Recognized for Quality

Ranked #1 in the Twin Cities and in the top 25 nationally in the specialty of Orthopedics by U.S. News & World Report.

ACHIEVEMENTS:

• the first in Minnesota to earn the Joint Commission’s Gold Seal of Approval™ for hip and knee replacements by demonstrating compliance with the Joint Commission’s national standards for health care quality and safety

• designated as a Blue Distinction Center for knee and hip replacement by Blue Cross Blue Shield for demonstrating expertise in quality care that results in better overall outcomes for patients

• awarded Magnet Recognition Program® status for demonstrating excellence in nursing practice.
At Abbott Northwestern’s Orthopaedic Institute, innovation and a commitment to achieve excellent outcomes have helped us improve care and enhance the patient experience.

We’ve worked hard to provide comprehensive, patient-centered care through our Joint Replacement Center, and the successes achieved there are helping to drive new approaches for all orthopedic patients. Our efforts have been recognized regionally and nationally.

Providing the best possible care begins long before our patients arrive in the operating room. For example, our Joint Replacement Center patients receive extensive preoperative education, helping them prepare for surgery as well as recovery and rehabilitation. We also evaluate orthopedic patients in our Preoperative Clinic, an important tool in ensuring patient safety and preventing complications. The continuum of care is evident in the comprehensive post-surgical services we offer that help patients achieve independent living and feel their personal best.

Because of the volume of cases we see, the Orthopaedic Institute surgeons and surgical staff have developed expertise in several specialty areas and draw on a wealth of experience to care for the most complex patients. Procedures like partial knee replacement, hip resurfacing, knee and hip revision, and shoulder replacement are done frequently at Abbott Northwestern, and our team includes physicians with advanced training in articular cartilage restoration and meniscal transplants. We also have the multidisciplinary resources to treat complex geriatric trauma.

The Orthopaedic Institute benefits from an exceptional nursing staff. They have completed significant training in orthopedic nursing care and have the experience required to care for complex patients.

We believe that our advanced capabilities, comprehensive services and dedication to providing patient-centered care offer distinct advantages to patients. Our goal is to continue enhancing the patient experience, with careful attention to improving performance while lowering costs. We are confident that we can meet these challenges, and we look forward to working with you to provide the best possible care for orthopedic patients.
The Joint Replacement Center has demonstrated expertise in joint care with excellent patient outcomes. It also meets objective clinical measures developed in collaboration with expert physician panels and national medical organizations. Typical procedures include: routine and complex total knee replacements, total hip replacements, hip resurfacing and revision procedures. The Joint Replacement Center physicians and staff are dedicated to supporting patients through each step of their joint replacement surgery and recovery.

This patient-centered approach focuses on preparation, education, innovations in surgical techniques, multi-modal pain control and accelerated postoperative rehabilitation through skilled and compassionate care. Joint replacement patients are cared for by an experienced staff on a dedicated floor in Abbott Northwestern’s Heart Hospital. This area has private rooms for all patients and a physical therapy center where patients participate in group activities and can share their experiences related to joint replacement and rehabilitation.
PERCENT OF PATIENTS SELECTING THE “TOP BOX” SCORE.

Patient Experience 2014

Overall Satisfaction  Communications w/Docs  Pain Management  Communication w/Nurse

Transfusion Rates

Rate

2010 2011 2012 2013 2014

<table>
<thead>
<tr>
<th>Procedure</th>
<th>2010</th>
<th>2011</th>
<th>2012</th>
<th>2013</th>
<th>2014</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Knee</td>
<td>15%</td>
<td>8%</td>
<td>6%</td>
<td>5%</td>
<td>1%</td>
</tr>
<tr>
<td>Total Hip</td>
<td>23%</td>
<td>13%</td>
<td>11%</td>
<td>8%</td>
<td>2%</td>
</tr>
<tr>
<td>Revision Knee</td>
<td>23%</td>
<td>22%</td>
<td>14%</td>
<td>13%</td>
<td>11%</td>
</tr>
<tr>
<td>Revision Hip</td>
<td>33%</td>
<td>37%</td>
<td>34%</td>
<td>20%</td>
<td>22%</td>
</tr>
</tbody>
</table>

Deep Vein Thrombosis Rate

Rate

2011 2012 2013 2014

<table>
<thead>
<tr>
<th>Rate</th>
<th>2011</th>
<th>2012</th>
<th>2013</th>
<th>2014</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rate</td>
<td>0.37%</td>
<td>0.25%</td>
<td>0.17%</td>
<td>0%</td>
</tr>
</tbody>
</table>
Functional Outcomes

KOOS SUBSCALE OVERVIEW

The Knee Injury and Osteoarthritis Outcome Score (KOOS) is a survey instrument designed to assess patients’ opinions about their knee and associated problems. It is formatted as a brief, self-administered survey. It includes questions on five subscales: pain, other symptoms, function in daily living, function in sports and recreation, and knee-related quality of life. Numerical values are assigned to a series of response options, such as no pain, mild pain, moderate pain, severe pain and extreme pain, and mean scores are calculated using this data.

These data represent patients who were surveyed during 2012. It shows scores improved significantly from preoperative assessment to six-month postoperative assessment, and from preoperative assessment to one-year postoperative assessment. The scores from six-month postoperative assessment to one-year postoperative assessment showed no significant difference.

WOMAC KNEE SCORE

The WOMAC™ Index is a self-administered questionnaire assessing the health status and health outcomes of patients with knee and/or hip osteoarthritis. Questions target areas of pain, stiffness and physical function. Higher scores indicate function that is closer to normal.

Minimum total score = 0
Maximum total score = 96
The Hip Injury and Osteoarthritis Outcome Score (HOOS) is a survey instrument designed to assess patients’ opinions about their hip and associated problems. It is formatted as a brief, self-administered survey. It includes questions on five subscales: pain, other symptoms, function in daily living, function in sports and recreation, and knee-related quality of life. Numerical values are assigned to a series of response options, such as no pain, mild pain, moderate pain, severe pain and extreme pain, and mean scores are calculated using this data.

These data represent patients who were surveyed during 2012. It shows scores improved significantly from preoperative assessment to six-month postoperative assessment, and from preoperative assessment to one-year postoperative assessment. The scores from six-month postoperative assessment to one-year postoperative assessment showed no significant difference.

The WOMAC™ Index is a self-administered questionnaire assessing the health status and health outcomes of patients with knee and/or hip osteoarthritis. Questions target areas of pain, stiffness and physical function. Higher scores indicate function that is closer to normal.

- Minimum total score = 0
- Maximum total score = 96
Shoulder Program

The Orthopaedic Institute’s physicians and staff are well known for their care of patients with a variety of shoulder conditions. Physicians have advanced training and provide progressive care and innovative techniques in shoulder surgery. Shoulder procedures performed at Abbott Northwestern Hospital include, but are not limited to: total shoulder replacement, reverse shoulder replacement, revision shoulder replacement, arthroscopic and open rotator cuff repair, arthroscopic and open instability repair, and complex tendon transfers. Recent efforts have focused on increasing collaboration between physicians and staff to establish a comprehensive program for patients undergoing shoulder replacement. This new Total Shoulder Program facilitates coordination of preoperative and postoperative care, enriches patient education and has reduced length of hospital stay.

Deep vein thrombosis, pulmonary embolism and deep infection rates for shoulder procedures were 0 percent in 2014.
Hip Fracture Program

The Orthopaedic Institute is dedicated to providing the best possible care for hip fracture patients. Coordinated care and services begin prior to the patient’s arrival in the Emergency Department and continue well after discharge from the hospital. The Orthopaedic Institute partners with several assisted living and skilled nursing facilities throughout the community to streamline the process of providing safe and efficient care for hip fracture patients. To minimize complications and get patients back into their own environment, the goal is for patients to undergo surgery within 24 hours when appropriate. By collaborating with the Acute Pain Service, the hip fracture team can offer options for anesthesia and pain management that help minimize complications such as delirium. Experienced nursing staff and Courage Kenny Rehabilitation Institute therapists care for patients recovering from hip fracture surgery on a designated unit. A multidisciplinary group of physicians and leaders meets monthly to review outcomes and implement process improvements.
Sports Medicine

The sports medicine experts within the Orthopaedic Institute are highly regarded throughout Minnesota for their community outreach services, including free school sports physicals and medical coverage for more than 20 teams, clubs and programs.

Hand treatment

Hand surgery is provided by orthopedic surgeons who have completed a year of specialized training. The complex interaction of blood vessels, bones, muscles, nerves and tendons in the hand requires a high level of surgical expertise. Conditions treated by these surgeons include arthritis of the hand and wrist, carpal tunnel syndrome, fractures, ganglion cyst removal, and repair of tendon and nerve injuries.

“Everybody takes pride in what they are doing. It’s helped me in my recovery because of the confidence level of the nursing team and everyone who comes in your room – even the man who brings your meal – they’re all rooting for you to do a little better the next day.”

– Patient comment
Foot and ankle care

A number of providers at Abbott Northwestern Hospital specialize in the care of foot and ankle conditions.

Podiatric care is provided by orthopedic surgeons with special training in managing foot conditions that can impair the ability to walk and run. Conditions treated include bunions, heel spurs, plantar fasciitis and posterior tibial tendon dysfunction. Treatments may begin with anti-inflammatory medications, bracing, elevation, ice, orthotics and rest, and later progress to surgical intervention when appropriate.

Orthopedic surgeons, podiatrists and vascular surgeons also work collaboratively to provide care for complex diabetic foot conditions.

Treatments for ankle pain range from conservative options to surgery. The goal is to relieve pain, optimize movement and improve quality of life. Physical therapy may be beneficial for some patients. However, when conservative treatments and other surgical options have been tried, ruled out or are not effective, total ankle replacement may be the best option.

Orthopaedic Institute surgeons use the latest generation of artificial joints and innovative surgical techniques, making total ankle replacement an option for patients with advanced arthritis or severe trauma to the ankle.

“They don’t treat you like a patient. They treat you like an individual who is getting well, who is recovering.”

– Patient comment
Acute Pain Service

Postoperative pain control is a critical factor in improving surgical outcomes, reducing complications, decreasing the hospital stay and reducing costs. To improve postoperative pain management, Abbott Northwestern uses an Acute Pain Service made up of anesthesiologists and nurses. This service partners with surgeons and other physicians to offer innovative pain management strategies for a variety of patient populations.

The most frequently used modalities for orthopedic patients are single shot and continuous peripheral nerve blocks. Initially, a strong numbing medication is injected near the nerves that supply feeling to the surgical site.

Pain relief from this injection lasts 12-18 hours. To extend pain control, a continuous nerve block is used in some patients. For these patients, a small catheter is inserted and a disposable pump delivers numbing medication for several days after surgery. Patients go home with the catheter and disposable pump in place and remove it themselves. Patients report an overwhelmingly positive experience with this approach to acute postoperative pain management. High quality postoperative pain control has helped the Orthopaedic Institute achieve outstanding clinical outcomes.

Chronic Pain Service

Postoperative pain control can be challenging for patients with underlying chronic pain. The Chronic Pain Service provides evaluations to address issues related to chronic pain control and management after surgery. The Chronic Pain Service provides expert consultation from a pain management physician (with more than 30 years of experience), nurse practitioner and clinical nurse specialist with special training in chronic pain management.

The Chronic Pain Service partners with the Penny George Institute for Health and Healing to provide an integrative approach to pain management. Services include assistance with assessment, management and triage of patients with acute or chronic pain, acupuncture, medication management, massage therapy and resources for discharge.

Penny George™ Institute for Health and Healing

The Penny George Institute for Health and Healing, part of Allina Health, is the largest integrative health center embedded in a health system in the country. It is setting national standards for enhancing health care through an integrative health approach.
This includes:
• blending complementary therapies, integrative medicine and conventional Western medicine
• providing services to inpatients and outpatients
• educating health care professionals
• teaching community members about health promotion and self-healing practices
• conducting research to identify best practices of integrative health and the impact of these services on health care costs.

**INPATIENT INTEGRATIVE SERVICES**
Integrative services may be requested as part of an inpatient’s care. A practitioner from the Penny George Institute visits the patient to determine which services are appropriate. All complementary therapy services provided during the hospital stay are considered part of the patient’s hospital care, and inpatients are not billed for these services.

Services include:
• acupressure
• acupuncture
• aromatherapy
• energy healing including Reiki and healing touch
• healing arts
• Korean hand therapy
• mind/body therapies including relaxation response, guided imagery and biofeedback
• music therapy
• reflexology
• therapeutic massage
• other relaxation and stress reduction therapies.

**ACUPUNCTURE SERVICES FOR JOINT REPLACEMENT CENTER PATIENTS**
Acupuncture services are available to all patients who are admitted to the Joint Replacement Center. The orthopedic surgeons order acupuncture as part of their postoperative order set. Acupuncture is provided in a group setting immediately following group physical therapy treatment.

The following table illustrates the number of patients who were referred to the Penny George Institute for Health and Healing inpatient program for services during the first nine months of 2012. Eighty-four percent of referred patients were seen and provided acupuncture services. Patients who were not seen either declined services (37 percent or 270) or they had Friday surgeries and were discharged prior to the next treatment opportunity on Tuesdays. Patients who declined include those who declined on one occasion during admission but had also received at least one treatment. The average number of treatments was 1.78 per admission.

<table>
<thead>
<tr>
<th>Volume and patient characteristics (Jan. 1-Sept. 30, 2012)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Admissions with referrals</td>
</tr>
<tr>
<td>Number referred that received services</td>
</tr>
<tr>
<td>Patients who declined</td>
</tr>
<tr>
<td>Patient visits with services</td>
</tr>
<tr>
<td>Patient visits with no services</td>
</tr>
<tr>
<td>Total visits attempted</td>
</tr>
<tr>
<td>Total patients treated</td>
</tr>
<tr>
<td>Females</td>
</tr>
<tr>
<td>Males</td>
</tr>
<tr>
<td>Total number of visits</td>
</tr>
<tr>
<td>Average length of treatment</td>
</tr>
<tr>
<td>Average number of treatments per admission</td>
</tr>
</tbody>
</table>

**Pre- and post-treatment pain scores**
Jan. 1-Sept. 30, 2012 (n=689)

- Average pretreatment score: 3.84
- Average post-treatment score: 1.88
ACUPUNCTURE SERVICES FOR JOINT REPLACEMENT CENTER PATIENTS (CONT.)

Pre-treatment and post-treatment pain scores are collected using the verbal analog scale of 0-10 in common use in the hospital. Pain scores are the most accurate of the scores collected because the patients are familiar with the rating scale and the definition of the score value. Pain reduction after the acupuncture treatment is illustrated in the chart above. The post-treatment pain score decreased by almost 50 percent. There are other contributing factors to pain reduction in addition to acupuncture.

Courage Kenny Rehabilitation Institute

Courage Kenny Rehabilitation Institute provides a continuum of inpatient and outpatient rehabilitation services, Sports and Physical Therapy locations, as well as community services for people with short- and long-term conditions, injuries and disabilities in communities throughout Minnesota and western Wisconsin. The Institute’s goal is to maximize quality of life for people of all ages and all abilities. We help people achieve health and wellness by offering excellent services, innovative programs, ground-breaking research and barrier-shattering advocacy.

The Institute has earned accreditation from the Commission on the Accreditation of Rehabilitation Facilities (CARF), having met the highest industry standards for quality care and service for people with spinal cord injury, stroke and brain injury.

Courage Kenny Rehabilitation Institute’s patient outcomes and satisfaction often exceed national averages. Acute inpatient rehabilitation is offered at Abbott Northwestern and United hospitals; outpatient therapy is provided at all Allina Health hospitals, several other outpatient locations as well as at 28 Sports & Physical Therapy sites. Every person receives one-to-one care and an individualized home exercise program with an emphasis on active management of their condition. Courage Kenny Sports & Physical Therapy staff members collaborate with referring physicians to provide safe, timely and effective care. All tests, procedures and treatments are based on clinical standards of practice. The goal is for every patient to achieve as much independence as possible – to do as much as they can physically and mentally, to stay connected to family and friends, and to continue to progress toward their personal best.

The fifth largest rehabilitation provider in the nation, Courage Kenny Rehabilitation Institute has multiple locations, and numerous programs and services in Minnesota and western Wisconsin.

“You can immediately identify with other patients who have had surgery because you have just been through that experience. You can see each other’s progress one day at a time, and I think that helps everybody. It’s an exchange of confidence that it’s getting better.”

– Patient comment
<table>
<thead>
<tr>
<th>Physicians</th>
<th>Podiatrists</th>
<th>Leadership Team</th>
</tr>
</thead>
</table>
| Allina Health Bloomington Clinic  
  Tilok Ghose, MD                                                           | Allina Health Bandana  
  Square Clinic  
  Heather Jensen, DPM  
  Scott Jorgensen, DPM  
  Allina Health Eagan Clinic  
  Ryan McCarthy, DPM  
  Allina Health Forest Lake Clinic  
  Sharilyn Moore, DPM  
  Allina Health Inver Grove Heights Clinic  
  Mindy Benton, DPM  
  Allina Health Nicollet Mall Clinic  
  Todd Shea, DPM  
  Allina Health Vadnais Heights Clinic  
  Maren Elze, DPM  
  Allina Health Woodbury Clinic  
  Timothy Szopa, DPM  
  Kari E. Prescott DPM PA  
  Kari Prescott, DPM  
  Midwest Podiatry Centers – Richfield  
  Dirk Halverson, DPM | Scott D. Anseth, MD  
  Medical director, Joint Replacement Center  
  Robert W. Tuttle, MD  
  Chair, Orthopaedic Department  
  Jared Crotteau, RN, BSN  
  Director, Neuroscience, Orthopaedic and Spine Programs, Respiratory Therapy  
  Heidi Menard, RN, BSN, MA  
  Patient care manager, Orthopedics, H7200  
  Stephanie Eller, RN, MSN, ONC  
  Manager, Orthopaedic Program  
  Stacy Tomes, BA  
  Quality and Patient Safety Department |
Orthopaedic Institute
800 East 28th Street
Minneapolis, MN 55407-3799