Patients by State 2013

Patients by Maine County 2013

Our Reach & Our Roots
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Maine Medical Partners
Orthopedics
A department of Maine Medical Center
Maine Medical Partners – Orthopedics, and the teams of dedicated people that deliver joint replacement care at Maine Medical Center (MMC) are justifiably proud of the objective excellence of the program. We have spent our careers constantly refining the details of the entire process, with a focus on performing the best, cleanest, most atraumatic joint replacement possible, understanding that it is the quality of the operation that defines the process. This year, I’m particularly proud of three recognitions awarded to our surgeons.

1. A 2013 Medicare study rated Maine Medical Center in the top 1% of U.S. hospitals for hip and knee replacement surgeries

2. The Joint Commission has awarded the MMC Joint Replacement Center two Gold Seals of Approval™ for the quality of hip replacement and knee replacement surgeries

3. Maine Medical Center’s Orthopedics program is recognized as “high-performing” by U.S. News & World Report

Our goal has been to objectively assess every aspect of our performance through rigorous data collection and comparison to national standards of excellence. The following pages tell that story, with honestly reported statistics that define our joint program as one of the best in the country. We pledge to our patients to continue building on this work.

George Babikian, M.D.
Chief of Orthopedics, Maine Medical Center
### 2013 JOINT REPLACEMENTS AT A GLANCE

<table>
<thead>
<tr>
<th>Statistic</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1,626</td>
<td>Joint replacement procedures performed</td>
</tr>
<tr>
<td>79%</td>
<td>Discharged home</td>
</tr>
<tr>
<td>66 years</td>
<td>Average age of our joint replacement patients</td>
</tr>
<tr>
<td>55%</td>
<td>Female</td>
</tr>
<tr>
<td>6</td>
<td>Board Certified Orthopedic Surgeons</td>
</tr>
<tr>
<td>4</td>
<td>Operating rooms dedicated to orthopedics</td>
</tr>
</tbody>
</table>

Maine's leading knee, hip, and shoulder experts are together in one comprehensive practice.

Pictured (left to right): Peter Guay, D.O.; Adam Rana, M.D.; Brian McGrory, M.D.; Michael Becker, M.D.; Donald Endrizzi, M.D.; George Babikian, M.D.
In 2013, Maine Medical Partners — Orthopedics surgeons performed 1,617 joint replacements, a 14% increase from 2012 and a 39% increase from 2008.

“Patients managed at hospitals, and by surgeons, with greater volumes of total knee replacement have lower risks of perioperative adverse events following primary total knee replacement” (Katz et al. 2004).

“Patients treated at hospitals, and by surgeons, with higher annual caseloads of primary and revision total hip replacement had lower rates of mortality and of selected complications” (Katz et al. 2001).
JOINT REPLACEMENT PATIENT CHARACTERISTICS

Gender Distribution of 2013 Primary Joint Replacement Patients

Age Distribution of 2013 Joint Replacement Patients

BMI Distribution of 2013 Joint Replacement Patients
A 2013 Medicare study placed Maine Medical Partners orthopedic surgeons among the top 1% of peers for their quality of care on both hip and knee replacement surgeries.

From over 4,800 programs in the U.S., Maine Medical Partners – Orthopedics was found to be in the top 25, the only program in Maine, New Hampshire, and Vermont to achieve such a distinction.

The Hospital Outcome of Care measures, which are readily accessible on the Medicare website, are significant because people who elect to have these surgeries typically research the hospital and physician to learn who has the best outcomes. Also, beginning in late 2014, Medicare will adjust hospital reimbursement rates for hip and knee replacement surgeries based on these measures, as it currently does on a number of other measures.
Transfusion Rates

Blood loss during surgery is expected in patients undergoing major surgery. Our processes attempt to minimize the rate of transfusion, due to potential risks and an increase in postoperative issues related to transfusions. Additionally, transfusions add expense to a procedure. Variations in the delivery of operative blood transfusions depend not only on the patient, but also each surgeon’s specific transfusion practices, and can help explain Maine Medical Partners-Orthopedics successful quality outcomes when compared to other joint replacement programs. Our transfusion rates are lower than any published rates or available statistics, and speak to the priority our orthopedic surgeons place on minimizing complications, and getting patients back on their feet.

*Source: Vuille-Lessard et al, 2010
Maine Medical Center and Maine Medical Partners — Orthopedics have worked together to initiate protocols that provide the most efficient and effective care. Reducing patients’ length of stay means they go home faster - allowing patients to recover in a place they’re comfortable, as opposed to a hospital or institutional setting. Patients with shorter lengths of stay recover faster, have better outcomes, reduce their chances of developing a hospital acquired complication and may reduce health care costs associated with their procedure.

### 2013 AVERAGE LENGTH OF STAY

<table>
<thead>
<tr>
<th>Total Joint Replacement</th>
<th>Days</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Hip Replacement</strong></td>
<td></td>
</tr>
<tr>
<td>Anterolateral Minimally Invasive</td>
<td>1.4</td>
</tr>
<tr>
<td>Posterior</td>
<td>2.8</td>
</tr>
<tr>
<td>Revision</td>
<td>3.2</td>
</tr>
<tr>
<td><strong>Knee Replacement</strong></td>
<td></td>
</tr>
<tr>
<td>Primary</td>
<td>3.0</td>
</tr>
<tr>
<td>Partial Knee Replacement</td>
<td>2.9</td>
</tr>
<tr>
<td>Revision</td>
<td>3.2</td>
</tr>
<tr>
<td><strong>Shoulder Replacement</strong></td>
<td></td>
</tr>
<tr>
<td>Anatomic</td>
<td>1.4</td>
</tr>
<tr>
<td>Primary Reverse</td>
<td>2.0</td>
</tr>
</tbody>
</table>

LENGTH OF STAY PER PROCEDURE — MMP VS. US AVERAGES

* includes Posterior and Anterolateral

Discharge Disposition

Discharge disposition is an important factor in joint replacement surgery. Getting patients back to their families and loved ones is a priority for Maine Medical Partners – Orthopedics, because our team understands that patients recover better in the comfort of their own home. Patients discharged home have the option of visiting nurses, in-home physical therapy and in-home occupational therapy visits. Maine Medical Partners – Orthopedics has established this commitment to getting patients home when possible and our commitment shows in the data.

### DISCHARGE LOCATION

#### Total Hip Replacement
- 86%
- 8%
- 6%
- 3%

#### Anterolateral Minimally Invasive Hip Replacement
- 93%
- 4%
- 3%

#### Total Shoulder Replacement
- 98%
- 2%

#### Total Knee Replacement
- 69%
- 10%
- 21%

- Home
- Skilled nursing facility
- Rehab facility
Ask our expert providers for up-to-the-minute data and information. They are the best at what they do and are sought-after for their knowledge.
Patient Education Experience

“Everyone is very professional and knowledgeable, I thought the class was wonderful and it answered all my questions. I’m feeling confident”

Patient Testimonial, Total Knee Replacement Class

During a year of high recognition and national awards, we continue to grow the breadth of educational services to meet the needs of our population. Starting in July, joint replacement preparation classes were offered at the MaineHealth Learning Resource Center twice monthly, to supplement the already successful joint specific classes offered at the Joint Replacement Center.

Approximately 25% of patients and their families participated in our Patient and Family Education program. These programs use a multi-disciplinary team approach that include surgeons, advanced practice clinicians, pre and post-operative unit nurses, care managers, rehabilitative services and a Certified Health Education Specialist. These in-house classes allow patients time to learn and gain comfort as they move forward with their surgical decision.

Face-to-face opportunities to learn are complimented by the availability of our online e-learning program, Emmi, which together offer a multi-modal learning environment to meet the needs of our diverse patient population. Emmi is a favorite among our online learners: “Very well done. Very easy to understand, and covered everything I wanted to inquire about. Thank you very much.”

In addition to the regularly scheduled information sessions, four condition-specific community information sessions were offered in 2013; widely attended by members of the community, these opportunities allowed patients, and potential patients the chance to engage directly with the surgeons, promoting positive relationship building within our practice.

In 2014, work is in progress to redesign our online patient education portal and expand our online learning. In April, a newly designed patient education guide will be incorporated into our surgical scheduling process to further support patient understanding.

Janet Dyroff, R.N., M.S., CHES
R.N., Orthopedics Patient Educator
Maine Medical Center
Our philosophy regarding pain management is to take a multimodal approach that addresses each step of the pain pathway to minimize every patient’s post-operative pain. To quote the famous French Philosopher Jean Jacques Rousseau, “Happiest is the person who suffers the least pain.” Our dedication to meticulous soft tissue handling at the time of surgery, utilizing less invasive approaches to the hip, knee and shoulder, targeted local anesthetics and appropriate post-operative pain medications have all shown significant benefits with regards to our patient’s post-operative experience.

Studies report that superior post-operative pain management results in decreased length of stay at the hospital, earlier mobility in the post-operative setting, improved recovery of function such as range of motion in total knee replacements, decreased narcotic requirements, decreased gastrointestinal complications such as constipation, decreased genitourinary complications, and decreased cardiopulmonary complications such as pneumonias. Pain is a poorly understood, complex phenomenon most likely controlled by neural, cellular, and humeral mechanisms. The pain pathway is initiated by surgical trauma that sends signals to the peripheral nervous system which are then carried to the central nervous system. Our approach for addressing pain targets each step in this pathway.

Surgical trauma in total hip replacement surgery is minimized by performing a muscle sparring minimally invasive approach. Resultant inflammation is then addressed with anti-inflammatory medications, also known as NSAIDs (e.g. Celebrex). In addition, cryotherapy or ice packs are applied to the operative extremity to reduce swelling. Local anesthetics injected at the time of surgery offer pain relief to the peripheral nervous system, while Tylenol and opiates (which are stronger narcotic pain medications) offer decreased pain by acting at the level of the central nervous system.

Our goal and commitment to our patients is to continually improve our peri-operative pain management techniques by way of reduced trauma at the time of surgery, a multimodal pain control program and pre-operative patient education.

Adam Rana, M.D.
Orthopedic Surgeon, Maine Medical Partners – Orthopedics
As performance and patient outcomes are being reported more frequently, patients can see that there is a “bell curve” or distribution of success, with only small numbers of centers consistently offering patients excellent results.

We think that our team’s dedication to the patient, innovative spirit, medical knowledge, technical skill, and above all, desire and ability to improve, allow us to be in the top 1% of US joint replacement programs. The desire and ability to change for the better is wholly dependent on understanding and reacting to our results in real time.

For 17 years, a comprehensive data set has been collected and examined for outcomes evaluation for a large portion of our joint replacement and fracture patients. Our group next initiated the Maine Medical Center and Maine Health Joint Replacement Registry 9 years ago, and recently this registry has been expanded at Maine Medical Center in two very important ways. As of November 1, 2013, all Maine Medical Partners Joint Replacement Surgeons are collecting not only surgical data, but also patient reported outcomes. Patient based questionnaires monitor patient activity, overall health, and joint specific pain, stiffness and function. They are collected before surgery and
Our joint replacement patients have a dedicated pre-op and post-op, operating rooms, and an inpatient unit.

after surgery at appropriate intervals for the patient’s life. Long term goals of our surveillance process include identifying variables that are associated with excellent results, assessing changes that we make to improve the patient experience, and offering patients objective measures of outcome to compare to other programs. Clinically relevant and actionable findings are the motivating force for our research program. Our staff members collaborate with researchers, statisticians, clinicians, and students from Maine Medical Center Research Institute, Tufts University School of Medicine, and regional and national research groups. We strongly believe that the combination of objective data about joint replacement surgery outcomes in conjunction with the desire and resources to improve and innovate through research allows us to offer our patients a state-of-the-art, safe, effective and durable joint reconstruction.

Brian McGrory, M.D.
Orthopedic Surgeon, Maine Medical Partners — Orthopedics
Maine Medical Partners — Orthopedics
Division of Joint Replacement

Outcomes from the Patient Perspective

Maine Medical Center’s Joint Replacement Registry was recently expanded to include electronic capture of patient reported outcome measures (PROMs). Through improved capture of this information, we’re able to analyze patient outcome data efficiently, and pass this on to the surgeon in a timely manner. This allows a patient’s perspective on their pain, function, and satisfaction after surgery to be heard.

Patients are asked to indicate a level of satisfaction with their joint replacement surgery annually. The graph here is an average snapshot of where our joint replacement patients stand at their annual appointment.

Our Anterolateral total hip arthroplasty patients fill out patient reported outcome questionnaires at six weeks post-op to help us better understand their pain and functional recovery after this minimally invasive surgery. The graphs on the opposite page show their average pain and function score, both before surgery, and six weeks after.
PATIENT-REPORTED OUTCOMES

**Patient-Reported Overall Physical and Mental Health**

<table>
<thead>
<tr>
<th>Mental Health Score</th>
<th>Pre-op</th>
<th>6 week Post-op</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physical Health</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Patient-Reported Improvement in Functional Level**

<table>
<thead>
<tr>
<th>Hip Score</th>
<th>Pre-Op</th>
<th>6 Weeks Post-Op</th>
</tr>
</thead>
</table>

**Patient-Reported Hip Pain Level**

<table>
<thead>
<tr>
<th>Hip Score</th>
<th>Pre-Op</th>
<th>6 Weeks Post-Op</th>
</tr>
</thead>
</table>
Publications

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

Abstracts • 2012-present

Seufert C, McGrory BJ. Treatment of Arthritis Associated with Stulberg Class IV and V Legg-Calve-Perthes Disease with Modular Total Hip Arthroplasty.

Duralde XD, Endrizzi DP. Humeral Resurfacing for Compensated Cuff Tear Arthropathy.

Endrizzi, DP. Henry P, Mackenzie JM. Early debris formation with a porous tantalum glenoid component. A radiographic analysis with 2 year minimum follow-up.


Publications • 2012-present

Creighton-Smith M, McGrory BJ, Tolocica I. Permanent Tattooing as a Manifestation of Metallosis in Acetabular Wear-through in THA. Accepted Current Orthop Practice.


Providers

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A 2013 Medicare study placed MMP — Orthopedics joint replacement surgeons in the top 1% nationally, for our care on both hip and knee replacement procedures.

According to rankings published in July, 2013, Orthopedics was recognized by U.S. News & World Report as one of eight high-performing specialties at Maine Medical Center.

The Joint Replacement Center at MMC has earned two Gold Seals of Approval from The Joint Commission, for health care quality of both hip and knee replacement surgery.