Medacta International

Improve your quality of life after knee arthroplasty

Medacta International

This brochure has been prepared to help you feel safe and confident about your operation. It addresses any questions you may have regarding the surgery and post-operative recovery.

Introduction

The knee is the largest and most complex joint of our body. It **has a very difficult function: carrying our body weight**. Therefore, it is not surprising that the knees are the joints which are most vulnerable to injuries or to developing degenerative joint diseases, such as gonarthrosis (arthrosis of the knee). One of the consequences of any joint disease is **pain**.

Statistics show that roughly one third of Americans over the age of 45 suffer knee pain. Knee pain limits your daily activities, affects your mood, your health, and overall, your **general well-being**!

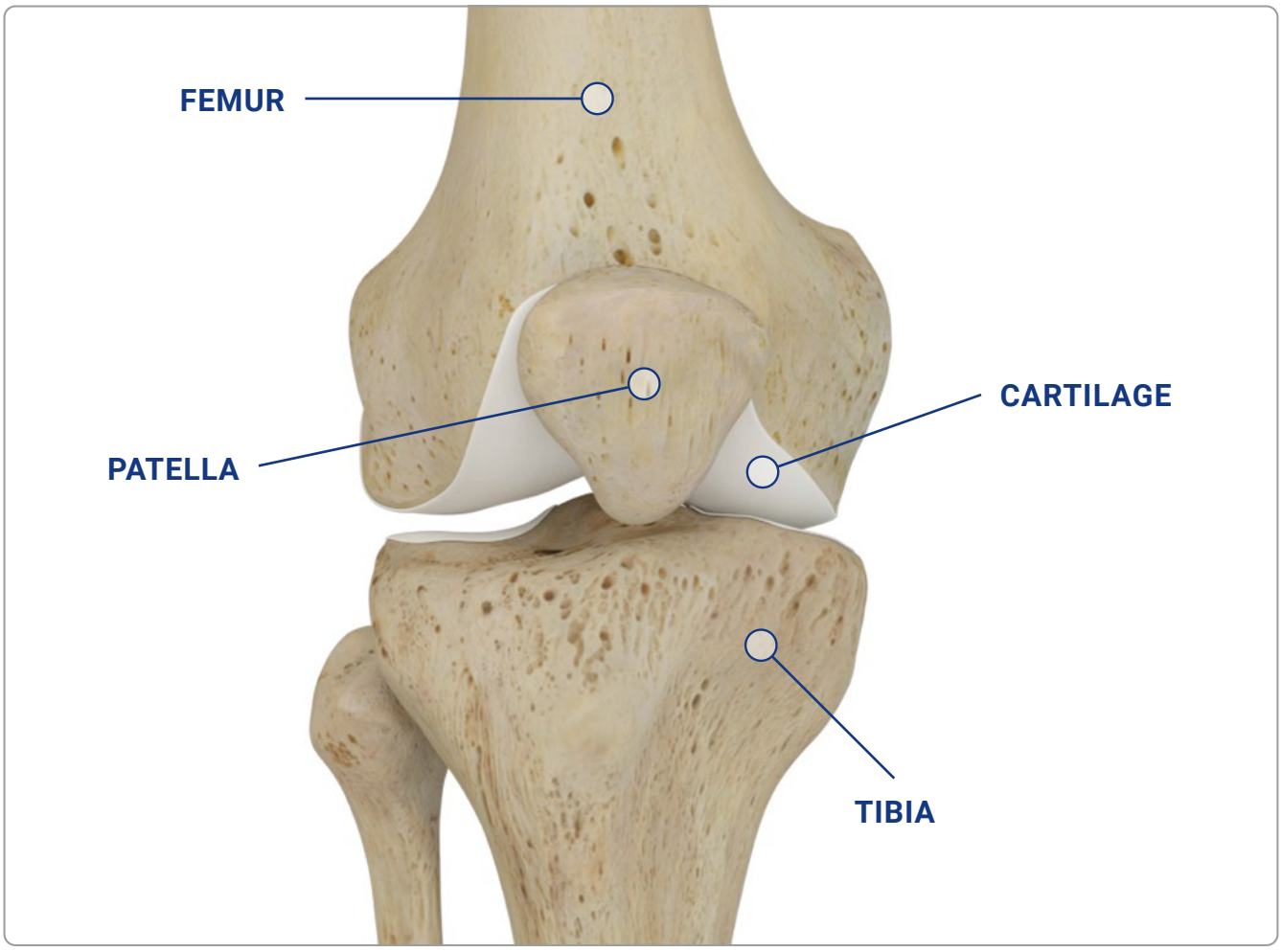
YOU WANT TO GET RID OF THE PAIN AND YOU CAN!

There are a variety of surgical and non surgical solutions to treat your disease. Your physician will advise you about the most suitable treatment, according to your age, activity level and expectations. Knee pain and stiffness caused by advanced arthrosis is severely limiting and your physician may suggest that you undergo a total knee replacement.

1 - The knee and gonarthrosis

KNEE ANATOMY

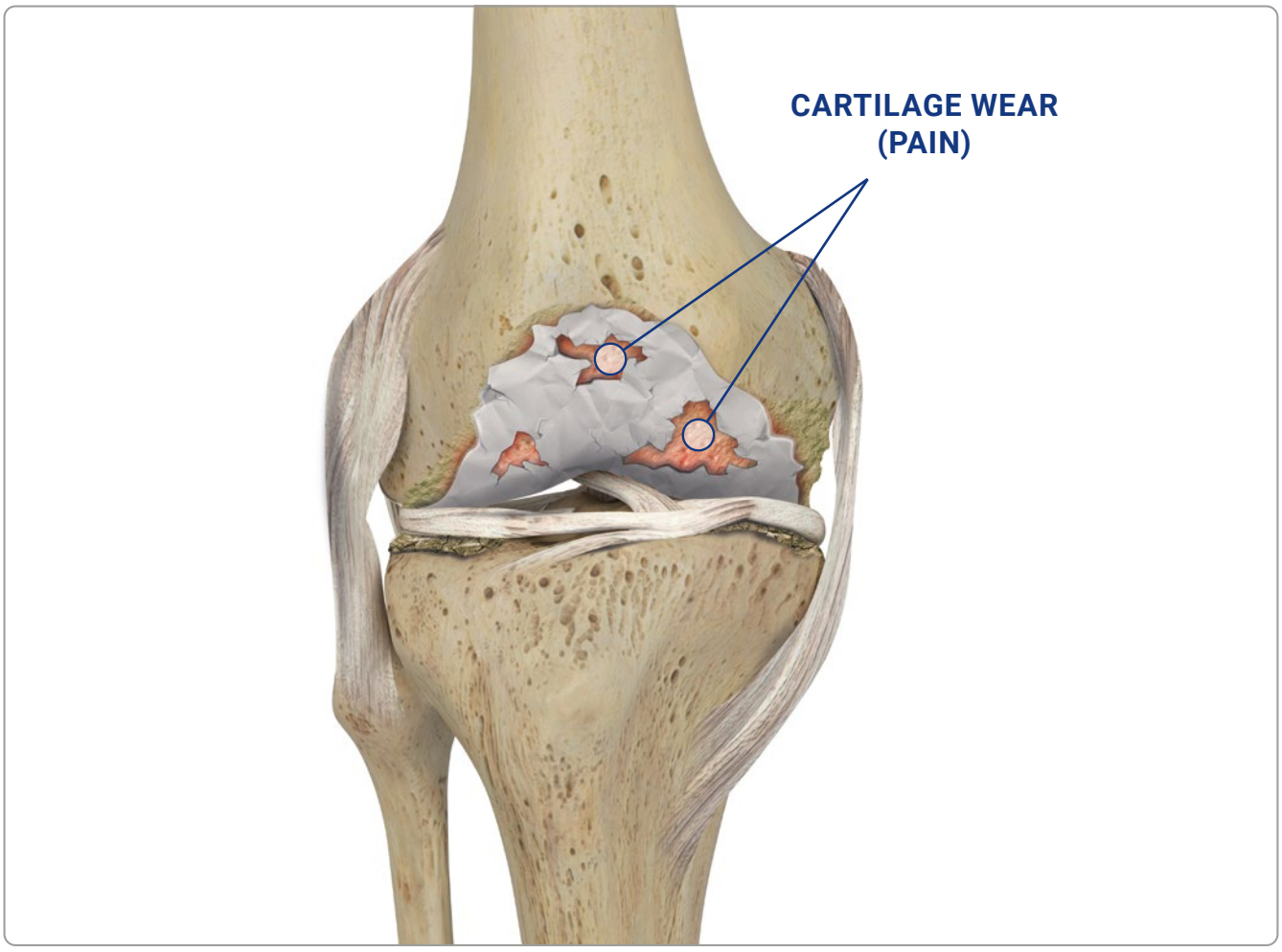
The knee joint is comprised of three bones: the **femur**, the **tibia** and the **patella**. The leg movement is driven by the thigh **muscles**, the biggest of which is the quadriceps, located in the front of the thigh. The thigh and shin bones are connected by **ligaments**, which give stability to the knee joint. The surface of the femur, tibia and patella, where the bones come into contact, is coated with a smooth tissue called articular cartilage. The cartilage, together with a substance called synovial fluid, prevents the bones from rubbing against each other and causing damage.



ARTHROSIS OF THE KNEE

In cases of arthrosis, or gonarthrosis, the cartilage deteriorates and the bones start rubbing directly against each other. The result is **joint pain**, which worsens day by day, and limits motion. In the case of advanced ostheoarthritis, your doctor may suggest that you undergo a total knee replacement.

SUCCESSFUL KNEE REPLACEMENT CAN RESULT IN DRAMATIC PAIN RELIEF AND IMPROVEMENT IN THE KNEE JOINT FUNCTION.



2 - Total knee replacement

WHAT IS A TOTAL KNEE REPLACEMENT?

A total knee replacement surgery aims at substituting the bone and cartilage of the joint that has been damaged by arthrosis with plastic and metallic components.

The surfaces of the thigh and shin bones are replaced with high-resistant metallic components, called the **femoral component** and **tibial baseplate**.

A **plastic insert** is implanted between the femoral component and the tibial baseplate. It replaces the cartilage function, allowing the thigh and shin bones to slide on each other. All materials used in a total knee replacement are highly biocompatible.

FEMORAL COMPONENT
Metal

PLASTIC TIBIAL INSERT
Polyethylene

TIBIAL BASEPLATE
Metal

WHY TOTAL KNEE REPLACEMENT?

With almost 50 years of history, total knee replacement surgery is a very common and safe procedure for the treatment of severe arthritis. Approximately 1,000,000 knee replacements are performed annually worldwide. The main benefits of a successful total knee replacement are:

Reduction of knee pain

Pain may be rapidly and dramatically reduced, potentially eliminated!

Recovery of mobility

You may radically improve the mobility of your knee.

Improvement in quality of life

Your everyday activities may no longer be limited by pain and reduced mobility!

3 - Innovative options in knee replacement

SENSITIN COATING

Metal hypersensitivity might arise from prolonged contact with metals[1,2].
It affects about **10% to 15% of the general population**[1], but recent studies report an even **more frequent incidence** due to the increasing exposure to metals, either occasionally and externally through the skin (jewelry, clothing), or chronically and internally through surgically implanted devices[3].

In total knee replacement, **alternative options** are available to reduce the risk of hypersensitivity reactions and the occurrence of undesired effects[4].

IN ORDER TO REDUCE PATIENTS' EXPOSURE TO METALS, MEDACTA HAS DESIGNED SENSITIN COATING.

SensiTiN coating is made of a highly biocompatible material characterized by a gold-yellow color. SensiTiN coating firmly attaches to the implant's surface and acts as a barrier between the implant and the surrounding tissues[5].

This property makes SensiTiN-coated implants the preferred choice of most orthopaedic surgeons to treat patients with metal hypersensitivity, and it is also considered a valid means of reducing the likelihood of hypersensitivity onset[6,7,8].

SensiTiN™

A TAILORED SOLUTION FOR EVERY PATIENT

SensiTiN is an innovative coating which offers a hypoallergenic option in knee replacement.

SensiTiN acts as a barrier between the implant and the surrounding tissues and helps to reduce the patient's exposure to metals.
A wide product range is available with SensiTiN coating, offering a tailored solution for every patient.

4 - Getting ready for your operation

TEST & CHECKS

Your doctor may ask you for blood and urine tests and possibly a cardiogram prior to your surgery. In addition, before undergoing your total knee replacement, your doctor will prescribe a complete physical examination to assess your condition and to ensure that there are no factors that could interfere with your surgery.

CHECK YOURSELF

1. Check your skin

If your knee and leg have any skin infections or irritation, contact your orthopaedic surgeon prior to surgery: he or she will tell you how best to prepare your skin for surgery.

2. Check your teeth

The incidence of infection after knee replacement is very low; however, infection can occur if bacteria enter your bloodstream. Therefore, you should contact your dentist to have your teeth checked before your surgery.

MEDICATION

Prior to surgery, provide your surgeon with a complete list of any medication you are taking, including doses and times. He or she will inform you if you need to stop or change any medication.

SPECIAL EQUIPMENT

Special equipment, such as support stockings and crutches, may be needed: you can rent or buy these from specialised shops.

5 - What to do in the hospital

THE DAY OF YOUR OPERATION

The surgical procedure will take approximately 1 to 2 hours.
It will be preceded by pre-surgical preparation and followed by monitoring in the recovery room. The time away from your room will be longer than the operation, due to the time needed for your preparation for surgery, administration of anaesthesia and monitoring as you recover from the anaesthetic. Special care is taken to relieve pain after the surgery. Do not hesitate to call, even in the middle of the night, to obtain relief. Regular checks will be made by the nurses.

AFTER THE OPERATION

Specialized personnel will, from day one after the surgery, take care of your recovery by defining the most suitable rehabilitation program for you and accompanying you through the gradual recovery process. Rehabilitation can be started on the day of the operation, subject to your doctor's approval. You may progress to weight bearing activities as tolerated and may discontinue assistive devices as your comfort level improves.

6 - Taking care of your new knee

LONG TERM CARE OF YOUR NEW KNEE

Follow your orthopaedic surgeon's instructions carefully to minimize any potential complication that could affect your recovery and your implant lifetime. These complications, however, are quite infrequent and some simple rules can dramatically reduce their likelihood.

Don't Forget

1. Lead a healthy and active life

2. In case of fever, throat inflammation, pulmonary inflammation or similar, tell your physician that you have a knee implant

3. Undergo regular general check-ups

Clinical studies of reference:
[1] Hallab N. et al., «Metal Sensitivity in Patients with Orthopaedic Implants», The Journal of Bone and Joint Surgery, vol. 83A, n. 3, pp. 428-436, 2001. [2] Eftekhary N. et al., «Metal Hypersensitivity in Total Joint Arthroplasty», JBJS Reviews, vol. 6, n. 12, p. e1, 2018. [3] Haddad S. F. et al., «Exploring the Incidence, Implications and Relevance of Metal Allergy to Orthopaedic Surgeons», J of the American Academy of Orthop. Surgeons, 2019. [4] Thienpont E., «Titanium niobium nitride knee implants are not inferior to chrome cobalt components for primary total knee arthroplasty», Arch Orthop Trauma Surg, 2015. [5] Medacta: data on file. [6] Bader R. et al., «Alternative materials and solutions in total knee arthroplasty for patients with metal allergy [article in German]», Orthopade, vol. 37, n. 2, pp. 136-142, 2008. [7] Thomsen M. et al., «Pain in a chromium-allergic patient with total knee arthroplasty: disappearance of symptoms after revision with a special surface coated TKA: a case report», Acta Orthop., vol. 82, n. 3, pp. 386-388, 2011. [8] Thomsen M. et al., «Use of allergy implants in Germany: results of a survey [article in German», Orthopade, pp. 597-601, 2013.

My experience:

If you have any concerns about your new knee,
don't hesitate to contact your doctor and, finally...

...enjoy your new knee!

For further information, please visit the website:
medacta.com

Medacta International SA
Strada Regina - 6874 Castel San Pietro - Switzerland
Phone +41 91 696 60 60 - Fax +41 91 696 60 66
info@medacta.ch

Knee Arthroplasty Patient Information - ref: 99.99K.16 rev. 00