Total joint replacement (TJR) is a surgical procedure in which parts of a damaged joint are removed and replaced with a metal, plastic, or ceramic device called a prosthesis. The prosthesis is designed to replicate the movement of a normal, healthy joint. Total joint replacement (arthroplasty) is the surgical treatment for a number of orthopedic conditions that cause joint pain and disability in patients, such as arthritis.

The Essentials

- Hip and Knee replacements are the most common joint replacements, with 1 million procedures performed annually in the United States.
- The term Total Joint Replacement (TJR) is specific to hips and knees and does not include the replacement of other joints, such as shoulders, wrists, or elbows.

PHS Success and Impact

Presbyterian Hospital has been recognized as a Center of Excellence for Hip and Knee replacement since 2013. The Joint Commission’s Disease Specific Care Certification for Hip and Knee Replacement supports the commitment to achieve higher standards for patient care and patient outcomes.

PHS has been recognized by:

- Healthgrades as one of America’s 100 Best Hospitals for Joint Replacement.
- Becker’s Hospital Review among 100 Hospitals with Great Orthopedic Programs.

PHS’ Approach to Total Joint Replacement

PHS’ approach to Total Joint Replacement is to support patients’ optimal mobility and pain management through the least invasive and most cost effective care possible; this may be achieved through wellness programs, physical therapy, medication, or surgery.

Where joint pain can be mitigated before significant damage has been done, PHS encourages patients to be as strong, active, and fit as possible, reducing factors that contribute to joint degradation.

Where surgery can be delayed or prevented through medical or therapeutic means, joint degradation and pain is managed by a patient’s primary care physician (PCP) or orthopedic surgeon, often through physical therapy and/or pain management therapy.

When surgery is required, PHS focuses on positioning patients for excellent outcomes. For example, the PHS Rehabilitation Services program offers a free joint replacement class to help patients prepare for surgery and the Total Joint Replacement Program aligns patient postoperative care with clinical evidence shown to improve
outcomes for adult TJR patients. On discharge, PHS’ Outpatient Rehabilitation Services program works with the patient’s orthopedic surgeon to help patients return to mobility and fully benefit from their joint replacement.

**Clinical Programs and Services**

Presbyterian offers Total Joint Replacement prevention, surgery, and post-surgical support in a variety of settings.

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<th>Community</th>
<th>Primary Care and Outpatient Speciality</th>
<th>Hospital/ Inpatient Care</th>
<th>Post Acute Care</th>
<th>Home Care</th>
<th>Emergent Services</th>
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<td>Total Joint Replacement Program</td>
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<td>Medical Management and Therapeutic Lifestyle Change</td>
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**Wellness Programs**

Strengthening joints can delay or prevent surgical intervention for some individuals, and this is the preferred care pathway when possible. Gym membership, including to facilities that offer aquatic services and classes, are available as part of many PHP plans. Healthplex gym access is also available to patients and members for a nominal fee. If a patient’s weight is a contributing factor to their knee or hip pain, PHS offers nutrition-counselling services, and some PHP plans include additional benefits for weight loss interventions, such as Bariatric Surgery.

**Medical Management and Therapeutic Lifestyle Change**

For patients with mild to moderate arthritis and who still have fair to high joint function, orthopedic surgeons usually start with physical therapy, activity modification, weight loss, oral medications and injections before considering surgery. Some patients respond well to medical management and can delay or prevent surgical intervention. Medical management and lifestyle changes are most often managed by a patient’s orthopedist or primary care provider.
Additional Obesity Services
Obesity (BMI 35+) can be a barrier to necessary knee surgery. Clinical evidence demonstrates an elevated risk of complications in this patient population. Presbyterian has developed resources to assist these patients towards safe weight loss ranging from the Healthplex programs to a bariatric surgery program.

Surgical Consult and Intervention
When medical management of joint pain is insufficient, surgical intervention is considered. Most PHS patients/members in Bernalillo, Sandoval, Santa Fe, and Valencia counties are referred to PMG Orthopedics or New Mexico Orthopaedics Associates (NMOA) for surgical consult.

Patients can be referred for surgical consult before medical management has been attempted; both PMG Orthopedics and NMOA offer the testing, procedures, physical therapy referrals, and therapeutic lifestyle support necessary to medically manage joint pain. If surgery is not an option, medical management is continued until the patient becomes a candidate for surgical intervention.

To optimize value (cost of care and outcome) in total joint replacement, PHS has defined an approved prosthesis selection; all knee and hip replacements performed at PHS use one of the approved Zimmer-Biomet prostheses. The vendor was selected based on both cost and clinical evidence data, allowing PHS to reduce overall cost of Total Joint Replacement while maintaining surgical outcome and quality.

Total Joint Pre-Op Class
Before patients have knee or hip replacement surgery at PHS, they attend a 2-hour group class provided by either the Rehabilitation Services program or NMOA to learn more about what to expect after surgery and how to prepare their homes beforehand. Pre-joint replacement classes aim to reduce anxiety, provide patient education, and address expectations; class content has continued to adapt to patient and physician needs over time. Many insurance companies require patient education before surgery, and this class meets that requirement. Classes are offered free of charge.

Joint Replacement Prehab Camp
PHS also offers an 8-week exercise and lifestyle program aimed at improving fitness and function for patients getting ready for a total hip or knee replacement surgery. The program includes:

- Customized exercise prescription based on individual assessment:
  - Cardiovascular/resistance/core strengthening exercises
  - Aquatic exercise
- Nutrition and weight management
- Stress reduction

This program is not free; however, partial scholarships are available for financial assistance.
Total Joint Replacement Program
The Total Joint Replacement Program is a key to PHS’ approach to Total Joint Replacement.

The program is driven by a multidisciplinary steering committee and at a broad level addresses:

- Consistent and appropriate post-surgical inpatient care
- A clear clinical pathway that is easy to navigate
- Clear expectations, protocols, and pathways defined by role and service area
- Discharge disposition criteria and discharge planning
- Pain management specific to TJR
- Patient education that establishes clear and realistic expectations
- Nationally excellent standards for VTE (venous thromboembolism) and surgical site infections (SSI) rates
- Program sustainment through PDSA (Plan-Do-Study-Act) work and continual monitoring for improvement opportunities

The PHS Pre-Anesthesia Surgical Screening (PASS) teams and Surgeons are responsible for executing preoperative elements of the TJR care pathway, including: 1) MRSA screening and mupirocin treatment preoperatively for SSI prevention; and 2) Pre-op patient education material distribution.

After surgery, the Total Joint Replacement (TJR) Program focuses on aligning a patient’s postoperative care with best practices that improve outcomes for adult patients undergoing total hip or total knee arthroplasty. This program supports an evidenced-based care pathway for TJR patients throughout their postoperative hospitalization at Presbyterian Downtown and Rust Medical Center.

In most situations, better outcomes are realized through early mobilization and compliance with the TJR postoperative care pathway. Lower cost is a product of, but not limited to, reduced surgical revisions and reduced post-acute admissions. Utilization of the discharge disposition criteria is managed through a multidisciplinary team huddle to verify that the surgeon’s order and PT recommendation aligns.

Since its inception, the TJR program has demonstrated improved outcomes for patients and cost savings in the following areas:

- Increase in patient mobility through physical therapy on day of surgery
- Increased compliance with PHS’ surgical site infection (SSI) protocol
- Increased compliance with PHS’ VTE protocol
- Lower rate of surgical revisions
- Lower rate of mortality
- Increase in patients discharged directly to their home
- Decrease in average length of stay

Rehabilitation and Post Discharge Care
Depending on patient preference and guided by the surgeon, rehabilitation and post discharge care may occur either in an outpatient setting, supported by home care, or in a skilled nursing or inpatient rehabilitation facility. Patients can select Presbyterian delivery system providers for outpatient care, home care, or Skilled Nursing.
Administrative Programs and Services

Because of the organizational impact of TJR, PHS has implemented additional administrative programs as well.

Joint Commission TJR Certification

Joint Commission recertification is completed bi-annually and is facilitated by the TJR steering committee. Certification requirements address three areas:

1. Compliance with consensus-based national standards
2. Effective and consistent use of appropriate, evidence-based practice guidelines for the hip or knee replacement patient population
3. Collection and analysis of at least four performance measures specific to the hip, knee, or shoulder replacement patient population

Value-based Contracting with NMOA

NMOA contracted with PHP for a Value/Performance-Based Reimbursement and Quality Improvement Program in 2014, successfully tying payment increases to improvements in quality and overall cost of care.

The Performance program sets clinical milestones each contract year. Targets are defined collaboratively and based on areas of opportunity identified by comparing TJR metrics against national norms. For example, a milestone may include managing surgical utilization at or better than the Milliman Well Managed criteria.

PHP provides NMOA data monthly, broken down to the provider level and with outliers clearly listed, allowing NMOA clinical leadership to actively manage their performance under the plan.

Prior Authorization for Total Joint Replacement

In late 2015, Presbyterian Health Plan implemented revised, evidence-based TJR prior authorization criteria, developed by Dr. Michael Archibeck, director of the joint program, and a team of Presbyterian Medical Group and NMOA orthopedic surgeons.

Comprehensive Care for Joint Replacement (CJR)

On July 9, 2015, the Centers for Medicare & Medicaid Services (CMS) released a proposed rule to establish a new bundled payment policy for joint replacement procedures called the Comprehensive Care for Joint Replacement (CJR) model. CMS proposed to test the CJR model for a five year performance period, and was mandatory for most hospitals in 67 geographic regions. On January 1, 2018, CJR changed to a voluntary program, but Presbyterian elected to remain in the program through the remainder of the program ending December 31, 2020. The CJR model will test bundled payment and quality measurement for an episode of care associated with hip and knee replacements, encouraging hospitals, physicians, and post-acute care providers to work together to improve the quality and coordination of care from the initial hospitalization through recovery.

The proposed Model will hold participant hospitals financially accountable for the quality and cost of a model episode of care and incentivize increased coordination of care among hospitals, physicians, and post-acute care providers.
Presbyterian’s Surgical Services and Population Health leadership have collaborated to create the CJR committee, tasked with preparing the organization for the CMS CJR bundled payment program. PHS and PHP have also collaborated on a Bundled Payment Steering Committee, tasked with more broadly assessing and preparing the organization for bundled payment programs in the long term.

**Leadership**

<table>
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<tr>
<th>Process Owner(s)</th>
<th>Brenda Gonzales, Assistant Director, Periop Services</th>
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<tr>
<td></td>
<td>Joann Rickley, Periop Director of Nursing</td>
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<td>Dr. Michael Archibeck (NMOA)</td>
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<td>Clinical Champions</td>
<td>Dr. Michael Archibeck (NMOA)</td>
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<td>Dr. Patrick Mulkey (PMG Orthopaedics)</td>
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<td>Dr. Joshua Carothers (NMOA)</td>
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<td>Governance Bodies</td>
<td>TJR Steering Committee</td>
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**TJR Steering Committee**

**TJR Steering Committee Members**

- Medical Director, Joint Replacement: Dr. Michael Archibeck, MD
- Physicians at Large, Orthopedic Surgery: Dr. Joshua Carothers, MD; Dr. Patrick Mulkey, MD
- Director of Periop Services: Joann Rickley RN
- Assistant Director of Periop Services: Brenda Gonzales, RN
- Nurse Director, Inpatient Surgical Services: Georgia McCool, RN
- Rehab Services Manager: Anthony Flores
- Quality Clinical Manager: Dawn Trevino
- Ad hoc supporting members from the following committees (by invitation):
  - Anesthesia, Pharmacy, Infection Control, Care Coordination, Nursing, Patient Education, Safety & Marketing

**Structure**

- TJR Steering Committee meets on a monthly basis
- Committee reviews data for selected metrics (those that are submitted to Joint Commission) and focuses on actions needed
- Currently reviewed metrics for performance improvement:
  - Compliance with care plan management
  - % Patients discharged home
  - Compliance with rehabilitation POD 0
  - Compliance with preop class attendance
Measures of Success

In addition to the data provided to the Joint Commission for certification, the TJR Steering Committee tracks other clinical outcomes related to Total Hip or Knee replacement.

<table>
<thead>
<tr>
<th>Objective</th>
<th>Measure</th>
<th>Aligns with Aim</th>
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<tr>
<td>Excellent</td>
<td>• Total Hip/Knee Replacement ALOS</td>
<td>Better Health</td>
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<td>Outcomes</td>
<td>• Total Hip/Knee Replacement readmissions</td>
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<td>• Total Hip/Knee Major complications</td>
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<td></td>
<td>• Total Hip/Knee Replacement mortality</td>
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Future Work

Management and optimization of Total Joint Replacement is a high priority for PHP, PHS, and our partners; many TJR program initiatives are in process or are in the planning stage.

Continuous Improvement

The TJR Steering Committee continues to improve the Evidence Based Care Design (EBCD) Total Joint Replacement (TJR) post-surgical pathway at Presbyterian Hospitals, established in 2011. To maintain continuous improvement, the Presbyterian TJR Steering Committee analyzes the program's performance and makes recommendations for continuous performance improvement activities.

Advanced Certification Program

Presbyterian Hospital would like to pursue the Joint Commission's Advanced Total Hip and Total Knee Replacement Certification, which includes transitions of care from the pre-surgical orthopedic consultation, hospitalization, discharge, and follow up visit with the orthopedic surgeon. This program aims to improve the education provided at all phases of care, shared decision-making, and the communication and collaboration of all healthcare providers throughout the continuum of care.

Post-surgical Utilization

As the TJR Pathway has continued to mature, activities are underway to improve the appropriate use of:

- Post-surgical order sets in Epic
- Physical Therapy criteria for initiating Postoperative Day Zero rehabilitation
- Interdisciplinary daily discharge rounds to address patient needs, progress towards discharge, and pain management modalities including peripheral nerve blocks and adductor canal blocks
- Preoperative mupirocin treatment for surgical site infection (SSI) prevention

Post-acute Network

The TJR program is working with Presbyterian’s Population Health clinical leadership to build a high value post-acute network that will allow the organization to more actively manage post-acute length of stay and quality of care for patients requiring these services.
Glossary

AANM  Anesthesia Associates of New Mexico
NMOA  New Mexico Orthopedic Associates
Order Set An evidence-based, standardized list of orders for a specific condition which have been carefully developed by a team of physicians.
PASS  Pre-Anesthesia Surgical Services
Post-Acute Admission Discharge from an acute inpatient hospital stay to a skilled nursing or inpatient rehabilitation facility.
SNF   Skilled Nursing Facility
SSI   Surgical site infection
TJR   Total Joint Replacement
VTE   Venous thromboembolism

Additional References

Clinical Care Model
- Evidence-Based Care Design (EBCD)
- Patient-Centered Medical Home (PCMH)

Clinical Practice Guidelines

Resources: PHS Login Required
- Policy/Procedures: Low Dose Warfarin Protocol Following Total Joint Replacement (TJR) Surgery (Home Health)
- Policy/Procedures: PHP Total Joint Replacement Medical Policy (2014)

Additional Resources
- CMS Comprehensive Care for Joint Replacement Model (CJR)