Patellofemoral Knee Replacement

Overview: The most common cause of chronic knee pain is arthritis. A unicompartmental knee replacement, or partial knee replacement, is a surgery performed when one part of a patient’s knee is severely damaged by arthritis causing daily activities to become more difficult to perform. A patient’s arthritis can often progress to a point where there is pain with walking, climbing stairs, and even resting. Partial knee replacement surgery offers a less painful and invasive alternative to a total knee replacement. It can help to relieve pain and restore function to a damaged portion of the knee making an impact in a patient’s life. Annually, there are 580,000 knee replacement procedures performed in the US. With new innovations and advancements, knee replacements have continued to improve over the past decade with more capabilities than ever before. A patellofemoral replacement can be an option when the arthritis is isolated to only the patellofemoral joint.

Anatomy: The knee joint is formed by the junction of the femur (thighbone), tibia (shinbone), and patella (kneecap), which are all lined with articular cartilage. This cartilage along with the menisci protects and cushions the knee joint. However, overtime knee arthritis or the painful inflammation and stiffness of the knee joint can develop and cause degeneration of the knee. One specific type of arthritis is osteoarthritis, which is the wear and tear of the cushioning surfaces of the knee overtime. Osteoarthritis can affect one of the three compartments of the knee: medial (inside), lateral (outside), or patellofemoral (kneecap) without affecting the entire knee. The patellofemoral knee compartment is made up of two components: the patella and the trochlea, which is a groove in the femur that allows the patella to move smoothly.

Clinical Evaluation: At the time of your appointment, the surgeon will take a detailed history, perform a physical exam, and take x-rays of your knees. From these x-rays, the severity and location of degeneration can be assessed. Treatment and outcomes will be discussed at this time and a plan will be put into place.

Non-Operative Treatment: Conservative treatment for osteoarthritis is almost always exhausted before a knee replacement is considered. Treatment plans include injections, medication, weight loss, physical therapy, strengthening, or bracing. Partial knee replacement surgery is not a decision to be taken lightly and needs planning, commitment, and rehabilitation to have a successful and positive outcome.

Operative Treatment: Surgical management of severe isolated patellofemoral osteoarthritis can involve a partial knee replacement. Surgical indications for a successful patellofemoral knee replacement require that a patient’s symptoms be isolated to the degenerative arthritic portion of the knee. During surgery, the damaged bone and cartilage of the both the kneecap and trochlea are removed, resurfaced, and replaced with part of an artificial knee joint. A plastic patella along with a metal resurfaced trochlea is implanted into the knee. A partial knee replacement as opposed to a total knee replacement offers a quicker recovery time and less pain after surgery. These can often be accomplished in an outpatient setting. Activities allowed after recovery from a partial knee replacement include walking, swimming, golfing, driving, light hiking, biking, and other low impact sports. The goal of this procedure is for the patient to successfully return to daily activity with improvement in symptoms and a better quality of life in 3-6 months. A general guideline of Partial Knee Replacement rehabilitation can be found within the Rehabilitation Protocols. If indicated, patellofemoral replacements can be corrected to a full total knee arthroplasty in the future.

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