Orthopaedic Clinic for Lifestyle Improvement empowers patients to stay active

A new BIDMC program teaches patients how to stay functional and active while working on relieving pain in stiff, weak and painful joints. The Orthopaedic Clinic for Lifestyle Improvement, spearheaded by orthopaedic specialist Mark Haffenreffer, MD, offers a unique, personalized approach to arthritis and other issues related to aging based on self-empowerment and focused workouts that are condensed for manageable time periods for the patient.

Haffenreffer has specialized in treating joint issues at BIDMC-Needham for more than 25 years using established methods such as PT referrals, anti-inflammatories, injections and when needed, hip or knee replacement. But over the course of his practice, he had a growing feeling there was something that traditional approaches to patient care weren’t addressing.

“I wanted a way to match the patient’s capabilities to the prescribed treatment so that the patient had a high chance of succeeding over time,” said Haffenreffer. “I search for something in their lives that is crucial to them and we use that as the carrot. I also look to get them invested as early as possible.”

Haffenreffer welcomes anyone considering joint replacement or conservative treatment to his program. If surgery becomes the best option—early on or eventually—his recommendation is always a consult with Jake Drew, MD, also an orthopaedic specialist at BIDMC, who sees patients regularly in Needham and performs surgeries at BID-Needham Hospital.

Haffenreffer’s new Clinic for Lifestyle Improvement is designed for people who are having difficulties with one or more activities of daily living such as climbing stairs, getting in and out of a chair or walking as a result of arthritis, stiffness from lack of exercise, or a specific issue such as an injured quadriceps muscle. It is also for those who may not be candidates for a total joint replacement because they don’t want surgery, or can’t have surgery due to restrictive medical conditions.

*Personalized program*

During a first visit, Haffenreffer talks to patients about their daily activities and does a physical assessment. Then he prescribes a workout based on their willingness to comply, level of current pain and pain tolerance with exercise as well as what exercises have been helpful to them in the past. He aims to keep the prescribed routine, to be performed twice a day, under 5 minutes.

A central tenet of the program is that patients are responsible for themselves. “This is not going to be done by somebody else to them. We say that up front. It is a technique and a program that is asking you to be involved in your own care,” said Haffenreffer. “We will provide periodic medical involvement looking to treat current primary problems and new problems that may arise.”

To convey routines, Haffenreffer uses highly personalized teaching methods—not handouts. He demonstrates the exercises and writes the steps out by hand. “I write the instructions in their vernacular. I ask them to ‘explain to me what I just said’ so I know they know what to do. It’s time consuming but very effective,” he said.

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Welcome to 2020!

It’s the beginning of a new decade, and we’re starting it off with an array of positive tidings: the introduction of a novel nonsurgical orthopaedic clinic, the addition of a surgeon to our spine services team, and a milestone in spine fracture research for cancer patients.

Our cover story relays how a veteran surgeon in our Needham location recently switched gears to launch a service that helps people with hip and knee pain—withou surgery. Dr. Mark Haffenreffer felt his long-time interest in providing patients with highly tailored, easy to manage exercise routines combined with people’s increased interest in preserving active lifestyles without medication in spite of joint pain made this an ideal time to introduce a well-thought-out, structured program.

I extend a warm welcome to Dr. Jason Pittman, a surgical spine specialist, who joins BIDMC this month. In our profile of him, you will learn about his path from Birmingham, Alabama, to Boston and from earning a doctoral degree in analytical chemistry to becoming an orthopedist. Dr. Pittman treats patients who experience any type of spine issue, including spinal cord compression or narrowing, pinched nerve and fracture. He uses minimally invasive surgical approaches and has an avid interest in applying new technologies to improve patient care.

On the research front, Ron Alkalay, PhD, an investigator at the Center for Advanced Orthopaedic Studies, is at a key point in his quest to provide clinicians with an accurate way to predict spinal fractures in patients who have a primary cancer, such as prostate or breast cancer, that has spread to the bone. In this issue we share how Dr. Alkalay is applying biomechanics to devise a tool that has the potential to help physicians prevent these painful and often debilitating fractures.

In our last issue we announced that Dr. Tamara Rozental, Chief of Hand Surgery, was named full professor at Harvard Medical School. We take this pivotal moment in her career to impart her journey from growing up in a Mexican family involved in diplomacy to becoming a hand surgeon and how she balances the many facets of being an academic clinician.

Finally, we are pleased to announce added service hours for our patients in the Lexington area.

Wishing you a healthy and happy new year!

Mark C. Gebhardt, MD
Chief, Carl J. Shapiro Department of Orthopaedics
This winter we welcome Jason Pittman, MD, PhD, to the BIDMC Orthopaedics Surgery spine services team. Most recently, Pittman practiced at the University of Alabama at Birmingham Medical Center and served as assistant professor of orthopaedic surgery at the University of Alabama at Birmingham.

Pittman knew early in his life he wanted to be a doctor. The road to becoming an orthopedist was not a direct one, though. “I grew up in a legal family in Birmingham, but a cousin there was a urologist. He took an interest in me at a young age. At every opportunity he would take me to his clinic and the operating room in his hospital; I saw my first surgery at the age of 12,” he said. Then, in his last year of high school, a family friend who was an orthopaedic surgeon gave Pittman a job as a cast technician. “I observed him in surgery, and helped him take care of patients in his clinic. That’s when the orthopaedic bug bit,” said Pittman.

But Pittman was also drawn to chemistry. Following graduation from college, he earned a doctorate in analytical chemistry. His area of focus was mass spectrometry, a technique used often in biochemistry and pharmaceutical research to measure the mass of individual molecules or compounds. “I worked on improving the instrument to achieve higher resolution and improve performance. But doing bench science wasn’t a good fit for me. I needed more interaction with people,” he said.

He then switched gears to attend medical school. “I had a love of orthopaedics and had also developed a passion for emergency medicine,” said Pittman, who volunteered on ambulances and rescue trucks as an EMT all through college and graduate school. “In my third year of medical school, I realized I can’t be anything but a surgeon.”

Pittman was drawn to BIDMC because it allows him to continue teaching while collaborating with colleagues in a welcoming environment. “Coming from the third largest public hospital in the country with over 1200 beds, there is more of a personal feel here. And the city of Boston is awesome,” he said.

Pittman has published extensively on the cervical spine; he recently wrote one book chapter on cervical stenosis in the adolescent athlete and another on surgical technique for fixation of trauma patient fractures at the top of the cervical spine (C1). At BIDMC, he hopes to explore implementation of new technologies—especially navigation technology and augmented reality—for spine surgery.

Navigation technology allows safely placing instruments in the spine without the extensive use of X-ray in the operating room. “Small cameras enable a surgeon to see where the instruments are relative to the spine. It decreases radiation exposure to the patient, OR staff and surgeons,” explained Pittman. “Such techniques make surgeries safer, and as our technology continues to improve, that will become even more true.”

Augmented reality, in which a real-world environment is enhanced by computer-generated sensory information, is an entertainment phenomenon beginning to be applied to surgical visualization. “It’s been used to develop 3-D anatomical models for surgical education, but it’s still very early on in its implementation in the operating room,” said Pittman.

Pittman helps patients who have conditions such as cervical myelopathy (compression of the spinal cord), cervical stenosis (narrowing of the spinal canal), cervical and lumbar radiculopathy (pinched nerve), and fractures. When indicated, he performs surgeries that may involve one level of the spine or multiple levels. He trained in minimally invasive approaches at Boston University during his orthopaedic surgery residency.

When it comes to clinic visits, Pittman respects patients’ time by being punctual. “I do my best to see each patient within 30 minutes of entering the office, including checking in and getting X-rays,” he said. Then, he focuses on creating a relationship with the patient and educating them so they can make a choice that’s good for them. “When surgery is an option, my role is not to tell patients what they’re going to have done, but to help them come to a decision about what they need—and what works for them.” He understands not everybody has the resources to recover for three months following surgery or the family support that a complex surgery warrants. “It’s very much about becoming a partner in care with the patient.”

Pittman also stressed the importance of keeping a line of communication open with PCPs and involving them as much as possible in patient care.

Outside of the clinic, Pittman likes hiking and travel with his wife Jasna, a climate researcher; their destinations have ranged from Kilimanjaro to Machu Pichu to Morocco. By the time this article is published, Pittman hopes to have his private pilot’s license. Also, he enjoys cooking, grilling and training a recent addition to the family: a German shepherd named Lena.

Dr. Pittman sees patients at the BIDMC Spine Center and Beth Israel Deaconess HealthCare-Lexington. For an appointment, call 617-667-3940 or email spinecenter@bidmc.harvard.edu.
BIDMC researcher develops model for predicting spine fracture risk in cancer patients

It is estimated that more than 1.7 million new cases of cancer will be diagnosed in 2019. Bone metastases are common in cancer patients, afflicting up to 70% with advanced stages of the disease—most often occurring in the spine. About one-third of patients with metastatic disease of the spine will suffer an acute spine fracture, often causing severe pain that leads to impaired quality of life and markedly higher healthcare costs.

While clinicians can see the impact of spinal metastasis with MRI and CT images, current imaging techniques don’t allow them to predict the risk of vertebral fracture with accuracy. As a result, most interventions happen after severe pain and neurologic problems occur. “This can be particularly tragic when surgery or vertebral augmentation could have been offered before the development of these complications,” said Ron Alkalay, PhD, a principal investigator at the Center for Advanced Orthopaedic Studies at Beth Israel Deaconess Medical Center (BIDMC).

Alkalay has been working for over 12 years to create analytical tools that will predict a patient’s likelihood and timing of pathologic vertebral fracture with enough precision to help prevent catastrophic pain or neurologic problems. If successful, this work would change the evaluation and treatment paradigm from a reactive approach to a proactive one. Now Alkalay and two clinical colleagues may have the opportunity to test his quantitative methodology in cancer patients without any interruption to their care.

This fall, the National Institutes of Health awarded a grant to Alkalay, neuroradiologist David Hackney, MD, BIDMC, and radiation oncologist Tracy Balboni, MD, Brigham and Women’s Hospital, to establish a prospective study that tests Alkalay’s method in patients being treated for spinal metastatic disease.

“The aim of the study is to use clinical imaging and serum-based biomarkers to begin to define better which patients with bone metastasis are going to be at risk of developing fracture following radiation therapy. Ultimately, that would guide how we manage those cases,” said Balboni.

A unique aspect of the study design is that observations will be based on information collected via blood tests and clinical scans that are routinely performed as part of a plan of care. “All of the investigators worked very hard to ensure no additional burden will be imposed on these infirm patients,” said Alkalay.

In addition, the study will be the first to prospectively assess the change in the patient’s risk of fracture based on clinical assessment, following patients from the first day of radiotherapy up to 12 months post-radiotherapy.

Cancer spreads to bone

Progress in developing bone metastasis treatments such as immunotherapies have improved life expectancies for patients with advanced-stage cancer. One of the consequences of this success is that more cancer patients are likely to suffer from bone metastasis. Prostate cancer patients are at the highest risk of developing bone metastasis, up to 25 percent at 5 years post-diagnosis, followed by lung cancer patients, up to 13 percent, and breast cancer patients, up to 6 percent.

According to Alkalay, cancer metastasizes to bone, current treatments for limiting the effect of the metastasis are very limited,” said Alkalay.

“With some cancers, growth can be a very active process that keeps destroying the bone,” he explained. “At some stage, the vertebra will no longer be able to carry the load of normal living—picking up a package in the supermarket, lifting your grandson, opening a window. All of these are associated with loading in the spine. Depending on the degree of damage, the vertebra eventually collapses and causes a fracture,” Alkalay said. Both the initial fracture and any subsequent collapse of the vertebral bone can cause compression of the spinal cord, a complication that can lead to paraplegia or quadriplegia (see Figure 1.)

Predicting vertebral fracture

Currently, clinicians assess the risk for vertebral fracture in their cancer patients by reviewing CT scans of spinal lesions and certain blood markers. “But their protocols to estimate risk are not accurate,” said Alkalay. “They are subjective, and quite a few studies show this approach isn’t specific or sensitive enough. That’s where we come in.”
Building on a large body of research at the Center for Advanced Orthopaedic Studies, particularly that of Brian Snyder, MD, PhD, Boston Children’s Hospital, Alkalay has focused his work on applying engineering theory to clinical image data to predict when vertebral fracture may occur. His predictive model involves calculating the strength of the vertebrae—the maximum force value able to be carried by the vertebra before it fails—from CT images of the spine.

To calculate vertebral strength, Alkalay’s model examines every image, or cross-section, of a patient’s spine on the CT scan to compute the effect of the metastatic lesion on the change in the strength of the affected vertebrae. Figure 2 provides a graphical summary of the methods used. “A structure is only as strong as its weakest link,” Alkalay said. “By determining the slice with the lowest computed strength, we predict a force value that we expect the metastatic vertebra to fail at.”

Another key factor in calculating risk is the ability to predict forces acting on a specific patient’s spine for a specific set of daily activities (see Figure 3). This capability has only recent become feasible due to the development of muscle-based models by BIDMC senior researcher Dennis Anderson, PhD.

The amount of loading on the spine will differ based on an individual’s approach to picking up an object or carrying out a task. “For instance,” said Alkalay, “when I carry a parcel, because I have very little flexibility in my spine, most of my motion will come from my hip. Someone else will use less motion in the hip and more in the spine. The approach is based on a person’s genetics, musculoskeletal control, neuro system, and many other factors.” Two patients may generate very different loading for a similar strength of vertebrae, resulting in a very different risk of failure for the same degree of vertebral strength.

Alkalay’s model divides the set of predicted force values by predicted vertebral strength, resulting in a ratio known as the load to strength ratio. “If this ratio is larger than one, it means your vertebra will fail, because the forces generated by the daily task exceed the ability of the diseased vertebrae to carry these forces,” explained Alkalay. “If this ratio is less than one, which means the strength of the vertebra is greater than the force applied on the spine during the daily task, it is less likely to fail. It doesn’t mean it won’t, but it’s likely not to fail.”

**Dynamic assessments**

In addition to gathering and interpreting data based on imaging, the study will look at a third factor in determining risk fracture: bone turnover markers. These markers allow insight into the biological activity of the tumor with respect to bone loss and bone formation, which are predictive of vertebral fracture according to clinical and research literature. By analyzing CT scans and biomarkers over a one-year period, the researchers will get a unique look at how radiotherapy affects the risk of vertebral fracture.

“We want to find out if we can identify features that may hint at increased or decreased risk as a patient progresses in time past early treatment,” said Alkalay. “In view of the ever-changing tumor tissue and its effect on the surrounding bone, this is a major opportunity to develop models that will provide dynamic assessment of the evolving risk of such fractures over time and help us develop clinical guidelines to minimize this risk.”

The multidisciplinary team’s research on spine fracture is critically important for physicians to manage their care well—regardless of the patient’s prognosis, according to Balboni. “If a patient is only going to live a few months, and they have a severe, painful fracture requiring admission, quality of life is huge for them in their remaining time,” she said. “For someone who’s living many years, ongoing issues because of fracture—whether it’s pain or ultimately surgery—also have big impact on their lives. Controlling spinal disease and fractures are relevant across the board.”

Alkalay hopes findings of the study give physicians the tools they need to affect better patient outcomes. “My overall goal is to change the way spine medicine is done,” he said. “It’s to help the physician make better decisions, particularly surgeons.”

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Also, Haffenreffer asks that a committed family member or caregiver come in with the patient if possible to take photos of the patient doing the exercises with their cellphone. “That way, the caregiver can see that the person can do the exercise and reiterate how it’s done later.”

Haffenreffer may physically stretch muscles to get more motion, particularly with stiff and weak knees. “My job is to get the patient better as fast as I can to full motion and full strength,” he said. “Then it’s up to the patient to keep this motion. We give them the methodology to do that.” Although painful, Haffenreffer tells patients this procedure can save them months of dysfunction.

One such patient is a retired schoolteacher who lives independently in Canton. Reva Fisher first had difficulty walking and climbing stairs four years ago at age 81. “I stepped off a street and suddenly felt an electric charge going up my right leg, so I knew it was time to do something,” she said. Her internist referred her to physical therapy and Haffenreffer, who helped her with cortisone shots and a leg-strengthening exercise. Surgery wasn’t an option as Fisher was taking care of her ailing husband and couldn’t afford the downtime it would require.

Then at a visit with Haffenreffer last September, Fisher began the Lifestyle Improvement program of exercise. In addition to the aggressive stretching, he gave her several focused strengthening exercises to do. In a thank you note to Haffenreffer, Fisher wrote the most important thing about the visit was that he “convinced me to do the exercises and showed me a glimpse of what I could do.”

Fisher finds the program fits into her lifestyle. “Even though I’m retired and have the time, I found that doing 35 to 40 minutes of exercises every day was just not something I would follow through on. But the new program, because of its brevity and the ability to not use props but household items, I was able to do easily,” she said.

Just one month after her first visit, she reported things were going well. “My daughter recently bought a townhouse with 12 steps to go up, and I’m able to manage those without problems. That’s something I wouldn’t have been able to do before these exercises.”

Typically, Haffenreffer follows up with patients in six weeks to three months to fine tune the exercises, go over the priorities, and re-incentivize the patients. Encouragement is key at this visit. Some patients return for a third visit if there are unresolved issues. After one year, patients return to evaluate their own success and learn how to make additional adjustments.

**Condensed workouts, overcoming fears**

When developing the nonsurgical program, Haffenreffer drew on his own considerable experience. His first objective was to create a toolbox of very short exercises—about one minute each. “For most people who are not used to exercising as part of their day, there’s a much higher chance of them doing a four to five minute program, twice a day, than a lengthy program.”

The challenge was making these quick workouts as beneficial as possible. His solution: combine several exercises into a single exercise. The posture exercise, for example, is six exercises in the span of one. Haffenreffer often starts his patients out with it.

“For some people, their pain threshold is the deal breaker—they don’t want to do exercises that hurt. The isometric movements in the posture exercise are a nice crossover between doing nothing and starting to do an exercise program,” he said. “When people do this exercise for a while, they may start standing up a little straighter, and more importantly, they feel better.”

Underlying Haffenreffer’s approach is an understanding of the patient’s behavior, in particular, of how to overcome fear of pain, falling, tripping or hitting something. “Some people have long been taught that if it hurts, don’t use it, which is the worst thing to do. When they have a bit of a pain in the knee, for example, they rest it, it gets stiff and weak, and now they’re even worse,” he said.

To help overcome these fears, Haffenreffer uses techniques similar to cognitive behavioral therapy. He described them like this: “I’ll ask patients to make their goal getting full range of knee motion by building extra strength, because weakness and stiffness promote pain. I prioritize other things away from the pain, and as this goes on, the pain becomes less and less.”

For more information about the Orthopaedic Clinic for Lifestyle Improvement, call 781-453-7800 or email orthojoints@bidmc.harvard.edu.

**More orthopedic services available at Lexington office**

The Beth Israel Deaconess HealthCare–Lexington outpatient healthcare facility at 482 Bedford Street has been expanded and Orthopedics was first in line to take advantage of the new space. In addition to the sports medicine and non-operative musculoskeletal services we have long provided at the Lexington location, we are pleased to now offer outpatient care with surgeons for the first time.

Ayesha Abdeen, MD, Chief of Joint Replacement and Reconstruction, has office hours the first and third Thursday of the month. Her area of expertise is hip and knee replacement, both initial surgeries and revisions. Christopher Miller, MD, foot and ankle surgeon, sees patients the first Friday of each month. Miller treats individuals with an array of foot and ankles issues, including ligament tears, fractures and foot pain.

The Beth Israel Deaconess HealthCare–Lexington office is conveniently located just off of Route I-95/128, and parking is free. Appointments for any Orthopedics healthcare provider at any location can be made by calling 617-667-3940.

“**My job is to get the patient as fast as I can to full motion and full strength. Then it’s up to the patient to keep this motion. We give them the methodology to do that.** Mark Haffenreffer, MD
Hand surgeon Tamara Rozental, MD, balances patients, academia and research with ease

Tamara Rozental, MD, Chief of Hand Surgery and Upper Extremity Surgery in the Department of Orthopaedics at Beth Israel Deaconess Medical Center (BIDMC), joined the department in 2005. Since then, she has provided treatment to hundreds of patients with acute and chronic conditions affecting the upper extremity, performed extensive clinical research, published widely and steadily forged a trajectory of clinical and academic achievement. Last spring, Rozental was named full professor of orthopaedics at Harvard Medical School. The conferring of this milestone seemed an apt time to talk to the surgeon about her career journey so far.

Growing up in a family of diplomats and political economists, Tamara Rozental, MD, might have entered one of those fields herself, but her passion for medicine won out. “I had an international upbringing,” Rozental explained. “I’m now a U.S. citizen, but was born in London to Mexican parents, who are themselves of Eastern European descent—my grandparents emigrated to Mexico during WWII and my parents are first generation Mexicans. My father was a diplomat in the Mexican Foreign Services, so I grew up moving every few years to different locations, between Mexico City and Europe.” As a result, Rozental learned to speak four languages.

“Although I did enjoy life as a foreign office brat, I decided at a fairly young age I wanted to pursue medicine. I explored medicine early on through friends and mentors,” she said.

When it came to college, she chose a liberal arts program in the United States. “My parents were both educated in the U.S., so it was assumed that’s what I would do,” Rozental said. And she liked the idea of an education that allowed her to pursue her other interests. “I wasn’t ready to commit to a career in medicine at the age of 17 to the exclusion of everything else,” she explained. Majoring in biology, she also explored political science and Latin American studies during her years at Bryn Mawr College outside of Philadelphia.

Rozental went on to Cornell University Medical College in Manhattan, planning to return to Mexico City after residency and fellowship training. When it came to selecting rotations for her third year of medical school, she picked surgery as her first rotation. “I just wanted to get it out of the way, but it turned out I really enjoyed it,” she said. She discovered hand surgery while taking an elective and was immediately hooked. “I chose orthopaedics because I wanted to do hand surgery—not the other way around.”

After medical school, Rozental completed an internship and residency at the Hospital of the University of Pennsylvania and then came to Boston to do a one-year hand and upper extremity fellowship at Brigham and Women’s Hospital. Since then Rozental has been rooted in one place—in contrast to the first 18 years of her life—practicing as a surgeon, researcher and educator at BIDMC and Harvard Medical School.

Patient care, clinical research
Like most academic surgeons, Rozental balances her time between a clinical practice, research and being a teacher and mentor. “I’m still a clinical surgeon at the core, seeing a full-time caseload of patients in clinic and operating,” she said. While most of her practice is at BIDMC, she also sees patients and operates at BIDMC-Needham, Chestnut Hill and the New England Baptist Hospital.

In her role as researcher, Rozental’s work centers on wrist fractures, a focus that goes back to her years in training. “As a resident I worked on projects related to the surgical outcomes of patients with distal radius fractures,” she said. “I continued that line of research when I first came here, and have broadened it to look at fragility fractures.” Fragility fractures are breaks resulting from falls that would not ordinarily result in fracture, indicating an underlying cause that makes the bones fragile.

Rozental’s recent research examines how the orthopaedic community assesses patients for osteoporosis, manages them, and identifies patients who are at high risk for future fracture. “We have been looking at new imaging and diagnostic modalities that could potentially be helpful in addressing these questions,” she said. Rozental believes orthopaedic surgeons shouldn’t just treat the fracture, but also focus on the patient’s bone health. “That means we need to be proactive in educating patients about bone health at the time of injury and communicating with primary care physicians to make sure they get adequately followed and worked up.”

Currently, Rozental is pursuing a study with colleague Mary Bouxsein, PhD, Director of the Center for Advanced Orthopaedic Studies at BIDMC, to explore techniques for predicting skeletal fragility in patients. “Initially we focused much of our work in this area on post-menopausal women, who are already at a high risk of fracture. Now, I’m focusing on a younger patient population—women who have fractures before menopause—to determine if they are at higher risk when they get older,” said Rozental.

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Rozental. The study will measure certain bone turnover markers in the blood and bone material strength to see if these can be helpful in predicting future fractures.

Rozental enjoys the opportunity to improve patient lives as both a clinician and an investigator. “I get to take care of the patient with wrist fracture in the office and focus on getting that one person over their injury and back to function. At the same time, I can focus on the problem of how osteoporosis is managed and treated at a macro level—almost as a public health issue, hoping that some of the research will impact a much large number of people,” she said.

Balancing act
In her role as professor, Rozental works closely with about 15 residents, fellows and medical students each year, along with acting as program director for the Hand and Upper Extremity Fellowship at BIDMC. That requires guiding students in different disciplines and at different levels, ranging from supervising a resident or fellow performing surgery to mentoring a medical student through the design and execution of a research project.

It’s an ability that is appreciated by her students. “Dr. Rozental is very good at providing the appropriate level of autonomy while still being an active teacher. We’re getting hands-on experience and learning what we need to at a level that’s appropriate for our year,” said Grace Xiong, MD, who recently completed a hand surgery rotation with Rozental as part of the Harvard Combined Orthopaedic Residency Program. “Every person who works with her simultaneously feels like they’re benefiting—which is quite difficult to do when you are juggling the priorities of so many learners in the same space.”

Tom McQuillan, MD, another Harvard resident currently working with Rozental on his rotation, added, “She’ll take time out of a busy clinic schedule to make sure she’s giving you her all from some of her own personal experience. In the operating room, she’s does a really nice job of bringing teaching points to both the second year residents on the service as well as the fellow physicians who are operating with her.”

McQuillan noted Rozental’s adeptness at interacting personally with patients as another quality that benefits her students. “She’s wonderful with patients, whether it’s connecting with them in English or Spanish, or developing long-term relationships with her chronic patients,” he said. “That’s a great model for someone who’s learning how to doctor.”

Role model for women in orthopaedics

Like many sciences, orthopaedics continues to be a predominately male field. “There are many reasons why that may be the case, but one that’s always cited is the lack of women mentors. There are not many programs where residents or medical students have access to female orthopaedic faculty. The Harvard system has many, and it’s been nice to be able to be help by being one of them,” said Rozental.

As a woman resident, Xiong expressed how Rozental has played a part in how she views her own career. “I look up to her because she’s one of the few females who are full professors on orthopaedic faculty in the country,” Xiong said. “She’s at the forefront of osteoporosis and outcomes research. Hearing how she incorporates that research into her practice has also been useful to model my future on because I’m thinking of going into academic medicine. So it’s valuable not only to see how she practices medicine and does surgery, but also how she structures her day and how she models herself as an academic leader.”

In addition to being a role model for her own students, Rozental is active in a mentoring group for female orthopaedic residents and fellows as well as in a yearly workshop, called the B.O.N.E.S. (Bringing Orthopedics to New England Students of Medicine) Initiative. Founded with Brandon Earp, MD, an orthopaedic surgeon and colleague at Brigham and Women’s Hospital, the workshop brings together faculty, fellows and residents to teach female medical students about careers in orthopaedics through skills workshops and panels. “We’ve done a study about its effect, which we submitted for publication. Our data shows a high percentage of women who attend the B.O.N.E.S. Initiative subsequently pursue residencies in orthopaedic surgery,” said Rozental.

When asked what drives her as a leader in hand surgery, Rozental replied, “I’m proudest of helping to build a successful division of hand surgery at BIDMC. It’s been fun and rewarding to hire junior faculty, and watch them flourish both clinically and academically. I truly enjoy using the expertise that I’ve acquired to help them be successful.”

From a colleague’s perspective, you couldn’t ask for a better partner, according to hand surgeon Carl Harper, MD, previously one of Rozental’s residents and now on the BIDMC Orthopaedics team she leads. “She’s as engaged and interested in other people’s interests and professional success as she is in her own,” said Harper. “She has a unique way of making everyone around be better while at the same time being exceptional herself.”

**News and Notes**

Ayesha Abdeen, MD, and Douglas Ayers, MD, Joint Replacement and Reconstruction, and Mary Bouxsein, PhD, Center for Advanced Orthopaedic Studies, were among the authors of an article published in Bone titled “Bone microarchitecture, biomechanical properties, and advanced glycation end-products in the proximal femur of adults with type 2 diabetes” in September 2018.

Chris Miller, MD, and John Kwon, MD, Foot and Ankle Surgery, were coauthors on “Does the quality of preoperative closed reduction of displaced ankle fractures affect wound complications after surgical fixation?” in the October 2018 edition of *Injury*.

Jacob Drew, MD, Joint Replacement and Reconstruction, published the editorial “CORR Insights®: Do postoperative results differ in a randomized trial between a direct anterior and a direct lateral approach in THA?” in *Clinical Orthopaedics and Related Research*, January 2019.

Joseph P. DeAngelis, MD, Sports Medicine, has been appointed managing editor of *The Orthopaedic Journal at Harvard Medical School*. 