



ADVANCING HEALTHCARE

together



Spectrum
Healthcare Partners

2019 service profile



590,404 PATIENTS CARED FOR

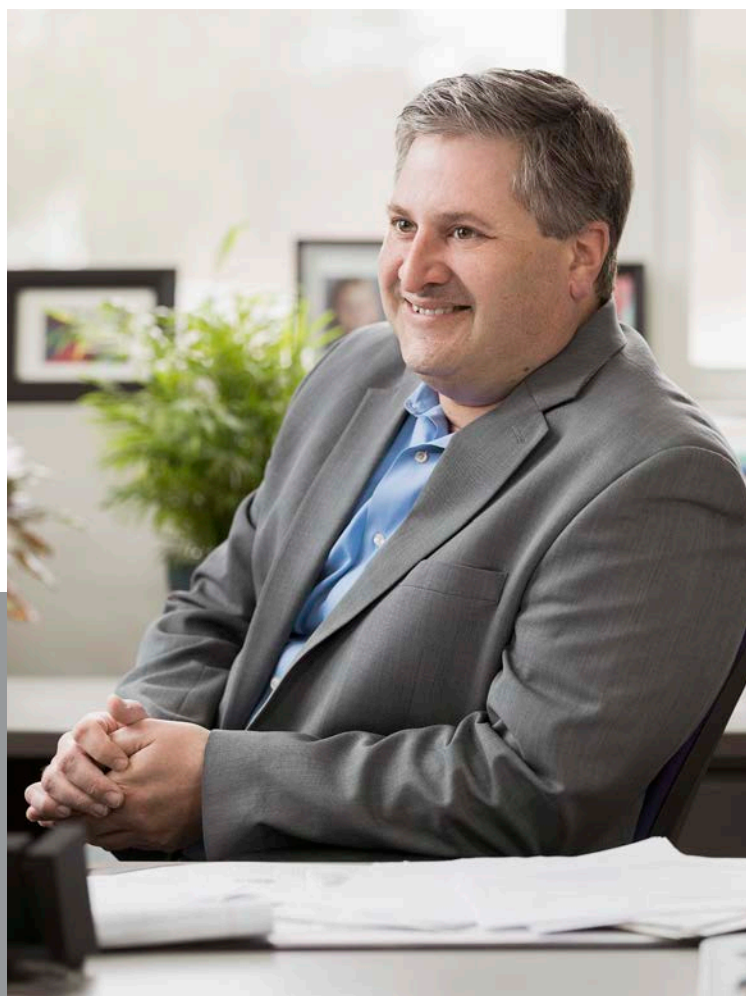
1,651,525 SERVICES PROVIDED

\$23,000,000 FREE PATIENT CARE

\$755,000 LOCAL & STATEWIDE CHARITABLE CONTRIBUTIONS



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Our accomplishments over the last year reflect our continued commitment to collaboration and support of our communities. Our unique management model establishes a true partnership between respected physicians and business-savvy administrative leaders, which has allowed us to consistently achieve both clinical and operational success. Our collaborative spirit also extends beyond our organization, as evidenced by both new partnerships and longstanding relationships with healthcare systems, hospitals, provider practices, health insurers, employers, government, and other entities in the communities we serve. In the year ahead, we will continue to focus on cultivating collaborative relationships to create new opportunities and enhance our ability to provide high-value, integrated care to the citizens of Maine and northern New England.

David B. Landry
Chief Executive Officer

A MESSAGE FROM OUR CEO

ABOUT US

As one of the largest healthcare organizations in Maine, Spectrum Healthcare Partners is used to fielding questions on a wide range of topics ranging from clinical expertise, cost and value of care, and patient satisfaction, to strategies for survival in the changing landscape of independent medical practice. But one of the most common questions we get is: "What do you do?"

We are a multispecialty, independent physician practice. In our case, "independent" means that we are owned by our shareholder physicians who also take an active role in the management of the organization. While we collaborate and have critical partnerships with hospitals and health systems throughout the state and across New England, Spectrum is solely owned and led by its shareholder physicians.

Importantly, independent physician practices have a positive impact on a community's overall healthcare market in several key ways.

THE VALUE OF SPECTRUM

PATIENT EXPERIENCE & QUALITY CARE

Spectrum utilizes a dyad-management model, which means our physician and business leaders work side by side to ensure exceptional performance, from a clinical and operational perspective. Our governance structure empowers physicians to be directly involved in ensuring patients receive high-quality and patient-centered care. Collaboratively, we have developed nationally recognized quality improvement programs that have improved access, patient outcomes, and overall patient experience. As a multispecialty group, we are able to ensure a high level of clinical integration and continuity along the care pathway. As an independent practice, we are also able to be more nimble in responding to evolving patient and market needs.

"Spectrum has been a breath of fresh air in the healthcare market. Their collaborative and innovative approach helps make healthcare more affordable for Maine businesses."

-James Ward, JD
President and Principal, Patient Advocates

GREATER VALUE

There are two important components of the Spectrum value equation: high quality and lower cost. Spectrum provides outpatient surgery, imaging, and other select medical procedures at costs much lower than the state average—with similar or better outcomes than other providers. This high-value approach benefits patients, purchasers, payors, and the overall system. There are several great examples of demonstrated cost savings within in our orthopaedic division alone, such as OrthoAccess, which offers walk-in orthopaedic care. OrthoAccess is available in Portland, Auburn, and Saco. These centers offer not only greater patient convenience, but also measurable cost savings compared to either a hospital emergency department or an urgent care center.

"As a self-insured employer, OrthoAccess is a win-win. My employees love the convenience of the walk-in clinic and, as a business owner, it's great to know they are getting local high-quality, lower cost care."

-John Wasileski, Oceanview

KEY PARTNERSHIPS

Collaboration is an integral tenet of our success. In addition to the enhanced integration it enables us to achieve internally, we also partner with external entities to help us reach our goals. Spectrum has longstanding, mutually beneficial relationships with nearly all hospitals and health systems in Maine as well as many in New Hampshire and throughout New England.

"Our partnership with Spectrum provides MMC with value in a wide variety of ways, including their support of our quality efforts," says Dr. Mark Parker of Maine Medical Center. "In particular, we are very pleased with the oversight of moderate sedation and aim to use their process as a standard for other areas of the organization." We also frequently collaborate with primary care providers, employers, and other community organizations to help ensure that all have access to high-quality, coordinated, and patient-centered care.

IMPACT TO THE OVERALL SYSTEM

Our unique structure allows us to provide advantages to a wide range of audiences including patients, payors, purchasers, providers, our hospital partners, and the system as a whole. As mentioned previously, being independently owned enables us to deliver high-quality, lower-cost healthcare, which provides value to all our constituents.

Our model also provides many efficiencies to our referring providers, collaborators, and even to our own physicians. As a large multispecialty group, we are able to leverage our size and expertise to achieve a level of business efficiency and effectiveness that would not be attainable for a smaller group. Our management team is composed of highly experienced and innovative leaders whose collective knowledge allows us to integrate and streamline various business disciplines, identify new revenue opportunities, share knowledge, and develop a strategic pathway that paves the way for our continued success.

Physician Well-Being Programs

We expand our physician well-being initiatives by launching a Peer Support Program and reaffirming our commitment to continue offering our Resilience Coaching Program.

MaineOrtho Joins Our Orthopaedic Team

MaineOrtho joins Spectrum Healthcare Partners in January 2018. This integration adds nine physicians to our orthopaedic team, making it the largest independent orthopaedic practice in the state.

MMC Staff President

Dr. Chris Cary, Spectrum anesthesiologist, became the Maine Medical Center staff president.

Dempsey Challenge Partnership

Spectrum Healthcare Partners becomes the 5K/10K presenting sponsor for the Dempsey Challenge, an event that attracts nationwide participants and raises over \$1 million each year to provide support and services to those impacted by cancer.

2018 MIL

AAAHC Accreditation

The Accreditation Association for Ambulatory Health Care (AAAHC) accredits organizations with outpatient settings that meet rigorous national standards for the delivery of high-quality healthcare.

Both of our ambulatory surgery centers earn this accreditation, demonstrating our commitment to provide safe, high-quality outpatient services.

Voice Recognition

Northern Light Eastern Maine Medical Center and its affiliates transition to Fluency for Imaging using M*Modal voice-to-text software. A single cloud-based user profile enables our radiologists to improve report turnaround time and boost cost effectiveness.

Radiology Improvements

Spectrum Healthcare Partners provides radiology services to a large portion of the state and into northern New Hampshire. Our Radiology North and South divisions now hold quarterly joint quality improvement meetings in order to share expertise and improve the quality of care—while enhancing operational efficiency by reducing duplication.

ESTONES



MENTORING ROLE AT MERCY HOSPITAL

In his 20 years as an orthopaedic surgeon, Tom Murray, MD, has gone from surgical pioneer to one of Maine's top surgery mentors, recently taking on the role of chief of surgery at Mercy Hospital where he is now helping young medical professionals at the start of their careers.

"This is an opportunity to give back beyond clinical practice and help fellow surgeons to develop their own practice while providing leadership and guidance," says Dr. Murray. "I'm happy to be given this opportunity."

In addition to this new role, Dr. Murray manages a very busy surgical and clinical schedule, serves as the head team physician for the ECHL's Maine Mariners, covers high school athletic events for Cape Elizabeth, actively works on clinical sports medicine research at UNE, and more. Dedicating time to mentor others means late nights, early mornings, and phone calls during lunch, and Dr. Murray enjoys it all.

"It keeps you young and active," Dr. Murray says. "It's exciting to work with people who are enthusiastic about this field."

Dr. Murray, who has completed more than 10,000 surgical procedures in his career, will devote about 20 hours per month to his role as Mercy Hospital's chief of surgery. He aims to meet everyone working at the hospital and assess the needs of the department while helping to put together a plan for the next two to five years. He says the department is already on its way and doing excellent work.

"This is an opportunity to give back beyond clinical practice and help fellow surgeons to develop their own practice while providing leadership and guidance."

-Dr. Tom Murray, Spectrum orthopaedic surgeon



Dr. Sean Hanley shows photos from his trips to China.

A 'CHANCE' TO HELP OTHERS

In 2005, orthopaedic surgeon Sean Hanley, MD, was approached with an opportunity he felt was extremely intriguing: traveling to China to perform surgery for those who could not afford it – a mission project led by the charitable organization Healing the Children.

“It was really by chance,” he recalls. A nurse in the Portland area suggested Dr. Hanley would be the right orthopaedic surgeon to replace a physician who had become ill before heading to Shanghai. The trip was to include foot and ankle procedures, hip surgeries, and more. It was a mission that Dr. Hanley found appealing and which has kept him involved in the organization. He has since made five additional visits to Taizhou Enze Hospital, completing more than 70 surgeries for the indigenous population in China.

“You get to see patients who normally wouldn’t be able to receive this medical care because of financial reasons, and we are able to help the Chinese provide that,” he says. “There is also the rewarding aspect of getting to work with the Chinese; for us to learn from them, for them to learn from us, and to see how their approach to healthcare, orthopaedics, and surgical interventions has evolved through these trips.”

Dr. Hanley has received thank-you videos from some of his patients from the Taizhou Enze Hospital and he checks in with them on each trip to China. One of the success stories that stands out to him is a woman who suffered from bilateral hip disease from birth and had endured several failed surgical procedures as a child. She had no motion in either hip and could hardly walk. In a recent video, that same woman is shown riding a bike.

As the orthopaedic surgeon for each mission, Dr. Hanley assembles his own clinical team to travel with him, which he says is like putting together a hockey team. “It’s really a lot of fun to put together a team of doctors, nurses, and techs,” he notes. “You really get to know them better and there is a lot of team bonding.”

Dr. Hanley says it can take multiple weeks to recover from one of these trips, but he hopes to head back to Shanghai for trip number seven – and continue helping others and learning from other cultures about healthcare.

CRITICAL INCIDENT COMMITTEE

FIDES, LLC, a quality assurance data platform, helps Spectrum Healthcare Partners go above and beyond in collecting data on intraoperative and post-anesthesia events to guide quality improvement projects. Data from the MaineHealth system is entered into eFIDES via a link in the electronic health record. From this data, information about intraoperative emergencies like airway issues, cardiac arrest, or a massive blood transfusion is sent to a special group called the Critical Incident Committee (CIC).

The Spectrum anesthesiologists who make up the CIC review cases based on their subspecialty and bring cases that warrant discussion, education, or policy change to monthly meetings. The anesthesiologists present the cases, get feedback from the rest of the committee, and collaboratively decide on the next steps to address problems.

Committee leader and Spectrum anesthesiologist Ari Butterly, MD, works with the Spectrum quality team to advance projects between meetings and send action items to the MMC Anesthesia Division Quality Improvement Committee, led by Spectrum anesthesiologist Jim Gagnon, MD. One area of focus for both committees in 2019 is improving the massive blood transfusion process. Anesthesia providers are involved with over 50% of all massive transfusions at MMC; as a result, they are significantly invested in making sure the process runs smoothly.

When a patient needs a massive transfusion, many steps need to occur quickly. The anesthesia provider draws blood, labels the blood specimen, and sends the blood to the blood bank. In the blood bank, the technicians must be able to match the specimen to an active order in the medical record and make sure the patient gets blood that is appropriate for his or her blood type.

Spectrum pathologist Tim Hayes, MD, is the head of the blood bank and has worked closely with Dr. Butterly on making this process as efficient as possible. The first step in the improvement process is to study the workflow and get to the root cause of any issues that impede it. To do this, Drs. Butterly, Gagnon, and Hayes have created a data collection form that will accompany blood destined for the OR as a part of a massive transfusion. Anesthesia providers note what went well and what could be improved with each transfusion. When problems are identified, the team can focus its work and initiate improvements.

"The committee is unique," says Dr. Butterly. "If we are able to accomplish the goals that are set by the committee, we'll make a huge difference in quality of care."



Spectrum physicians, Dr. Ari Butterly, Dr. Eric Brown, Dr. David Warters, Dr. Christopher Adams, and MMC's Alison Kent, CRNA (behind), are all part of the Critical Incident Committee.

PATIENT-REPORTED OUTCOMES

ENHANCING ORTHOPAEDIC CARE

Patient-reported outcomes – reports of the status of a patient’s health condition that come directly from the patient – are a critical component of value in the US healthcare system. Value is defined as a ratio of the benefit of the treatment received by the patient to the dollars spent in providing treatment.

Past reimbursement models rewarded volume in healthcare. Today, these are being replaced by systems that emphasize value in patient care, particularly from the patient’s perspective. This approach is closely aligned with Spectrum Healthcare Partners’ focus on patient-centered care, so we have undertaken several quality improvement initiatives to increase the value of care we deliver based on patient-reported outcomes. Evaluating how shoulder surgery affects patients’ quality of life is a case in point.

Sarah Shubert, MD, Spectrum orthopaedic surgeon, gathered patient-reported outcomes (PROs) from 1,301 shoulder surgery patients over the past five years. QuickDASH (Quick Disability of the Arm, Shoulder, and Hand) questionnaires were collected preoperatively, and at three months, six months, and one year postoperatively. Dr. Shubert worked closely with her brother, Daniel J. Shubert, MD, orthopaedic surgery resident, to compile and interpret the data. The study was selected for the Oscar Miller Resident Research Competition in September 2018 and they will be presenting together at the Eastern Orthopaedic Association Meeting later this year. It is slated to be published in *Orthopedics* next year.

All patients undergoing rotator cuff repair (RCR) or total shoulder arthroplasty (TSA) were included in the project. At the beginning of each appointment, they filled out QuickDASH questionnaires with three symptom-related questions and eight function-related questions.

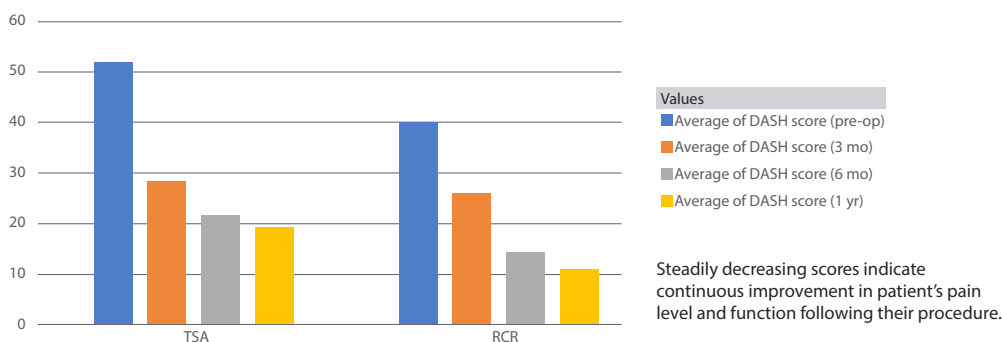
“Quality outcome studies can yield useful results based on assessment of real statistical analysis of outcomes, which can lead to significant changes in practice processes.”

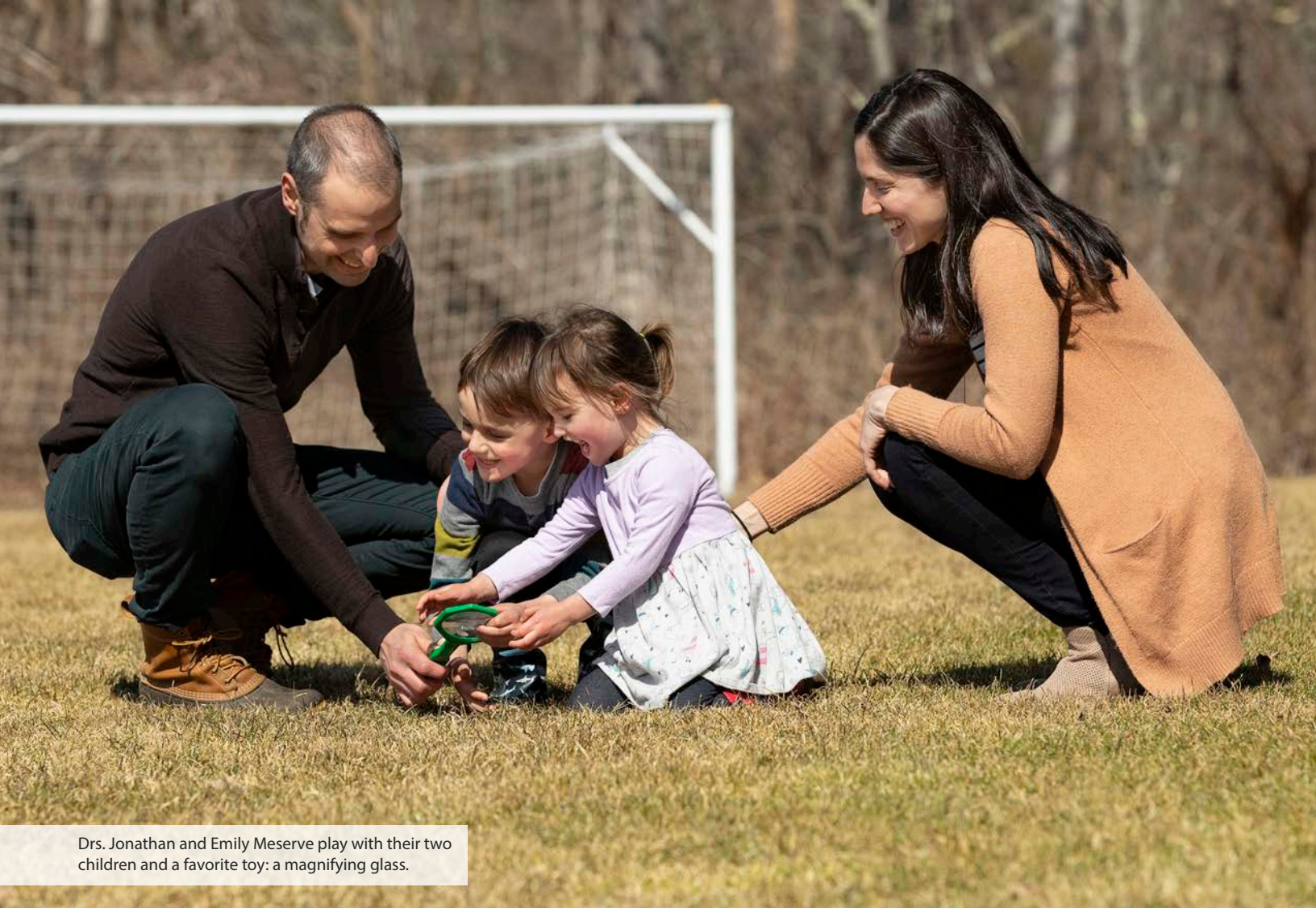
-Dr. Sarah Shubert, Spectrum orthopaedic surgeon

Most of the results of this study aligned with outcomes of other RCR and TSA studies, but also provided a unique insight as to how Spectrum can improve our patients’ experience. For example, arthroscopic RCR was equally effective for both genders and showed minimal clinically important differences at three and six months, but indicated little or no change between six months and one year. Based on these results, surgeons can reconsider the follow-up protocol and offer patients the opportunity to eliminate a visit. Decreasing travel time and cost for the patient and increasing available time for the surgeon to see new patients will improve both patient and surgeon satisfaction.

The study team concluded that changing the follow-up protocol by giving patients the opportunity to eliminate a visit aligns well with the standards of care – and provides value – from the patient’s perspective. The QuickDASH will be integrated into the EMR system so it is on the screen when a patient enters the room, helping them feel like their PRO score is valued and important.

Spectrum also participates in national data registries, enabling us to compare our patient-reported outcomes with larger data sources – and affirm the value of our approach to care.





Drs. Jonathan and Emily Meserve play with their two children and a favorite toy: a magnifying glass.

TACKLING PHYSICIAN BURNOUT

Physician burnout is a serious problem with far-reaching consequences. When a physician's mental health is suffering, it has a pervasive negative effect on the quality of their clinical work, engagement with patients, career satisfaction, and both mental and physical health.

Burnout is defined as a long-term stress reaction that combines emotional exhaustion, depersonalization, and reduced sense of personal accomplishment. It is directly linked to reduced patient satisfaction, reduced quality of care, increased medical error rates, increased physician and staff turnover, physician alcohol and drug abuse, and physician suicide. Stress management and burnout prevention are not addressed in detail in medical school or training, and burnout in the healthcare field is 15 times more common than in any other professional field. To address this issue and give our physicians the support they deserve, Spectrum Healthcare Partners launched a resilience coaching program in 2017. Since then, nearly 10% of Spectrum's physicians have participated.

"During my coaching experience, I realized that everybody is unique, but everybody has a limited reserve of physical and emotional resources," says Emily Meserve, MD, Spectrum pathologist and resilience coaching participant. "Ultimately, it's about maintaining that reserve, because it's when this gets depleted that burnout is a possibility."

Every Spectrum physician has the opportunity to participate in the resilience coaching program, whether they are actively experiencing burnout symptoms or interested in developing skills to prevent burnout. Participants engage in approximately six sessions with a professionally certified coach over the course of three to six months.

In these sessions, physicians learn tools they can use to increase resilience, encourage constructive responses to professional challenges, and create harmony between their professional and personal lives. Participants who have completed the program say it has helped them find

increased meaning and purpose in work, collaborate more effectively with colleagues and management, improve time and task management, reduce stress, and improve self-care.

"When physicians are not well, patient care suffers," says Janae Sharp, whose physician husband John Madsen, MD, died by suicide in 2016. In his memory, she founded the Sharp Index, a non-profit dedicated to reducing physician suicide through awareness and data science to heal the healers. "Healthcare has become an increasingly stressful job with limited resources and too many regulations and requirements," she continues. "A culture of educated shame is making our physicians, nurses, and other providers suffer. I've been able to share my story and help break down barriers surrounding the stigma of mental health and suicide," she says. "It goes beyond a study or simple 'wellness' program. For me, it's about ensuring that other children have a father, and that other patients don't lose their providers."

"We know that mental health is real and that it impacts physicians and patients," she adds. "Providing peer support and increasing awareness can mean a physician finds joy in their career again or even save a life in our imperfect system. Physicians are asked to save lives, now they need to heal themselves."

Strengthening its commitment to help physicians heal, in 2018 Spectrum Healthcare Partners developed the Peer Support Program to provide peer-to-peer support and encouragement following difficult events in physicians' careers. Caring for trauma victims, confronting potential litigation, facing illness or death of a colleague or family member – these and other situations can create feelings of isolation, self-doubt, depression, or anxiety.

Spectrum's peer supporters are volunteer physicians who are nominated by their peers and leaders and participate in an intensive training. Studies have shown that talking to a trained peer facilitates coping and resilience after an adverse event and that it's often easier to connect to someone who could have experienced a similar situation.

The goal is to reach out to every physician who is exposed to a difficult event to acknowledge it, provide a space for them to openly discuss their personal reactions, and normalize the feelings they are experiencing. Peer supporters focus on empathetic, non-judgmental listening, and are prepared to share their own experiences and reinforce the importance of self-care and coping skills.



"Resilience coaching empowered me to be my own advocate. I was able to become much more intentional and focused about where I spend my energy. Any time or energy that one chooses to spend on themselves is the best investment they can make. There's little else you can do in your life to take control of your own happiness and well-being and if you don't, no one else will do it for you."

- Dr. Emily Meserve, Spectrum pathologist

BY THE NUMBERS



44% of **physicians reported burnout** according to a national 2019 report



59% feel that having **too many administrative tasks** is the main contributor to burnout



34% feel that **spending too many hours** at work is the main contributor to burnout



1 physician every day completes suicide, making it the **highest suicide rate** of any profession

Of providers who reported depression:



32% are **less engaged with patients**, less likely to actively listen and respond



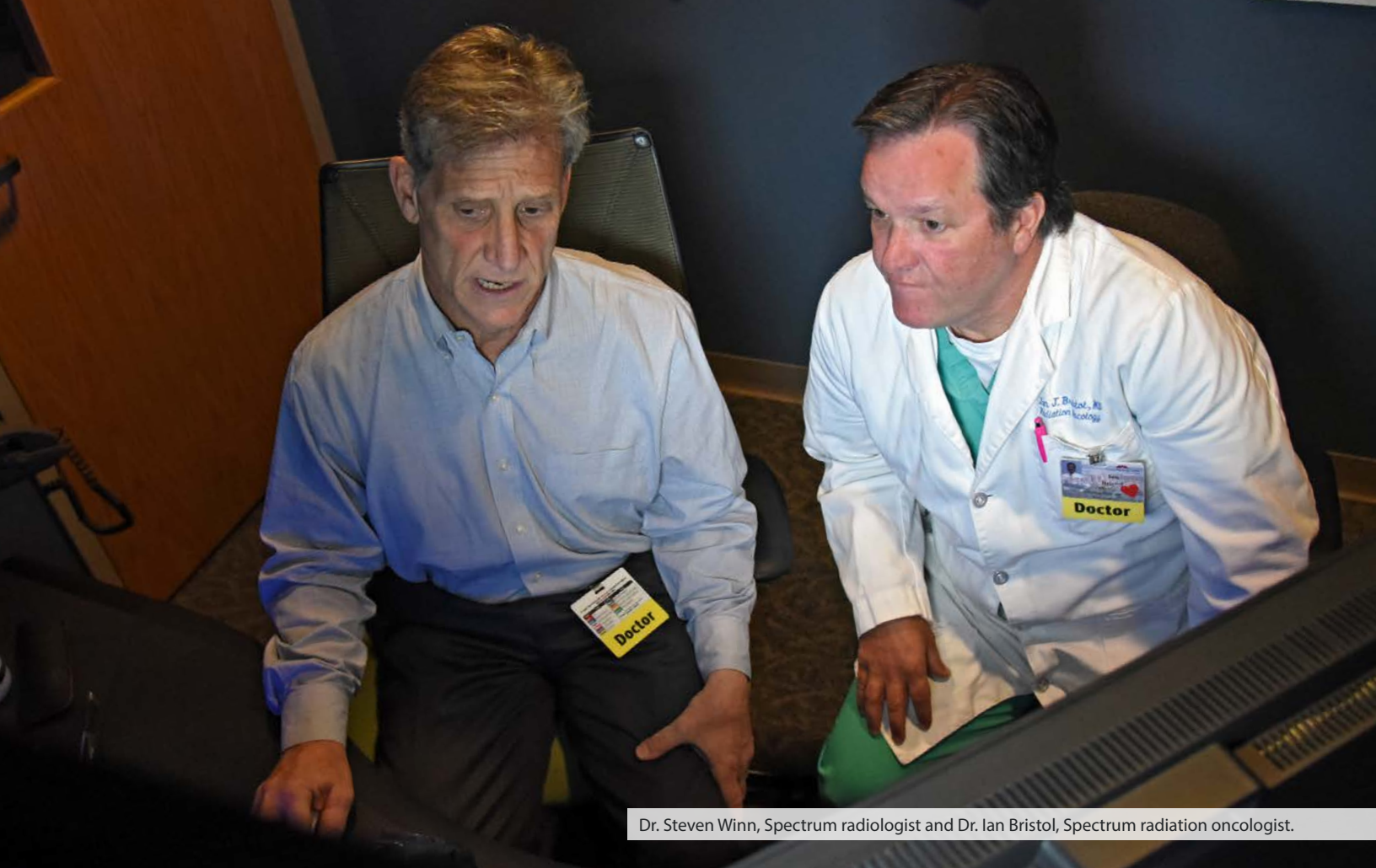
14% **make errors** that they would not ordinarily make



47% are more easily **exasperated with colleagues**



25% are **less motivated to be careful** taking patient related notes



Dr. Steven Winn, Spectrum radiologist and Dr. Ian Bristol, Spectrum radiation oncologist.

GUIDED IMAGING IMPROVES CANCER TREATMENT

Spectrum Healthcare Partners radiation oncologists and radiologists are collaborating to find innovative ways to advance treatment for cervical cancer and endometrial cancer by incorporating real-time MRI- and CT-guided imaging into brachytherapy treatment planning.

Internal radiation is performed through tandem and ovoid implants, small metal tubes placed inside the uterus through which a radioactive seed delivers the dose of radiation. Historically, the procedure has been carried out has been done by point dosimetry, which delivers the dose to points geometrically based on a model of the location of the implant. This method is accurate and successful, but the 2-dimensional model represents most cases and is based on an 'ideal solution' that not every patient fits into.

As treatment planning has progressed, we're at a point where we want to utilize imaging characteristics to create a radiation plan for each individual patient that will maximize the radiation exposure to the location of the tumor and minimize the dose to the normal adjacent tissue. We use external beam radiation combined with brachytherapy, and imaging to identify where the tumor is for each individual patient. Spectrum radiation oncologist Ian Bristol, MD, and radiologist Steven Winn, MD, developed a protocol that uses

real-time imaging of the patient with the implants in place. The patient receives their tandem and ovoid implants in the operating room, then goes directly to the MRI suite for an image of their pelvis with the implants in place, then to the CT unit for a scan CT with the implants in the same position. The MRI and CT are then combined to create a detailed 3-dimensional image that more accurately delineates the location of the tumor versus the normal tissue.

The 3-dimensional view of the tumor as it relates to the implant and the patient's actual anatomy defines how long the radioactive seed should be left in any given position. We can adapt the cloud of energy we're distributing to conform to the precise area we want to treat. From the patient perspective, the treatment delivery is very similar to the previous method. We've developed a seamless process where the imaging sequence is defined. The radiation oncologist sits with the MRI radiologist to contour the disease, then the radiation oncologist collaborates with the physics staff to develop an individualized radiation plan. Though point dosimetry has been successful in the past, this is one step better. The development of the plan based on actual imaging of the tumor expects improved outcomes for tumor control and cure, reducing toxicity to the surrounding tissues, and decreasing side effects.

ADVANCING OPIOID PRESCRIBING PRACTICES

To be part of the solution in the battle against the opioid epidemic, Spectrum Healthcare Partners orthopaedic surgeons saw an opportunity to improve opioid prescribing practices. Bernadette Shaw, certified physician assistant with a special interest in clinical research, collected data on patients who had common procedures in an outpatient setting such as carpal tunnel release, rotator cuff repair, and knee arthroscopy. She found that, depending on the procedure, between 85% and 100% of patients were using less than half of their opioid prescriptions – the standard medication prescribed for postoperative pain management.

To continue this work and apply it to clinical practice, Spectrum hand surgeon Kathryn Hanna, MD, led the Mercy Hospital SMOMC, LLC, group in collecting opioid use data. Based on the data and expert recommendations of a subspecialty panel of Spectrum orthopaedic surgeons, she created an opioid prescribing algorithm that provides guidance on the upper limit of opioid tablets to prescribe specific to the type of procedure.

The algorithm was implemented on a trial basis by the hand surgeons. Data collection was performed by surgeons in two of Spectrum's orthopaedic divisions for all hand procedures at our Portland surgery center and at various partner hospitals. The goal was to determine how much of the prescribed medication was being used, and if the patient's pain was controlled. The data were analyzed by the Spectrum quality team and showed that 56% of the opioids prescribed were not used and 97% of the patients had good pain control. After this pilot trial, the algorithm was implemented within all the orthopaedics subspecialty groups and data collection is underway.

Once this data is analyzed, Dr. Hanna's team will revise the algorithm to recommend opioid prescribing parameters that are safe and effective in providing patients with good pain control.



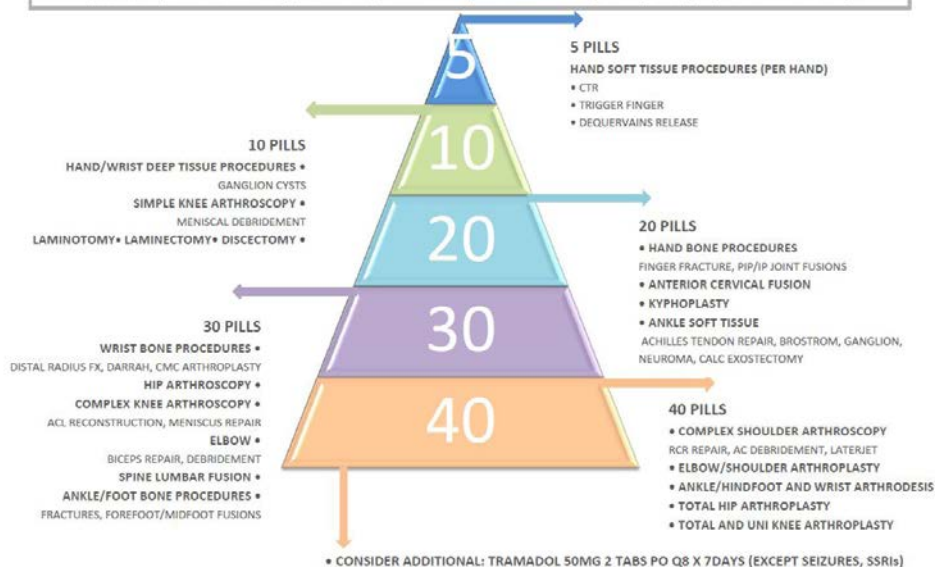
Spectrum hand and upper extremity surgeons, Dr. Sam Scott, Dr. Jim Wilkerson, Dr. Kathryn Hanna, and Dr. Youssra Marjoua.

ORTHO PRE-OP PRESCRIBING GUIDELINES

FOR OPIOID NAÏVE PATIENTS • 1 PILL = OXYCODONE 5MG OR DILAUDID 2MG

ALL PATIENTS:

TYLENOL 1000MG TID X 3-7 DAYS • START AT NOON DAY BEFORE W/ FINAL DOSE IN AM OF SURGERY W/ SIP OF WATER (EXC: LIVER DYSFUNCTION)
MELOXICAM 7.5MG BID X 7 DAYS OR NAPROXEN (OVER COUNTER) 500MG BID X 7 DAYS (EXC: FX, FUSION, >75, RENAL DYSFUNCTION)



The pyramid is a guide for prescribing practices following surgery to limit the number of unused opioids.

BLOOD FLOW RESTRICTED THERAPY IMPROVES POSTOP MUSCLE STRENGTH

Loss of muscle while recovering from an injury or surgery is of concern to patients of all ages. In fact, during the period following injury or surgery while a limb is unable to be used normally, protein synthesis within the limb decreases by approximately 30%. This leads to a 30% decline in muscle strength, which can be especially troubling for athletes.

Personalized blood flow restricted therapy (PBFR) is an innovative treatment that's been shown to help patients retain muscle strength and reduce pain postoperatively, and is available to Spectrum patients through our physical therapy service.

PBFR involves applying a specialized tourniquet system to an arm or leg. The tourniquet is inflated to a specific pressure to reduce blood flow to the extremity during exercise. The application is brief and intermittent, about eight minutes per exercise for up to four exercises, and monitors the size of the patient's limb, density of soft tissue, and blood pressure during exercise. The goal is to reduce just enough blood flow to the injured limb to create positive changes. Typically, to increase strength and hypertrophy (an increase in the size of muscle cells), a person needs to lift 60% of their one repetition maximum or greater. With PBFR, however, we can achieve these gains with weight as low as 20% of the one repetition max.

According to the *Journey of Science and Medicine in Sport*, "Research suggests that low-load resistance and anaerobic exercise, which would not be expected to cause considerable increases in muscular quantity or quality under normal circumstances, when combined with PBFR produced an exaggerated response for maximizing muscle strength and hypertrophy." This is because in using PBFR, metabolic stress levels (based on measurements of blood lactate levels) are significantly higher than in standard low-load training and are comparable to high-intensity training of a non-injured patient.

After injury or surgery, patients are typically unable to lift heavy loads, which will cause a decrease in hypertrophy in skeletal muscle. PBFR has demonstrated significant improvement in patient outcomes following anterior cruciate ligament (ACL) surgery, in patients who have suffered severe musculoskeletal trauma, and in other clinical diagnoses such as total joint arthroplasties, Achilles tendon repairs, fractures, rotator cuff repairs, muscle strains, nerve injuries, and knee reconstructions.

"PBFR enables us to begin the strength phase of therapy much sooner and helps to decrease the patient's concern about muscle loss surrounding their injury," says Ryan Brown, PT, a Spectrum Healthcare Partners physical therapist who is certified in PBFR therapy. "Low-load exercise typically has minimal impact on muscular maintenance or increase, but PBFR allows us to manipulate protein synthesis into a positive state.

"The ability to retain muscle strength and reduce pain post-operatively is especially attractive for athletes," he adds.

POST-ACL SURGERY

QUADRICEP ATROPHY AFTER 2 WEEKS

was **reduced** by greater than half using PBFR

20.7% → **9.4%**

QUADRICEP STRENGTH

2-16 weeks post-op

91% restored compared to **64%**

POST-INTERVENTION IMAGING

showed quadricep size was **restored** to

101% of pre-op size vs. **-8%**

ANTERIOR KNEE PAIN

PBFR VS. HEAVY LOAD RESISTANCE

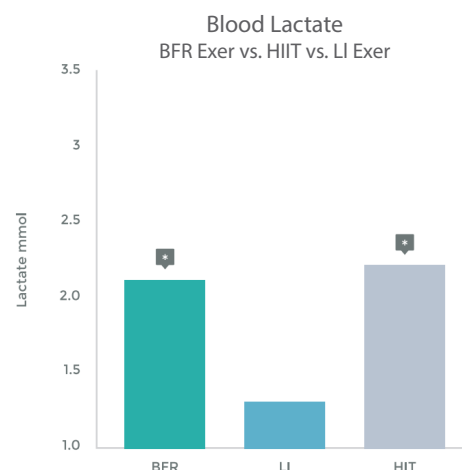
after 6 weeks

93%
reduction in pain with
daily activities

49%
greater improvement
in knee strength

BLOOD LACTATE LEVELS

In the PBFR group there is a significant rise in lactate, which is a byproduct of anaerobic metabolism, and the levels of metabolic stress measured via lactate is similar between BFR and HIT training. Low intensity training results in much lower levels.





"PBFR has helped me to gain lower extremity strength, achieve my goals faster, and reduce atrophy in my quad after my surgery. Although it is very difficult, it has been a game changer in my rehab."

-Hannah Talon, Windham Girls Basketball



David Landry, CEO of Spectrum Healthcare Partners, is a member of the YMCA of Southern Maine corporate board of directors and is shown here leading story time during Read Across America week.

CARING FOR OUR COMMUNITIES

Three important tenets of the Spectrum Healthcare Partners philosophy include supporting the communities we serve, improving the health and wellbeing of our constituents, and collaborating with like-minded partners to achieve our vision. Our partnership with the YMCA of Southern Maine is an example of how we advance these objectives.

David Landry, CEO of Spectrum Healthcare Partners, has served on the corporate board of the YMCA of Southern Maine since 2010.

"In many ways, the Y is the community's best-kept secret since the depth and breadth of the services they offer is greater than most people realize," he says. "When I joined the board, it was an eye-opener to learn about the tremendous impact the Y makes on the communities it serves. It's been very exciting to contribute to their mission as a volunteer."

The YMCA of Southern Maine serves diverse constituencies through its four branches in Biddeford, Freeport, New Gloucester, and Portland. Branch-level programs are often tailored to meet the unique needs of the area, but all fall under three key focus areas: Youth Development, Healthy Living, and Social Responsibility.

The Y promotes youth development with their affordable summer camps, Early Learning Readiness (ELR) programs, and teen leadership development. They demonstrate social responsibility most notably through the GROW program, which provides men transitioning from homelessness to housing stability with an affordable, safe place to stay and a supportive community. The Y also offers several programs targeted to specific populations, such as children at risk for obesity, and cancer survivors. They frequently partner with other community organizations, such as hospitals or schools, to enhance the quality and reach of their programs.

"People most often think of the Y for the Healthy Living aspect, and they do this very effectively," Landry notes, "but their focus goes well beyond physical health, which allows them to offer unique services that fill much-needed gaps in the community. The innovative ways they weave it all together is what makes the Y vital to the fabric of the southern Maine community."

WE ARE PROUD TO SUPPORT

AND CONTINUE PARTNERSHIPS WITH:

ALZHEIMER'S ASSOCIATION
AMERICAN DIABETES ASSOCIATION
AMERICAN HEART ASSOCIATION
AMERICAN LUNG ASSOCIATION
ANDROSCOGGIN HOME
HEALTHCARE & HOSPICE
BARBARA BUSH CHILDREN'S
HOSPITAL
BIG BROTHERS BIG SISTERS OF
MAINE
CAMP SUNSHINE
CENTER FOR GRIEVING CHILDREN
CHILDREN'S MUSEUM AND THEATRE
OF MAINE
CYSTIC FIBROSIS FOUNDATION
DEMPSEY CENTERS
EMMC FOUNDATION
EXETER HOSPITAL
GREATER L/A TRIPLE CROWN 5K

HEALTHCARE PURCHASER ALLIANCE
OF MAINE
HOSPICE OF SOUTHERN MAINE
INLAND HOSPITAL
K9S ON THE FRONT LINE
MAINE BEHAVIORAL HEALTHCARE
MAINE CANCER FOUNDATION
MAINE CHILDREN'S CANCER
PROGRAM
MAINE MEDICAL CENTER
MAINE STATE BALLET
MAKE-A-WISH FOUNDATION
MARCH OF DIMES
MAYO REGIONAL HOSPITAL
MEMORIAL HOSPITAL
MERCY HEALTHCARE FOUNDATION
MID COAST HOSPITAL
MILES MEMORIAL HOSPITAL

OLYMPIA SNOWE WOMEN'S
LEADERSHIP INSTITUTE
OPPORTUNITY ALLIANCE
RIDING TO THE TOP
RONALD MCDONALD HOUSE
SACO RIVER THEATRE
SOUTHERN MAINE HEALTH CARE
ST. ANDREWS HOSPITAL
ST. JOSEPH HEALTHCARE
ST. MARY'S HEALTH SYSTEM
STEPHENS MEMORIAL HOSPITAL
STRIVE
SUGARLOAF CHARITY SUMMIT
TD BEACH TO BEACON
UNITED WAY
YMCA OF SOUTHERN MAINE
AND MANY MORE

EXPANDING ACCESS TO ORTHOPAEDIC CARE

One of the biggest innovations in our orthopaedic clinics in recent years has had nothing to do with technological or clinical advances. It's been about patient convenience.

In 2016, we saw the need for a more convenient option for patients to receive care for urgent orthopaedic conditions – strains, pains, injuries, and fractures. While people had the option of going to the emergency room or urgent care, they risked waiting weeks to see an orthopaedic specialist.

We created a solution: OrthoAccess, an orthopaedic walk-in clinic staffed by board-certified orthopaedic specialists. Our Portland clinic was the first of its kind in Maine.

Based on the positive response from the Portland community, we knew there was an opportunity to provide this option to more Mainers near where they lived and worked – so they didn't have to travel far to find convenient care. In 2017, we began expanding OrthoAccess and added SpineAccess to our list of services.

SPINEACCESS

We heard from our patients that it was difficult to get in to see a spine specialist. So we developed SpineAccess – a convenient solution to receive efficient, specialized care for acute neck and back pain.

"Our patients don't have time to wait, so we get them an appointment scheduled with a spine specialist within 24

hours," says Michael Regan, MD, Spectrum orthopaedic surgeon. "It's also critical to get the right care for spine patients right away for a more optimal outcome, making SpineAccess a really important component of our spine program."

Patients can request an appointment online or over the phone, and the spine team works to pair the patient with the most appropriate provider based on their symptoms and location. SpineAccess appointments are available at all 11 Spectrum Healthcare Partners orthopaedic practice locations throughout central, southern, and western Maine.

ORTHOACCESS

Since opening our first OrthoAccess in 2016, we've worked to determine where new locations would be most beneficial for patients. We opened OrthoAccess in Auburn and Saco, and have plans to open a fourth location in Windham in the fall of 2019. Hours vary at each of our locations, but patients can always count on seeing an orthopaedic specialist and having access to onsite diagnostic tools. We have also committed to our OrthoAccess patients that they will be scheduled for follow-up care within 48 hours. Notably, we have seen patients ranging in age from 2 to 97.

"If patients start here," says Ali Lee, Spectrum primary care sports medicine physician, "it's very easy for us to do orthopaedic triage and then establish follow-up treatment, if needed, at one of our orthopaedic clinics."



Dr. Matthew Bush, Dr. Michael Regan, Dr. Jeffrey Bush, and Dr. Lauren Adey provide coverage for OrthoAccess in Auburn in addition to their subspecialty practices.

BIOBANKING FOR PERSONALIZED MEDICINE

A biobank is a type of repository that stores biological samples for use in research. During the 1990s, major advances in molecular technology ushered in an era in which precise molecular genetic events could be elucidated that define many types of human disease, in particular cancer-related diseases. These technological advances greatly accelerated the need for human tissue samples in biomedical discovery and created a huge need for the systematic collection and storage of high-quality tissue samples in the form of biobanks. Thus the latter have become a critical resource in medical research and have already led to the discovery of many new targets for cancer treatment and other non-cancer disease.

Michael Jones, MD, Spectrum pathologist and former chief of pathology at Maine Medical Center (MMC), was an early advocate for biobanking. In the early 2000s, Dr. Jones worked with MMC, Beth Israel Hospital in Boston, and Duke University to start a cooperative biobanking program through a consortium called Ardaïs. At the time, the program was housed within the pathology department at MMC.

"There became a huge demand for using otherwise discarded human tumor tissue for research," he says. "The advances in technology that occurred in the 90s and early 2000s opened up a way of looking at cancer cells that had never been available to us before. And it ushered in this idea of personalized medicine, meaning, once you understand the very specific genetic events that develop in a cancer cell, instead of giving the generic version of chemotherapy, you can target specific events in the cells that will kill the cancer."

For the first several years, Dr. Jones had to advocate for the biobanking program and worked with his Spectrum Healthcare Partners pathology colleagues to develop a quality biobanking program that could become self-sustaining. Today, the biobanking program at MMC is a successful program housed within the Maine Medical Center Research Institute, with Dr. Jones serving as medical director. Prior to the advent of biobanking, research was performed largely in mice and other types of animal testing. Biobanking allows the study of human tissue, leading to real-world advances in treatment and drug discovery.

HOW DOES BIOBANKING WORK?

When tissue is collected from a patient, a portion of it is used for making the clinical diagnosis. After obtaining informed consent from the patient, the remaining tissue is preserved, de-identified of personal patient information, catalogued, and stored. Researchers at Maine Medical Center Research Institute and elsewhere can then access the tissue for research.

"No one person's sample is valuable, but with 1,000 colon cancer samples you can demonstrate something that is valuable," says Dr. Jones. "A one-off doesn't cut it in science. I'd estimate that since we began the program at MMC, we've collected hundreds of thousands of samples."



Dr. Mike Jones,
Spectrum pathologist

Biobanks give researchers access to data representing a large number of people. For example, many diseases are associated with single-nucleotide polymorphisms, and performing genome-wide association studies using large collections of samples that represent tens or hundreds of thousands of individuals can help to identify disease biomarkers. Many researchers struggled to acquire sufficient samples prior to the advent of biobanks.

"Access to tumor tissue through the MMC BioBank has enabled us to study novel mechanisms for cellular invasion into kidney tumors," says Leif Oxburgh, DVM, PhD, faculty scientist at Maine Medical Center Research Institute. "The MMC BioBank provided 150 tissue samples from patients with renal cell carcinoma, which was used to generate substantial preliminary data for successful grant applications to both the Maine Cancer Foundation and the Department of Defense.

"The funding received from these grants has enabled my lab to move forward with our goal to develop new diagnostic markers and to build model tumor tissue based on our studies of clinical samples that can be used for drug testing," he continues. "We believe this precision-medicine approach will be important in kidney cancer, which recurs in many patients following initial treatment, and makes development of better diagnostic and predictive tools a priority."

MEET OUR LEADERSHIP TEAM



NORMAN BELAIR,
chief financial officer



NANCY BOULANGER, MD,
anesthesiology south



IAN BRISTOL, MD,
radiation oncology



MARK CHAPUT,
executive director, clinical services



COREY COUTO, MD,
radiology north



PATRICK FALLON, MD,
orthopaedics central



STEVEN FARRAHER, MD,
radiology south



KIM GINEVAN, MD,
pathology



ROB HUBBS, MD,
anesthesiology south

Spectrum Healthcare Partners was formed with the goal of creating an independent, physician-owned organization that would help influence healthcare policy and healthcare delivery, while ensuring that the physician's voice was at the center, with an emphasis on patient care. Spectrum physicians serve as department chairs, medical directors, and active committee members addressing a wide variety of issues central in keeping us at the forefront of innovative healthcare.



DAVID LANDRY,
chief executive officer



GUILLERMO OLIVOS, MD,
radiology north



LUCIEN OUELLETTE, MD,
orthopaedics south



MICHAEL QUINN, MD,
radiology south,
chairman of the board



LES SCHWAB, MD,
community board member



SAM SCOTT, MD,
orthopaedics west



GEOFF TOLZMANN,
executive director, hospital services



LESLIE WEEKS,
executive director, hospital services



JULIE WHEELER,
chief human resources officer

SITES OF SERVICE

ANESTHESIOLOGY

Brighton PainCare—Brighton Campus,
Maine Medical Center

Central Maine Orthopaedics

InterMed

LincolnHealth

Maine Eye Center

Maine Medical Center

Maine Medical Center—Scarborough Surgery Center

Maine Medical Partners Neurosurgery & Spine

Mercy Hospital

Mid Coast Hospital

OA Centers for Orthopaedics

Plastic & Hand Surgical Associates

Portland Gastroenterology Center

Southern Maine Health Care

Stephens Memorial Hospital

ORTHOPAEDICS

Practice locations

Auburn, Bridgton, Brunswick, Falmouth, Farmington,
Norway, Portland, Rumford, Saco, Windham

Surgical sites of service

Auburn and Portland (ambulatory), Maine Medical
Center, Mercy Hospital, Mid Coast Hospital

Orthopaedic Institute of Central Maine (OICM) at Central
Maine Medical Center (CMMC)

ORTHOPAEDIC WALK-IN CLINIC

OrthoAccess—Auburn, Portland, Saco

PATHOLOGY

Coastal Women's Healthcare

Exeter Hospital

Franklin County Healthcare

Huggins Hospital

LincolnHealth

Maine Medical Center

Memorial Hospital

Mercy Hospital

Mid Coast Hospital

New England Cancer Specialists

NorDx Laboratories, Inc.

Pen Bay Medical Center

Plastic & Hand Surgical Associates

St. Mary's Regional Medical Center

Southern Maine Health Care

Stephens Memorial Hospital

Waldo County General Hospital

Wentworth-Douglass Hospital

RADIATION ONCOLOGY

Cancer Care Center of York County
Coastal Cancer Treatment Center
Maine Medical Center—Bramhall &
Scarborough Campus

RADIOLOGY

Blue Hill Memorial Hospital
Bucksport Regional Health Center
CA Dean Memorial Hospital
Centers for Diagnostic Imaging—Augusta, Brunswick,
Portsmouth
Coastal Women's Healthcare
First MRI
Health Access Network
Inland Hospital
InterMed
Lakes Region General Hospital
LincolnHealth —Miles & St. Andrews Campus
Maine Medical Center
Marshwood Imaging
Martin's Point

Mayo Regional Hospital
Millinocket Regional Hospital
Memorial Hospital
New England Cancer Specialists
Northern Light Eastern Maine Medical Center
OA Centers for Orthopaedics
Pen Bay Medical Center
Penobscot Community Health Care
Penobscot Valley Hospital
Shields Imaging: Auburn
Southern Maine Health Care
St. Joseph Hospital
St. Mary's Regional Medical Center

VASCULAR & INTERVENTIONAL

Maine Medical Center
Northern Light Eastern Maine Medical Center
St. Mary's Regional Medical Center
Southern Maine Health Care—Biddeford Campus
Spectrum Vascular & Interventional Radiology







Spectrum
Healthcare Partners

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