

The Oxford Unicompartmental Knee Replacement

Dr. Bryan Frentz has completed the specialized FDA training necessary to perform the innovative Oxford Unicompartmental Knee Replacement.

The Oxford is an excellent alternative for many patients who are considering total knee replacement. By only replacing the damaged portion of the knee, it can relieve pain due to osteoarthritis, yet allows quicker recovery, more range of motion, less blood loss, and a shorter hospital stay when compared to a total knee replacement. This procedure is truly minimally invasive.

The Oxford was approved by the FDA in 2004 for use in the United States only by surgeons who have completed the required FDA training. Although it is new to the United States, the Oxford has been used in Europe for twenty years! In fact, studies show that after 15 years 95% of Oxford knees are still in place and functioning well. This is equivalent to the results seen with total knee replacement except the Oxford has fewer associated risks and a quicker recovery.



The Oxford Unicompartmental Knee Prosthesis

The Deuce Bi-Compartmental Partial Knee Replacement

Dr. Bryan Frentz is excited to be among the first orthopaedic surgeons in Louisiana trained to perform the Deuce Bi-compartment knee replacement.



The Deuce Prothesis

Knee Anatomy

The thigh bone, the leg bone, and the knee cap. These bones are connected by ligaments and tendons. Joint surface is comprised of a five (5) mm layer called joint cartilage. This surface is on the end of the thigh bone, the top part of the leg bone and the back side of the knee cap. This surface is given to us once in our lives, and our bodies do not have the ability to regenerate this tissue. There are four (4) major ligaments that hold our knee together: the medial collateral ligament; the lateral collateral ligament, which limit the knee from side-to-side-type movement; the anterior cruciate ligament (ACL); and the posterior cruciate ligament (PCL) which limit front-to-back movement.

Knee Arthritis

Knee arthritis, by definition, is the loss of joint cartilage for whatever reason. Again, the joint cartilage is given to us once in our lives, and we do not have the ability to regenerate it. The joint cartilage can be lost for several different reasons. These include osteoarthritis, which is the most common cause for arthritis. This is the "garden variety" arthritis where the joint cartilage is worn away over time. Other causes include trauma, rheumatoid arthritis and infectious arthritis. The joint cartilage does not contain nerves, and therefore our normal joints have no pain. When the cartilage surface is worn away, the bone beneath the worn cartilage is then left exposed. The bones do have nerves, and therefore a bone-on-bone situation is painful based on the fact that this is nerve-on-nerve.

What is Bicompartamental Knee Replacement?

Bicompartamental knee replacement is a new prosthesis that replaces only the inside (medial) joint and kneecap joint (patellofemoral) joint. It does not resurface the outside (lateral) part of the knee and allows for the ACL and PCL to be retained.

How is Bicompartamental Knee Replacement different from a Total Knee Replacement?

A total knee replacement replaces the inside, outside, and kneecap joints; whereas the bicompartamental replacement replaces only the inside and patellofemoral joint. A total knee replacement requires sacrifice of the ACL and often times the PCL in order to insert the prosthesis; whereas bicompartamental replacement allows for retention of both of these structures.

What are the potential advantages of Bicompartamental Knee Replacement?

Bicompartamental knee replacement has several advantages. Because the outside part of the joint is not resurfaced, the exposure (incision, soft tissue dissection, and bone cuts) are all less. Hopefully, this would result in less pain, quicker recovery, shorter hospital stay, and less blood loss. The other advantages include the fact that the ACL and PCL are not sacrificed with the bicompartamental replacement; whereas, they are sacrificed with the total knee. The importance of this is that the stability of the knee will hopefully be better, therefore, with a bicompartamental replacement of the knee. It has been thought by many joint replacement surgeons that patients often times do not feel as if their total knee replacement feels "quite normal" based on the fact that the ACL is not present with a total knee replacement.

Who Is a Candidate for this Prosthesis (Bicompartamental Knee Replacement)?

Research tells us that 70-80% of patients who develop knee arthritis have disease that involves the medial (inside) and patellofemoral (kneecap) portions of the joint whereas the lateral (outside) part of the knee is not diseased. A patient is therefore a candidate for bicompartamental knee replacement if they have pain involving the inside part of the knee. The X-rays would also need to correlate with the patient's symptoms in that bone-on-bone of the inside part of the knee and kneecap part of the knee would also be present.

