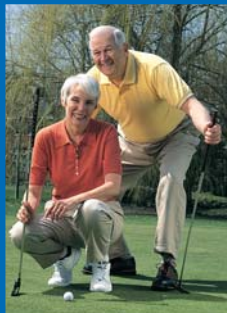




*High Flex  
Replacement Knees*

*Zimmer NexGen®  
Complete Knee Solution*



If you are among the millions of Europeans who suffer from osteoarthritis, severe knee pain may be an everyday reality. Climbing stairs, kneeling to pray, gardening, golfing, bowling, or even just getting a full night's sleep are activities you may no longer be able to do without experiencing pain.

Many people who are candidates for knee replacement surgery may be reluctant to take that step, fearing that further limitations on knee flexibility often following surgery may limit daily activities. Today, two high flex total knee replacement implants are available for patients with the ability and desire to perform deep knee bending activities.

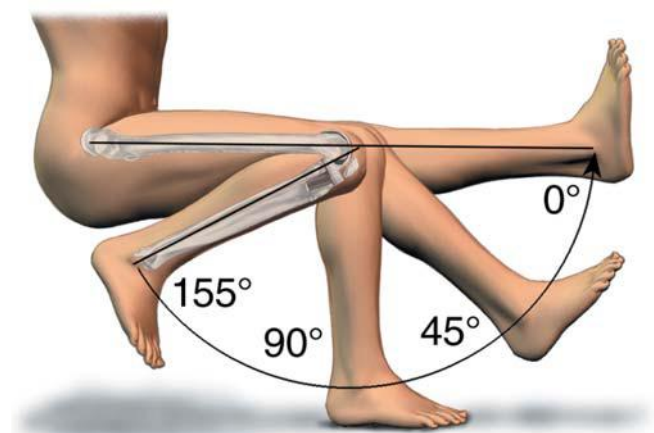
The Zimmer *NexGen*<sup>®</sup> Complete Knee Solution LPS-Flex Fixed Bearing Knee and the CR-Flex Fixed Bearing Knee are high flex fixed knee implants for people who want to continue their active lifestyles after total knee replacement. They are specifically designed to safely accommodate deep flexion of up to 155 degrees.

Flexion is the action of bending a joint, such as your knee or elbow. The opposite motion is extension, which is the straightening of a joint. Generally,

traditional knee replacements accommodate flexion up to 125 degrees. Many daily activities require a higher range of motion:

- Climbing stairs — 75-140 degrees of bending
- Sitting in a chair — 90-130 degrees of bending

Gardening, golfing or activities such as kneeling for prayer and sitting cross-legged can demand up to 130-150 degrees of bending.



With early diagnosis and good preoperative flexion, *NexGen* high flex fixed knees can help appropriate patients maintain their desired quality of life and activity level.

## Symptom Checklist

If you answer yes to any of the following questions associated with osteoarthritis, talk to your doctor.

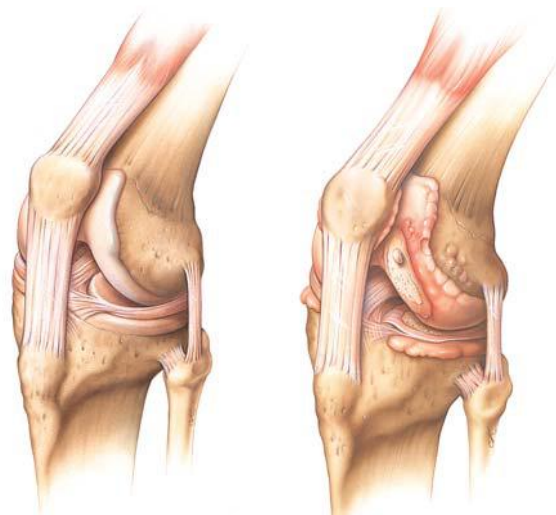
- Do you experience aching in your knee(s) followed by periods of relative relief?
- Do you experience pain after extensive use of the knee(s)?
- Are you experiencing loss of mobility in your knee(s)?
- Do you experience knee joint stiffness that tends to follow periods of inactivity such as sleeping or sitting?
- Does your knee pain seem to increase in humid weather?

## What is osteoarthritis?

The most common form of arthritis, osteoarthritis is a degenerative joint disease that causes deterioration of the cartilage between bones. Factors that may cause the development and progression of the disease include aging, genetics, obesity, and joint injuries from sports, work or accidents. Knee osteoarthritis usually affects the weight bearing sections of the knee, which include the junction of the lower leg bone (tibia) with the upper leg bone (femur), and beneath the kneecap (patella).


A healthy knee is designed to move and endure the forces of everyday activities. Cartilage that covers the ends of our bones acts like a cushion or shock absorber to prevent joints from coming into direct contact. For those who suffer from osteoarthritis of the knee, the cartilage of the affected joint is roughened and becomes worn down, causing pain when the bones grind against each other. Individuals with osteoarthritis may experience aching, stiffness and eventual loss of mobility within the knee joint. Inflammation may or may not be present.

While anti-inflammatory drugs, cortisone injections, and physical therapy are short-term solutions to manage the pain, many people eventually require knee replacement surgery.



Healthy knee

Knee with osteoarthritis



### **How do I know if I am a candidate for a NexGen high flex knee?**

A common view among orthopaedic surgeons is that patients with good flexion before surgery tend to get better range of motion results after surgery. Candidacy for a NexGen high flex knee is based on a number of factors, including:

- A need and desire to perform high-flexion activities
- Capability of 110 - 120 degrees of knee flexion prior to surgery
- Willingness to undergo the rehabilitation necessary to regain flexion
- Weight and activity level

*You should discuss this question with your orthopaedic surgeon to assess whether the high flex knee is the best option for you.*

### **What tests will confirm the diagnosis of knee osteoarthritis?**

Osteoarthritis is often visible on X-rays. Cartilage loss is indicated if the normal space between the bones is narrowed, if there is an abnormal increase in bone density or if bony projections or erosions are evident. A blood test is often taken to rule out rheumatoid arthritis. Your surgeon will conduct an examination of

your knee, including range of motion and detection of deformities such as “knock-kneed” or “bow-legged.” You will be asked to describe the pain in your knee.

Your physician also will record your medical history, often asking you a series of questions about injuries, infections, ailments you have experienced and any medications you are taking.

### **What happens during high flex fixed knee replacement surgery?**

Surgery for a NexGen high flex knee is similar to other total knee replacements.

After anesthesia, your knee is sterilized, flexed about 90 degrees, and securely held in place during surgery. An incision is made that typically extends from just above the knee to just below the knee. The incision is gradually made deeper through muscle and other tissue until the bone surfaces are exposed.

The surgeon then removes the bone surfaces and cartilage damaged by osteoarthritis. Damaged bone surfaces are removed and the bone is shaped so the implants will fit properly. The amount of bone that is removed depends on the amount that has been damaged.

The implants are attached using a special kind of cement for bones. If necessary, the surgeon may adjust the ligaments that surround the knee to achieve the best possible knee function. *NexGen* high flex implants are designed so that the knee joint will move in a way that is similar to the way it moved when healthy.

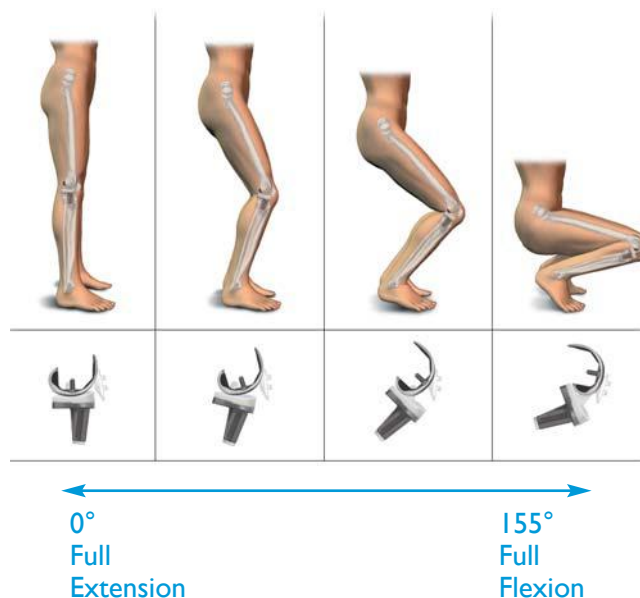
When all the implants are in place and the ligaments are properly adjusted, the surgeon restores tissue layers to their proper position and closes the area with stitches. A plastic tube may be inserted into the wound to allow liquids to drain from the site during the first few hours after surgery. The knee is wrapped in a sterile bandage and the patient is taken to the recovery room.

### **Are there special pre-operative exercises I should do before a total knee replacement with a *NexGen* knee?**

Your doctor may recommend that you try and do some exercises in the weeks before surgery to help condition your muscles to support knee flexion when the new joint is implanted.

### **What kind of rehabilitation program should I expect?**

Since rehabilitation is crucial to a successful outcome, your doctor will likely recommend an early and aggressive rehabilitation regimen after surgery and after you leave the hospital. After discharge, your physician will refer you to a physical therapist who will work with you to help you regain your strength, balance, and range of motion. Your commitment to following proper prescribed home exercises and additional rehabilitation is essential to regain your ability to perform deep knee bending activities.



## ***A New Lease on Life***

### ***One Patient's Recovery from Osteoarthritis of the Knee***

As an actress living in New York City, Barbara Flynn knows the importance of a good performance. But when she began experiencing pain and stiffness in her knees at age 52, Barbara found it more difficult with each audition to hide the fact that she was suffering from osteoarthritis. The active life she once led was beginning to slip away.

Barbara had to stop exercising because she couldn't get through her workout without experiencing intense agony. She limped through auditions and worried that she would even have to give up attending the theater because the seats were suddenly too small and cramped.

Over time, the daily activities Barbara once took for granted such as climbing stairs, kneeling in church, and even crossing her legs, became agonizing chores. The intense ache in her knees seemed to never leave: it filled her last thought before she went to bed and her first thought when she woke up.

"I would get up in the morning feeling as if I hadn't slept all night because the pain would constantly wake me up," Barbara said. "I just felt fatigued all the time."

The thought of having to give up acting, including playing the role of Mother Goose and reading stories to children, helped her realize that she needed to seek treatment.

After trying to ease Barbara's condition with a series of injections, doctor and patient agreed that surgical replacement of both knees was the best option.

Because of the range of motion in her knees before surgery and her desire to continue her active lifestyle, Barbara was an ideal candidate for the *NexGen* LPS-Flex Fixed Bearing Knee.

Barbara knew a commitment to physical therapy and daily knee exercises after surgery would help her regain her strength and full range of motion. "I worked hard at my rehabilitation," she said. "The thought of being able to resume my exercise routine and kneel down to the children's level encouraged me everyday."

Barbara says her quality of life is improved. "The Flex Fixed Knee has given me a new lease on life," she said. "I'm as active and mobile as I want to be. And it's terrific."

*Not all patients can expect results like Barbara's. Interested patients should talk to their doctor to see if this type of prosthesis is an appropriate match for their lifestyle and physical ability. It is important to remember that this knee does not create range of motion that the patient did not have before surgery.*



***"I'm as active and mobile as I want to be. And it's terrific."***

For further information,  
visit [www.zimmer.co.uk](http://www.zimmer.co.uk)



A global leader in the provision of high-quality, hands-on  
education and training for orthopaedic surgeons.

*Individual results may vary. Your results will depend  
upon your personal circumstances. This information is  
intended to provide an overview of knee replacement  
surgery. Review this information with your doctor.  
Joint replacement surgery is usually a last option after  
all other treatments have been exhausted.*

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