More Options for Pain Management

An important development in knee replacement surgery has been the use of adductor canal catheters. The anesthesiologist places a small catheter into the adductor canal in the recovery room at the conclusion of the surgery. The patient is still under the effects of spinal or general anesthesia, so the block is essentially painless. The block affects the sensory branches of the femoral nerve but spares the motor branches. Thus, pain is markedly diminished, but the quadriceps muscles are still functional, so the patient is safe to ambulate. The catheter can be kept in place for several days, even after discharge from the hospital, and has had a tremendous effect on post-operative pain control for knee replacement patients.

Pain control, for both hip and knee patients, has also been improved by multi-modality pain management. Patients receive Tylenol, an NSAID, and gabapentin prior to surgery, which help block the various pain pathways before the pain even starts. Also, a cocktail of pain medications is injected around the hip or knee during the surgery, which provides significant relief for approximately the first 24 hours. This combination of pain management medications has markedly improved pain control in these patients and allowed earlier mobilization and discharge from the hospital.

Direct Anterior Hip Replacement

One of the more exciting developments in hip replacement surgery is the increasing use of the direct anterior approach. Though this technique was first described years ago, recent modifications to the procedure, along with changes in hip replacement design and development of a special operating table have all combined to make this a very safe and effective surgical approach. It has rapidly gained in popularity among surgeons and generated a large amount of patient interest as well.

The direct anterior technique is a soft tissue-“friendly” surgery and avoids cutting any muscle. Though the more traditional posterior approach is still a reliable option, and can be the right choice for certain patients, the anterior approach appears to have less post-operative pain and an earlier return to function (though the results seem to equalize by about 3 months). Another significant benefit of this technique is the extremely low dislocation rate. There are no dislocation precautions following surgery, which patients appreciate immensely. Also, X-ray is used during surgery (unlike the posterior approach) to help ensure accurate component placement and correct leg lengths.

To address the increasing demand for sports medicine treatment, The Polyclinic recently added Dr. Jeremy Johnson, a fellowship-trained physician. Dr. Johnson works with patients of all ages and activity levels, including kids and teens getting ready for school sports and older athletes and non-athletes who want to remain active. His special interests include athletic injuries, non-operative orthopedic care, fracture care, ultrasound-guided joint injections, concussion management, nutrition, exercise in pregnancy, and sports and performance training for runners and musicians.

Dr. Johnson is located at The Polyclinic Madison Center. He joins multiple specialists there who are part of the clinic’s comprehensive Musculoskeletal Program including orthopedics, rheumatology, podiatry, physical medicine and rehabilitation, and physical therapy.

Dr. Johnson works with the rest of the musculoskeletal team to develop treatment plans that are patient-centered and focus on maximizing participation in sports and recreational activities. You can reach Dr. Johnson at 206.860.5584.

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Reduced Blood Loss
Another important change in joint replacement surgery has been the reduction of blood loss with use of tranexamic acid, which can be used topically or intravenously. Multiple studies have shown less blood loss and a significant reduction in blood transfusions with the use of tranexamic acid. There are relatively few contraindications and, even in those patients, it can usually still be given topically.

Implant Improvements
Another development in both hip and knee replacement surgery is the improvement of the polyethylene (plastic) liner that is inserted between the metallic portions of the joint replacement. These newer "highly cross-linked" liners wear at 1/10 the rate of the previous generation of polyethylene liners, resulting in a longer life of the implant and fewer problems with loosening. Orthopedic surgeons estimate the current hip and knee replacements should last between 20 and 30 years.

Robotics for Knee Replacement
Lastly, another exciting change has been the development of robotic-assisted partial knee replacement surgery (Makoplasty). Using a combination of state-of-the-art computer assisted navigation and a robotic arm that ensures accurate bone cuts and implant placement, partial knee replacements can be placed in perfect position, which improves both function and long-term survival. Work is also being done to further advance robotic-assisted total hip and knee replacements.

My colleagues and I have extensive experience in hip and knee replacement surgery, and in using all of the advances described above. We welcome your referrals and are available for patient consultations at 206.860.5578.

Minimally Invasive Techniques in Spine Surgery
By: Sean Keem, MD, Spine Surgeon

Uncontrolled back pain and neck pain are the most common reasons patients get referred to me by their primary care physicians. Most referring physicians have already prescribed medications, physical therapy, and other treatments before they refer their patients to a spine surgeon. If not, I discuss the full range of non-surgical options with patients during their first visit.

Some patients require lifestyle changes such as losing weight, quitting smoking, or exercising more before we consider surgery as an option. Others may benefit from physical therapy, acupuncture, or injection therapy to reduce pain and restore function.

If spine surgery is indicated, however, I always try to find the least invasive approach and most motion-preserving method possible for the patient. For example, arthroplasty with artificial disc replacement is the preferred method of surgical treatment to arthrodexis (fusion) in my practice. Decompression surgeries such as micro-discectomy, foraminotomy, and laminotomy are more commonly recommended than laminectomy and fusion surgeries. Regardless of the nature of procedures, most surgeries are performed with Minimally Invasive Spine (MIS) surgical techniques.

New Polyclinic Specialty Physicians

**Annisa Jamil, MD** - Glaucoma Consultants Northwest at The Polyclinic
- **Location:** The Polyclinic Broadway
- **Phone:** 206.682.3447
- **Board Certification:** American Board of Ophthalmology

**Navid Mehraban, MD** - Rheumatology
- **Location:** The Polyclinic Madison Center
- **Phone:** 206.860.5580
- **Board Certification:** American Board of Internal Medicine; Board-eligible: Subspecialty Board of Rheumatology

**Beverly Kocarnik, MD, MPH** - Endocrinology
- **Location:** The Polyclinic Madison Center
- **Phone:** 206.860.5572
- **Board Certification:** American Board of Internal Medicine; Board-eligible: Subspecialty Board of Endocrinology and Metabolism

**Katherine Schwab, MD** - Obstetrics & Gynecology
- **Location:** The Polyclinic Madison Center
- **Phone:** 206.860.4541
- **Board Certification:** American Board of Obstetrics & Gynecology

Traditional spine surgery, such as a 2-level lumbar spinal decompression and fusion procedure, is typically performed using a 5- to 6-inch-long incision along the spine, with significant dissection and retraction of the muscles –and resultant tissue damage. Simply accessing the diseased spine may lead to enough blood loss to require transfusion, and a prolonged hospital stay is common. Damaged tissue may never recover, leading to “fusion disease.”

With a MIS technique, the same surgery can be performed through small, strategically placed incisions of 0.5 to 1.5 inches that require minimal tissue dissection. Blood loss is negligible. Many patients go home within 24 hours of surgery. With advancement of MIS techniques, I can integrate these techniques into existing treatment methods to treat a wide range of spinal pathologies including complex problems:

- **Scoliosis**
- **Kyphosis**
- **Spondylolisthesis**
- **Spinal stenosis**
- **Post (open) surgical complications such as flat-back syndrome, post-laminectomy syndrome, and adjacent segment degeneration.**

Because of my focus on MIS, a patient’s age and health status are less critical in determining who is a good candidate for spine surgery. I have performed complex spine surgery for older patients with excellent outcomes. For example, correction of spinal stenosis with degenerative scoliosis could be performed safely for patients in their ’70s and ’80s when MIS is employed. Although MIS cannot be applied to every surgical patient, the underlying philosophy of MIS is the central focus of my practice.

Dr. Keem is available for phone consultations and welcomes patient referrals at 206.860.5383.