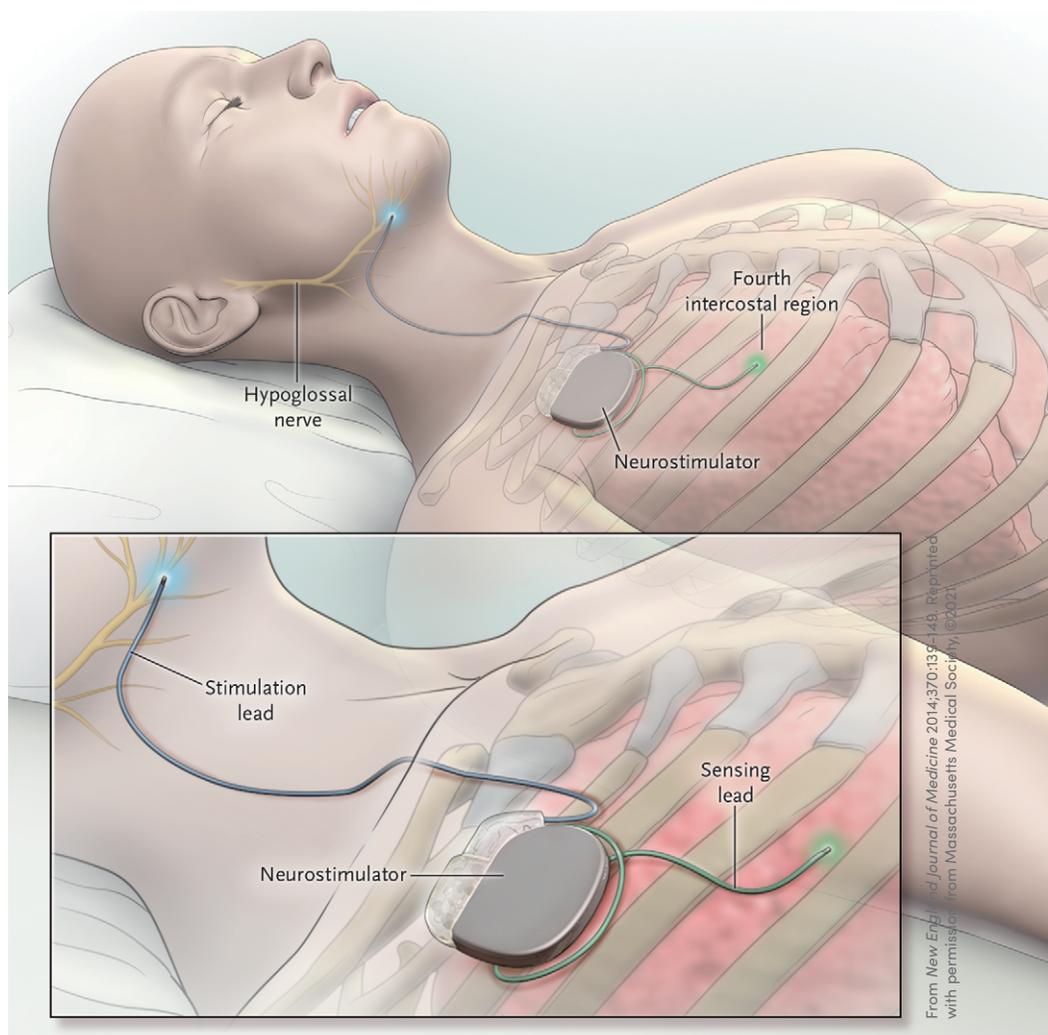
The good news is that treatment with continuous positive airway pressure (CPAP) is safe and very effective in helping patients with moderate to severe OSA get more quality sleep and avoid the disorder's serious health consequences, which include stroke, heart attack, accidents, cognitive problems, and poor quality of life.

The bad news? Up to half of patients who might benefit from CPAP, which requires sleeping on one's back and wearing a fitted mask attached to a device by a hose, cannot tolerate it for extended periods or, in some cases, at all.

Fortunately, another safe, effective—and well tolerated—option exists: hypoglossal nerve stimulation. This treatment is now offered at BIDMC by **Kaashif Eazazuddin, DO**, in the Division of Otolaryngology/Head and Neck Surgery, in coordination with sleep medicine specialists Robert Thomas, MD, and Anjali Ahn, MD, in the BIDMC Sleep Disorders Clinic.

## Using the body's natural process

Approved by the FDA in 2014 for patients with moderate to severe OSA, the hypoglossal nerve stimulator (brand name Inspire®) is a fully implanted, battery-



powered device controlled with a small handheld remote. It consists of a battery pack, a sensing lead that detects breathing, and a stimulation lead that electrically stimulates the hypoglossal nerve, which controls tongue movement (see figure, above).

According to Dr. Eazazuddin, Inspire uses “the body's natural breathing process to send an

electrical signal to the hypoglossal nerve, stimulating it to move the tongue forward with each breath,” thereby enabling the airway to remain open during sleep. To date, more than 6,000 of the devices have been implanted worldwide.

Not everyone is a candidate for Inspire, however. To be considered, patients must have moderate to

*Continued on page 24 >*

In many issues of *Inside Surgery*, we focus on the question a member of our faculty “owns” — a question that inspires their research.

## The Question I Own

Gabriel Brat, MD, MPH, MSc

*Member, Division of Acute Care Surgery, Trauma, and Surgical Critical Care  
Faculty in Bioinformatics, Harvard Medical School/BIDMC  
Assistant Professor of Surgery, Harvard Medical School*



What is the optimal amount of opioids to prescribe to a surgical patient upon discharge? When is the ideal time to transition from medical management to surgery for patients with chronic conditions like Crohn’s disease or diverticulitis? What is the best way to close an abdominal incision to reduce the risk of complications?

These are just some of the questions being asked by surgeon-scientist Gabriel Brat, MD, MPH, MSc, who applies data science approaches to develop informatics-based tools for improving surgical care. An acute care/trauma surgeon and surgical intensivist, Dr. Brat runs the BIDMC [Surgical Informatics Lab](#), a collaboration between the Department of Biomedical Informatics at Harvard Medical School and the Department of Surgery. He and members of his lab harness the enormous potential of data science and powerful advanced technologies such as machine learning and computer vision to develop, evaluate, and deliver tools to augment surgeons’ capabilities and, in the process, improve outcomes for patients.

“Ten years ago I became fascinated by the opportunity to leverage data science to improve patient care, which even today remains a nascent space in surgical research,” says Dr. Brat, who has an undergraduate degree in bioengineering from Arizona State University, earned his medical degree from Stanford, and completed his residency at Johns Hopkins and his fellowship at Brigham and Women’s Hospital.

Over the last five years, Dr. Brat has largely focused his research efforts on three major domains: post-surgical opioid prescribing, medical to surgical transitions, and surgical behaviors in the operating room.

### Opioid prescribing tools

The first domain is post-surgical opioid prescribing,

an area of considerable uncertainty for many surgeons, who have had to rely on limited data about opioid consumption among post-surgical patients to make prescribing decisions. Dr. Brat chose to focus on this issue because of the dangers of opioid overprescribing and also because, “Where there is a lot of uncertainty, there is great opportunity for data science to make an impact.”

Indeed, the Surgical Informatics Lab is already having an impact in this domain. Leveraging large amounts of data collected from multiple institutions over years, the lab has developed and launched innovative tools to help providers make data-driven decisions about opioid prescribing. “Our goal is not to simply provide data but rather to offer tools that will help clinicians make informed decisions that will improve care,” says Dr. Brat.

**“Where there is a lot of uncertainty, there is great opportunity for data science to make an impact.”**

— Gabriel Brat, MD, MPH, MSc

In this case the tools include quick-reference cards—updated annually—that include typical opioid consumption for common procedures, an opioid conversion table, and a link to a personalized prescription dashboard that provides clinicians with feedback about their opioid prescribing patterns ([see image, page 5](#)).

In collaboration with Seth Berkowitz, MD, BIDMC Radiology, Dr. Brat and his group have also augmented an app (BIDMC HomeLink) that will enable surgeons to collect opioid-use data from their patients once they are home. Last year, Drs. Brat and Berkowitz received a BIDMC Center for Healthcare Delivery Science Innovation Grant for this project; it is one of several grants Dr. Brat has received for his opioid-related research.



Quick-reference cards developed by Dr. Brat's lab include typical opioid consumption for common procedures, an opioid conversion table, and a link to a personalized prescription dashboard.

## Transitions to surgery

The second domain where Dr. Brat is leveraging data science to develop tools that will improve patient care is surgical transitions—specifically, when to transition patients with certain chronic conditions from medical management to surgical treatment.

There are multiple benefits to getting this timing right, including sparing patients from emergency surgery and giving surgeons time to plan an elective procedure that may offer better outcomes. “Surgeons rely on experience and intuition to determine the best time to operate, but if we can augment intuition with algorithms based on data, everybody benefits,” says Dr. Brat. “Neither an algorithm nor human judgment is perfect but are they better together? Definitely.”

Dr. Brat has been working with colleagues in the BIDMC Division of Gastroenterology (GI) to gather data on patients with Crohn's disease and ulcerative colitis to determine the optimal time to consider surgical treatment. Next, he and his group plan to collaborate with GI colleagues to evaluate surgical transitions for patients with diverticulitis.

“I have tremendous faith in surgeons,” says Dr. Brat. “But like all humans we are imperfect, so creating new tools—whether novel devices we use in the operating room or algorithms based on data viewed through the lens of information science and machine learning—enables us to provide better care.”

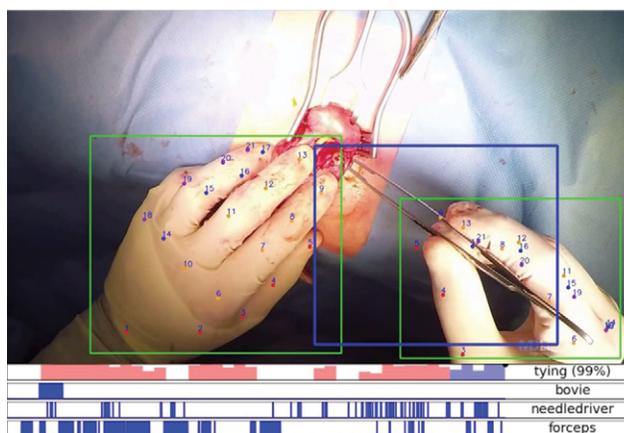
## Surgical behaviors

The third, and newest, domain that Dr. Brat and his group are exploring is evaluating surgical behaviors in the OR—specifically, hand movements in the operative field—with the goal of determining the contribution of individual surgeon behaviors to post-surgical patient outcomes.

In collaboration with computer vision researchers at Stanford, Dr. Brat and his group recently developed automated video analysis tools that track surgeon hand and finger movements, tools, and surgical behaviors during open procedures (see image, below).

“These real-time tools, which enable the creation of surgical signatures and evaluation of surgical skill, are a first step toward understanding the contribution of individual surgeon techniques to patient outcomes,” says Dr. Brat. Currently, the only way to assess individual surgical behavior is via the surgeon's notes, which rely on memory, which is notoriously imperfect.

“For more than 100 years surgeons have been performing abdominal surgery but we are still not 100% certain what is the best way to close an abdominal incision to reduce the risk of complications. As a trauma surgeon who performs a lot of open procedures, I welcome this kind of information and know most other surgeons would, too,” says Dr. Brat.



With collaborators at Stanford, Dr. Brat's lab recently developed automated video analysis tools that track surgeon hand and finger movements, tools, and surgical behaviors.

In addition to his research and busy clinical practice, Dr. Brat teaches a graduate-level course at Harvard Medical School on health information and technology. He also is the clinical lead for the 4CE Consortium, an international group that uses novel methods to perform international comparisons to better understand COVID-19 and nuances in care associated with different outcomes.

Speaking of his role as a surgeon-scientist, Dr. Brat says, “I love being a surgeon but also love to think broadly about questions that arise from my clinical work. Being a clinician makes me a better researcher and being a researcher makes me a better clinician.”

# ALUMNI SPOTLIGHT

## **Martín J. Dib, MD, 2014**

**Chief of Transplant, Hospital Clínico Pontificia Universidad Católica de Chile**

**Assistant Professor of Surgery, Pontificia Universidad Católica de Chile**

Three years ago, Martín Dib, MD, was thriving in his position as an attending in the Division of Transplantation at the University of Wisconsin-Madison's University Hospital, home to one of the largest transplant centers in the United States. Though just two years out of his two-year fellowship in abdominal transplant surgery at the University of Toronto, Dr. Dib had already launched a successful live donor liver transplant program (LDLT) in Wisconsin, growing it from two to ten such transplants a year. His wife, Andrea, a native of Guatemala, and his two young children, were also flourishing in their midwestern home.

But then a phone call came from the Department of Surgery at Hospital Clínico Pontificia Universidad Católica de Chile in Santiago asking Dr. Dib to come to Chile to expand their transplant program. After considerable reflection and discussion with his wife, Dr. Dib decided to return to the city where he was born and raised, attended medical school, and where his extended family lives. He believed he could have a significant impact by establishing a LDLT program in a country with a very low organ donation rate, a widespread mistrust of organ donation, and a high (35-40%) mortality rate for patients on a waiting list for a deceased liver donor.

"It was a big leap of faith, but I always knew I wanted to give back to the people of my country," says Dr. Dib. "I left Chile to get the best possible training at BIDMC, for which I am extremely grateful, and I am happy to have brought that training back to help the people of Chile and Latin America. My story demonstrates the truly international impact that the BIDMC Surgery training program has."

### **Clerkship a 'game-changer'**

One of four children and the only member of his family to become a doctor, Dr. Dib excelled in high school and the University of Chile Medical School,



receiving a full scholarship for the seven-year program and, when he graduated in 2007, receiving the Academic Excellence Award and the Best Surgical Student Award.

Two years before he completed his medical degree—already certain he wanted to become a surgeon—Dr. Dib was selected to participate in a Harvard Medical School exchange clerkship program. He spent a month at Massachusetts General Hospital in emergency care and a month at BIDMC Surgery in clinical transplantation. "The clerkship experience at BIDMC was a game-changer for me," says Dr. Dib. "I met 'triple threat' transplant surgeons who excelled at patient care, research, and surgical education, and knew I wanted to be like them."

### **'Amazing opportunity'**

True to form, Dr. Dib earned high honors for the clerkship and impressed his mentors who, seeing his promise, offered him a research fellowship in Transplant Surgery and Liver Regeneration following his graduation. Dr. Dib was grateful for this "amazing opportunity" to return to Boston to conduct lab research on liver regeneration with Seth Karp, MD, and interact with faculty throughout the department. Grants from the Oscar and Elsa Braun Foundation in Chile and the Chilean government funded the fellowship.

With his sights set on the BIDMC General Surgery Residency Program, Dr. Dib worked all day in the lab and studied deep into the night for his USMLE (medical licensing) exams. In early 2009, he was thrilled to learn that he was accepted as a categorical intern, which he notes was unusual at the time for an international medical graduate.

Dr. Dib loved his residency years—the OR and patient care, the research, and the teaching, the last of which is his favorite part of being an academic surgeon. In 2013, reflecting his penchant and passion for teaching, Dr. Dib received the Medical Student Teacher Award from Harvard Medical School core clerkship students.

### Fellowship in Toronto

Following his graduation from residency in 2014, Dr. Dib headed to Canada to complete a two-year fellowship in abdominal organ transplant surgery at the University of Toronto, one of the highest volume liver transplant centers in North America.

“The excellence of BIDMC Surgery’s residency program is widely known and was a major factor in my acceptance to the Toronto fellowship, one of the most competitive in the world,” says Dr. Dib. It was at Toronto that Dr. Dib gained additional experience in



complex hepato-pancreato-biliary and transplant operations, and learned to perform LDLT.

Since Dr. Dib joined the faculty at Pontificia Universidad Católica de Chile in 2018, he has significantly expanded the transplant program and introduced LDLT, which now accounts for 20% of liver transplants performed there, making it the highest-volume LDLT program in Latin America. Earlier this year, Dr. Dib performed their first fully laparoscopic living donor adult-to-adult liver transplantation, a procedure that has been performed at very few

### “My story demonstrates the truly international impact that the BIDMC Surgery training program has.”

— Martín J. Dib, MD

centers in North America. Performing nearly 100 organ transplants a year, his transplant program is now the largest in the nation, “giving hope,” he says, to patients across the economic spectrum. It also is a model for other Latin American transplant programs.

### Education and advocacy

“Our program has received a lot of media attention, which helps educate the public, the Latin American medical community, and government officials about organ transplantation,” says Dr. Dib, who was named Chief of Transplant Surgery in 2019. He recently scored a major victory by persuading the Chilean government to pass a law permitting patients’ in-laws to be live liver donors. Previously in Chile, only closely related family members could be considered candidates for live organ donation out of an unsubstantiated fear of organ trafficking. Noting that change comes slowly, Dr. Dib hopes to convince legislators to expand the donor pool even further in the future.

“My job is not only in the OR,” says Dr. Dib, who also teaches and conducts outcomes research. “A huge role is educating other doctors, the general population, and legislators in Chile and throughout Latin America about organ donation and advances in transplantation that can save many lives.”

### ‘Full circle’

Dr. Dib credits a host of mentors at BIDMC for believing in him and providing him with the skills, knowledge, and support to get to this point in his career. In addition to Dr. Karp and former BIDMC surgeons Scott Johnson, MD, Charles Vollmer, MD, and Douglas Hanto, MD, PhD, he is especially grateful to **Tara Kent, MD, MS, Mark Callery, MD**, and the late **Khalid Khwaja, MD**, as well as **Kristin Raven, MD, Amy Evenson, MD, Christopher Boyd, MD**, and **Elliot Chaikof, MD, PhD**. “Thanks to these individuals and many others, I have come full circle and can now help people thousands of miles from Boston live longer, better lives.”

# Selected Publications

## Acute Care Surgery, Trauma, and Surgical Critical Care

**Alves de Souza RW**, Gallo D, Lee GR, Katsuyama E, Schaufler A, Weber J, Csizmadia E, Tsokos GC, Koch LG, Britton SL, Wisløff U, Brum PC, **Otterbein LE**. Skeletal muscle heme oxygenase-1 activity regulates aerobic capacity. *Cell Rep* 2021;35(3):109018.

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## Colon and Rectal Surgery

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## Interdisciplinary Research

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**McKittrick TR**, Bernard SM, *Noll AJ, Collins BC, Goth CK, McQuillan AM, Heimburg-Molinero J, Herrin BR, Wilson IA, Cooper MD, Cummings RD*. Novel lamprey antibody recognizes terminal sulfated galactose epitopes on mammalian glycoproteins. *Commun Biol* 2021;4(1):674.

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**Boustany AN**, *Manstein SM*, **Lin SJ**. Special considerations for chin augmentation in the professional violinist. *J Craniofac Surg* 2021; in press.

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# HARVARD MEDICAL SCHOOL

The Department of Surgery congratulates the following faculty members on their recent Harvard Medical School promotions or appointments.

## Harvard Medical School Promotions and Appointments

### APPOINTED AS: PETER MEDAWAR PROFESSOR OF SURGERY



#### Devin Eckhoff, MD

Dr. Eckhoff, whose appointment as Professor of Surgery was announced in the previous issue of *Inside Surgery*, was appointed as the Peter Medawar Professor of Surgery in March. Dr. Eckhoff is Chief of Transplant Surgery and Director of the Transplant Institute at BIDMC. Sir Peter Medawar

(1915–1987), a British immunologist, was awarded the Nobel Prize in Physiology or Medicine in 1960 for his

discovery of acquired immunological tolerance, sharing the prize with Sir Frank MacFarlane Burnet. Sir Medawar's research led to early insights that formed the biologic framework of transplantation immunity. Knighted in 1965, Sir Medawar served as Director of the British National Institute of Medical Research and received an honorary doctorate of science from Harvard in 1982.



Sir Peter Medawar

### APPOINTED AS: ASSISTANT PROFESSOR OF SURGERY



#### Jordan Bohnen, MD, MBA

Dr. Bohnen, who joined the department in 2020, is a member of the Division of General Surgery. Dr. Bohnen's clinical interests include gastroesophageal reflux disease, hiatal hernia, achalasia, abdominal hernia, abdominal wall reconstruction, and gallbladder and biliary tract disease.

Dr. Bohnen received his medical degree from Harvard Medical School and a masters in business administration from Harvard Business School. He completed his residency in general surgery at Massachusetts General Hospital (MGH), spending two years conducting clinical research in the MGH Division of Trauma, Emergency Surgery, and Surgical Critical Care. Prior to his fellowship in advanced laparoscopic

surgery at MGH, Dr. Bohnen served as Medical Director of Surgical Safety Technologies in Toronto.

Dr. Bohnen has a longstanding interest in improving health care systems and surgical safety. He co-developed SIMPL™, a novel mobile technology that enables the collection of high-quality operative performance evaluations for surgical trainees. Since its introduction, SIMPL has generated more than 220,000 operative performance evaluations, making it the largest database of its kind. Dr. Bohnen is also interested in intraoperative adverse events. His 2017 article in *Annals of Surgery* was the first to define and quantify the independent relationship between intraoperative adverse events and postoperative patient outcomes in general abdominal surgery.

Dr. Bohnen's scholarship is reflected in 60 published papers, including 48 peer-reviewed publications.

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# Orthoplastic and Reconstructive Microsurgery Program

Earlier this year, BIDMC introduced the Orthoplastic and Reconstructive Microsurgery Program, a service that focuses on the needs of patients requiring complex limb reconstruction.

Under the direction of **Arriyan (Sammy) Dowlatshahi, MD**, the program is a joint initiative of the Department of Surgery's Division of Plastic and Reconstructive Surgery and the Department of Orthopedic Surgery. Dr. Dowlatshahi, a plastic surgeon with added qualification in hand surgery, specializes in hand surgery, complex reconstructive surgery, and microsurgery with a focus on orthoplastic surgery. Orthoplastic surgery is the application of principles and practices of microsurgery, plastic surgery, and orthopedic surgery with the goal of optimally restoring the function of limbs with severe soft tissue and bony compromise resulting from trauma, infection, or avascularity.

The Orthoplastic and Reconstructive Microsurgery Program—the second program of its kind nationwide—brings together a large interdisciplinary team that includes specialists in anesthesia, infectious diseases, neurology, general surgery, vascular surgery, podiatric surgery, radiology, pathology, oncology, nutrition, rehabilitation, behavioral health, case management, and social work. This team works collaboratively to

ensure that patients receive comprehensive, well-coordinated care.

The program is also home to the Orthoplastic Surgery Research Laboratory, which conducts a diverse range of research. Current projects are focused on the outcomes of patients undergoing gastrocnemius muscle flaps, limb salvage surgery, surgical management for popliteal artery entrapment syndrome, and treatment for acute compartment syndrome, with a particular focus on postoperative infections.

Other research focuses on minimally invasive flap dissection using endoscopic techniques and the readability of limb salvage patient-information materials. The research group is also collaborating with the BIDMC musculoskeletal neurology group to evaluate patients with peripheral nerve compressions and injuries.

In addition to clinical care and research, the program will also offer an educational curriculum for orthopedic, plastic, vascular, and podiatric surgery trainees at BIDMC and its affiliated hospitals.

→ To make a referral, call: **617-667-3940** or email [orthoplastic@bidmc.harvard.edu](mailto:orthoplastic@bidmc.harvard.edu)



*Sammy Dowlatshahi, MD, speaks with a patient in the Division of Plastic and Reconstructive Surgery's new clinical area.*

# Preserving Eyes with Brachytherapy

## Team Focuses on Patients with Ocular Melanoma

A diagnosis of ocular melanoma, the most common primary eye cancer in adults, is frightening enough. But when patients are told that treatment may require the removal of their eye (enucleation), the news is doubly devastating.

Fortunately for patients treated at BIDMC, enucleation can often be avoided with no compromise in long-term outcomes. For selected patients, BIDMC now offers an

Hospital, where he is Director of the Ocular Oncology Service and Pediatric Retina Program.

“We have an entire multidisciplinary team, including specialists in ophthalmology, neuro-ophthalmology, retina, oculoplastics, radiation oncology, medical oncology, and pathology, dedicated to the management of patients with ocular melanoma,” says Dr. Gonzalez.

disease is usually detected during a regular eye examination and the diagnosis is confirmed clinically. The majority of patients are older and have fair skin, but teens, young adults, and people with darker skin are not immune.

Once the clinical diagnosis is made, tests are performed to look for evidence of metastases and stage the disease. Although 98% of patients have no evidence of metastasis at diagnosis, 30-40% will develop metastatic disease within 15 years, often in the liver, but the lungs and bone can also be affected.

While metastatic disease is difficult to cure with chemotherapy, patients still have options: drugs are available through clinical trials that, for some patients, can prolong life for many years. And because metastatic disease is the subject of considerable research, new options may become available in the future.

### Conformal radiation therapy

Brachytherapy is a type of conformal radiation therapy that delivers a radiation dose specifically to the tumor while largely sparing the surrounding healthy tissue. Brachytherapy has been used successfully for many decades to treat a broad range of cancers, including prostate and gynecologic cancers. But it has not been as widely available to patients with ocular melanoma, leading patients who might benefit from this treatment to needlessly or prematurely lose their eye.

According to Dr. Gonzalez, patients with small or medium-sized tumors are candidates for brachytherapy. (Most large tumors require enucleation, although some may be treated with external radiation, including proton beam therapy.) The procedure, which



*The management of patients with ocular melanoma requires a team approach. Pictured are (from left): Alma Martin, RN, OR; Noreen Shaikh, MD, Ophthalmology Fellow; Efren Gonzalez, MD, Ophthalmology; Flordelinda Haduca, RN, OR; Joseph Ring, PhD, Radiation Oncology; and Joanne Jang, MD, PhD, Radiation Oncology.*

alternative—brachytherapy—as part of a comprehensive program dedicated to patients with ocular melanoma.

The new multidisciplinary service is coordinated by **Efren Gonzalez, MD**, of the Division of Ophthalmology, who is fellowship trained in ocular oncology, vitreo-retinal surgery, and pediatric ophthalmology. In addition to providing care for adult patients at BIDMC, Dr. Gonzalez treats pediatric patients at Boston Children’s

### Rarely causes symptoms

Ocular melanoma originates in the eye. Tumors, which arise from melanocytes (cells that produce melanin), usually develop in the choroid, a part of the uveal tract comprising a layer of blood vessels that provide oxygen and nutrients to the eye.

Affecting 6-8 patients per million per year in the United States (21 patients per million for those over age 50), ocular melanoma rarely causes symptoms. The

is performed under general anesthesia, involves suturing a small gold-backed disc, called a plaque, coated with a customized dose of radioactive I-125 seeds onto the patient's eyeball, facing the tumor.

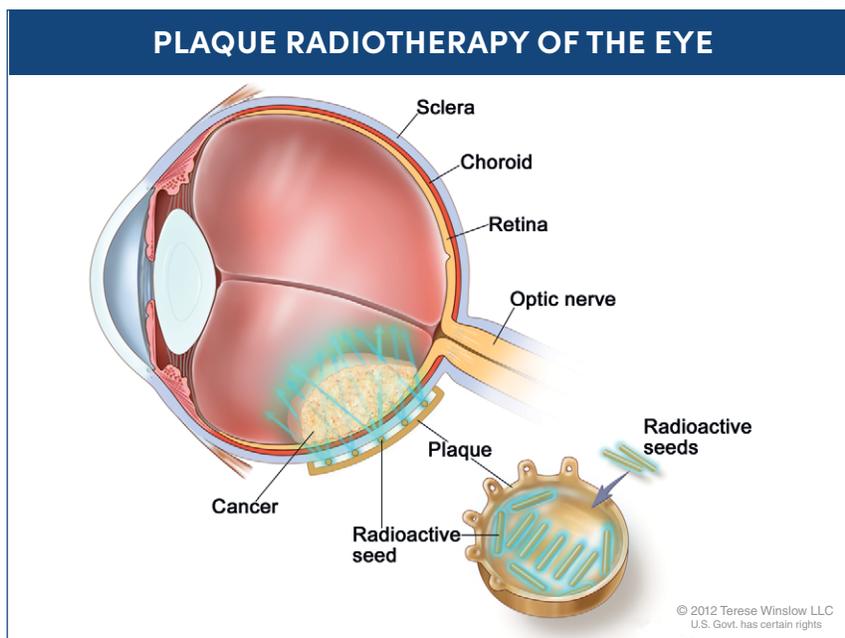
During the procedure, a biopsy is taken so that genetic analysis, which informs a patient's prognosis and long-term management, can be performed. Patients whose tumors have certain gene mutations have a high risk of recurrence and metastasis and are monitored especially closely over time.

Typically, the plaque is left in place for 96 hours after which it is removed while the patient is under sedation. At BIDMC, patients stay in the hospital under radioactive isolation during the four-day treatment, usually requiring only minimal medications to control pain or discomfort.

### No compromise in outcomes

According to Dr. Gonzalez, there are multiple benefits to brachytherapy, the most significant of which is that patients can keep their eye, in some cases for their entire lifespan, with no compromise in outcomes. As revealed by the randomized Collaborative Ocular Melanoma Study (COMS) trials conducted in the 1980s and 1990s, after 12 years there were no differences in mortality between patients with medium-sized tumors who were treated with I-125 brachytherapy and those who underwent enucleation.

But brachytherapy for ocular melanoma is not without complications, the most frequent being radiation retinopathy, which is characterized by inflammation and bleeding. "In the past this might cause the patient to lose their eye, but now we have



*A small gold-backed disc (a plaque) coated with radioactive seeds is sutured onto the patient's eyeball and left in place for 96 hours.*

effective medications to control retinopathy and preserve the eye," says Dr. Gonzalez.

Another frequent side effect is cataracts, a common condition in older adults that can be treated with an intraocular lens. In fact, for patients with existing cataracts, the BIDMC eye team often performs cataract surgery during the procedure to place the brachytherapy plaque.

For virtually all patients undergoing brachytherapy, visual acuity diminishes over time and some will eventually lose their vision entirely in the treated eye. "But we can buy patients time and the quality of life that comes with having their eye," says Dr. Gonzalez.

### Services for all patients

For patients who elect to or must have their eye removed, whether as the initial treatment or later, the BIDMC program offers services that include an ocular plastic and reconstructive surgeon (**Michael Yoon, MD**). "Prosthetic eyes today look very natural and the cosmetic results are excellent," says Dr. Gonzalez. "Most people would not be aware that the prosthetic eye is not the patient's natural eye."

For the 30-40% of patients whose ocular melanoma eventually metastasizes, the program offers well-coordinated access to the entire breadth of services available at BIDMC to all cancer patients. These include medical, surgical, and radiation oncology; the latest diagnostic and treatment technologies, including CyberKnife; and access to clinical trials. "We work together as a team to provide excellent, state-of-the-art care to patients with ocular melanoma from diagnosis and throughout their lives," says Dr. Gonzalez.



*Efren Gonzalez, MD, is fellowship trained in ocular oncology, vitreo-retinal surgery, and pediatric ophthalmology.*

→ To schedule an appointment or make a referral, call: 617-667-3391

# Meet our New Research Fellows

Postdoctoral research fellows are recently minted PhD, MD, DVM, or MD/PhDs who are continuing their training in both basic/translational and clinical research to gain experience and produce publications with the goal of obtaining an independent position in academia or industry. Research fellows are the backbone of the research program in Surgery, producing the majority of hands-on results as well as providing outstanding mentoring opportunities for our faculty. Our research fellows hail from throughout the U.S. and many other countries. Here we introduce six of our new research fellows who joined the Department of Surgery since June 2021. We will introduce other research fellows in future issues of *Inside Surgery*.



## Tarek Aridi, MD

**Mentor:** Christiane Ferran, MD, PhD;  
Vascular and Endovascular Surgery

**Where I grew up:** Beirut, Lebanon

**Educated at:** American University  
of Beirut (MD)

**Current project:** Investigating the role of the potent anti-inflammatory gene A20/TNFAIP3 in the development of abdominal aortic aneurysms (AAA), the abnormal dilatation of the aorta. Despite advances in surgical treatments, AAA still carries 50–70% mortality risk due to rupture/dissection. In recent work, we identified A20 as a modulator of vascular smooth muscle cell differentiation, a key element in AAA pathogenesis. We are harnessing this knowledge to explore A20-based therapies in mouse models of AAA.

**Personal interests:** Piano, chess



## Juan Camilo Cedeno-Serna, MD

**Mentor:** Adnan Majid, MD; Thoracic  
Surgery and Interventional Pulmonology

**Where I grew up:** Pereira, Colombia

**Educated at:** Universidad de  
La Sabana, Colombia (combined

7-year undergraduate/MD)

**Current project:** Exploring the relationship between tracheobronchomalacia (TBM) and primary humoral immunodeficiencies, long-term complications of prolonged intubation in COVID-19, endobronchial ultrasound-guided transbronchial needle aspiration techniques for staging of lung cancer, and the use of endobronchial valves for the treatment of pneumothorax associated with lung volume reduction. The division maintains the largest TBM registry in the U.S., providing opportunities to develop therapeutic guidelines.

**Personal interests:** Piano, scuba diving, learning new languages



## José Emmanuel González Gutiérrez, MD

**Mentor:** A. James Moser, MD;  
Surgical Oncology

**Where I grew up:** Veracruz, México

**Educated at:** Tecnológico de Monterrey  
School of Medicine and Health Sciences, Monterrey,  
Mexico (MD)

**Current project:** Analyzing the cost of robotic upper gastrointestinal surgeries compared to an open approach. This project aims to understand the cost of learning to do robotic surgery as it relates to the cost of all aspects of an operative case. We also developed a quality improvement tool to quantify and classify flow disruptions in the OR. Initial results presented recently at a national meeting form the basis for future studies that aim to improve patient safety.

**Personal interests:** Running, DIY projects, soccer



## Jenny (Zhuqing) Li, PhD

**Mentor:** Aristidis Veves, MD, DSc;  
Podiatric Surgery

**Where I grew up:** Shanxi, China;  
Ames, Iowa

**Educated at:** Iowa State University (PhD)

**Current project:** My training is in materials sciences with a focus on polymer-based biomaterials. For my PhD work, we made and characterized different engineered materials that alter the phenotype and polarization of macrophages, which are cells required for the wound healing process. My project in the Veves lab will be to develop new implantable polymer-based biomaterials such as protein-loaded discs and drug-loaded hydrogel patches that alter macrophages and improve wound healing in patients with diabetic foot ulceration.

**Personal interests:** Piano, guitar, traveling

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## PROMOTED TO: ASSISTANT PROFESSOR OF SURGERY



### Eugene Fukudome, MD

Dr. Fukudome, a member of the Division of Plastic and Reconstructive Surgery since 2016, focuses on the treatment of patients requiring reconstructive surgery resulting from conditions such as breast cancer, skin cancer, and other complex wounds or traumatic injuries. Dr. Fukudome

has a special interest in hidradenitis suppurativa, a chronic inflammatory dermatologic disorder that causes painful skin lesions and local complications. Patients with this disorder often require multidisciplinary care that combines conservative and surgical options from specialists in primary care, dermatology, general surgery, and plastic surgery.

Dr. Fukudome received his medical degree from the Warren Alpert Medical School of Brown University. He is a graduate of the General Surgery Residency Program at Massachusetts General Hospital (MGH) and the Harvard Plastic Surgery Residency Program. During his general surgery residency, Dr. Fukudome spent two years in the laboratory of Hasan Alam, MD, formerly of the Division of Trauma, Emergency Surgery, and Surgical Critical Care at MGH. Following his plastic surgery residency, Dr. Fukudome completed a Plastic Surgery Fellowship at Brigham and Women's Hospital.

Dr. Fukudome's scholarship is reflected in 32 published papers, including 27 peer-reviewed publications. Additionally, he has had four book chapters published.

## PROMOTED TO: ASSISTANT PROFESSOR OF SURGERY



### Monica Valero, MD

Dr. Valero has been a member of the Division of Surgical Oncology since 2019. Dr. Valero's clinical focus is malignant and benign breast disease, and she has a strong interest in improving access to breast cancer care among disadvantaged patient populations. Dr. Valero oversees the BIDMC

Hispanic Breast Cancer Program.

Dr. Valero received her medical degree from the Universidad Central de Venezuela in Caracas, Venezuela. As a requirement of her training, she worked as a general practitioner in a community setting for two

years, and then completed a year of training as a breast surgical assistant at a breast surgery institute in Caracas. Following a clinical research fellowship in breast surgical oncology at Brigham and Women's Hospital and Dana-Farber Cancer Institute, Dr. Valero completed her general surgery residency at Brigham and Women's Hospital and fellowship training in breast surgical oncology at Memorial Sloan Kettering Cancer Center.

Dr. Valero's research, which has been published in leading surgical oncology journals, focuses on racial disparities and uneven access to care for underserved populations. In 2020, Dr. Valero was appointed Associate Program Director of the BIDMC Breast Surgical Oncology Fellowship.

## New Faculty

For more information about our new faculty, including their clinical and research interests, practice sites, and contact information, please visit the "Find-A-Doctor" section on the BIDMC website.

### COLON AND RECTAL SURGERY



#### Christian Corwin, MD

**Medical School:**  
University of Connecticut School of Medicine

**Residency:** General Surgery, National Naval Medical Center

**Fellowship:** Colon and Rectal Surgery, University of Minnesota

[bidmc.org/surgery](http://bidmc.org/surgery)

### TRANSPLANT SURGERY



#### Marwan Mujid Kazimi, MD

**Medical School:**  
Albert Einstein College of Medicine

**Residency:** General Surgery, Tufts-New England Medical Center

**Fellowship:** Abdominal Transplant Surgery, Indiana University Medical Center/Clarian Health

### UROLOGIC SURGERY



#### Ajay Singla, MD

**Medical School:**  
Maharshi Dayanand University (Rohtak, India)

**Residency:** Urology, University of North Carolina at Chapel Hill

**Fellowship:** Emory University

# NEWSBRIEFS

## General Surgery Residency Program Leadership Changes

**Anne Fabrizio, MD**, Colon and Rectal Surgery, **Benjamin James, MD, MS**, Surgical Oncology, and **Charles Parsons, MD**, Acute Care Surgery, Trauma, and Surgical Critical Care, were named Associate Program Directors of the General Surgery Residency Program, which is led by Program Director **Tara Kent, MD, MS**, Vice Chair for Education in the Department of Surgery. **Sidhu Gangadharan, MD, MHCM**, Chief of Thoracic Surgery/Interventional Pulmonology, continues as an Assistant Program Director and **Jonathan Critchlow, MD**, General Surgery, serves in an advisory capacity after many years as an Associate Program Director.

**Christopher Boyd, MD**, General Surgery, and **Allen Hamdan, MD**, Vascular and Endovascular Surgery, have stepped down from their longtime roles as Assistant Program Directors. “We are extremely grateful to Dr. Boyd and Dr. Hamdan for their tireless work and many contributions to the program over the years and for serving as excellent role models to scores of residents,” says Dr. Kent.



Anne Fabrizio, MD



Benjamin James, MD, MS



Charles Parsons, MD

## New DEI Leadership and Members

As planned, in July the leadership of the Department of Surgery's Committee on Diversity, Equity, and Inclusion (DEI) changed hands. Chairing the committee for a one-year term is former Co-Chair **Anne Fabrizio, MD**, Colon and Rectal Surgery; **Ted Gomez, MD, MTR**, Otolaryngology/Head and Neck Surgery is Co-Chair. In addition, the committee welcomed five new members: faculty members **Andy Lee, MD**, Cardiac Surgery; **Kristin Raven, MD**, Transplant Surgery; **Stephanie Teng, MD**, Otolaryngology/Head and Neck Surgery; and **Monica Valero, MD**, Surgical Oncology, and general surgery resident **Sarah Tracy, MD**.

### Chair



Anne Fabrizio, MD

### Co-Chair



Ted Gomez, MD, MTR



Andy Lee, MD



Kristin Raven, MD



Stephanie Teng, MD



Monica Valero, MD



Sarah Tracy, MD



**Aria Olumi, MD**, Chief of Urologic Surgery, was elected to the American Association of Genitourinary Surgeons (AAGUS). Membership in the AAGUS is limited to 75 U.S. or Canadian surgeons who have distinguished themselves in urology. Also, Dr. Olumi will serve

a four-year term as a member of the review panel of a new National Institutes of Health standing study section for research grants: Kidney and Urological Systems Function and Dysfunction.



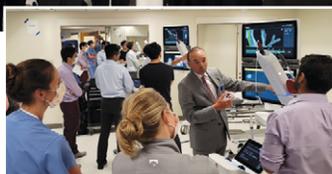
**Elliot Chaikof, MD, PhD**, Surgery Chair, was selected to serve on the National Academies of Sciences, Engineering, and Medicine (NASEM) Committee on Biotechnology Capabilities and National Security Needs. The standing committee will assist the national security

community in identifying advanced biotechnology capabilities of interest and facilitate partnerships among national security stakeholders and biotechnology experts across a variety of sectors and scientific fields.



This summer the Division of Thoracic Surgery/Interventional Pulmonology hosted its first fellowship course on robotic bronchoscopy, which drew more than 40 interventional pulmonology fellows from 36 training programs across the country. Faculty of the two-day course were

**Adnan Majid, MD**, BIDMC Chief of Interventional Pulmonology; **Mihir Parikh, MD**, Program Director of the BIDMC Advanced Diagnostic Bronchoscopy Fellowship; Erik Folch, MD, Massachusetts General Hospital; and Samaan Rafeq, MD, NYU Langone Health. The course included a didactic webinar and a full day of hands-on education and training in the BIDMC Carl J. Shapiro Simulation and Skills Center.



**Benjamin James, MD, MS**, Surgical Oncology, received the ThyCa: Thyroid Cancer Survivors' Association Award for Thyroid Cancer Research from the American Association of Endocrine Surgeons Foundation for his research focused on assessing objective financial toxicity in thyroid

cancer patients. One major focus of research conducted by Dr. James, Section Chief of Endocrine Surgery and Director of Resident Research, is the evaluation of the surgical, financial, and quality-of-life impact of surgical treatment of thyroid cancer.



2021 General Surgery graduate **Charity Glass, MD, MPP**, matched to the Dana-Farber Cancer Institute/Brigham and Women's Hospital/Massachusetts General Hospital Breast Surgical Oncology Fellowship. Dr. Glass will begin her fellowship in 2022.



Resident **Ana Sofia Ore Carranza, MD**, won first place for the best oral presentation at the 2021 New England Colorectal Society meeting. Dr. Ore presented on her project "Validity of Caprini Score in Postoperative Venous Thromboembolism in Inflammatory

Bowel Disease," which was conducted under the mentorship of colorectal surgeons **Kristen Crowell, MD**, and **Evangelos Messaris, MD, PhD**, Chief of Colon and Rectal Surgery.



**Jordan Bohnen, MD, MBA**, received this year's BIDMC Surgery Fellowship award, which is part of the Harvard Medical School (HMS) Eleanor and Miles Shore Faculty Development Awards Program. Dr. Bohnen's project will focus on improving resident feedback and assessment using mobile technology. The award will be presented at a ceremony at HMS in December.

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# NEWS BRIEFS

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## FIRST Program Receives HMS Excellence in Mentoring Award

The Department of Surgery's FIRST Program, led by Vice Chair for Clinical Research **Jim Rodrigue, PhD** (left), and **Aaron Fleishman, MPH**, received a 2021 Program Award for a Culture of Excellence in Mentoring (PACEM) from Harvard Medical School (HMS). PACEM was established to recognize departments, divisions, or programs for their efforts to foster innovation and sustainability in mentoring while building a culture of excellence in mentoring. The awards provide an opportunity for others in the HMS community to learn from successful innovative mentoring programs.

The FIRST (Facilitating Innovative Research and Surgical Trials) Program is a comprehensive initiative that supports and mentors the next generation of surgeon-investigators focused on clinical, education, health services, and patient-



centered research. Staffed by clinical research assistants and coordinators, research nurses, a biostatistician, and an epidemiologist, FIRST offers services that are an essential part of most clinical research programs. These include but are not limited to research mentorship, protocol guidance and development, regulatory support, industry engagement, biostatistics support, study coordination, data collection and analysis, and grant application preparation and review. The Department of Surgery's Clinical Scholarship Program, also led by Dr. Rodrigue, received a PACEM Award in 2020.



Based on a national survey conducted by *Newsweek*, **Samuel Lin, MD, MBA**, Plastic and Reconstructive Surgery, was selected as one of the 50 best plastic surgeons for rhinoplasty in the nation. To determine the winners, *Newsweek* conducted a

national survey among plastic surgeons and plastic surgery managers, asking them to recommend the best plastic surgeons in their state as well as across the nation. Additionally, participants were asked to rank their peers according to several quality dimensions.

Dr. Lin, who is Co-Director of the BIDMC/Harvard Aesthetic and Reconstructive Surgery Fellowship Program, also recently received a \$25,000 grant for the program from the biopharmaceutical company AbbVie and a \$40,000 grant from Mentor Corporation. In addition, Dr. Lin is serving as a co-investigator

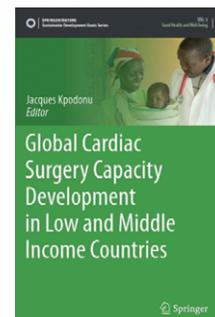
with **Aristidis Veves, MD, DSc**, Podiatric Surgery, on a \$1.7 million Department of Defense grant that began in July: "Strain-Programmable Bioadhesive Patch for Accelerated Healing of Diabetic Ulcer."



**Jacques Kpodonu, MD**, Cardiac Surgery, was invited to participate in a working group for a National Institutes of Health/National Heart, Lung, and Blood Institute (NIH/NHLBI) virtual workshop series in November entitled "Eradication of Rheumatic Heart Disease: Assessing

Research Challenges and Opportunities." Dr. Kpodonu, who was selected because of his continued advocacy for the establishment of sustainable cardiac surgical centers in lower- and middle-income economies and his active participation in cardiac surgical missions, will join other international experts to inform the NIH regarding the state of rheumatic heart disease (RHD) research and propose RHD research areas of the greatest potential impact. Recommendations from the workshop will be published in a scholarly journal in 2022.

In October, a textbook edited by Dr. Kpodonu, *Global Cardiac Surgery Capacity Development in Low and Middle Income Countries*, was published by Springer as part of its sustainable development goals series.





*Bootcamp participants and faculty (seated, from left): Drs. Varnel Antoine, Brooke Moore, Jason Qian, Chris Magnani, Alejandro Abello; Standing, from left: Drs. Ghali Lemtiri-Chlieh, Chandler Bronkema, Andrew Gusev, Sina Monfared, Samuel Helrich, Kenneth Softness, Daniel Leslie, Michelle Shabo, Chad Heflick, and Ruslan Korets.*

## Urology Interns Bootcamp is Now Statewide

During the summer, the Division of Urologic Surgery hosted a Urology Interns Bootcamp that provided a dozen interns throughout Massachusetts with dedicated time to become familiar with urologic instruments and techniques; learn from faculty and experienced residents on topics such as urologic emergencies and challenging clinical scenarios; and practice hands-on techniques, such as kidney stone removal, using simulators.

Organized by faculty member **Ruslan Korets, MD**, and resident **Kenneth Softness, MD, MS**, with assistance from resident **Alejandro Abello, MD**, this was the first time the bootcamp was open to and attended by residents from all six urology residency programs in Massachusetts: BIDMC, Boston Medical Center, Brigham and Women's Hospital, Lahey Hospital and Medical Center, Massachusetts General Hospital, and UMass Memorial Medical Center.

In addition to introducing interns to essential information and skills, the statewide bootcamp, which will be offered annually, fosters social interactions among trainees whose professional lives will intersect many times over the coming years. Says BIDMC intern **Michelle Shabo, MD**, "The bootcamp was a really valuable learning and networking experience for all of us, and a unique opportunity to meet and connect with our peers. The hands-on component was thoughtfully constructed with

surgical models, lots of equipment for practicing, and guidance from experts to help us better understand the instruments we use in urology."



*From right, clockwise: Drs. Michelle Shabo, Kenneth Softness, Alejandro Abello, Jason Qian, and Brooke Moore.*



*From left: Drs. Chris Magnani, Sina Monfared, Andrew Gusev, and Ghali Lemtiri-Chlieh.*

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# NEWS BRIEFS

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The Department of Surgery Resident Wellness Committee organized volunteer events in July and August at the Greater Boston Food Bank (GBFB), led by resident and committee chair **Benjamin Allar, MD**. Residents spent a half day at the GBFB, sorting and organizing more than 10,000 pounds of food into boxes for distribution to families in need. Pictured are residents (from left): **Nicholas DeStefino, MD**, **Carolina Torres Perez-Iglesias, MD**, **Benjamin Allar, MD**, and **Lumeng (Jenny) Yu, MD**.



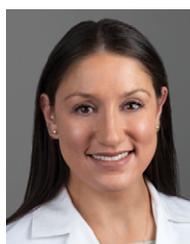
**Christiane Ferran, MD, PhD**, Vascular and Endovascular Surgery, was selected as the recipient of the 2021 Department of Surgery Excellence in Research Mentorship Award. Dr. Ferran is the Lewis Thomas Professor of

Surgery at Harvard Medical School. This award recognizes a Department of Surgery faculty member whose commitment to and investment in the development of students, trainees, and/or junior faculty as clinical scientists demonstrates excellence in mentoring. "This award acknowledges faculty members who give so freely of their time and expertise to create a supportive environment that encourages the development of scientists," says **Jim Rodrigue, PhD**, Vice Chair for Clinical Research in the Department of Surgery. Dr. Rodrigue presented the award to Dr. Ferran in June. According to Dr. Rodrigue, Dr. Ferran's "sustained commitment to providing high-quality research mentorship and guidance to students, residents, fellows, and faculty is both impressive and unparalleled."



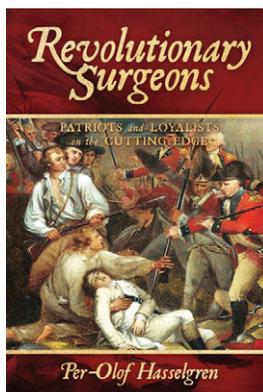
Neurosurgery resident **Alejandro Enriquez-Marulanda, MD**, won the Scoville Award for the best clinical paper presented by a resident at the New England Neurosurgical Society annual meeting. Dr. Enriquez-

Marulanda's paper was entitled "Middle Meningeal Artery Embolization Versus Conventional Treatment of Chronic Subdural Hematomas."



**Donna Alvino, MD**, received the Excellence in Clinical Instruction Resident Award from the Harvard Medical School class of 2021. The award is given to a resident as a testament to their teaching in the clinical learning experience. Wrote

one student, "Dr. Alvino facilitated an incredible two months of learning for senior medical students. She is invested in our education, clinical skills, and well-being. She went above and beyond to prepare us for our transition to residency."



"Revolutionary Surgeons: Patriots and Loyalists on the Cutting Edge," written by **Per-Olof Hasselgren, MD, PhD**, was recently released by Knox Press. Dr. Hasselgren's latest book describes the important role many surgeons played during the American Revolution

from a political, military, and surgical perspective. The book provides detailed accountings of the times and lives of ten influential surgeons of the era, including Dr. Joseph Warren, who died at the Battle of Bunker Hill, and his youngest brother, Dr. John Warren, who founded Harvard Medical School in 1782.

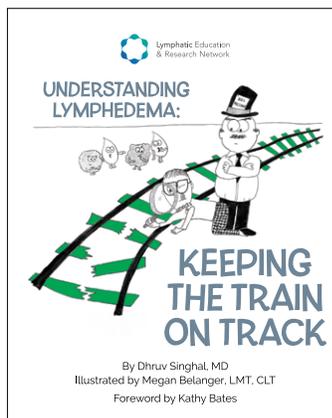


Urologic Surgery resident **Kenneth Softness, MD, MS**, was one of three to receive the prestigious Max K. Willscher Resident Research Prize awarded by the New England Section of the American Urological Association (NEAUA). The award was established to celebrate the achievements of the New England Section's most talented urologic residents. Dr. Softness's project was an emulation of a target clinical trial comparing radical cystectomy with trimodality therapy for patients with muscle-invasive bladder cancer. Dr. Softness, whose mentor on this project was **Boris Gershman, MD**, gave a podium presentation on this work at the 2021 NEAUA meeting in Burlington, VT in October.



A recently published paper in *Nature Communications* authored by **Yue Li, PhD**, and **Susan Hagen, PhD**, with collaborators at BIDMC, Weill Cornell Medicine, and Emory, was featured on the journal's "Editors' Highlights"

website page as one of "the most exciting recent publications covering topics from molecules and cells to organisms." The paper, "Thioesterase superfamily member 1 undergoes stimulus-coupled conformational reorganization to regulate metabolism in mice," describes a new mechanism regulating metabolism that may have implications for the treatment of obesity, which affects more than a third of adults in the United States. Dr. Hagen is Associate Vice Chair for Research in the Department of Surgery and Director of the BIDMC Microscopy and Histology Cores. Dr. Li is a postdoctoral fellow in Dr. Hagen's lab.



**Dhruv Singhal, MD**, Plastic and Reconstructive Surgery, conceived of and wrote a recently published book on lymphedema, "Understanding Lymphedema: Keeping the Train on Track." Published by the Lymphatic

Education & Research Network (LE&RN) with a foreword by former LE&RN national spokesperson and actress Kathy Bates, the book explains lymphedema and its treatment in easy-to-understand terms with illustrations by certified lymphedema specialist Megan Belanger. Dr. Singhal is Director of Lymphatic Surgery at BIDMC and Co-Director of the Boston Lymphatic Center.



**Louis Chu, MD**, Cardiac Surgery, was the recipient of the BIDMC Non-Medical Specialties Teaching Award for 2021. The award recognizes a faculty member outside the BIDMC Department of Medicine who has contributed unselfishly to the department's educational activities. The recipient is chosen by outgoing chief residents in the BIDMC Internal Medicine Residency Program.



**Jim Rodrigue, PhD**, Transplant Surgery, was appointed to serve as a member of the Vascularized Composite Allograft Committee of the American Society of Transplant Surgeons (ASTS). The ASTS fosters and advances the practice and science of transplantation for the benefit of patients and society. Dr. Rodrigue will serve a three-year term.

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# NEWS BRIEFS

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In partnership with the Lymphatic Education & Research Network (LE&RN), the [Boston Lymphatic Center](#), a joint program of BIDMC and Boston Children's Hospital, is hosting its fourth annual Boston Lymphatic Symposia in late October and early November. This year the symposia, which feature lymphedema experts from around the nation and the world, are being held virtually. The Boston Lymphatic Center is co-led by **Dhruv Singhal, MD**, Plastic and Reconstructive Surgery, and Arin Greene, MD, Boston Children's Hospital, who co-chaired the program

committee. **Sumner Slavin, MD**, Plastic and Reconstructive Surgery, served as honorary chair.

The patient symposium takes place on October 30; the clinical symposium, which focuses on lower extremity lymphedema, is November 5-6. This year features a daylong virtual workshop for health professionals (November 4) on mapping the lymphatic system, which is sponsored by the National Institutes of Health/ National Heart, Lung, and Blood Institute. For more information visit: [bostonlymphaticsymposium.org](http://bostonlymphaticsymposium.org).



## ALUMNI NEWS



**Jennifer Zhang, MD**, joined the faculty of the Division of Endocrine and Oncologic Surgery at the U Penn Department of Surgery following her fellowship in breast surgical oncology at Memorial Sloan Kettering Cancer Center. Dr. Zhang graduated from

the General Surgery Residency Program in 2020.



**Caroline Park, MD, MPH**, who graduated from the General Surgery Residency Program in 2016, was elected President of the Texas Association of Surgical Skills Laboratories (TASSL). TASSL fosters sharing of resources and

collaborations in clinical, research, and training programs among surgical training programs throughout Texas. A trauma surgeon and surgical intensivist, Dr. Park has been a member of the UT Southwestern Medical Center faculty since 2018, where she is Associate Program Director of the Surgical Critical Care Fellowship Program.



**Satish Nadig, MD, PhD**, a 2011 graduate of the General Surgery Residency Program, was appointed Chief of the Division of Organ Transplantation in the Department of Surgery, Director of the Comprehensive Transplant Center

at Northwestern University Feinberg School of Medicine, and Transplant Program Director of the Northwestern Memorial Hospital Solid Organ Abdominal Transplant Program in November. Dr. Nadig will be the Edward G. Elcock Professor of Surgery, Pediatrics, and Immunology at Feinberg School of Medicine. Previously Dr. Nadig was a member of the faculty of the Medical University of South Carolina, where he was Director of Living Donor and Pediatric Transplantation and Professor of Surgery, Pediatrics, and Microbiology/Immunology.



**Paula Ferrada, MD**, a 2008 graduate of the General Surgery Residency Program, was recently named System Chief of Trauma and Acute Care Surgery at Inova Health and Chief of the Division of Trauma and Acute Care Surgery at Inova.

Dr. Ferrada was formerly a member of the Division of Acute Care Surgical Services of the Department of Surgery at Virginia Commonwealth University.



**Alumni, do you have news you would like to share with our readers?**

We would love to hear from you! Please send your news to: [surgerycommunications@bidmc.harvard.edu](mailto:surgerycommunications@bidmc.harvard.edu)

## IN MEMORIAM

### Geoffrey M. Habershaw, DPM

Dr. Habershaw, 71, served as Chief of Podiatric Surgery in the Department of Surgery from 1982 until 1999, when he was recruited to Boston Medical Center to establish a clinical podiatry program and a podiatry residency. Dr. Habershaw retired in 2019 and relocated to Hawaii.

Dr. Habershaw graduated from Monmouth University, earned his DPM at the Illinois College of Podiatric Medicine, and completed his residency at the New England Deaconess Hospital Podiatric Surgery Residency Program (now the BIDMC Podiatric Surgery Residency Program).

Dr. Habershaw had a longstanding interest in challenging foot problems experienced by many patients with diabetes. His efforts led to the development of a multidisciplinary approach for the management of the diabetic foot, which is now the standard of care, and laid the groundwork for reconstructive surgery of the diabetic foot. For these and other contributions, Dr. Habershaw was recognized nationally and internationally as an expert in the field, lecturing around the world and attracting patients from around the nation. Dr. Habershaw also trained

countless residents to treat diabetic foot ulcers and other complex podiatric problems.

In 2018, Dr. Habershaw received the Lifetime Achievement Award from the Massachusetts Foot & Ankle Society for his outstanding accomplishments and his service to the society and the profession of podiatric medicine and surgery.

"We lost a giant in the profession who helped establish surgical care of the diabetic foot as a distinct specialty," says Dr. Habershaw's successor as Chief of Podiatric Surgery **John Giurini, DPM**, who trained under Dr. Habershaw at BIDMC. "Dr. Habershaw was not only a pioneer who had an enormous impact on podiatric surgery," says Dr. Giurini. "He was also a true gentleman who always treated colleagues and patients alike with compassion and respect and was a role model for me and many others in our specialty."

Dr. Habershaw, who passed away suddenly in May, is survived by his wife of 48 years, Nanette; three sisters; two children, Auston and Hilary; and five grandchildren.



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### Dongli Lu, PhD

**Mentor:** Richard Cummings, PhD; National Center for Functional Glycomics; Harvard Medical School Center for Glycoscience

**Where I grew up:** Chengdu, China

**Educated at:** Imperial College London, UK (PhD)

**Current project:** Characterizing glycans in metastatic cancerous cells and virus-targeted human organs by mass spectrometry-based "omics" techniques. I seek to understand the mechanisms for the glycan-dependent virus-host interaction and glycan-engaged cancer development and immunomodulation. These studies may potentially lead to the discovery of novel diagnostic biomarkers and treatment targets for future clinical applications.

**Personal interests:** Opera, museum-going, singing, touring



### Maria Fernanda Moreno Salas, MD

**Mentor:** Boris Gershman, MD; Urologic Surgery

**Where I grew up:** Bogotá, Colombia

**Educated at:** Universidad de los Andes, Bogotá, Colombia (MD)

**Current project:** I am studying non-muscle invasive bladder cancer. We are focusing on patient survival patterns after cystectomy (removal of the bladder) to improve counselling and surveillance strategies and to determine appropriate patient follow up.

**Personal interests:** Reading, traveling



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Beth Israel Lahey Health

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severe OSA, be unable to tolerate CPAP, and have a body mass index of less than 35.

If these criteria are met, patients undergo a brief, outpatient, drug-induced sleep endoscopy to trigger an apnea event so that doctors can determine if the patient's anatomy is amendable to this treatment. Following this study, about 15% of patients are deemed ineligible, says Dr. Eazazuddin.



*Kaashif Eazazuddin, DO*

The implantation procedure, which takes approximately two hours and requires two incisions—one under the chin and the other below the collarbone—is done under general anesthesia. The patient goes home the same day but must limit strenuous physical activities for three to four weeks.

A month later, the device is activated by the sleep medicine team and the patient learns how to control it remotely, with instructions to increase the level of stimulation slowly over time to limit any discomfort in the tongue. Two months following implantation, an in-lab sleep study is conducted to determine how well the device is working and make any necessary adjustments.

### **Safe, effective, and well-tolerated**

Multiple clinical trials have shown that hypoglossal nerve stimulation is safe, effective, and well-tolerated. Results of the Stimulation Therapy for Apnea Reduction (STAR) clinical trial, which were published in the *New England Journal of Medicine* (Jan. 9, 2014), showed that at one year and five years, patients experienced significant reductions in sleep apnea events and improvements in quality of life.

A follow-up study published in *Otolaryngology-Head and Neck Surgery* in 2018 found that patients had a 75% reduction in sleep apnea events, a major reduction in daytime sleepiness, and significant improvements in daytime functioning. An added benefit for partners is that patients' snoring was greatly reduced or

even eliminated.

Dr. Eazazuddin points out that another important advantage of hypoglossal nerve stimulation is that it does not alter the airway or disqualify patients for whom it is not effective from returning to CPAP or considering other options, such as surgery to alter potential anatomic factors.

There are, however, some disadvantages. The battery must be replaced every ten years (an outpatient procedure done with local anesthesia) and nerve weakness may occur, but this is usually temporary. Also, patients cannot undergo MRI examinations to the chest and abdomen.

At BIDMC, an entire multidisciplinary team is available to manage patients with OSA, including oral surgeons and bariatric surgeons in addition to Dr. Eazazuddin and the sleep medicine specialists. "Adequate proper sleep is an essential component of good health," says Dr. Eazazuddin. "At BIDMC, we work together as a team to ensure that patients with OSA receive the most appropriate treatment offering the best possible outcomes."



**To schedule an appointment  
or make a referral, call:  
617-632-7500**