

A **ROUNDTABLE** DISCUSSION

ORTHOPEDIC MEDICINE

SERVING AN ACTIVE, AGING POPULATION

More than half of U.S. adults and three-quarters of those age 65 and older suffer from musculoskeletal disease—including arthritis, back pain and trauma—while children and young adults are also reporting increasing orthopedic issues. Four Chicago-area orthopedic surgeons shared their insights with Crain's Content Studio, including some of the new techniques and technologies available, and how patients can identify providers to meet their specific needs.

How has orthopedic care changed over the last decade?**Dr. William John Robb III:**

We've seen many advancements in diagnostic and surgical technology, including improved MRI imaging, computer-assisted and robotic surgery, implant design refinements and extended implant durability. These improved technologies have been partnered with less invasive surgical techniques and redesigned surgical care pathways to accelerate surgical recovery and permit many surgeries to be done in ambulatory outpatient surgicenter settings. All together these improvements have increased patient satisfaction and made orthopedic surgical care safer, less costly and more reliable.

Dr. Alexander J. Ghanayem:

We've seen progress in the development of arthroscopic

surgery—where a small camera and working tools are inserted into a joint through a small incision—joint replacement surgery technology and computer-assisted surgical navigation. Implants have become more refined, thanks to technology like 3D printing, giving patients greater opportunities for high-level function and pain relief. Imaging capabilities have also improved, allowing our surgeons to simulate surgical intervention to optimize patients' care and treatment.

Dr. Marc Asselmeier: Our team-based model combined with enhancements in electronic medical records allow us to thoroughly and efficiently care for the whole patient in a complete and timely manner while fostering collaboration and communication among the patient and their primary care and specialty care providers. With our patients

at the center, we're shifting a large portion of our surgical procedures to an outpatient setting, which results in improved outcomes and lower costs for patients.

Dr. Mitchell Sheinkop:

Cementless joint replacement with the potential of 30 years of survivorship, and most recently, the introduction of biologics are two examples that have enabled joint repair to be performed as an outpatient procedure. Ten years ago, the subspecialty of cellular orthopedics and regenerative medicine began, bringing a new direction in the care and treatment of arthritic joints. Today, cellular orthopedic intervention may result in patients avoiding and certainly postponing major joint replacements, enabling them to return to and maintain an active, pain-free lifestyle.

What segment of the population is experiencing the greatest need for orthopedic care?

Robb: The baby boomers are aging, and many have degenerative and post-traumatic conditions that are limiting their activities and lifestyle. Many seek surgical solutions such as knee and hip replacement, rotator cuff repair and spine fusion when non-operative treatments become less helpful, limiting their lifestyles and activities.

Sheinkop: Adult weekend warriors seek out orthopedic care at the beginning of the week after vigorous athletic undertakings the weekend prior, for which they weren't prepared. Whether a warm-weather golfer, a cold-weather skier, a spring and fall cyclist, or a fitness enthusiast, trauma or repetitive stress may result in new injury or aggravation of a preexisting arthritic problem, requiring a visit for orthopedic care.

Asselmeier: From young, active athletes, middle-aged weekend warriors, laborers and recreational athletes to those in their golden

What are some of the most common injuries you're seeing?

Asselmeier: I'm a shoulder and knee specialist with an emphasis on sports medicine. From a knee standpoint, the most common injuries I see are ACL and meniscal cartilage injuries and early arthritic abnormalities that are progressing toward joint replacements. From a shoulder standpoint, I see a large number of athletic shoulder injuries and instabilities, as well as rotator cuff injuries and repairs.

Sheinkop: The most common injury I'm seeing seems to be the result of onset lower back pain, regardless of the underlying activity. This is an epidemic resulting from the population failing to partake in fitness endeavors such as Pilates, core strengthening, stretching and maintaining a recommended weight.

Ghanayem: Joint and tendon injuries from overuse are the most common, particularly with the shoulder, knee and hands. Back pain is also very common related to overuse, core muscle weakness and degenerative arthritis.

"WE'VE SEEN PROGRESS IN ARTHROSCOPIC SURGERY, JOINT REPLACEMENT SURGERY TECHNOLOGY AND COMPUTER-ASSISTED SURGICAL NAVIGATION."

DR. ALEXANDER J. GHANAYEM

years, all segments of the population have a need for general orthopedic care. In the geriatric population specifically, the need for joint replacements increases at a steady rate because many patients have failed conservative management of an arthritic condition and are progressing toward arthroplasty.

Ghanayem: While seniors may require the greatest need for care, many younger people are involved in sports or other activities that potentially increase demand for surgical care, while others are becoming more sedentary, leading to obesity and loss of muscle mass. Orthopedic care also focuses on promoting healthy and active physical lifestyles in the younger patient population.

Robb: ACL tears have increased significantly, particularly in adolescent and female athletes participating in high-energy sports. This increase has been linked to inadequate training and preparation as well as anatomical and physiologic differences between male and female athletes. Another injury I'm seeing frequently is injury and tearing of the shoulder rotator cuff tendons. This has increased among all age groups involved with sports—particularly those that involve overhead throwing or lifting, such as baseball or tennis.

What should patients look for when seeking orthopedic care?

Ghanayem: Patients should look for an institution with



MARC ASSELMEIER, MD
Chair - Dept. of Orthopedics and Podiatry
DuPage Medical Group
info@dupagemedicalgroup.com
630-790-1872



ALEXANDER J. GHANAYEM, MD
Chair - Dept. of Orthopaedic Surgery and Rehabilitation
Loyola Medicine
aghanay@lumc.edu
888-584-7888



WILLIAM JOHN ROBB III, MD
Orthopedic Director, Chief Medical Officer
Illinois Bone & Joint Institute
wrobb@ibji.com
847-612-6403



MITCHELL SHEINKOP, MD
Medical Director
Cellular Orthopedics
info@sheinkopmd.com
312-475-1893

What's your organization's approach to orthopedic care?

Sheinkop: We integrate clinical practice with outcomes monitoring. I provide a particular treatment recommendation based on our own statistically significant results over a five- to seven-year monitoring period. This particular approach is based, for the most part, on what we've published in scientific literature.

Asselmeier: Our primary care and specialty care providers closely collaborate to provide comprehensive care for each patient, beyond just their musculoskeletal needs. Our approach also relies heavily on our ability to provide care at the site of service that's best for each patient. We're shifting a large portion of our surgical procedures to an outpatient setting, which results in higher patient satisfaction, lower infection rates and lower costs for the patient when compared to the same services performed in a hospital setting. Our first dedicated orthopedic outpatient center will open later this year in Westmont.

Ghanayem: We bring together the expertise of a variety of orthopedic surgery specialists, including highly trained physicians in sports medicine, orthopedic trauma, spine surgery, hand and upper extremity care, foot and ankle, orthopedic oncology, hip and knee joint replacement and shoulder/elbow surgery. Our physiatrists

comprehensive, multidisciplinary care from multiple specialists focused on nonsurgical and surgical

good to be true, it probably is not true. Very few musculoskeletal care decisions are urgent, so patients

ankle, orthopedic oncology or sports medicine, just to name a few. Given that orthopedic surgeons have committed themselves to the care, treatment and research concerning afflictions of the musculoskeletal system, the research inherent in orthopedic specialty training keeps us in the forefront of medicine. We don't just treat a symptom; we seek to address the root cause.

"low" technology, communication and teamwork. Orthopedists are committed to finding both the "right" and "best" solution for every patient, no matter how simple or complex the problem.

Asselmeier: Whether patients want to be able to walk the golf course pain-free, get back to light recreational activities or competitive high school or collegiate sports, there are a myriad of benefits an orthopedic specialist can provide. We're focused on improving function and eliminating pain for our patients so they can get back to doing the activities they enjoy as soon as possible.

Robb: Working as members of dedicated care teams, orthopedic specialists are committed to maintaining and advancing the excellence of the care they provide for every patient by combining "high" surgical technology with

should take the time required to get all the information they need to make an informed decision. They should never be afraid to ask questions and request clarity if they don't understand. The more a patient knows, the better the outcome will be.

Sheinkop: First and foremost, patients should look for a board-certified or board-eligible orthopedic surgeon. In Illinois, the Department of Financial and Professional Registration licenses health care providers. In December 2018, an investigative reporter exposed the fraud and abuse taking place in Illinois under the guise of "stem cell" therapy. While some non-physicians can treat injuries and symptomatic joints, only an orthopedic surgeon is trained to both diagnose and treat. The rigid continuing educational requirements, both legally and self-imposed, within the orthopedic surgical community ensure patients the highest quality diagnostic and interventional care, be it conservative or operative. Patients should inquire about treatment alternatives and treatment outcomes when discussing their options with their orthopedic surgeon, keeping in mind that a second opinion may be helpful to both the patient and the ultimate treating physician.

Asselmeier: Patients should look for a care team that's highly-trained and experienced in the orthopedic subspecialty that they're in need of. At DMG, we have providers who specialize in joint arthroplasty, hand and upper extremity, foot and ankle, sports medicine and more. We continue to grow our team of elite, fellowship-trained orthopedic specialists. In 2019, we welcomed 12 highly-sought-after orthopedic specialists who appreciate the benefits of our team-based approach to care.

Robb: Consumers need to take the time needed to filter through the incredible amount of information and misinformation available through the web and peers. Consumers need to find a "trustable" information source and a reliable orthopedic or musculoskeletal care team to evaluate their problem and discuss best treatment options. Orthopedists are subspecialty trained and work closely with their care team members to provide the vast majority of health care information needed by patients to make informed health care decisions. Consumers need to educate themselves. If it sounds too

What benefits do patients receive when going to an orthopedic specialist?

Sheinkop: Orthopedic surgeons complete four years of medical school and four years of an orthopedic residency. Thereafter, the vast majority opt for a fellowship—an additional two to three years of specialty training in adult reconstruction, hand, pediatric orthopedics, foot and

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DR. MITCHELL SHEINKOP

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Alexander Ghanayem, MD, specializes in spine surgery at Loyola Medicine, providing expert, personalized care for orthopaedic surgery patients.



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and sports medicine physicians optimize non-operative care when surgery is not needed. Physical and occupational therapists help patients maximize their potential in their functional outcome. We focus on prompt treatment, evidence-based interventional plans, comprehensive rehabilitation and easy access to expert care to ensure our patients are back to enjoying their daily activities as soon as possible.

Robb: Illinois Bone & Joint Institute physicians and team members recognize that the care

including the patient, is involved and communicating effectively as equal team members.

What types of services does your facility offer orthopedic patients?

Ghanayem: Our orthopedic surgery team performs partial and total joint replacement surgery and arthroscopic surgery. We also offer microsurgery to restore hand and limb function, and minimally invasive spine surgery. In addition, Loyola has an ACS-verified Level

reconstructive surgical procedures, nonsurgical services such as infusions for management of osteoporosis and rheumatoid arthritis, musculoskeletal imaging including MRI and CT, pain management and rehab services. We're a one-stop shop for the care of all musculoskeletal diseases and injuries.

Sheinkop: Outpatient, minimally invasive, orthobiologic procedures are the mainstay of my practice. This currently includes proprietary platelet-rich plasma injections; growth factor protein options; bone marrow concentrate made of adult mesenchymal stem cells, platelets, growth factor proteins and precursor cells; and lastly, adipose-derived stromal vascular fraction, which are stem cells derived from fat. The latter is made possible via the personalized stem cell FDA-approved clinical trial. Most procedures are done in our office, but anything that requires tissue harvesting is done in the sterile environment of a surgicenter using intravenous sedation, or conscious sedation if requested by a patient. Our practice mirrors the attention one finds today under the setting of concierge care.

Asselmeier: In addition to outpatient surgical procedures, we also offer our patients primary

care services and a broad range of ancillary services such as diagnostic imaging, interventional radiology, physical and occupational therapy and more. The close collaboration between our primary and specialty care teams ensures that each patient receives the most complete medical, rehabilitative, diagnostic and surgical methods possible so they can resume their daily activities.

What new technologies and surgical techniques are you using?

Asselmeier: We increasingly use minimally invasive arthroscopic techniques and progressive rehabilitation approaches to get our patients back into their daily routines as quickly as possible. We're utilizing biologic management of musculoskeletal maladies through platelet-rich plasma and stem cell therapies. We continue to refine the proper use of preoperative planning and robotic-assisted treatment of musculoskeletal disease in our surgeries and are up-to-date on the most recent protocols and best practices.

Ghanayem: We use advanced imaging techniques, including ultrasound-guided injections and advanced imaging modalities such as extremity MRI scans as an option for some patients—both adults and children—who may be uncomfortable in small, enclosed spaces. Our orthopedic surgery team also has experience with 3D printing technology, used to create artificial implants for complex joints like the ankle that require creative treatment options to repair or replace.

Robb: We're continually updating our MRI technology and collaborating with hospital systems to provide the latest robotic surgical technologies. We also built our own patient management software to improve real-time patient management and patient engagement through new mobile app technology. This software permits timely health care information to be continuously available to patients on their phones through mobile apps, as well as simultaneously available to their surgeons, surgical team members, rehab providers and care managers.

Sheinkop: Biologics is the new technology that I use with a needle rather than a knife. I perform cellular orthopedics and biologics in an outpatient office or surgicenter. Rehabilitation is prompt, the pain accompanying the intervention is minimal and the risks are small. Should the benefit of the procedure be less than desired, it may be safely repeated. Should the patient so desire, a total joint replacement becomes the fallback procedure. The goal of our new technologies and techniques is joint restoration with reduced—or perhaps

elimination of—symptoms and marked improvement in motion and function.

Are you involved with any clinical trials?

Sheinkop: As of last August, I'm one of seven designated and FDA-approved centers for a personalized stem cell clinical trial to treat knee osteoarthritis. Basically, we're creating a drug from a patient's own adipose tissue recovered via abdominal liposuction and processed in a facility that meets FDA requirements. The millions of stem cells recovered from the fat can then be injected into that patient's arthritic knee. Importantly, donors' stem cells are used to treat only them. Also, donors' stem cells can be stored for future FDA-approved applications, or other clinical trials.

How do you support patients and their families?

Asselmeier: Our MyChart patient health portal allows patients to view their test results and communicate directly with their DMG physician, both online and through the MyChart mobile app. We continue to build upon MyChart and other technologies to make it as easy as possible for patients to schedule an appointment, complete paperwork, pay their bill and more online. For our joint replacement patients and their families specifically, we use electronic push notifications to keep them informed from the time they decide to move forward with surgery through 90 days post-surgery.

Robb: We've taken important steps to control and reduce the cost of care by providing many quality services at a significant discount, compared to hospital-owned orthopedic practices. IBJI recognizes that as the costs of health care shift increasingly to consumers, value will be an important component of musculoskeletal care. Key components of value are demonstrated by our OrthoSync program, which established effective managed care continuums for recovering surgical patients, and by providing many surgical services in outpatient surgicenter settings.

Sheinkop: We pride ourselves on communication and availability be it via the internet or the phone. Our standards mirror those seen in concierge medicine with 24/7 availability via cell phone or email.

What insurance issues and concerns are common with orthopedic treatment?

Ghanayem: Due to the time-sensitive nature of orthopedic care, delays in insurance authorization

ABOUT THE PANELISTS

MARC ASSELMEIER, MD, is chair of the orthopedics and podiatry department at DuPage Medical Group, the largest

independent, multi-specialty physician group in Illinois. In practice for 28 years, he specializes in sports medicine and joint replacements, specifically in the shoulder and knee. He earned his medical degree from the University of Illinois and completed his residency in orthopedic surgery at Loyola University Medical Center. He also completed a fellowship in arthroscopy and sports medicine at Orthopaedic Research of Virginia.

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ALEXANDER J. GHANAYEM, MD, is chair of the department of orthopaedic surgery and rehabilitation at Loyola Medicine, a regional, academic health system based in Chicago's western suburbs. A leader in the field of spine surgery, he also teaches in both the orthopaedic surgery and neurological surgery departments at Loyola University

Chicago Stritch School of Medicine. He received his medical degree from Northwestern University, completed his residency at Case Western Reserve University and a spine surgery fellowship at the University of Wisconsin - Madison.



WILLIAM JOHN ROBB III, MD, is orthopedic director and chief medical officer at Illinois Bone & Joint Institute, one of the largest independent physician-owned orthopedic practices in Illinois. He directs IBJI's many clinically integrated musculoskeletal programs as well as OrthoSync, a value-based care initiative managing more

than 5,000 orthopedic surgical cases a year. He completed his medical degree and orthopedic residency at the University of Iowa and has more than 40 years of experience as a specialist in treating adult knee disorders.



MITCHELL SHEINKOP, MD, is medical director of Cellular Orthopedics, which specializes in nonsurgical orthopedic treatments. He

founded the practice in 2011 after retiring from a 37-year orthopedic surgery career at Rush University, where he directed its joint replacement program. Substituting a needle for a knife, he embarked on a new career in the emerging specialty of regenerative medicine, helping patients with osteoarthritis postpone and sometimes avoid joint replacements. He is a graduate of the Chicago Medical School and completed fellowships in pediatric orthopedics and hand surgery.



provided is better and safer if communication is optimized between providers and patients. To facilitate communication, we trained more than 1,000 physicians and staff last year using a proven health care communication program called TeamSTEPPS. This demonstrates our commitment to improve the quality and safety of orthopedic care by ensuring that everyone,

I Trauma Center and a team of fellowship-trained orthopedic specialists experienced in treating everything from routine to the most complex fractures in severely injured patients.

Robb: IBJI provides the full spectrum of high-quality musculoskeletal services, including the most advanced fracture and

and regenerative medicine, increasing clinical safety regarding safety and efficacy will result in ever-increasing FDA approval and ultimately, indemnification by private insurance and Medicare. For those dependent on external prosthetics, improvements in function based on artificial intelligence will continue. For the spinal cord-injured patient, stem cell research taking place today may make the restoration of

function a reality. I expect cartilage regeneration to be a reality in the next five to 10 years.

Robb: Orthopedic care is expected to continually grow, based on an expansion of orthopedic subspecialty services for all patients, and particularly for the baby boomer patients as they age, who will require more orthopedic care. To better service this demand, many

independent orthopedic practices have merged into larger independent orthopedic practices like IBJI. These larger practices are able to become more comprehensive one-stop shops as musculoskeletal service line providers, not only offering traditional orthopedic surgical care but also rheumatology, physical medicine, podiatric, physical therapy, occupational therapy, pain management, imaging and surgicenter services.

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DR. WILLIAM JOHN ROBB III

the financial burdens imposed by some of my advanced technology offerings, I've created several affordable care alternatives. On the other hand, there's recently been an increased willingness of Medicare and some private insurance carriers to preauthorize payment for biologics and cellular orthopedic approaches.

Where do you see orthopedic surgery headed in the next five to 10 years?

Ghanayem: Advances in imaging will improve our ability to "see" the problem, monitor the repair process during surgery and assess healing afterwards. Biologic solutions may also help slow the formation of arthritis, enhance fracture, tendon

disease will become more of a factor and an important capability for us that will continue to evolve over time. For DMG specifically, leveraging data will continue to play a critical role in how we track and improve quality outcomes. We'll also continue to grow our geographic footprint and our team of highly-skilled, fellowship-trained orthopedic specialists.

Sheinkop: With the continued improvement of prosthetic design, fabrication, metals, plastics and ceramics, artificial joints should last a lot longer. Paralleling the anticipated increase of new hips, new knees and new shoulders are the increase of outpatient arthroplasty and less use of hospitals. In the field of biologics

