

repicci II TM
PRE-TOTAL KNEE PROGRAM

A Unique Approach
*to the Treatment
of Unicondylar Osteoarthritis*

Managing Osteoarthritis with the Repicci II™ Unicondylar Program: A Step In the Right Direction

Introduction

Millions of people suffer from arthritis of the knee. Techniques and technology are rapidly evolving, providing treatment to restore people to pain-free, active living. In the past, the standard of care for end stage osteoarthritis has been total knee replacement. This is effective in relieving pain and restoring function. However, total knee replacement is an invasive procedure that may not be necessary for all patients.

John Repicci, D.D.S., M.D. of Buffalo, New York, has worked for the past 20 years on an innovative option for the treatment of osteoarthritis: the result is the development of the Repicci II™ Unicondylar Program. This unique treatment option offers distinct advantages over total knee replacement surgery, when applied to the appropriate patient indications.

What Is Osteoarthritis of the Knee?

The normal knee is a complex joint consisting of bones and soft tissue structures that are designed to move and endure the forces of everyday activity. The forces of the knee are centralized in three areas, or compartments. Two of the compartments are located at the junction of the tibia and femur, and the third compartment lies beneath the knee cap (patella). Each compartment absorbs the stress of activity through cartilage, a rubbery tissue that protects the bone (Figure 1).

Osteoarthritis is a disease of this cartilage. Knee cartilage can be compared to the tread of an automobile tire, very durable but susceptible to wear over time. Osteoarthritis is a degenerative process which results in the wearing out of the joint surface. Over time the joint surface slowly erodes until the underlying bone is exposed. This exposed bone can be painful when the joint moves and bears weight.

Osteoarthritis of the knee often develops in one weight-bearing compartment of the knee, while the

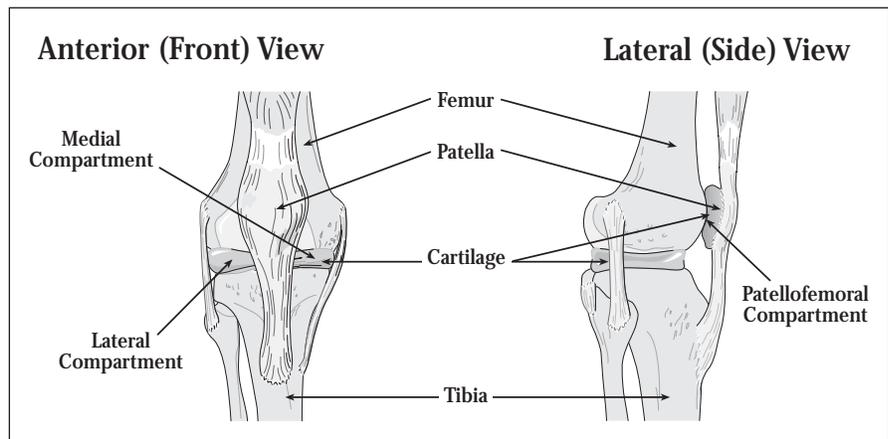


Figure 1 The three bones of the knee joint are the femur, tibia and patella. The areas of the knee that move are protected by cartilage.

other two compartments remain relatively healthy. Since osteoarthritis is a progressive disease, in the short term it can be managed conservatively. Anti-inflammatory drugs, cortisone injections, and physical therapy can delay the need for surgery, but eventually many people require surgical reconstruction of the knee.

The traditional approach to knee reconstruction has been a total knee replacement, which replaces all three compartments of the knee. A total knee provides excellent pain relief and has been shown to be very durable. For people who need two or more of their knee compartments resurfaced, total knee replacement is an excellent choice to relieve pain and restore function of the knee.



Figure 2 Total knee implants used to resurface all three compartments of the knee.

Total Knee Surgery

In total knee replacement, up to an 8" incision is made, and the knee cap is dislocated, exposing the surfaces of the knee. Up to 1/2" of bone is removed from the femur and the tibia to accommodate the knee implant. After surgery, most patients stay in the hospital several days and follow up with extensive physical therapy. The long-term result is usually excellent, but it can take many months for the patient to fully regain the function of their new knee joint (Figure 2).

Unicompartmental Knee Surgery

Patients that exhibit osteoarthritis in one compartment may not need a total joint replacement to relieve pain and restore function of the knee. An alternative option is a unicompartmental implant. The Repicci II Unicondylar Program is designed to address these patients (Figure 3). This device is much smaller than a total knee implant and leaves the healthy tissues intact.



Figure 3 Repicci II implants resurface one compartment of the knee. Note the size of the implants compared to a total knee.

The History of Unicompartmental Knee Replacements

The first unicompartmental knee replacements date back to the early 1970s and like early total knee replacements, showed mixed success.¹ But over the last 25 years, implant design, instrumentation, and surgical technique have improved, making unicompartmental knee replacement a successful treatment of unicompartmental osteoarthritis.

How Long Might A Unicompartmental Implant Last?

All knee implants have a limited life expectancy, and reviewing the orthopaedic literature shows that modern unicompartmental knee replacements last in the 10-year range, depending on a patient's age, weight, and activity level. Many orthopaedic surgeons around the world report a success rate of about 90% at 10 years, indicating that many patients have long-term enjoyment of their unicompartmental knee implant.^{2,3,4}

Why Receive A Repicci II Unicompartmental Implant?

With the development of modern-day Repicci II implants and surgical techniques, many advantages exist for using a unicompartmental "retread" compared to a total knee.

Smaller Incision

Using a video camera and an arthroscope, the entire knee is examined. If the patella and one tibial surface appear healthy, then an incision extending approximately 3" is used to implant the Repicci II components. This is much smaller than the 8" incision required for a total knee, thereby leaving a more pleasing cosmetic appearance after surgery is completed.

Less Blood Loss

Quite often patients are required to donate blood before total knee replacement providing blood to replace the quantity lost during surgery. The Repicci II technique generally eliminates the need for blood transfusion.

Lower Morbidity

Since the knee joint is examined with an arthroscope, the patellofemoral articulation, or the knee cap, is not disturbed during the procedure, greatly reducing the disruption to the joint associated with total joint surgery. Benefits of a less invasive procedure include less postoperative discomfort, a shorter hospital stay, less physical therapy, and more rapid healing.

Shorter Recovery Time

Most Repicci II patients walk on their resurfaced knee the same day as surgery, and are generally released from the hospital the next day. Within two weeks most patients are driving a car and resuming most normal daily activities. With a total knee replacement, recovery time can be four or five times longer. Also, with a total knee replacement, extensive physical therapy may be required.

Less Bone Removed

Only about 1/4" of bone on one compartment of the knee is removed to properly fit Repicci II implants. In total knee replacement all knee surfaces lose up to 1/2" of bone on each of the three compartments. Since Repicci II implants save more bone, future total knee replacement procedures can more easily be performed if necessary.

Who Can Benefit From Repicci II Unicompartmental Reconstruction?

Persons 55 and older who show one or more of the following symptoms may benefit from this procedure:

- *Pain while standing.*
- *Pain while walking short distances.*
- *Pain changing position, such as sitting to standing.*
- *Persistent knee swelling.*
- *Giving out or locking of the knee.*
- *Failure of the knee to respond to medical treatment.*

Knee X-rays, taken while standing, can indicate if the Repicci procedure may be appropriate. The X-ray must show complete loss of the joint cartilage in one of the two weight-bearing compartments, as demonstrated in Figure 4.



Figure 4 X-rays showing a healthy knee (left) and the loss of cartilage and the formation of osteoarthritis (right).

The Repicci II Unicompartmental Program: State-of-the-Art Treatment

Many patients have benefitted from this unique approach to the treatment of unicompartmental osteoarthritis of the knee. A smaller incision, shorter recovery time, and restored mobility, while retaining the healthy portion of the knee are just a few reasons why patients and doctors choose the Repicci II Unicompartmental treatment.

References

- ¹ Insall, Agliotti, "A Five to Seven-Year Follow-up Unicodylar Arthroplasty," *Journal of Bone & Joint Surgery*, 62-A, Dec., 1980.
- ² Knutson, Lewold, Lidgien, Robertsson, "The Swedish Knee Arthroplasty Project: A Nation-wide Multicenter Study of 34,000 Cases," Presented at the AAOS, New Orleans, Louisiana, 1994.
- ³ Marmor, "Unicompartmental Knee Arthroplasty: 10-13 Year Follow-up Study," *Clinical Orthopaedics and Related Research*, 266, Jan., 1988.
- ⁴ Scott, Cobb, McQueary, Thornhill, "Unicompartmental Knee Arthroplasty: Eight to Twelve Year Follow-up Evaluation with Survivorship Analysis," *Clinical Orthopaedics and Related Research*, 271, Oct., 1991.

The Repicci II Unicodylar Program was developed by John A. Repicci, D.D.S., M.D., Buffalo, New York.

The Repicci II Unicodylar Knee is marketed for use with bone cement in the United States.

Biomet, as the manufacturer of this device, does not practice medicine and does not recommend this or any other surgical procedure for use on a specific patient. The surgeon who performs any implant procedure is responsible for determining the appropriate procedure and utilizing the appropriate techniques for implanting the prosthesis in each individual patient. Biomet is not responsible for selection of the appropriate surgical technique to be utilized for an individual patient.

For More Information Contact:



Biomet, Inc. Warsaw, IN 46581-0587 (219) 267-6639 ©1995 Biomet, Inc. All Rights Reserved
Biomet Ltd., Waterton Industrial Estate, Bridgend, South Glamorgan CF31 3YN, U.K.
Form No. YBEM-071/111595/H