



MaineHealth 2024 Orthopedic Outcomes Guide



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Letter from our Chief

This outcome guide is a reflection of our ongoing efforts to first and foremost, deliver the optimum care for our orthopedic patients, and to honestly and objectively report the results of those efforts.

We have experienced significant growth in the past year, and have created pathways and procedures that have further enhanced the speed of recovery and return to function from orthopedic surgery, keeping us at the leading edge of the specialty.

It is our belief that our clinical activity should be subject to scrutiny, objectively analyzed, and reported honestly. This information informs our clinical processes, guides our surgical advances, and allows us to further refine the care we deliver.

We are happy to share this information so that you might evaluate our program as we do, knowing that this transparency will demonstrate not just the excellence we are committed to, but our desire to make all such information public, so that you can make informed decisions regarding orthopedic care.

Thank you,

George Babikian, MD
Chief of Orthopedic Surgery,
Maine Medical Center



2024 Awards and Recognition



U.S. News & World Report named Maine Medical Center (MMC) Portland as the top hospital in Maine for 2024-2025, marking the twelfth straight year MMC Portland has acquired the honor.



MMC Portland was recognized as "High Performing" in Hip Replacement, and Knee Replacement by U.S. News & World Report's 2024-2025 Best Hospitals List.



MMC Portland and Biddeford/Sanford Joint Replacement Programs have earned the Joint Commission's gold seal of approval for hip and knee replacement surgery.



MMC Portland has been recognized by Healthgrades with America's 100 Best Hospitals for Joint Replacement Award, and Outpatient Orthopedic Surgery Excellence Award.



MMC Portland has been recognized by Healthgrades with America's 50 Best Hospitals for Outpatient Joint Replacement Award.

2024 Orthopedics in Numbers

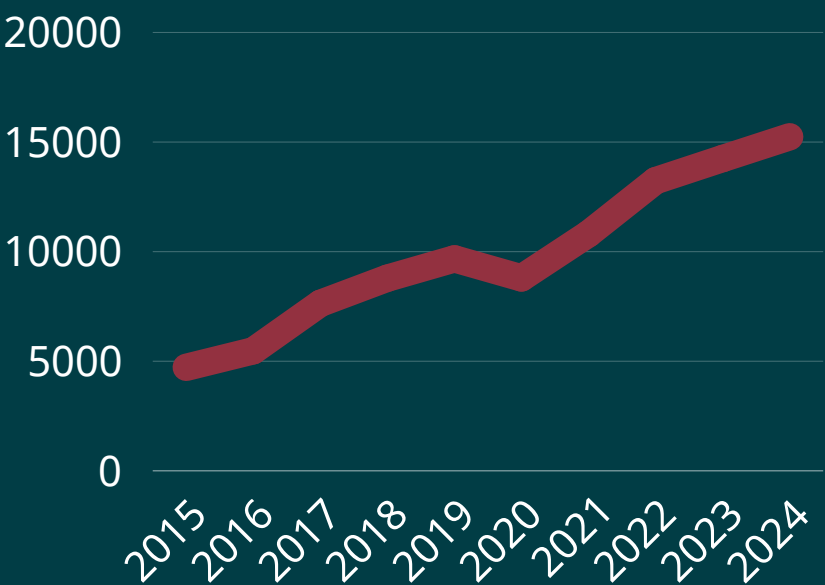
9 Locations

57

Orthopedic Surgeons

15,259

Orthopedic Surgeries



7% growth in total surgery volume from 2023

90%

Patients discharged
home

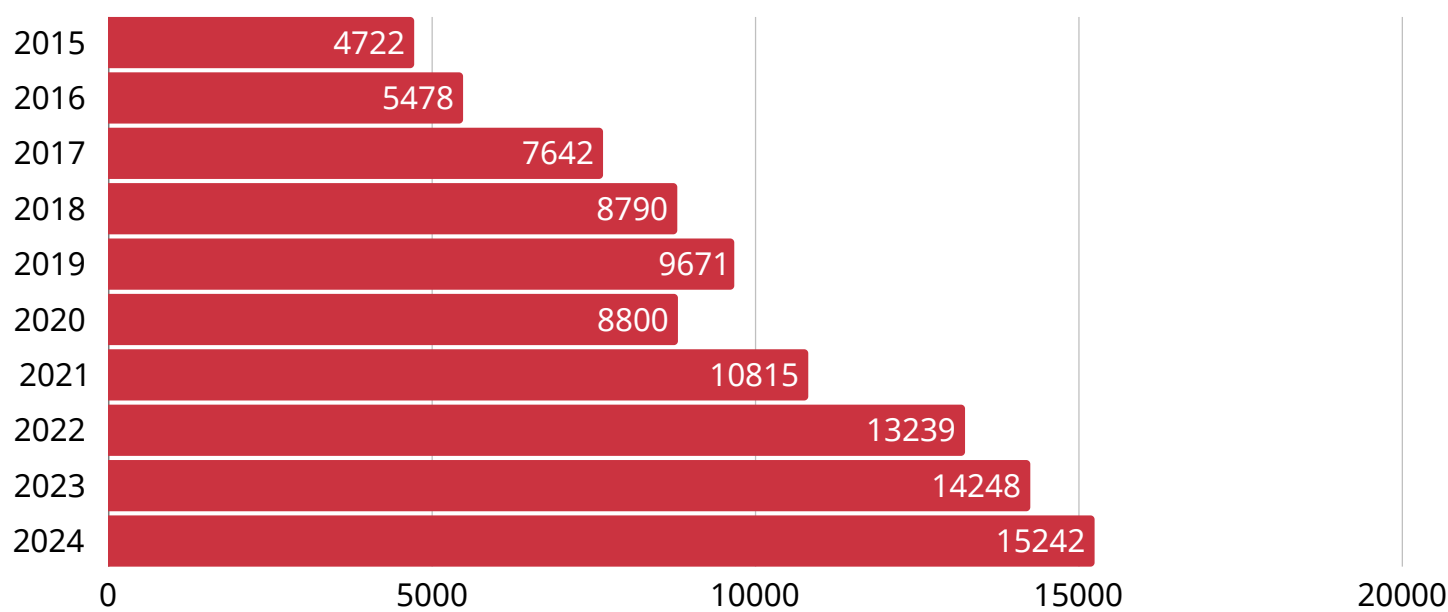
16

Research papers
published

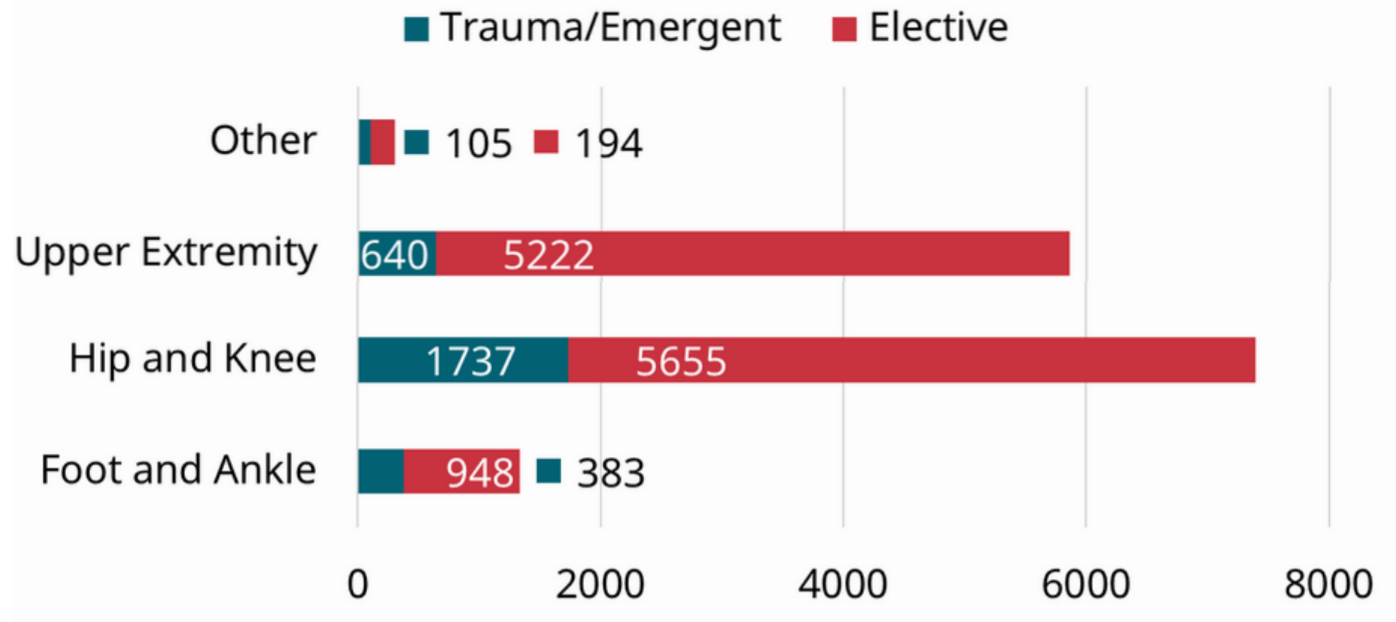
MaineHealth 2024 Orthopedic Procedure Volume

Research has proven that higher procedure volume correlates with better surgical performance. MaineHealth Orthopedics is devoted to ensuring growth in procedure volume to achieve better outcomes for our patients.

Total Surgery Procedure Volume

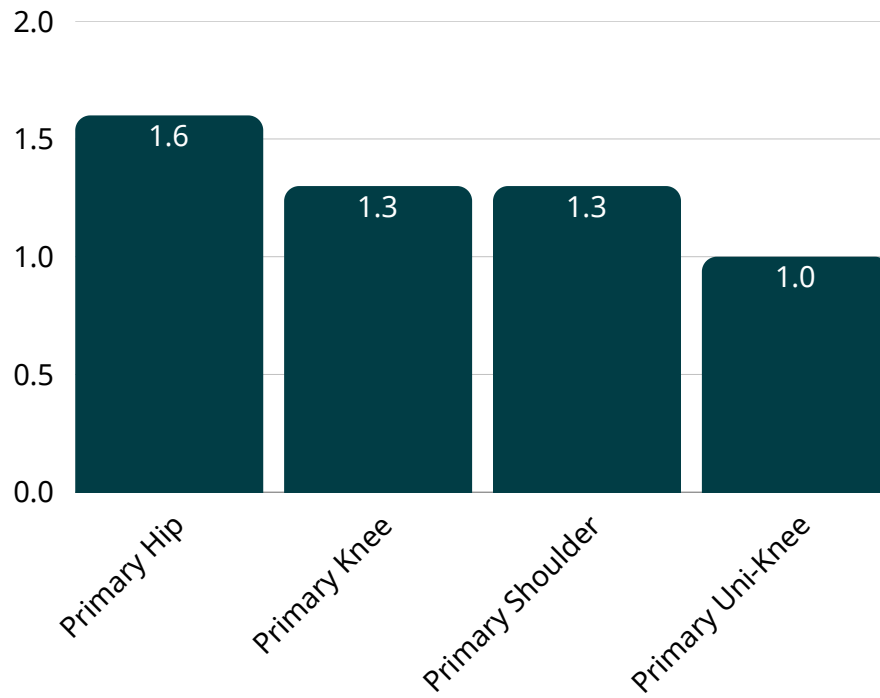


Procedure Volume by Subspecialty



Statistics

Length of Stay Post-Op (days)

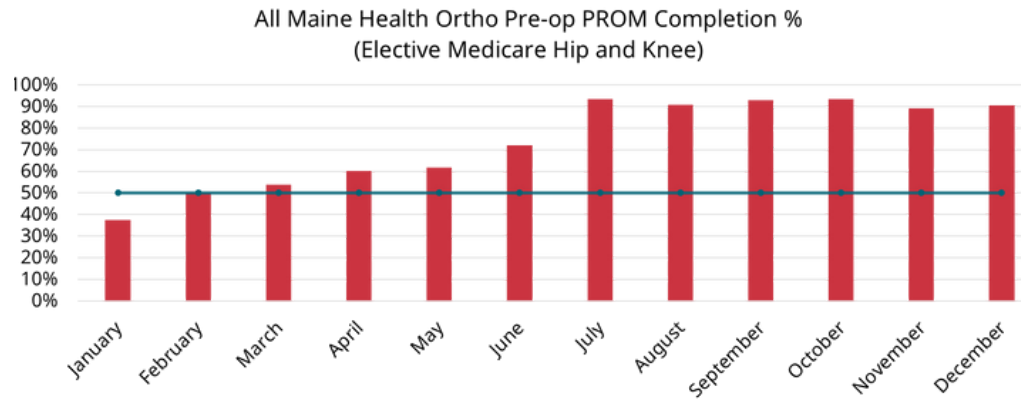


Data Capture

Patient-Reported Outcome Measures (PROMs)

Collection

MaineHealth has made significant strides in ensuring the highest quality of care through the expansion of pre-operative PROM collection for orthopedic surgeries across all its sites. This initiative aligns with the CMS mandate, effective July 2024, which requires the collection of pre-operative and one-year post-operative PROMs for Medicare inpatient total hip and knee arthroplasties. Since 2021, MMP Ortho JR has been collecting PROMs in our electronic health records system, but prior to 2024, most sites had a 0% collection rate or used methods that were difficult to extract. Starting in April 2024, MaineHealth implemented a centralized and consistent PROMs collection process across all sites.

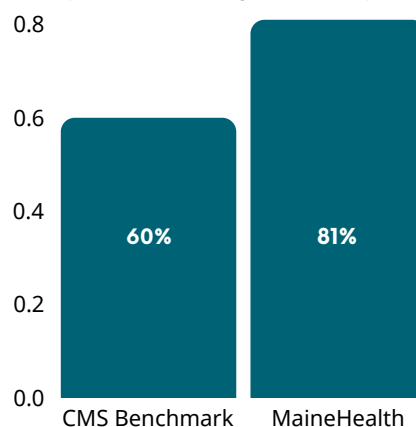


This system not only meets CMS requirements but also ensures that MaineHealth is well-prepared for any future expansions of these requirements. The data collected is already proving valuable for research and quality improvement efforts, demonstrating MaineHealth's commitment to delivering excellent patient outcomes.

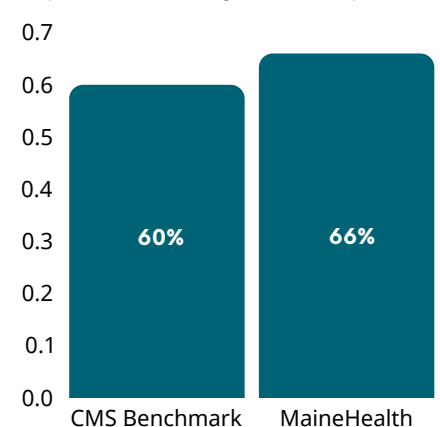
Measuring Patient Improvement Through Substantial Clinical Benefit

Patients undergo joint replacement surgeries to improve their mobility and reduce pain in daily activities. One of the ways MaineHealth measures this improvement is through patient reported outcome questionnaires pre and postoperatively. In 2024, Center for Medicare and Medicaid Services (CMS), set a benchmark for improvement from joint replacement surgeries, indicating that the surgery had a substantial clinical benefit if patients improved at least 20 points for a knee or 22 points for a hip replacement. The national goal is for 60% of patients to reach substantial clinical benefit.

% OF HIP REPLACEMENT PATIENTS WHO MET SUBSTANTIAL CLINICAL BENEFIT
(measured through Hoos, JR.)



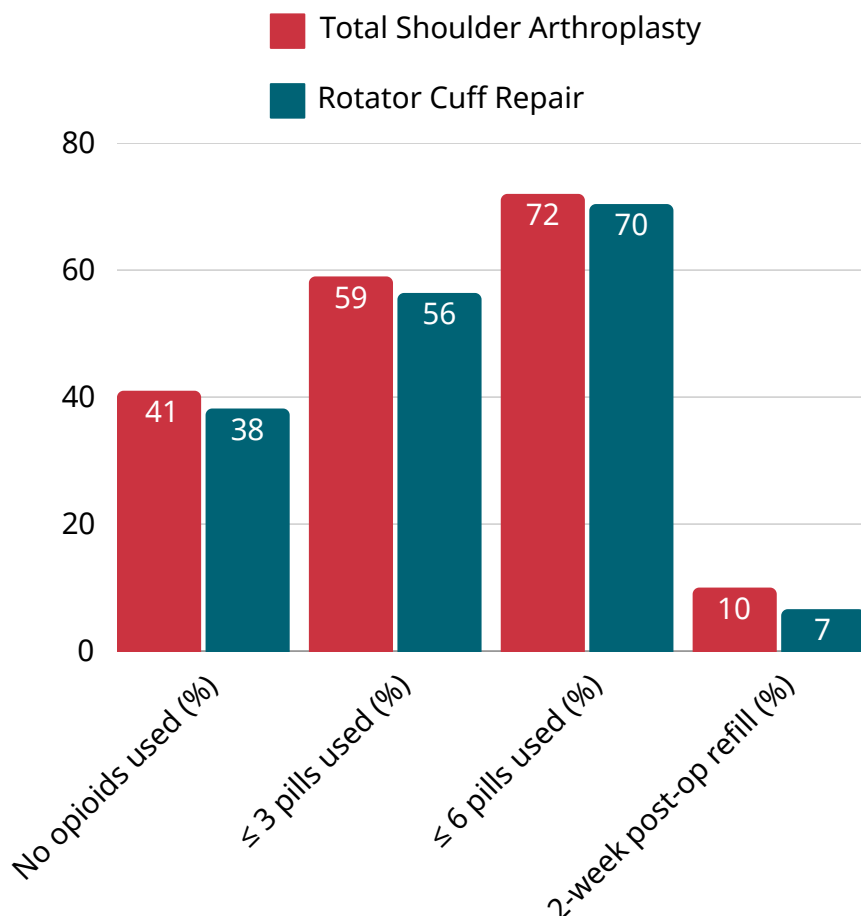
% OF KNEE REPLACEMENT PATIENTS WHO MET SUBSTANTIAL CLINICAL BENEFIT
(measured through Koos, JR.)



Reducing Opioids in Orthopedics

MaineHealth Orthopedics is continually striving to provide patients with the best care and outcomes. In response to the opioid epidemic, a team of MaineHealth orthopedic surgeons are pioneering safer, opioid-sparing approaches in orthopedic surgery.

Opioid-related overdose deaths have risen sharply, with excessive perioperative prescriptions contributing significantly. Orthopedic surgeons, the third-highest prescribers of opioids, often see 70% pills go unused. A team of MaineHealth orthopedic surgeons conducted a study to test a multimodal analgesic protocol to dramatically reduce opioid use. With 41% of patients using no opioids and 72% consuming six or fewer tablets. These reductions did not increase pain scores or complications, highlighting the potential for safer, opioid-sparing approaches in orthopedic surgery.



5 pills consumed on average for TSA patients

6 pills for rotator cuff repair patients

Quality Initiatives

System-Wide Orthopedic Quality Dashboard

As MaineHealth continues to grow, we have developed a system-wide dashboard to track key quality measures, including surgical volume, 30-day ED visits, 90-day readmissions, infection rates, complications, and OR times. Using CPT/ICD-10 codes, the dashboard provides unbiased results with a consistent methodology, allowing physicians and locations to compare performances. These metrics serve as a valuable tool to identify areas for improvement and focus quality enhancement efforts.

Hip Fractures

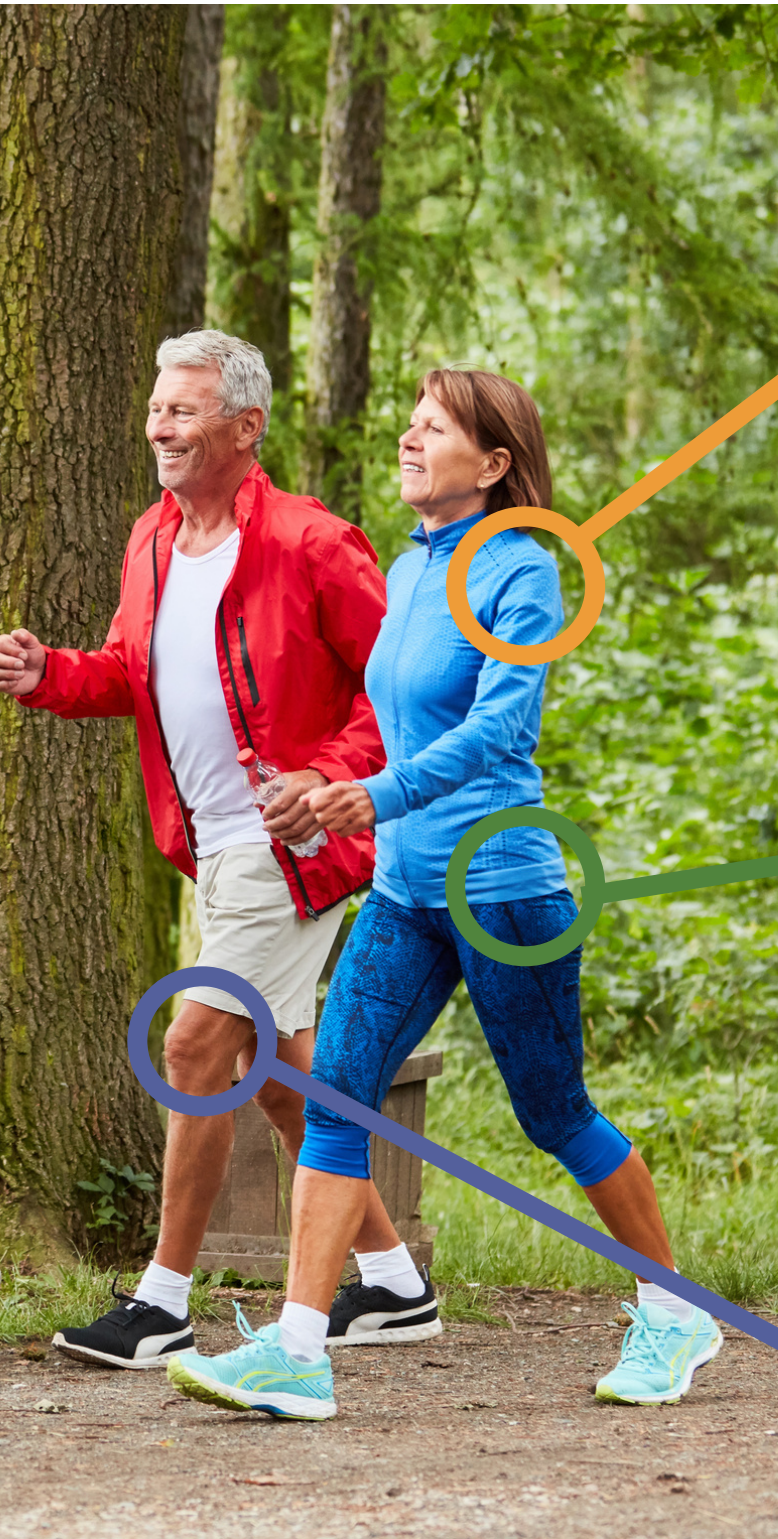


In 2024, Maine Health Orthopedics completed a two-year long quality project at Maine Medical Center Portland that worked to reduce the time to surgery for hip fracture patients. Hip fracture surgery is one of the most common orthopedic trauma surgeries in Maine, with about one a day done at MMC Portland. This project stemmed from a multi-center collaborative study with Stanford. Delayed surgery (>24-48 hours) for hip fracture patients is associated with higher morbidity, mortality, and overall cost, but determinants of delayed surgery are varied and context dependent. As such, improvement strategies are ideally specific to the identified driver of delay in a given context.

Working with Stanford staff, semi-structured interviews were completed with stakeholders involved in all aspects of hip fracture care to identify determinants affecting time to surgery for hip fracture patients. Then, working with leaders from Emergency Medicine, Internal Medicine, Anesthesia and many more, Dr. Camuso's team worked to address these determinants. Overall, the project was successful, reporting a decreased time to surgery for hip fracture patients.

One Year Later

At MaineHealth Orthopedics, our goal is to get you back to doing what you love



Shoulders

- 92% of patients report shoulder allows them to sleep comfortably
- 98% of patients report none or mild pain when shoulder is resting at side
- 84% of patients report none or mild pain when shoulder is above head

Hips

- 94% of patients report minimal or no pain walking up or down stairs one year after surgery
- 88% of patients report minimal or no pain while walking on uneven surfaces
- 86% of patients report minimal or no pain or difficulty while sitting

Knees

- 84% of patients reported none or mild pain while walking up or down stairs
- 87% of patients report none or mild pain from rising from sitting
- 83% of patients report none or mild pain while bending to the floor / picking up an object

Excellence in Nursing

- 34 nurses have completed The NAON Orthopaedic Nursing Review Course in 2024
- A total of 11 nurses have become certified since we obtained our Advanced Total Hip and Total Knee Replacement (THKR) certification with the Joint Commission
- 4 nurses have successfully passed the Orthopaedic Nursing Certification (ONC) exam in 2024

The National Association of Orthopaedic Nurses (NAON) supports certification because certification adds value to key stakeholders in health care today. NAON supports orthopaedic nursing certification as provided by the Orthopaedic Nurses Certification Board (ONCB). **Patients and their families benefit from advances in safety and quality and improved processes of care delivered by certified nurses.**

Certified nurses are vital to the success of Advanced Total Hip and Total Knee Replacement (THKR) programs. Their expertise and dedication ensure high standards of patient care and outcomes. Achieving certification not only brings personal satisfaction and professional recognition but also validates their skills and knowledge in the specialized field of Orthopedics.

The THKR certification reflects a commitment to excellence and continuous improvement. Collaborating with the American Academy of Orthopedic Surgeons further underscores the program's credibility and the importance of staying updated with the latest advancements in orthopedic care.



2024 Research and Publications

MaineHealth orthopedic surgeons are heavily involved in research, on both a local, and national scale.

Call CM, McGrory BJ, Thompson EA, Sommer LG, Savadove TS. Treatment of Postoperative Instability Following Total Knee Arthroplasty in Patients With Parkinson's Disease. *Arthroplast Today*. 2023;25:101273. Published 2023 Dec 28. doi:10.1016/j.artd.2023.101273

Allen C, Kumar V, Elwell J, **Watling J**, et al. Evaluating the fairness and accuracy of machine learning-based predictions of clinical outcomes after anatomic and reverse total shoulder arthroplasty. *J Shoulder Elbow Surg*. 2024;33(4):888-899. doi:10.1016/j.jse.2023.08.005

Call CM, Lachance AD, Zink TM, Babikian GM, Rana AJ, McGrory BJ, et al. Variation in Demographics, Hospital, and Patient-Reported Outcomes Following Total Hip Arthroplasty According to Biological Sex. *J Arthroplasty*. 2025;40(1):127-135.e1. doi:10.1016/j.arth.2024.06.063

Call CM, Michalakes PC, Lachance AD, Zink TM, McGrory BJ. A Systematic Review of Retracted Publications in Clinical Orthopaedic Research. *J Arthroplasty*. 2024;39(12):3107-3113. doi:10.1016/j.arth.2024.05.085

DeMik DE, Gold PA, Frisch NB, Kerr JM, Courtney PM, **Rana AJ.** A Cautionary Tale: Malaligned Incentives in Total Hip and Knee Arthroplasty Payment Model Reforms Threaten Promising Innovation and Access to Care. *J Arthroplasty*. 2024;39(5):1125-1130. doi:10.1016/j.arth.2024.01.064

Lachance AD, **Call CM, Radford Z, Sturgeon C, Babikan, GM, Rana AJ, McGrory BJ**, et al. The Association of Season of Surgery and Patient Reported Outcomes following Total Hip Arthroplasty. *Geriatr Orthop Surg Rehabil*. 2024;15:21514593241227805. Published 2024 Jan 12. doi:10.1177/21514593241227805

Giles KA, Farber A, Menard MT, Nolan BW, et al. Surgery or endovascular therapy for patients with chronic limb-threatening ischemia requiring infrapopliteal interventions. *J Vasc Surg*. 2024;80(5):1515-1524. doi:10.1016/j.jvs.2024.05.049

Rana AJ, Askew N, Noyes ML, Mackenzie JA, Call CM, McGrory BJ, Babikan GM, et al. The anterior-based muscle-sparing approach is cost-effective when compared with posterolateral and direct anterior approaches for total hip arthroplasty. *J Med Econ*. 2024;27(1):1124-1133. doi:10.1080/13696998.2024.2398334

Shevenell BE, Mackenzie JA, Tanasijevic K, Sturgeon CM, Babikian GM, McGrory BJ, Rana AJ. Bilateral Total Hip Arthroplasty: Outcomes of Staged Versus Simultaneous Procedures Performed Using an Anterior-Based Muscle-Sparing Approach. *J Arthroplasty*. 2024;39(4):979-984.e3. doi:10.1016/j.arth.2023.10.048

Call C, Kahan J. Interest in Reverse Total Shoulder Arthroplasty is Increasing! An Analysis of Publication Frequency and Google Trends. In-press at *Seminars in Arthroplasty: JSES*. Epub 2024 December. doi: 10.1053/j.sart.2024.10.002

Call C, Lachance L, McGrory B. Osteonecrosis of the femoral head in the peripartum period. *Journal of Orthopedic Reports*. 2024 June 4(1): 100383. doi: 10.1016/j.jorep.2024.100383

Call C, Mackenzie J, McGrory B. Letter to the Editor on "Total Hip Arthroplasty in the Ultrayoung". 2024 Jan 23;26:101279. doi: 10.1016/j.artd.2023.101279. PMID: 39006858.

Yakkanti R, **Call C, Hannon C, Krueger C, Courtney P, Rana A.** Prior Authorization in Joint Replacement Surgery: Navigating Challenges. Accepted at *Journal of Arthroplasty*.

Call C, DeMik D, Elbuluk A, Chalmers B, Herndon C, Frisch N, Kerr J, Rana A. The \$1200 total joint arthroplasty reimbursement: The \$1200 total joint arthroplasty reimbursement: How did we get here, what is the impact, and what comes next? Under review at *Journal of Arthroplasty*.

Whitmarsh-Brown M, **Call C, Kerr J, Herndon C, Deans C, Elbuluk A, Yakkanti R, Rana A.** PJI Centers of Excellence: Moonshot or Misstep? A Survey of the American Association of Hip and Knee Surgeons Members. Under review at *Journal of Arthroplasty*.

Call C, Mackenzie J, Shevenell B, McGrory B, Babikian G, Rana A. The Anterior-Based Muscle-Sparing Approach for Conversion Total Hip Arthroplasty is Safe and Effective. Under revision at *Arthroplasty Today*.



New to Our Team

We are thrilled to welcome exceptional orthopedic surgeons to the MaineHealth team. Their expertise and dedication to patient care will further enhance our commitment to providing the highest quality outcomes for our patients.



Anna H. Jorgensen, MD

Location: MaineHealth MMC Orthopedics- South Portland

Fellowship: University of Utah Health Sciences/Medical Center

Residency: University of Connecticut Health Center

Medical School: Tufts University



Michael S. Roberts, MD

Location: MaineHealth MMC Orthopedics- Falmouth

Fellowship: Brigham and Women's Hospital

Residency: University of Vermont College of Medicine

Medical School: University of South Florida



Elaine Z. Shing, MD

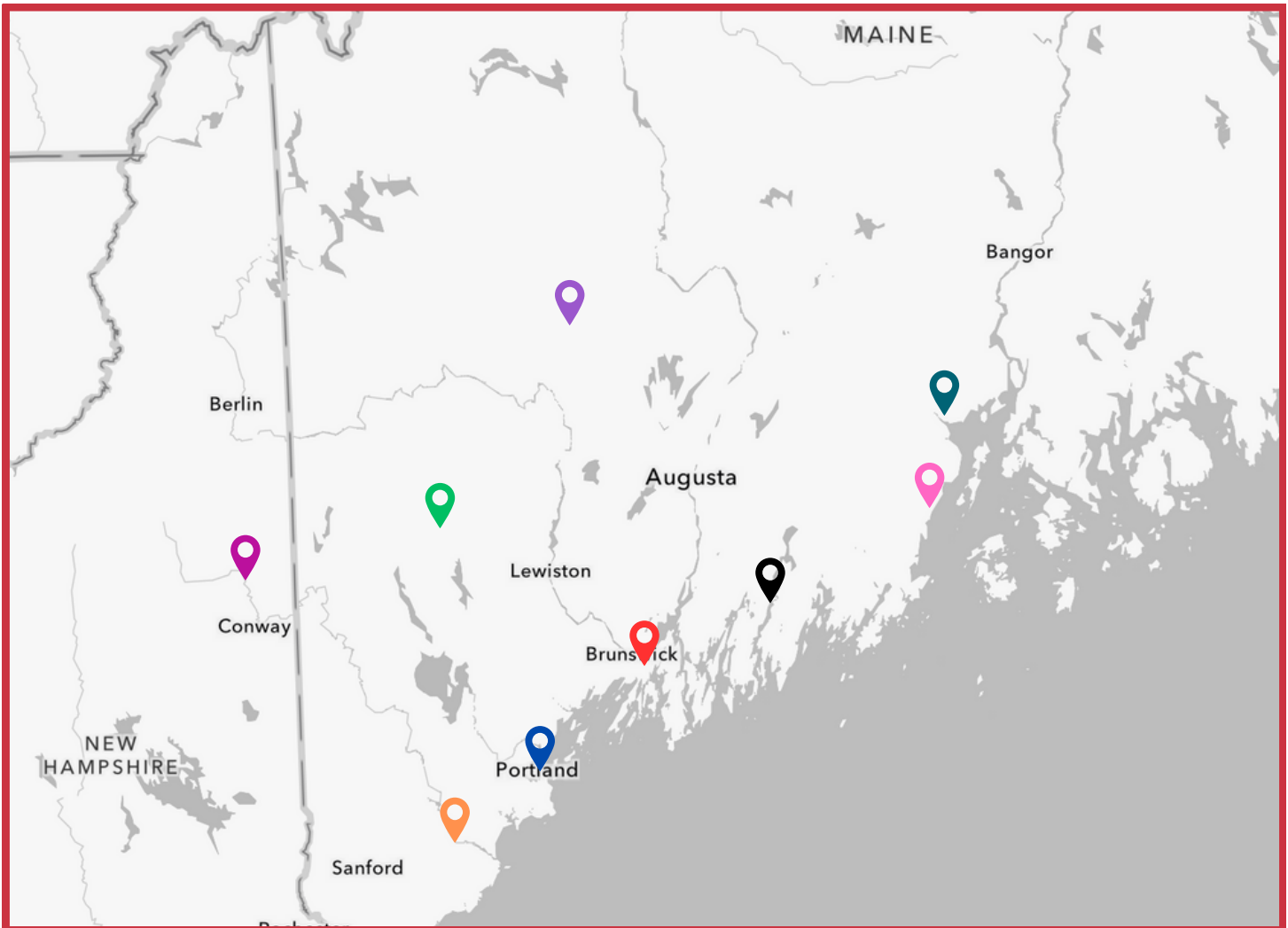
Location: MaineHealth Orthopedics- Norway

Fellowship: University of Utah Health Sciences/Medical Center

Residency: Atrium Health Carolinas Medical Center

Medical School: Wake Forest University

Orthopedic Sugery Locations



Location 		MMC=Maine Medical Center		
Hip Replacement 	Knee Replacement 	Shoulder Replacement 		

 MaineHealth Franklin Hospital
111 Franklin Health Commons
Farmington, ME 04938
(207) 778-6031  

 MaineHealth Lincoln Hospital
35 Miles Street
Damariscotta, ME 04543
(207) 563-1234   

 MaineHealth Pen Bay Hospital
6 Glen Cove Dr
Rockport, ME 04856
(207) 301-8000   

 MaineHealth MMC Biddeford
1 Medical Center Dr
Biddeford, ME 04005
(207) 283-7000   

 MaineHealth Stephens Hospital
181 Main Street
Norway, ME 04268
(207) 743-5933   

 MaineHealth Waldo Hospital
118 Northport Ave
Belfast, ME 04915
(207) 338-2500   

 MaineHealth MMC Portland
22 Bramhall St
Portland, ME 04102
(207)-662-0111   

 MaineHealth MidCoast Hospital
123 Medical Center Dr
Brunswick, ME 04011
(207) 373-6000  

 MaineHealth Memorial Hospital
3073 White Mountain Hwy
North Conway, NH 03860
(603) 356-5461   

Our Orthopedic Providers



Maine Medical Center: Portland and Biddeford-Sanford

Brent A Albright, PA
Lauren E Alofs, PA
F Lincoln Avery, MD
George M Babikian, MD
Christian M Basque, MD
Allsion L Baysol, PA-C
Jeffery J Bean, DO
Michael W Becker, MD
Kirk E Benson, PA
Krystian W Bigosinski, MD
Gregory Y Blaisdell, MD
Suzanne B Bohlmann, PA-C
Stuart V Braun, MD
Jeffery L Bush, MD
Matthew D Bush, MD
Melanie E Campbell, FNP
Matthew R Camuso, MD
Daniel P Cassell, PAC
Christina M Clark, PA
Nicholas D Colacchio, MD
Kathryn M Dobos, FNP
Bronna L Eckelman, PA

Paul J Evans, PA
Rosemary E Fitzpatrick, PA
Patrick J Furlong, PA
Abigail S Gallant, PAC
Repinder S Gill, PA
Heather M Gillespie, MD
Grank S Goudreau, DO
Matthew P Guilbeault, PA
Samantha R Guyette, PA
Erin E Hatch, PSYD
Nathan B Haynes, PA
Christopher R Higgins, PA-C
Sarah C Hoffman, DO
Angela M Jagoutz, FNP
David A Johnson, MD
Anna H Jorgensen, MD
Joseph B Kahan, MD
Amanda K Keene, PA
Dawn Klinner Albright, PA
Amelia N Knowles, PA
Justin P Kuether, MD
Elizabeth L Lavoie, FNP

Brian A Lawhead, PA
Henry C Martensen III, PA
Brian J McGrory, MD
Zoe M McKenzie, PAC
Nicole Elizabeth Merrill, FNP
Courtney L Minzy, PA
Jeff J Nicoletti, PA
Kate E Quinn, DO
Adam J Rana, MD
Michael S Roberts, MD
Gregory A Sawyer, MD
Andrew F Scichilone, PA
Cheryl A Sherman, PA
Eric N Smith, PA
Christopher M Stadler, MD
Jason Stephansky, PA
Michelle B Stirling, FNP
Gregory A Taggart, MD
Scott A Tucker, MD
Joshua J Vaughn, MD
Jonathan P Watling, MD
Raymond R White, MD

Lincoln Hospital

Ross J Feller, MD
Heather V Liimakka, FNP
Brenna Rasmussen, PA-C
Wesley Sulloway, PA
Marion M Swall, MD
Jarrod D Tembreull, MD
Rifat A Zaidi, MD

Memorial Hospital

Gregory B Galvin, DO
David D Hoeft, DPM
Joshua Henry Knowles, DO
Abigail H Lang, PA
Danielle G Phinney, DO
Zachary S Sevigny, FNP
Douglas C Taylor, MD
Douglas C Young, PAC

Pen Bay Hospital

John D Clark, PA
Minal F J Cordeiro, MD
Sarah L Dingle, FNP
Jeffrey Rasmussen, MD
Gail E Schmalz, PAC
Joseph F Scordino III, MD
Micael A Sikich, PAC

Waldo Hospital

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Ashleigh M Knoeferl, PA-C
Owen A Nelson, MD
Joseph E Noonan Jr, MD
Hanna C Zetterstrand Robinson, PA

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Zachary T Blakeman, DPM
Stephen R Coates, PA
Andrew C Crasper, MD
Ian D Dickey, MD
Joanna S Manum, PAC
Thomas J Pulling, MD

Mid Coast Hospital

Jacob Furey, MD
Tatyana Heer, PA
Peter H Hutchinson, MD
Lisa D Khoury, MD
Douglas W Kleinman, PA
Robert B Lewis III, MD
Michael D Pleacher, MD
William P Simpson, PA
John S Van Orden, MD
Kevin W Wenner, PA

Stephens Hospital

Stephen J Barr, MD
James D Kuhn, MD
Michael T Newman, MD
Wayne D Piers, DO
Anthony R Simpson, PA-C
James A Wilkerson, MD
Bryce T Wolf, MD



