

2024

QUALITY AND OUTCOMES REPORT



Cover images:

X-ray of right knee and lower leg side view
Getty Images: Cultura RM

Photo of Yong H. Kim, MD, and Charla R. Fischer, MD,
performing surgery

Photo of a child being cared for by a doctor
Getty Images: krisanapong detraphiphat

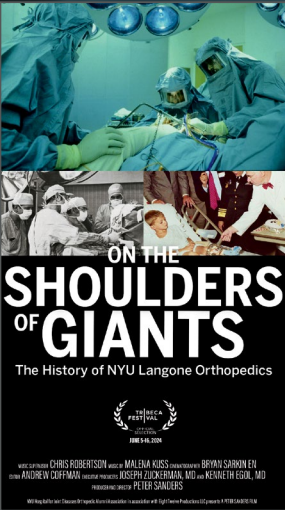
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The Department of Orthopedic Surgery at NYU Langone produced a documentary titled On the Shoulders of Giants: The History of NYU Langone Orthopedics. The film was included as an official selection in the Tribeca X Film Festival. The documentary is now available on multiple screening platforms.

#3
in U.S. News & World Report



34K+
orthopedic surgery
procedures annually

240
orthopedic physician
experts on faculty

A Message From Our Department Leadership

We are pleased to present our 2024 Quality and Outcomes Report. This effort reaffirms our commitment to exceptional patient outcomes as we continue to grow into a fully integrated academic-based regional musculoskeletal care provider.

Our geographic expansion—particularly on Long Island, where we added a large established orthopedic practice and acquired Long Island Community Hospital (LICH)—aligns with NYU Langone Health System’s strategic vision to create a population-based health system with one standard of care—Excellence. To offer uniform accessibility to top-quality care across our broad geographic reach, we have intentionally grown by integrating hospitals that share our standards. The ‘NYU Langone Health Way’ means that our patients can expect the same care experience whether they access treatment at an ambulatory care center or hospital in Manhattan, Brooklyn, or Long Island.

We take the same approach to the kind of care we provide across the range of conditions our patients entrust us to treat. That list now includes a deeper focus on complex musculoskeletal cancers with the addition of Nicola Fabbri, MD, to our system-wide oncology service. Drawing on expertise in limb-preserving reconstructive surgery for bone and soft tissue cancers, Dr. Fabbri has institutionalized multi-specialty collaboration to build capacity for quality outcomes in a broader range of musculoskeletal cancers. Meanwhile, Dr. John Kennedy has led a cultural shift in foot and ankle care—including the integration of orthopedic medicine and podiatry—while growing patient volume and expanding research.

Our faculty continue to perform and publish practice-changing clinical research. Their findings enhance the outcomes and safety of our patients and lead to practice-changing medicine within Orthopedics. Our pediatric orthopedic surgeons are developing pathways to limit radiation exposure in pediatric cases with suspected fractures. Our Sports Medicine Division innovates and has studied cannabidiol to manage pain in arthroscopic surgery, and the group has redefined the value of arthroscopic SLAP repair. Other research supports the effectiveness of computer-assisted navigation in total shoulder arthroplasty and the healing benefits of biologics in cartilage lesions. Our physician-researchers are committed to patient safety and have found inpatient falls post-knee replacement were not associated with using nerve blocks or tourniquets but rather a longer stay.

Equity, including serving vulnerable populations—a part of our DNA—began with the establishment of The Jewish Hospital for Deformities and Joint Diseases in 1905. This mission was supported by the 2023 appointment of Toni M. McLaurin, MD, as vice chair of Diversity, Equity, and Inclusion. As a center of excellence in a metropolitan area where just a few miles can preclude access to quality care, we recognize the significant role we must play in reducing disparities.

We will continue to achieve these goals by upholding our NYU Langone Health standards as we bring our high-quality orthopedic care to more of the neighborhoods where our patients live and work. Our pursuit of excellent care and outcomes is a constant; even as we celebrate the achievements of 2024, we recognize there is no limit to the heights of quality we will continue to reach for as our system continues to grow.



JOSEPH D. ZUCKERMAN, MD

Walter A.L. Thompson Professor of
Orthopedic Surgery

Chair, Department of Orthopedic
Surgery

Surgeon-in-Chief, NYU Langone
Orthopedic Hospital



JOSEPH A. BOSCO III, MD

Professor, Orthopedic Surgery

Vice Chair for Clinical Affairs and Quality,
NYU Langone Orthopedic Hospital



The NYU Langone Way — One Department, One Standard

Ensuring Uniform System Wide Excellence in Quality, Safety, and Outcomes in Orthopedics

Amid increasing consolidation within the healthcare industry, NYU Langone Health has stood out by prioritizing full integration with like-minded institutions to ensure seamless transitions and consistently high quality throughout the hospital system. That commitment to excellence has helped NYU Langone Orthopedics and its 240 faculty members repeatedly earn top-five rankings in the annual *U.S. News and World Report* listing of Best Hospitals for Orthopedics, including a #3 ranking for 2024.

“We care for people across a wide demographic and socioeconomic range, and it’s within our DNA to say that we expect the same great results for everyone—regardless of their socio-economic status,” says **Joseph A. Bosco III, MD**, Vice Chair of Clinical Affairs for Orthopedics. “We have 11 clinical sites but one standard. We don’t accept lesser standards of quality or safety and outcomes for one site over another.” To achieve the same great result, he emphasizes, NYU Langone Orthopedics has supplied every site with the necessary resources, whether capital or knowledge-based. “We’ve allowed them to be the best version of themselves,” he says.

Over the past year, NYU Langone Hospital—Brooklyn has seen a significant increase in surgical volume across all orthopedic subspecialties. “As such, raising the bar on quality care has been at the forefront of our mission,” says **Joshua C. Rozell, MD**, Chief of Orthopedic Surgery at NYU Langone Hospital—Brooklyn. A special point of emphasis is ensuring that trauma patients are treated within 24 hours by subspecialized trauma surgeons to maintain consistency and quality and maximize patient outcomes. “The increasing availability of dedicated orthopedic trauma operating rooms is critical to this success,” he notes. Led by physician assistants, the consult service can see up to 15 patients per day while upholding the highest standards.

“All of our divisions work together to establish guidelines, protocols and quality metrics so that irrespective of the location, the standards of care are the same,” adds **James D. Capozzi, MD**, Chair of the Department of Orthopedic Surgery at NYU Langone Hospital—Long Island.

Expanding Care, Reducing Disparities

Departmental leaders have applied that same approach to NYU Langone’s recent acquisition of Long Island Community Hospital in Patchogue. “This is all about bringing high-quality care to vulnerable patient populations,” Dr. Bosco says. “It’s filling a need. We’re not doing it purely for financial reasons but to help take care of people who need it. We’ve always considered ourselves a department which delivers musculoskeletal care for all people—not just wealthy patients or professional athletes, but for everyone.”

As part of that commitment to expanding care, the department has created specialized services like orthopedic oncology and pediatric orthopedic surgery that use a hub-and-spoke strategy to make regular visits to different sites and serve the entire system. “That means patients have access to highly specialized musculoskeletal care that they otherwise would not,” Dr. Bosco says. “It really helps to eliminate health care disparities.”

A similar approach has helped the department integrate high-end technology like robotics across the entire system: because of the higher combined patient volume, the technology can be implemented without a prohibitively high capital layout. Dr. Rozell says the acquisition of a second surgical robot, for example, has allowed surgeons at NYU Langone Hospital—Brooklyn to perform 15 hip and knee joint replacements in a single day. “With short-acting spinal anesthesia and regional nerve blocks,” he adds, “our same-day discharge rate has increased to more than 15 percent, allowing us to get patients home faster and safer.”

LEADING WITH EXCELLENCE

Matthew Hepinstall, MD

NYU Langone leaders explain how our fully integrated healthcare system has allowed us to deliver high quality care across all sites while improving patient outcomes and safety.

Motivating Metrics

As new locations come onboard, we have invested in additional technology such as virtual meeting platforms and a system called Bedside Connect, which allows surgeons to communicate directly with patients any time of day. Meanwhile, system-wide dashboards that capture metrics like mortality, readmission, and infection rates have proven invaluable to running a well-coordinated system. “If issues arise, we can address them in real time,” Dr. Bosco says. “So it really motivates us to work hard to make sure that all our places are at the same standard.”

The department also sends out physician-specific scorecards to providers and location-specific scorecards to site leaders so they can see how they compare with their peers. Every service site in Orthopedics has a point person responsible for communicating and reporting back on quality and metrics. “When we want to change something or introduce something, we all get together and hash it out,” Dr. Bosco says. “Everyone is part of the creation so they feel like they’re part of the ownership.”

Transparency, clear communication, and shared accountability have helped inspire everyone to deliver excellent care. No single metric is the most important for motivating providers, Dr. Capozzi notes. “I honestly think it’s more of a culture of excellence that drives everyone,” he says. “We all want to be the best at what we do, have the best department and provide the best care for our patients. The metrics are more of a barometer of where we need to concentrate our efforts.”

To improve the patient experience metric at NYU Langone—Brooklyn, “We look critically at our patient experience surveys every day to improve communication with doctors and nurses, communication about medications, and overall hospital satisfaction,” Dr. Rozell says. Since the site treats many patients with hip fractures, he says, “working with our medicine and trauma colleagues to manage comorbidities and optimize patient time to the operating room and mobilization thereafter are metrics we continually strive to improve.”

Taking the Initiative

NYU Langone Orthopedics has further benefited from initiatives developed at one location and then implemented across all sites. NYU Langone Hospital—Brooklyn, for instance, recently developed a quick postoperative reference guide for patients who have undergone hip or knee replacements that allows them to ask important questions prior to discharge. Dr. Rozell notes that the pamphlets will be translated into multiple languages and used system-wide.

At NYU Langone Hospital—Long Island, Dr. Capozzi says, “Our total joint program was the original quality initiative that taught us about a comprehensive approach to quality.” Beyond the surgery itself, pre-operative optimizations, in-hospital care, and post-operative follow-up all combined to help the site achieve great results. The department has brought the same approach to its HCAHPs patient satisfaction initiative, and most recently to a “Home Run” program to help get significantly more patients with fragility fractures home instead of to sub-acute rehabilitation.

LOOKING TOWARDS THE FUTURE

NYU Langone Orthopedics recruited 13 new physicians starting in September and October.

Emily Pflug, MD – Hand & Wrist Surgery

Ariana Lott, MD – Sports Medicine

Elise Bixby, MD – Pediatric Sports Medicine

Craig Pille, MD – Primary Care Sports

Jie “Jay” Yao, MD – Shoulder & Elbow

Milad Adloo, DPM – Podiatrist

Matthew Apicella, DO – Primary Care Sports

Aaron Brandt, MD – Pediatric Orthopedics

Kevin Schafer, MD – Foot & Ankle

Anna Cohen-Rosenblum, MD – Adult Reconstruction

Jack Italiano, DO – Primary Care Sports

Janos Barrera, MD – Hand & Wrist Surgery

Berkcan Akpinar, MD – Sports Medicine

Recent Quality Initiatives

For a recent system-wide quality initiative, a real-time readmission notification system within EPIC flags the attending physician of record if a patient returns to an NYU Langone emergency department within 30 days of undergoing a spine procedure or hip or knee replacement. Consultations between the attending and ED providers have often obviated the need for a readmission. “We have evidence-based guidelines and the protocols have been standardized across the entire system, and there’s buy-in from every location,” Dr. Bosco says. “That’s been highly successful.”

A separate initiative that inspired a 2023 conference at NYU Langone has focused on reducing mortality rates by giving providers the decision-making tools and ethical framework to justifiably say no to high-risk patients who want an

elective surgery. Dr. Claudette Lajam and colleagues, including medical ethicist Barron Lerner, MD, PhD, recently published their approach, “Ethical considerations of declining surgical intervention: Balancing patient wishes with fiduciary responsibility,” in *The Journal of Bone and Joint Surgery*.

“Discussions with Dr. Lerner gave us the tools to have difficult but necessary discussions with patients when the risks outweigh the benefits, like, ‘Maybe you shouldn’t have the surgery, here’s why, and here are other ways to help manage your pain and mobility concerns,’” Dr. Bosco says. As part of a robust risk communication strategy, offering patients a viable alternative to surgery such as palliative care can help address their needs while reducing the potential for harm. As part of the department’s commitment to quality and safety, the forward-looking initiatives have continued to raise the bar on systemwide outcomes.

Joseph D. Zuckerman, MD (left)

Walter A.L. Thompson Professor of Orthopedic Surgery
Chair, Department of Orthopedic Surgery
Surgeon-in-Chief, NYU Langone Orthopedic Hospital

Joseph A. Bosco III, MD (second from left)

Professor, Department of Orthopedic Surgery at NYU Grossman School of Medicine
Director, Quality and Patient Safety, Department of Orthopedic Surgery
Vice-Chair, Clinical Affairs, Department of Orthopedic Surgery

James D. Capozzi, MD (second from right)

Professor, Department of Orthopedic Surgery at NYU Grossman Long Island School of Medicine
Chair, Department of Orthopedic Surgery at NYU Grossman Long Island School of Medicine

Joshua C. Rozell, MD (right)

Associate Professor, Department of Orthopedic Surgery at NYU Grossman School of Medicine
Site Chief – NYU Langone Hospital – Brooklyn
Director, Patient Reported Outcomes Research



System-Wide Oncology Service Integrates Care Across Musculoskeletal Cancers

With the appointment of Nicola Fabbri, MD, as service chief, the system-wide oncology service established within the Department of Orthopedic Surgery is enabling closer cross-specialty collaboration and the advancement of novel treatments.

The system wide application of innovative, evidenced based approaches to complex musculoskeletal cancers fosters improved outcomes and survival rates across the entire NYU Langone System. One cannot do this alone, and Dr. Fabbri is fortunate to have a strong team of dedicated NYU Langone Orthopedic Oncology surgeons, including Dr. Timothy Rapp and Dr. Karim Masrouha to help him execute his mission.

Teamwork Enables a ‘Menu’ of Treatment Options

A specialist in limb-preserving reconstructive surgery for bone and soft tissue cancers, Dr. Fabbri says that optimizing outcomes is not about rushing immediately toward the latest technology or drug, but depends on something more essential: teamwork.

“In orthopedic surgery, you repair a hip or a knee and that need is fulfilled in a relatively straightforward way,” he explains. “In musculoskeletal oncology, we act as restaurant owners with a larger menu of treatment options. The way we choose from that menu is undeniably through teamwork.”

While the department has long emphasized such teamwork across surgery, medical oncology, radiation oncology, and other specialties—with infrastructure to support it—Dr. Fabbri is working to further institutionalize multispecialty collaboration at a functional level. These efforts combine both the long history of excellence in orthopedic care at NYU Langone Orthopedic Hospital, and the forward-thinking treatment approaches pioneered by Perlmutter Cancer Center.



 Nicola Fabbri, MD

As initiatives enabling collaboration and prioritizing patient outcomes and experience are unrolled, he says, top-quality surgical outcomes and surges in patient volume will follow.

“Optimal results come from experience—overcoming complications,” he explains. “And experience comes from volume. We are building volume exponentially in order to feed that cycle of accumulated experience and excellent outcomes.”

Integrating Systems Thinking in Patient Care

Several initiatives, both patient-facing and behind-the-scenes, are underway to build capacity for quality outcomes in a greater number of patients with a wider range of conditions.

Drawing on Dr. Fabbri’s expertise, a bi-weekly sarcoma conference focused on the rare bone and soft tissue tumors is now held weekly, and has been elevated across the NYU Langone network. As a result, typical participation has grown from a half-dozen specialists to more than 30 active participants—surgeons, radiation oncologists, medical oncologists, pathologists, and others who rigorously discuss cases from diagnosis and treatment through pathology.

For patients with these tumor types, a new clinic model is consolidating care to a single day’s appointments at the Perlmutter Cancer Center. At the Bone, Extremities, and Spine Tumors (BEST) clinic, patients—who often present with metastatic bone tumors secondary to breast, prostate, lung, or renal cancers—see multidisciplinary specialists in one location, easing the logistical burden of care.

Comprehensive cancer care also requires close cross-disciplinary coordination when complications arise. A physician from the orthopedic oncology service is reachable 24/7 to consult with emergency department physicians across NYU Langone campuses to ensure emergent complications are treated with the expert care they require. These include pathologic fracture of the extremities or spine, which transform a non-orthopedic cancer side effect into an orthopedic emergency—particularly in a condition such as multiple myeloma, where profuse bleeding is a risk. “They are not your typical fractures, so we have a system-wide protocol where everyone knows how to facilitate prompt evaluation with specialists trained in managing these complexities.”

“

Tomorrow, we have ambitious plans to keep delivering high-quality outcomes to more and more complex patients.”

— NICOLA FABBRI, MD

Sharpening Expertise Toward Better Functional Outcomes

With the new degree of system-wide collaboration, the Department of Orthopedic Surgery is poised to build on NYU Langone’s ability to harness forward-thinking treatments and approaches and take on the most complex patients. Dr. Fabbri partners closely with experts in bone reconstruction, vascular surgery, and neurosurgery, and other specialties to offer advanced techniques such as bone transfer, limb preservation and osseointegration, and complex chordoma treatment. “We’re thinking far beyond, ‘How do I remove this tumor safely and effectively?’ to ‘How do I work with my colleagues to help this patient meet their goals?’” he notes.

The department also plans to add faculty with additional expertise in advanced techniques for spine and other musculoskeletal tumors in order to expand the scope of the oncology service. “Today, we are a modern musculoskeletal cancer center, able to treat any condition,” says Dr. Fabbri. “Tomorrow, we have ambitious plans to keep delivering high-quality outcomes to more and more complex patients.”

Addressing Disparities, Toward Higher Quality For All

Following its creation in 2010, the department's Diversity Committee achieved greater visibility when chair Toni M. McLaurin, MD, was appointed inaugural Director of Diversity, Equity, and Inclusion (DEI) for the department in 2020, then Vice Chair for DEI in 2023.

In her role, which includes committee oversight, Dr. McLaurin is working to promote greater representation of female, Black/African American, Latinx, Native American, Native Pacific Islander, Native Alaskan and LGBTQ+ physicians in the department and the orthopedic community, while establishing equity goals to reduce care disparities.

Dr. McLaurin has prioritized projects with actionable target outcomes. “Lots of research reveals disparities in care,” she notes. “The question is, what do we do about it—how do we go from reporting disparities to addressing them?”

1 Parola et al., Clinical Orthopaedics and Related Research. 481(2):324-335, February 2023.

Disassociating Judgment from Fracture Care

Addressing disparities means rooting out the manner and mechanism of care variables across conditions, and a dozen ongoing studies seek insights on questions from the effect of race or payer status on time to surgery for fractures, to biases that impact how reliable surgeons believe patients may be.

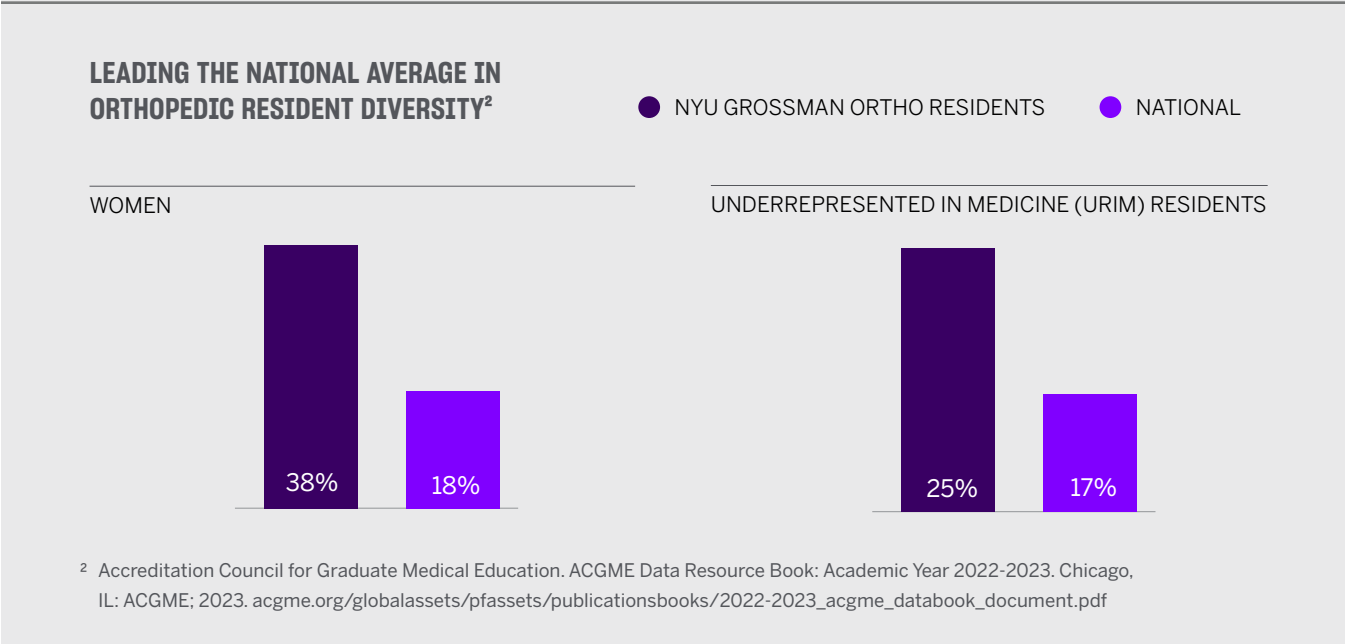
Investigators at NYU Langone published a study in Clinical Orthopaedics and Related Research, analyzing disparities in hip fracture surgery, an emergent surgery whose outcomes are closely linked to time to treatment. The study examined the impact of a four-day standardized pathway for the treatment of hip fractures, effectively controlling for racially tied variables in care: gender, insurer, socioeconomic status, and Score for Trauma in the Geriatric and Middle Aged.¹

With the four-day hip fracture pathway, researchers found no significant differences between white and non-white patients in mortality, rates of delayed surgery, ICU admission, major complications, or discharge location.

“This study showed what happens when you protocolize orthopedic care and remove judgment calls from the equation,” says Dr. McLaurin. “It offers one approach toward isolating the variables linked to bias in patient care.”



Toni M. McLaurin, MD, meets with residents.



Keeping Social Determinants Top-of-Mind

One variable is the focus of another research initiative led by Dr. McLaurin, which seeks to highlight the specific impact of social determinants of health—such as housing, transportation, and food insecurity—on orthopedic care.

This effort is taking shape through one study within the division of pediatric orthopedic surgery, where screening for social determinants of health will be part of the regular intake process at the cerebral palsy clinic. Utilizing a module in the Epic patient health record, researchers aim to keep key social determinants data up-to-date and readily accessible—then better delineate their impact on disparities in care.

When the data collection approach is well-adopted in the clinic, we will expand it throughout the pediatric division—and ultimately, throughout the Department of Orthopedics—to inform future equity projects.

“As more stakeholders recognize the profound impact of health-related social needs on quality outcomes, we also recognize that we need to make information-gathering about those social determinants easier to track over time so we can address them,” says Dr. McLaurin.

Addressing Diversity from the Inside Out

A third area of the committee's work is aimed at the specialty's own challenges with diversity; in particular, orthopedic surgery has historically attracted far lower rates of women and women of color than other specialties. Although NYU Langone's department has higher numbers of women and Underrepresented in Medicine (URiM) physicians than others nationwide, more work remains to achieve parity with white male physicians in the field.

Social, educational, and outreach initiatives by the committee are designed to support female and URiM orthopedic surgeons. Webinars and newsletters highlight equity news and progress. Dedicated efforts help to increase diverse representation by NYU Grossman School of Medicine students and NYU Langone faculty at national specialty meetings. And focused recruitment efforts beyond the “usual bubble” include job listings with organizations such as Ruth Jackson Orthopaedic Society, dedicated to supporting women in the specialty and the J Robert Gladden Society, an organization to support Black and other URiM orthopedic surgeons.

Dr. McLaurin points out that racial concordance between physician and patient has been shown to support higher-quality care and greater patient satisfaction. “With more underrepresented doctors, more diverse patients receive better care that they feel better about. They're more likely to participate in their care and follow advice, which supports better outcomes. That is what we continue to work toward,” she adds.

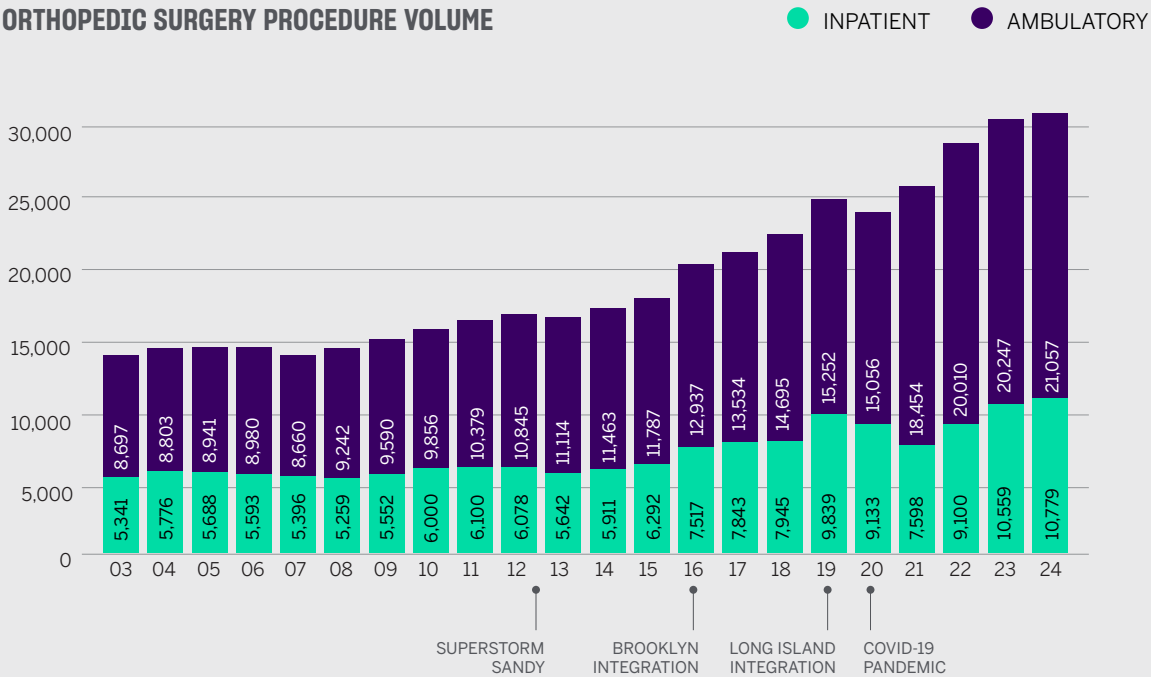


SURGICAL CASE VOLUME

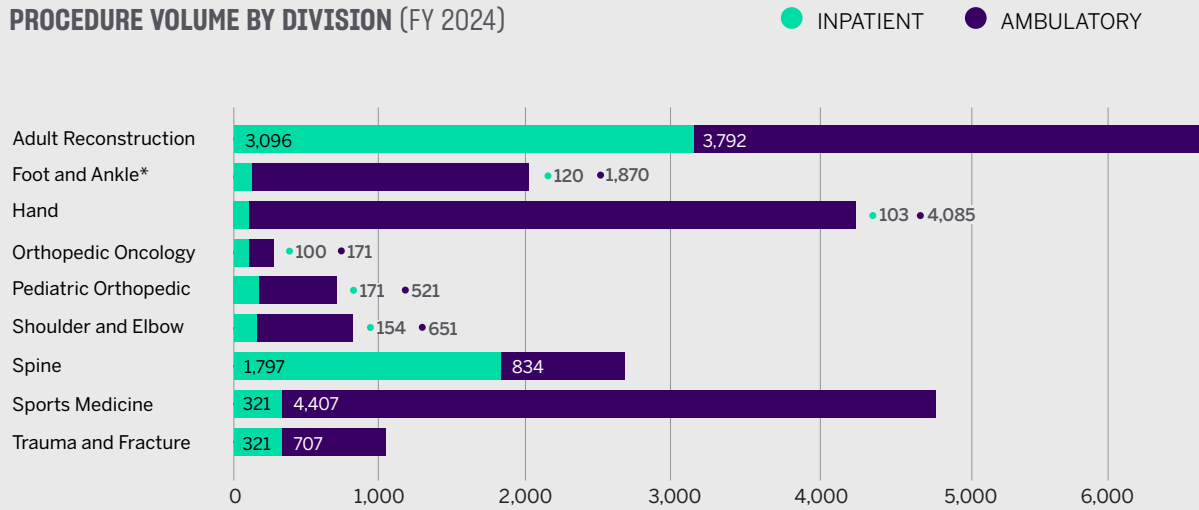
Charla R. Fischer, MD

Research shows that high procedure volume is associated with better performance for both institutions and individual surgeons. NYU Langone Orthopedics is committed to leveraging our high case volume to achieve better outcomes for our patients.

ORTHOPEDIC SURGERY PROCEDURE VOLUME



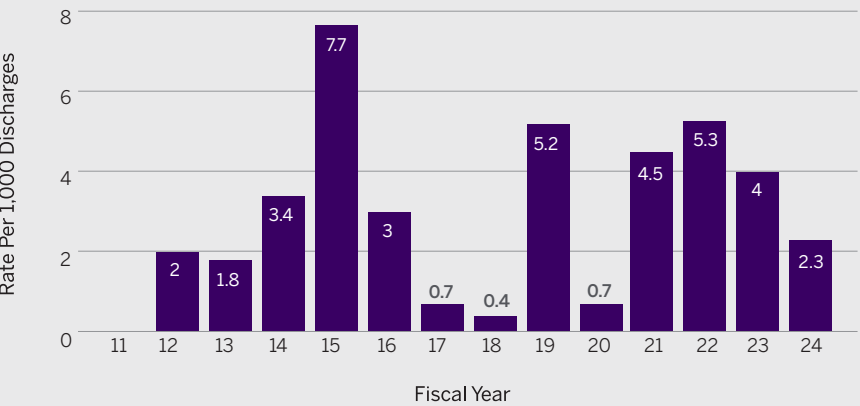
PROCEDURE VOLUME BY DIVISION (FY 2024)



*Includes Podiatry

HOSPITAL-ACQUIRED VENUOUS THROMBOEMBOLISM (VTE)

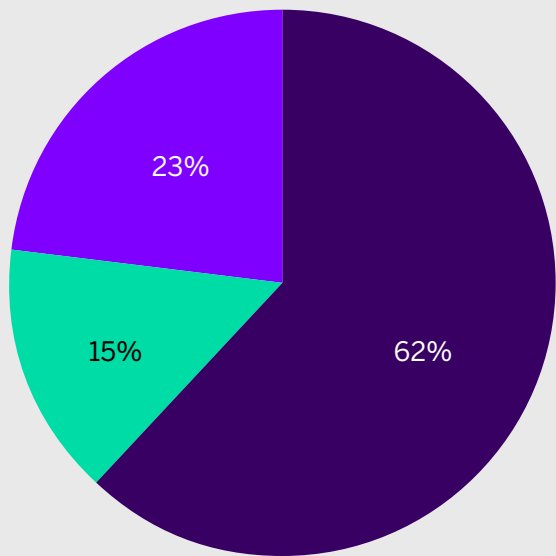
● HA-VTE RATE



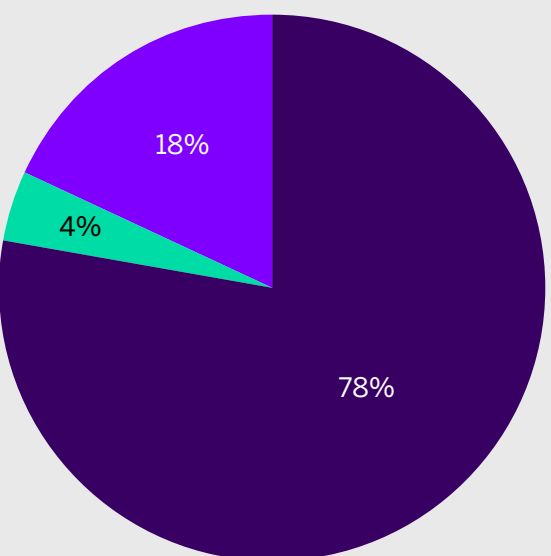
PROCEDURE VOLUME BY LOCATION (FY 2024)

● MANHATTAN ● LONG ISLAND ● BROOKLYN

INPATIENT



AMBULATORY



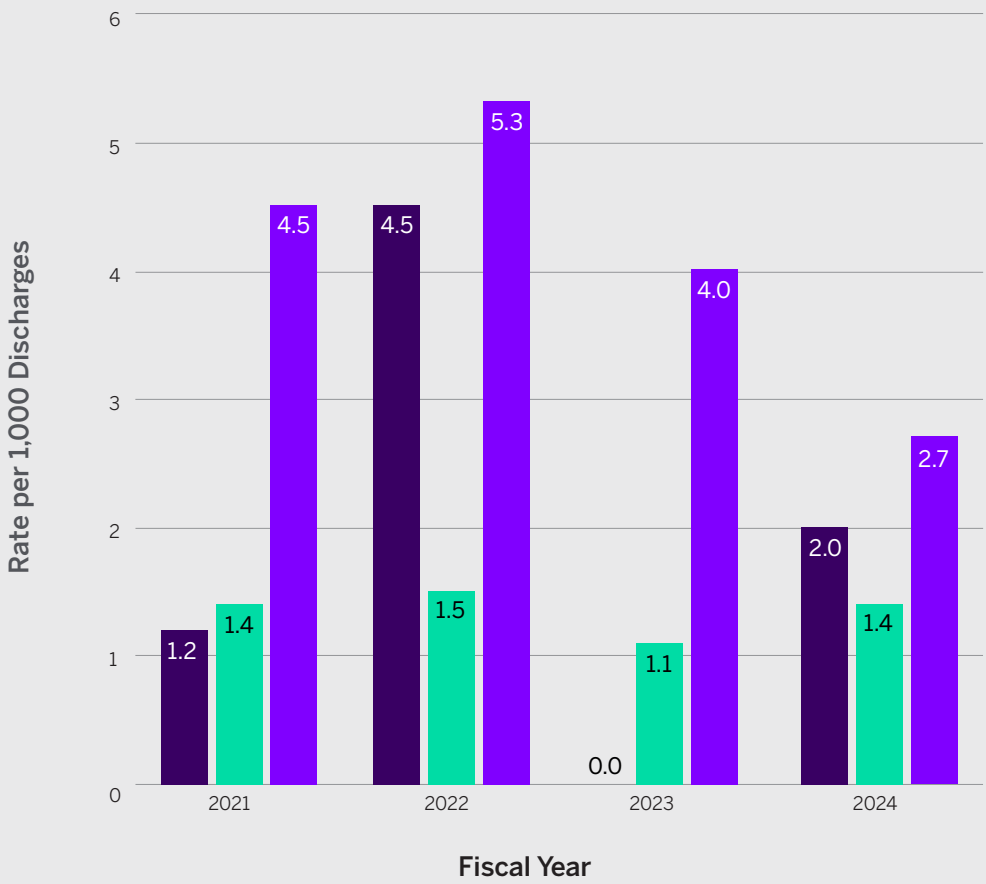
#3

The 2024 *U.S. News & World Report* listing of “**Best Hospitals**” for Orthopedics awarded NYU Langone “**High Performing**” for all procedures and conditions including: hip fracture, hip and knee replacements and spinal fusions.

in the country for Orthopedics. Awarded by *U.S. News & World Report*’s 2024–2025 “**Best Hospitals**”.

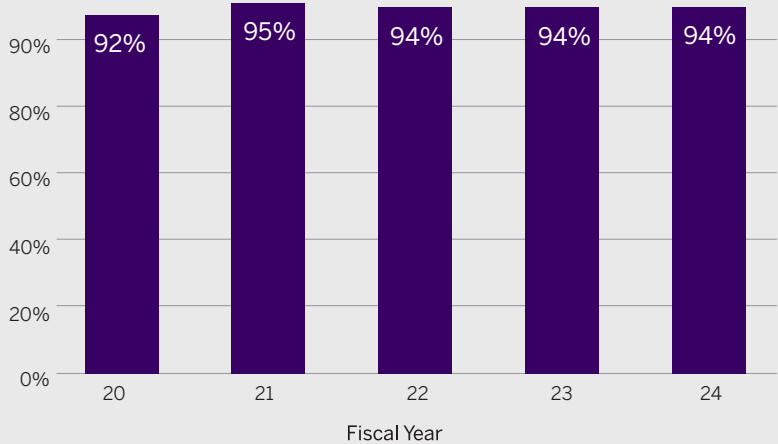
HOSPITAL ACQUIRED CONDITION RATE (PER 1,000 DISCHARGES)

● BROOKLYN ● MANHATTAN ● LONG ISLAND

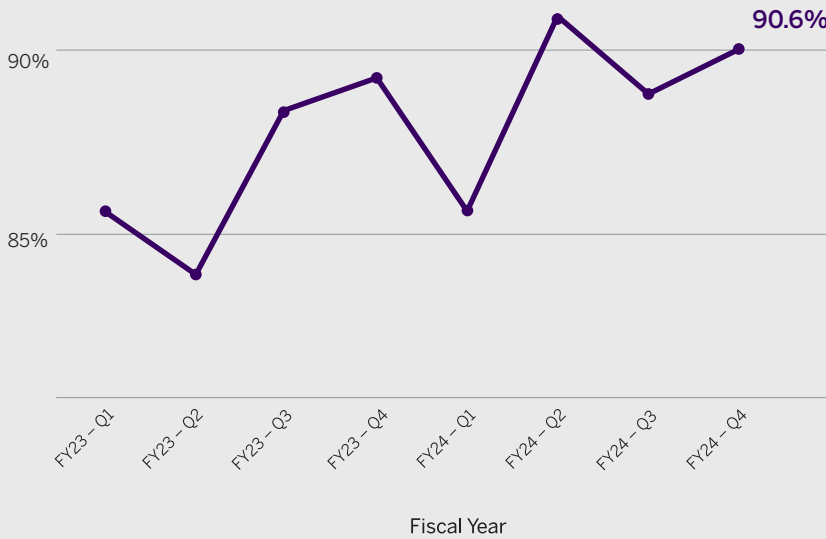


Delivering the highest quality care remains at the forefront of our department's mission. Our commitment to providing exceptional outcomes and safety standards has significantly improved the system's quality metrics.

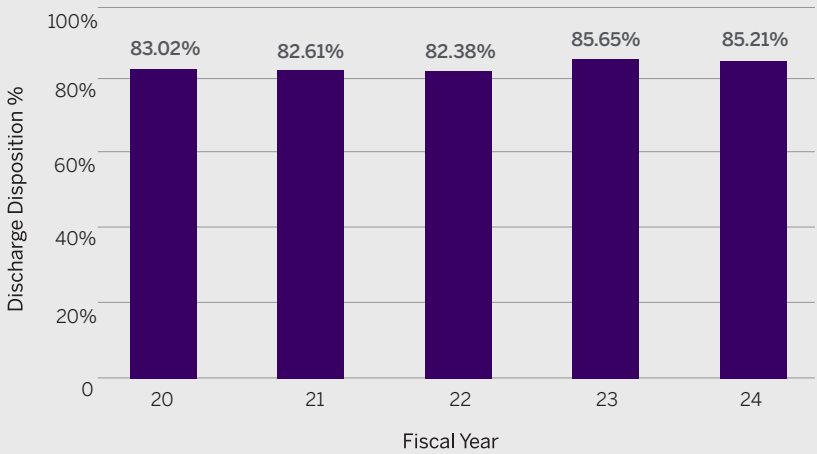
OPERATING ROOM EFFICIENCY



WILLINGNESS TO RECOMMEND OUR HOSPITALS



PERCENTAGE OF PATIENTS DISCHARGED HOME



MORTALITY RATIO: OBSERVED TO EXPECTED





RESEARCH REPORTS

1 Philipp Leucht, MD, PhD (left) and Kenneth A. Egol, MD (right)

To raise the quality of orthopedic care for all patients, our doctors conduct patient safety and outcomes research. Here are some highlights of recent efforts designed to identify the most effective strategies for treating orthopedic diseases, while optimizing quality, safety, and outcomes.



2 Jody Litrenta, MD

New Radiographic Protocol Reduces Pediatric X-Ray Exposure

Dr. Jody Litrenta and colleagues developed and implemented a novel radiographic protocol that decreases pediatric x-ray exposure in patients with suspected fractures. This study was published in the *Journal of Pediatric Orthopaedics*. Our study shows that the protocol reduces the overall number of X-rays needed to evaluate suspected fractures without missing any injuries.

Playground Injuries

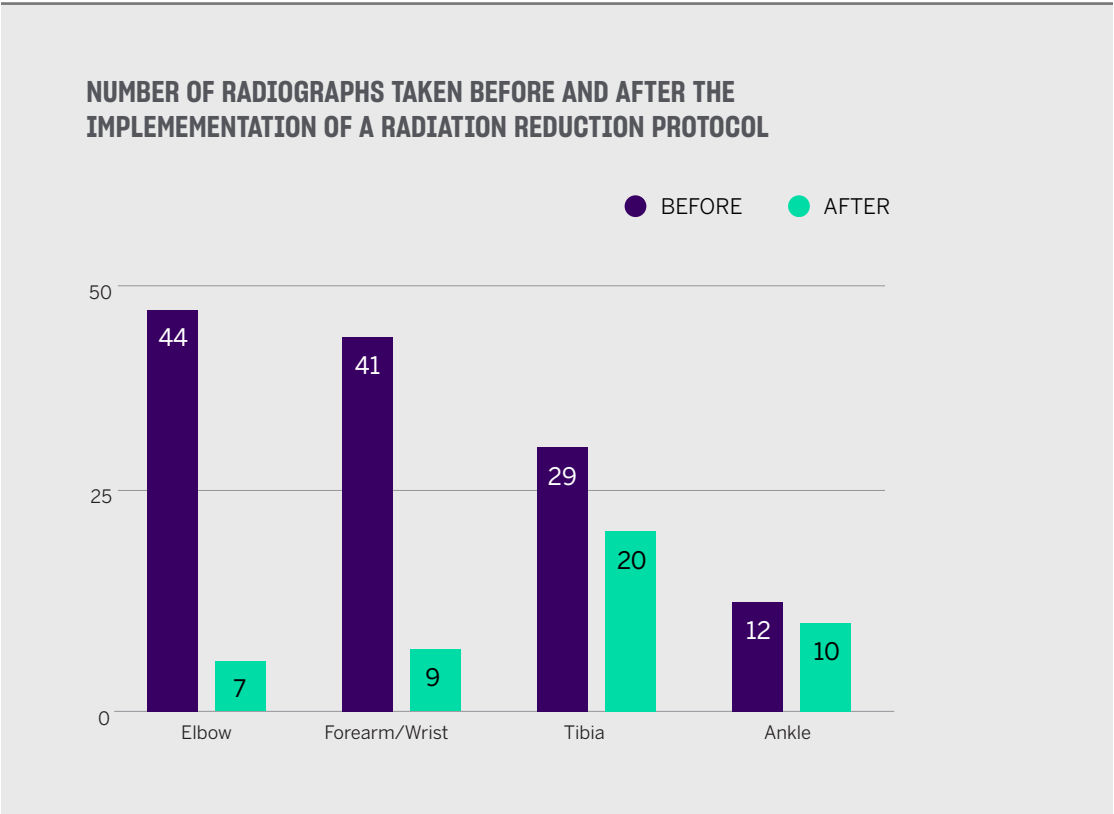
We conducted a retrospective chart review of 495 cases to develop a standardized protocol. “We wanted to see what kinds of injuries we were getting and what the current practice was,” she says.

Based on the data, we created and distributed a simplified decision matrix to help emergency room physicians and consulting residents think through when another X-ray is or isn’t necessary.

“

In kids with the lower-energy, playground injuries that we typically see here at NYU Langone, it’s generally safe to focus on one fracture area and not expand that”

— JODY LITRENTA, MD



In a Randomized Controlled Trial; Cannabidiol Improves Pain and Satisfaction After Rotator Cuff Repair

Cannabidiol (CBD) significantly improves pain control and patient satisfaction in the immediate postoperative period after arthroscopic rotator cuff repair, according to a recent study in *The American Journal of Sports Medicine*. Authored by NYU Langone Health surgeons, the research also offers preliminary evidence that higher CBD doses may yield better outcomes.

DAY 1 POSTOPERATIVE

- Increase in pain control
- Higher satisfaction with pain management

DAY 2 POSTOPERATIVE

- Higher satisfaction with pain management

Participants were randomly assigned to receive oral tablets containing 25 or 50 mg of CBD (based on their body weight) taken three times a day for 14 days, or placebos that were identical in taste and appearance. All study participants also received oxycodone/acetaminophen to take if needed.

“Surgeons and other physicians ought to consider including cannabidiol as part of a multimodal pain management scheme.”

— MICHAEL J. ALAIA, MD

Pain, as assessed by the visual analog scale, was significantly lower in patients receiving CBD than in those taking the placebo on postoperative day one. Moreover, satisfaction with pain control was significantly higher among those receiving CBD on postoperative days one and two. Opioid consumption remained low in both groups, the study found.

SUBGROUP ANALYSIS OF POSTOPERATIVE PAIN			
	PLACEBO	25 MG CBD	50 MG CBD
Day 1	5.7	5.1	3.9
Day 2	5.3	4.7	4.7
...
Day 14	2.3	2.0	1.1



Michael J. Alaia, MD

“Starting with the SLAP repair is not without harm; patients may be compromising their potential outcome more than if they just had the primary bicep tenodesis to begin with.”

— ERIC J. STRAUSS, MD

Rethinking the Value Proposition of SLAP Repairs

“In this study, we found that it’s better to do the primary biceps tenodesis, if it’s indicated, than to repair the SLAP tear,” Dr. Jazrawi says. “The take-home message is that starting with the SLAP repair is not without harm; patients may be compromising their potential outcome more than if they just had the primary bicep tenodesis to begin with.”

Better Outcomes


Our retrospective comparison study, published in *Arthroscopy, Sports Medicine, and Rehabilitation*, compared 57 male patients who underwent a primary biceps tenodesis with 19 counterparts who underwent a secondary biceps tenodesis after an initial, failed SLAP repair. We found that the primary biceps tenodesis cohort reported significantly better functional and pain outcomes. The study found no significant differences in the rate or timing of return to play, and none of the patients required a further shoulder surgery after the biceps tenodesis.



Laith M. Jazrawi, MD, speaks with a patient.

FUNCTIONAL OUTCOMES OF PRIMARY AND SECONDARY BICEPS TENODESIS		
	PRIMARY BT	SECONDARY BT
AMERICAN SHOULDER & ELBOW SURGEONS SCORE	89.9	76.4
VISUAL ANALOG SCALE	1.0	3.2
SUBJECTIVE SHOULDER VALUE	86.7	64.7
SATISFACTION	84.8%	74.1%



 Mandeep S. Virk, MD

Computer-Assisted Navigation Is Safe & Effective for Shoulder Arthroplasty

Computer-assisted navigation (CAN) provides surgeons with real-time visual guidance and alignment data. For total shoulder arthroplasty (TSA), CAN helps surgeons precisely and accurately implant glenoid components and correct a glenoid deformity. Although this method of computer-assisted navigation surgery has surged in popularity, studies haven't yet assessed its efficacy and safety during TSA.

We reviewed 16,723 anatomic and reverse TSAs performed worldwide with CAN and found it to be very precise with minimal deviation in intraoperative execution of the preoperative plan. Our analysis, published in the *Journal of Shoulder and Elbow Surgery*, also revealed the user-friendly feature of CAN with surgeons completing every step of the navigation procedure without abandoning it in 98% of cases. We also found CAN to be safe with only 9 coracoid fractures (0.05%) in the surgical cohort.

"The take-home message is that computer-assisted navigation surgery is safe to use, is reliable, and has a high efficacy with a quick learning curve," says lead author and orthopedic surgeon Mandeep S. Virk, MD, chief of the Division of Shoulder and Elbow Surgery. "It's a large database study of all the computer navigations that have been done so far for TSA. So the inclusiveness of every case to come up with a learning curve and data on safety and efficacy, I think, is the real hallmark of this study."

Computer-Captured Measurements

Dr. Virk and colleagues have used the CAN system since 2018 for TSAs. Prior to each surgery, surgeons plan the procedure out on a three-dimensional CT scan model in the system's software.

"The navigation procedure allows real-time accurate guidance. Dr. Virk says. "During the computer navigation surgery, the computer camera picks up the infrared signals from the surgical instrument trackers and the patient' shoulder in real time and provides live visual feedback to the surgeon with respect to the deviation from their preoperative plan. This enables us to determine the accuracy of implant placement in real time."

Interactive Guidance

The low rate of coracoid fractures suggests that the procedure is safe, though Dr. Virk cautions that the study didn't include patient-reported outcomes. Those outcomes, he says, should be reported in other forthcoming studies.

This study confirms that preoperative plans can be replicated in the operating room with accuracy and precision, especially for cases that involve glenoid deformity.

"Having an interactive navigation tool in the operating room allows me to make sure that what I have planned for a shoulder implant I can do with high accuracy using live feedback from a computer," Dr. Virk says. "If I am doing shoulder replacement without any kind of navigation feedback and relying purely on anatomic landmarks, that becomes very challenging in presence of glenoid deformities because the anatomic landmarks are compromised and not reliable."

Getting Clarity on Inpatient Falls After Knee Replacement

Inpatient falls after total knee arthroplasty (TKA) can lead to patient injury and delay postoperative recovery. Orthopedic surgeons often use adductor canal blocks (ACBs) during such surgeries to improve pain control, but some experts have raised concerns over whether the blocks might contribute to the loss of proprioception and motor or sensory function and predispose patients to falls.

Tourniquets can improve perioperative visibility but have prompted similar concerns: that they could impair quadriceps muscle function and contribute to postoperative inpatient falls.

A retrospective analysis of nearly 6,500 patients who underwent an elective TKA and stayed at least one night in the hospital at NYU Langone Health, however, found no association between fall incidence and the use of a tourniquet, an ACB, or both together.

Instead, the patient safety study pointed to longer lengths of stay as increasing fall risk, leading to higher all-cause revision rates.

"Our validating study showed that using tourniquets and blocks, even in combination, doesn't have any significant effect on inpatient falls and can be used safely for knee replacement," says study co-author and orthopedic surgeon Joshua C. Rozell, MD.

Low Fall Incidence

The study found a low occurrence rate of inpatient falls: 2.7 falls per 1,000 patient-days. Of the 6,472 patients included in the study, 39 sustained falls, most commonly on postoperative days one and two.


The patients who fell had significantly longer lengths of stay (3 days versus 2.3 days) and higher revision rates at latest follow-up (10.3 percent versus 2 percent) than their counterparts who didn't fall. Of the 39 patients who fell, 6 sustained minor injuries and 1 sustained an ankle fracture that did not require further surgery.

The research, Dr. Rozell says, highlights the collaborative, multidisciplinary efforts of the arthroplasty program's surgeons, nurses, anesthesiologists, physical and occupational therapists, and case managers.

The important observation that neither tourniquets nor ACBs increased the low fall rates, he adds, suggests that both perioperative TKA interventions can be safely used, based on a surgeon's comfort level.

"If a surgeon feels comfortable performing the surgery with a tourniquet, I don't think there's any significant detriment to using one," he says. "In general, I also think the adductor canal block is a useful adjunct to help with postoperative pain control and limiting the amount of opioids that patients require."



 Joshua C. Rozell, MD





Orthopedic nurse practitioner works with John G. Kennedy, MD.

Biologic Adjuvants Promote Healing of Ankle Cartilage Lesions

Un-treated osteochondral lesions of the talus often lead to early-onset ankle arthritis. Since articular cartilage has no healing potential, these ankle injuries are typically addressed surgically.

Traditional surgical treatments without the addition of biologics yield fibrocartilage, which is mechanically inferior than the joint’s native hyaline cartilage. In 2017, the International Consensus Meeting on Cartilage Repair of the Ankle concluded that biologic adjuvants, which can augment post-surgical cartilage healing by making it more hyaline-like, should be considered an essential rather than an optional part of the treatment regimen.

“

Once efficacy is confirmed, biologics will help in sports injuries and in arthroplasty. We'll have new tools to promote regeneration and repair.

— JOHN G. KENNEDY, MD

To help surgeons sort through the expanding roster of adjuvants for ankle cartilage injuries, Dr. Kennedy and a collaborator recently highlighted some of the most promising options in the *Journal of the American Academy of Orthopedic Surgeons*.

Platelet-Rich Plasma

An NYU Langone study showed that a single in-office PRP injection is as effective as serial injections for giving patients with small chondral defects some symptomatic relief.

PRP is a potent anti-inflammatory and also an upregulator of metalloproteinases that control joint homeostasis and can stop cartilage destruction. Dr. Kennedy, however, cautions that the adjuvant doesn’t contain stem cells, contrary to some claims, and is more chondroprotective than chondrogenic. “It doesn’t produce a new joint or new cartilage,” he says, “but in small areas you can certainly affect your fibrocartilage infill, which may be helpful in the short term or medium term.”

Concentrated Bone Marrow Aspirate

Iliac crest concentrated bone marrow aspirate (CBMA), is typically injected into the ankle joint. Unlike PRP, Dr. Kennedy says, CBMA contains a small quantity of stem cells. Researchers believe that injected stem cells become engulfed by macrophages or monocytes to become activated macrophages and part of a biological milieu known as the secretome. In the right environment, the secretome can have chondrogenic, chondroprotective, immune modulatory, and antibacterial effects.

Micronized Adipose Tissue

In the first study of its kind in the U.S., Dr. Kennedy and colleagues showed that injected fat cells can improve clinical outcome scores in patients with post-traumatic osteoarthritis of the ankle. The micronized adipose tissue, he suspects, contains additional factors that may add to the effect.



Stratifying Patients by Discharge Destination after Joint Replacement

In a retrospective study of more than 20,000 patients undergoing total knee or hip arthroplasty, NYU Langone Health researchers report the first validated decision-making tool that predicts discharge to home versus inpatient rehabilitation or a skilled nursing facility.

Dr. Schwarzkopf lead a nationwide group of colleagues and developed an online prediction model consisting of nine preoperative parameters to identify high-risk patients. The focus on parameters easily pulled from the electronic medical record enables discharge planning to occur well in advance of surgery.

Compared to simple random selection, the clinical decision-making tool yielded a 79 percent improvement in positive predictive value and a 56 percent decrease in the number needed to screen to identify one true positive.

The study also indicated that 15.5 percent of the patients qualified for rehabilitation, which Dr. Schwarzkopf notes is to be expected for a tertiary referral center that often sees patients with comorbidities.

SUBGROUP ANALYSIS OF POSTOPERATIVE PAIN		
	PREDICTIVE TOOL	RANDOM PREDICTIVE TOOL
Overall Accuracy	0.679	0.5
Positive Predictive Value	0.277	0.155
Negative Predictive Value	0.919	0.845
Number Needed to Screen	3.605	6.449
Number Needed to Benefit	18.024	32.243

The performance of the new tool for predicting discharge destination compared to random selection, or the absence of a tool. ADAPTED FROM: J Bone Joint Surg Am. 2022 Sept;104-A: 1579-1585.

PREOPERATIVE PARAMETERS
PREDICT DISCHARGE DESTINATION

- Age
- Partner Status
- American Society of Anesthesiologists (ASA) score
- Body Mass Index
- Gender
- Neurologic Disease
- Electrolyte Disorder
- Paralysis
- Pulmonary circulation disorder

The nine preoperative variables used in a new tool for predicting discharge to home versus inpatient facilities following total hip or knee replacement. ADAPTED FROM: J Arthroplasty. 2021 Apr;36:1212-1219.

Extending the Treatment Window for Open Distal Radius Fractures

Within orthopedics, open fractures have long been viewed as a surgical emergency, irrespective of location, patient characteristics, or the mechanism of injury. After an open distal radius fracture (ODRF), for example, orthopedic surgeons have typically advised urgent irrigation, debridement, and operative fixation.

“The value of this study is that it asked us to start thinking much more scientifically about open fractures. There’s a world of difference between an open femur and an open distal radius.”

— JACQUES H. HACQUEBORD, MD

However, a retrospective analysis led by investigators at NYU Langone Health—the largest of its kind—challenges these practices. The study, which was named the best hand and wrist paper at the 2023 American Academy of Orthopaedic Surgeons (AAOS) Annual Meeting, finds delaying treatment for an ODRF injury beyond 24 hours does not yield a greater risk of postoperative complications. Age, energy and mechanism of injury, or fracture grade doesn’t alter the outcome in any statistically significant way either.

“The value of this study is that it allows us to start thinking much more scientifically about open fractures,” says senior author Jacques H. Hacquebord, MD, Chief of the NYU Langone Division of Hand Surgery.

“There’s a world of difference between an open femur and an open distal radius. We can’t think of them and treat them the same way. What’s good for one might not be good for the other, and vice versa.”

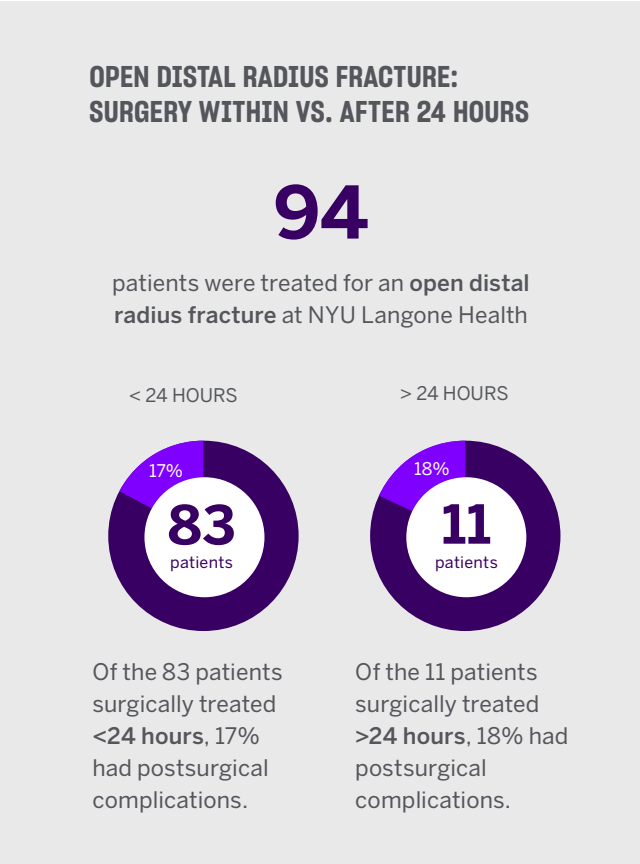
The study, which included 94 patients presenting with an ODRF injury over a six-year period, analyzed the rate of postoperative complications, including surgical site infection, revision irrigation and debridement, delayed soft tissue healing, loss of reduction, and nonunion and malunion. A follow-up national database study by the research team, still underway, has so far pointed to the same conclusions.



➊ Omri B. Ayalon, MD, (left) and Jacques H. Hacquebord, MD, (right) perform surgery.

Dr. Hacquebord says that similar complication rates regardless of time to treatment have important implications for resource allocation.

“What would be better: for a patient to go urgently to the operating room in the middle of the night with a surgeon who is not a specialist in the area or to be taken to the operating room by a surgeon who is a specialist in the area at a time that’s convenient for the patient?” he says. “I think the latter is much better patient care. That’s what we’ve shown, and people overall have been very excited by our results.”



Needle Arthroscopy is Non-inferior to Traditional Arthroscopy in Wrist Diagnostic Capability

A study of 20 patients led by NYU Langone Health researchers affirms that needle arthroscopy matches the diagnostic accuracy of conventional wrist arthroscopy. “There was never a case where we couldn’t see everything we needed to see, which was a surprising finding,” says orthopedic surgeon and study lead author Nader Paksima, DO, MPH. “I thought that was going to be one of the limitations of the needle scope when we first started out the study.”

Although the image quality of the smaller scope is slightly lower, Dr. Paksima says it still provides full diagnostic capabilities. “Once you get used to it, and our study proves it, you can see everything that you can see with the big camera. We didn’t miss anything with the needle scope,” he says.

“Once you complete the short learning curve, you can see everything that you can see with a conventional arthroscope. We didn’t miss anything with the needle scope.”

— NADER PAKSIMA, DO, MPH

The smaller scope, in fact, provides better access to the mid-carpal joint and better visualization of the scapho-trapezium-trapezoid and carpometacarpal joints. “Cartilage damage to the mid-carpal joint is minimized by the needle scope because it’s much smaller and much easier to insert than the standard arthroscope,” he adds.

Setting up a Comparison

A new 1.9 mm needle arthroscope with a flexible tip is less invasive than the traditional 2.7 mm rigid arthroscope. However, its effectiveness in diagnosing carpal pathology, compared to a 2.7 mm arthroscope, had not been studied.

Dr. Paksima and colleagues at the NYU Langone Hand Center used the needle arthroscope to evaluate patients for synovitis; cartilage damage; and integrity of the volar, scapholunate, and lunotriquetral ligaments, as well as the triangular fibrocartilage complex. After completing a survey regarding the visualization and diagnosis, the surgeons performed a conventional wrist arthroscopy, followed by a second survey to compare the two techniques. As part of the evaluation, they also compared how well the scopes visualized ten landmarks within the wrist joint.

A Less Invasive Alternative

The authors found that because the 2.7 mm scope’s bigger camera provides a somewhat larger and better picture, switching to the smaller camera required a learning curve. The typical 30-degree angled view afforded by a standard arthroscope allows surgeons to rotate the camera and see a relatively large surface area. By contrast, the needle scope provides an end-on view, akin to looking through a telescope. The needle scope’s flexible tip, however, allows for easy manipulation of the camera to widen the field of view and the surgeons reported no difference in the ease of use.

“I was concerned that with an end-on view, I wouldn’t be able to look around the corner within joints,” Dr. Paksima says. “What we found in our study was that we were able to see everything, even with a needle scope, and that may have to do with the flexibility of the tip because it can bend around things.”

Based on the encouraging results, Dr. Paksima and his colleagues have changed there practice and now routinely use needle arthroscopy to diagnose carpal pathologies. “What’s exciting is that it works very well and it’s reliable; in the future, I imagine doing the needle scope in a less invasive setting like an office or a procedure room,” he says.

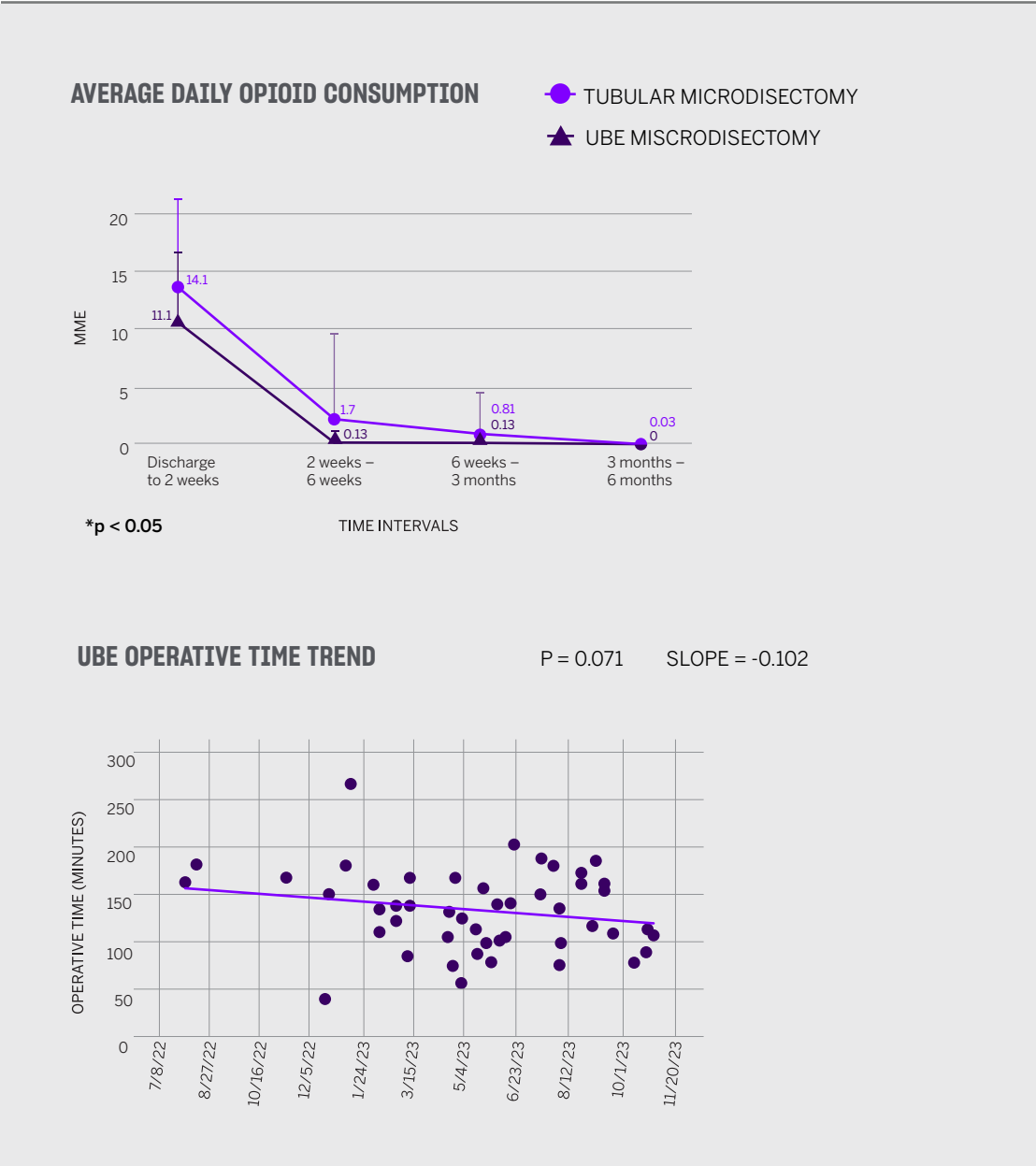
Minimally Invasive Approach Reduces Opioid Use in Recovery After Spinal Discectomy

Unilateral Biportal Endoscopic (UBE) discectomy—an emerging, minimally invasive treatment for lumbar disc herniation—has shown promise in reducing patients’ postsurgical use of opioids when used as an alternative approach to tubular lumbar microdiscectomy.

In a retrospective cohort study of 102 adults undergoing primary, single-level UBE or tubular lumbar micro-discectomy, average intake volume of both opioid and nonopioid pain medications was significantly lower from discharge to

two-week follow-up. Though UBE procedures were associated with longer operative duration, no significant differences in surgical complications or length of stay were observed.

As focused efforts to reduce postsurgical opioid use continue, these initial findings suggest a pain management advantage early in the recovery period after UBE. Future studies with larger sample sizes and prospective designs could further inform long-term outcomes and efficacy of UBE as an effective alternative to tubular lumbar microdiscectomy.



About Us

NYU Langone Orthopedics

NYU Langone Orthopedics is one of the largest and most accomplished orthopedic programs in the country. Under the leadership of Joseph D. Zuckerman, MD, the Walter A.L. Thompson Professor of Orthopedic Surgery, our expanding footprint covers the entire New York metropolitan area, including facilities throughout New York City’s five boroughs, Westchester County, Nassau County, Suffolk County, and New Jersey. Our faculty at NYU Grossman School of Medicine and NYU Grossman Long Island School of Medicine has grown to more than 240 physician experts dedicated to excellence in orthopedic care. Additionally, we are expanding our footprint in West Palm Beach, Florida, where we are creating a state-of-the-art Ambulatory Surgery Center. Our physicians provide world-class care in all orthopedic subspecialties, including adult reconstructive surgery, orthopedic trauma, spine surgery, sports medicine, hand surgery, musculoskeletal oncology, shoulder and elbow surgery, pediatric orthopedics, primary care sports medicine, and foot and ankle surgery.

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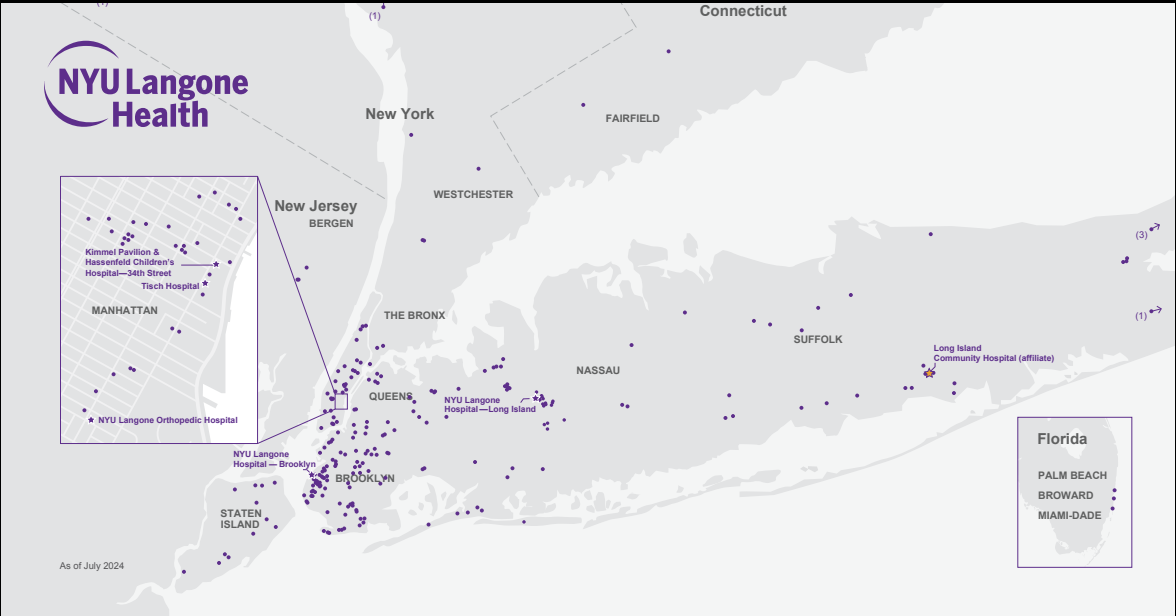
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About NYU Langone Health

NYU Langone Health is a world-class, patient-centered, integrated academic medical center, with a culture rooted in excellence in patient care, education, and research. Vizient, Inc., has ranked NYU Langone the #1 comprehensive academic medical center in the country for three years. NYU Langone offers a comprehensive range of medical services across six inpatient locations, its Perlmutter Cancer Center, and more than 300 outpatient locations across the New York area and Florida. The system also includes two medical schools, in Manhattan and on Long Island, and a vast research enterprise.



NYU Langone Orthopedics By The Numbers

<p>CLINICAL CARE</p> <p>450,000+ office visits annually</p> <p>ADVANCED TECHNOLOGY 30+ robotics and navigation platforms systemwide</p>	<p>EDUCATION</p> <p>LARGEST AND ONE OF THE MOST DIVERSE orthopedic residency programs in the United States</p> <p>22 fellows across seven specialty programs</p>	<p>RESEARCH</p> <p>Top 10 in NIH funding for orthopedic surgery</p> <p>350+ peer-reviewed publications annually</p>
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Learn more about how we are
advancing orthopedics on our
website, Physician Focus.