BOSI
Brussels Orthopedics
& Sports Institute

BKC
BRUSSELS KNEE
CENTER

KNEE REPLACEMENT
PATIENT INFORMATION

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WHAT YOU NEED TO KNOW

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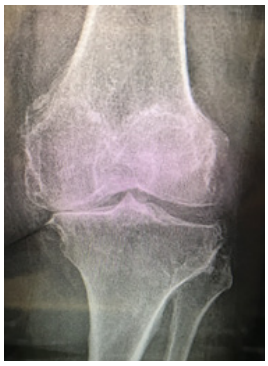
1. BASIC PRINCIPLES

Gonarthrosis or osteoarthritis of the knee

Definition



Gonarthrosis involves wear of the knee cartilage.
Generally, it is a disease of the elderly. Currently, more and more young people are exposed to this type of disease (sports activities, previous operations, etc...).

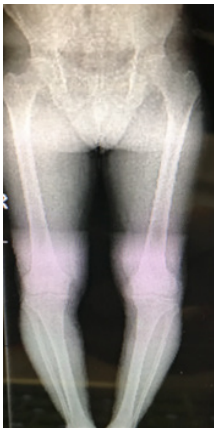
Symptomatology

Osteoarthritis appears essentially in the form of pain and swelling resulting in a reduction in mobility and the quality of life.
The patient experiences more and more difficulty taking part in his/her sports activities (walking, golf, skiing, etc...), to the extent that even daily activity is limited (limitation of walking distance).

Causes and diagnosis of osteoarthritis

Genetics, obesity, axial limb deficiencies, chronic instabilities, trauma and prior meniscectomy are all factors favouring the development of osteoarthritis. In fact, the meniscus is a shock absorber for the knee. Without it, osteoarthritis progresses more rapidly.

Diagnosis



The report includes standard weight-bearing x-rays, goniometry in order to measure the mechanical axis. Possibly an arthro-CT scan or MRI in order to map your osteoarthritis.

With these exams, it is therefore possible to plan customised treatment of osteoarthritis.

Treatment of osteoarthritis

1. Conservative treatment or pain control

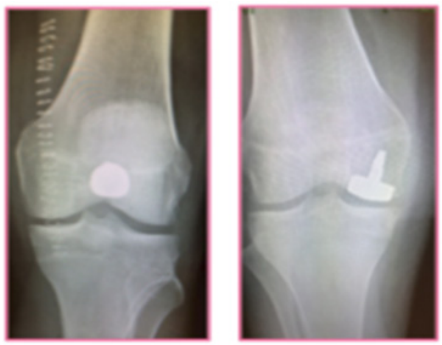
Conservative treatment includes physiotherapy for strengthening, offloading inserts, analgesics, vitamin supplements, a possible diet and injections of hyaluronic acid or PRP. Occasionally, even a hinged brace. This treatment aims at controlling pain and improving the quality of life.

No current treatment makes it possible to regenerate cartilage.

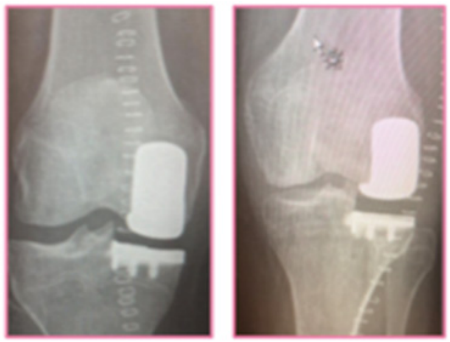
2. Surgical treatment

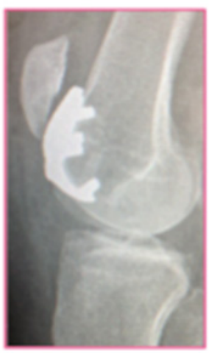
Once conservative treatment has been exhausted, and the quality of life has clearly deteriorated, an indication for knee replacement may be considered. Depending on the type of osteoarthritis described by the arthro-CT scan, customised treatment will be decided upon in order to offer you an implant that is tailored to your osteoarthritis.

Arthrosurface



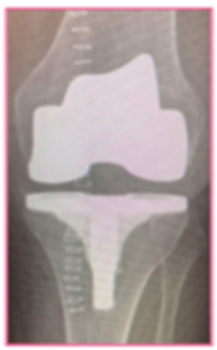
Unicompartmental prosthesis



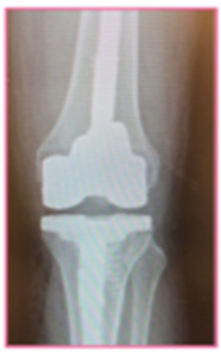


Patellofemoral prosthesis

Bicompartmental prosthesis



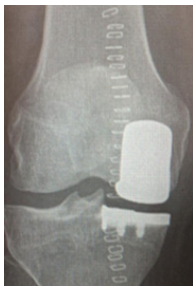
Total Knee prosthesis



Revision Knee prosthesis

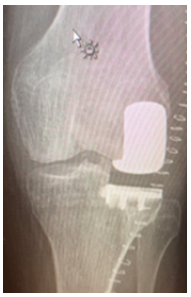
A Unicompartmental Prosthesis

A **Uni**C**ompartmental **P**rosthesis **(UCP):** in the context of strict unicompartmental osteoarthritis with varus deformity (internal wear) or unicompartmental osteoarthritis with valgus deformity (external wear) on a stable knee.



Internal wear

Unicompartmental prosthesis

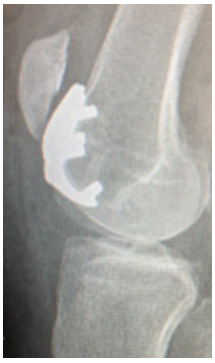


External wear

A Patellofemoral Prosthesis

A **P**atello**F**emoral **P**rosthesis **(PFP/PFJ)**: in the context of isolated patellofemoral osteoarthritis.

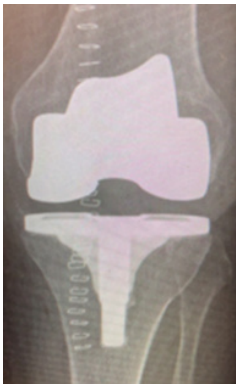
Patellofemoral prosthesis



A Total Knee Prosthesis

A **T**otal **K**nee **P**rosthesis **(TKP)** for tricompartmental osteoarthritis; extending to the entire knee.

Total Knee prosthesis



The principle involves replacing wear with an implant.

3. Preoperative precautions

In order to minimise the risks of perioperative and postoperative complications, you can take some measures in order to limit the risk factors.

Risk factors that can be modified:

1. **Tobacco**: stop 4 weeks before the procedure and application of patch.

2. **Anæmia**: In the event of a red blood cell count that is too low, the treating physician must find the source and correct it. If there is no known source, Folavit, vitamin B12 and Losferron will be given during the preoperative phase.

3. **Alcohol or drugs:** discontinue during the preoperative phase.

4. **Significant obesity**: with a BMI (**B**ody **M**ass **I**ndex) > 40: a diet should be planned. In addition, a waiting period > 6 months following weight loss is required. In fact, a patient on a diet is an undernourished patient who therefore has a greater risk of infection.

5. **Diabetes**: Poorly controlled diabetes (HBc >8) must be controlled prior to surgery using insulin.

6. **Undernutrition**: the criteria for the assessment of undernutrition are: Lymphocytes <1,500; Albumin <3.5; Transferrin <200. They must be corrected prior to a procedure.

7. **Artroscopy**: must delay a prosthetic procedure by 6 months.

8. **SARM carriers** (= methicillin-resistant Staphylococcus aureus). Patients who have been admitted to an intensive care or are living in a nursing home are more likely to be carriers. If the swabs are positive, Mupirocin 2 x 5 days and Chlorexidine + Vancomycin.

9. **Immunosuppression:** HIV, Hepatitis C, treatment with Ledertrexate.

Depending on your past history and your age, you will be asked to undergo various preoperative exams (cardiological opinion, blood test, chest x-ray, etc...). If you undertake them outside this establishment, ensure they are sent to us by post or email.

Precautions to be taken prior to a prosthetic procedure:

- No invasive dental care
- No pedicure care
- No antibiotic treatment

In the event of an emergency in these areas, **you must warn us** and where possible, potentially delay the date of the procedure in order to guarantee a minimum of infectious risks.

Other advise

This advice will allow you to approach the procedure in better conditions.

- Eat a well-balanced diet and use an exercise bike.
- Cut down on addictive substances (alcohol and tobacco).
- Do not smoke on the day of the procedure.
- Take your decontamination shower using iso-Betadine soap.
- Go down to the operating room in clean underwear.

Be careful to comply with the timeline for discontinuing your medications and replace them if necessary.

Glucophage - Metformax: +/- 48 hours beforehand (changeover to insulin)
Xarelto: 3 days + changeover via injection
Plavix - Clopidogrel: 3 days + changeover to injection
Eliquis: 5 days + changeover to injection
Sintrom: 5 days + changeover to injection

ASPIRINE / ASAFLOW does not have to be discontinued prior to the procedure. It does not constitute a risk for the procedure or the post-operative.

2. HOSPITALISATION

Your arrival time at the hospital as well as the order of your arrival will be conveyed to you beforehand by the secretary or the anæsthesiologist. It may occasionally be modified at the last minute because of logistical issues.

When you arrive at the hospital, you must go to the admissions service which will show you your room. The nurses on your floor will help you get settled into your room. Hospitalisation usually lasts between 3 and 5 days, depending on your progress and pain management.
Your surgery will last between 1 and 2 hours, depending on the type of procedure.

You should make provisions for the following equipment:

- A pair of forearm crutches.
- Two good wide, closed-toe shoes making it possible to undergo safe rehabilitation.
- Clothes that are easy to slip on (roomy tracksuit, shorts).

3. DISCHARGE FROM THE HOSPITAL

Ideally, this will take place before 11:00 AM.

Please make sure you have received:

- Medical prescriptions.
- A physiotherapy prescription with the adequate INAMI (*National Institute for Health and Disability Insurance*) code.
- An absence from work certificate.
- A discharge letter for the treating physician.
- A prescription for nursing care for assistance with personal care (and sometimes also wound care).
- 3- and 6-week post-operative appointments with forms for x-rays to be performed just before the consultation.

4. POSTOPERATIVE PHASE

Consultations

You will have a follow-up at:

- **3 weeks** for removal of staples and for wound control, as well as an x-ray beforehand.
- After **6 weeks** for clinical control.
- After **3 months** control with x-ray and goniometry.
- **1 year** with control x-ray.

In young patients, a control every **5 years** is required subsequently in order to control any wear in the prosthesis.

The scar

The wound is closed using staples. The less you touch the dressing, the better it is for your scar. Maintaining sterility is essential. Baths are forbidden and showers are advised against even if there are air-tight dressings for showers. Any wet wound is at high risk of infection!

Your leg will swell up and haemotomas will appear on the outside.
To make the swelling in your leg go down, we advise you to:

- Elevate your leg.
- Stimulate the calf in order to activate drainage.
- Move around.
- Ensure venous drainage with the physiotherapist (massage).
- Take Daflon 2 x 2 tablets/day.

Critical clinical signs

Three events could result in your returning to the emergency room.

1. **Significant pain in the calf:** that does not go away with ordinary pain medication. Phlebitis must be ruled out (blood clot). It is necessary to perform a **Doppler ultrasound** in order to confirm the diagnosis and to adapt the anticoagulant treatment.

2. **Fever (>38,5°C):** this rise in temperature may be due to resorption of the haematoma but also to bacterial infection (frequency <1%). **Where an infection is suspected, *do not take an antibiotic prescribed by the treating physician!*** Antibiotics conceal the bacteria in future tests and prevent us from being able to correctly target the microbe that is responsible.

3. **Significant wound exudation:** rule out a haematoma versus an infection (see above).

In these three cases, it is imperative that you see your surgeon again or the surgical team if the doctor is absent. This will enable optimal management of your problem. Either to reassure you on the course to follow in relation to your problem, or to implement as quickly as possible the appropriate treatment after performing additional exams.

5. REHABILITATION

Rehabilitation with our physiotherapy team begins the day after the operation with massages and getting up initially with a rollator or without anything.

The goals to be achieved prior to discharge:

- Walking without forearm crutches.
- Going up and down stairs on one's own.
- Achieving flexion of the knee >90°.
- Achieving complete leg extension.

Upon returning home, you will be monitored by your physiotherapist (to be scheduled prior to your surgery).

This physiotherapy will take place 5 x week for the first **6 weeks** and then 3 x week.

In the context of your procedure, you are entitled to a total of **60 sessions** managed by the INAMI (*National Institute for Health and Disability Insurance*).

For optimal rehabilitation, it is clear that it is not only the physiotherapist who does the work but also **YOU** by doing exercises on a daily basis on your own.

Medications to be taken

It is important to follow the analgesic program in order to sufficiently control the pain at home and to promote a faster recovery.

- Diclofenac 75 mg delayed-release 2 x / day
  or Celebrex 200 mg 2 x (in the event of a gastric ulcer tendency)
- Dafalgan Forte 1 g: 3-4 x / day
- Tradonal Retard 50 mg : 3 x day
- Daflon: 2 tablets 2 x / day
- Fraxiparine/Clexane for 20 days

At 3 weeks, administration of NSAIDs (Diclofenac/Celebrex) and delayed-release Tradonal is discontinued. You must know that the administration of morphinics or derivatives may result in addiction and trigger chronic pain.

Frequently Asked Questions

- **Pain**: pain after surgery is normal and varies from one person to another. An analgesic regimen has been prescribed to you to combat pain. This pain may be intense for the first 3 weeks and often nocturnal and is linked to inflammation.

- **Swelling**: it is related to the postoperative haematomas in the knee area. If the entire leg is swollen, it is due to the procedure and to venous insufficiency. This swelling will take several months to disappear. Daflon-type medications and compression stockings may be prescribed postoperatively. Ice, venous drainage physiotherapy and elevation of the leg may make it possible to improve symptomatology.

- **Wound and dressing**: the wound may ooze without there being any risk. Disinfecting too often increases the risk of contamination of the wound. The less dressing changes, the better!

Avoid all contact with dampness. The risk is infection!

- **Constipation**: Surgery, anæsthesia and above all, medication, may result in constipation.

- **Insomnia**: It is typical at the start of rehabilitation. A little walk may reduce complaints as well as the administration of an analgesic.

- **Warmth**: the knee may remain warm for 3 months after the procedure. Icing provides relief.

- **Noises**: Contact between plastic and metal may result in noises. Do not worry. This noise will disappear subsequently.

• **Life expectancy of the implant**: the survival rate for the major series is 85-90%, 20 years after the procedure.

• **Anæsthesia or skin hypersensitivity**: in fact, the incision results in the sectioning of some cutaneous nerves. If burns are incapacitating, you will be prescribed Versatis dermal patches in order to control them.

Resuming everyday life

• **Kneeling**: **after 3 months** it is possible to kneel but some people still don't manage to because this position remains very uncomfortable.

• **Swimming**: you may swim as soon as the wound is completely healed and completely scab-free. This often takes **6 weeks.**

• **Cycling outdoors**: resumption depends on recovery of range of motion, muscle strength and balance.

• **Driving**: not before **3 weeks** so that pain is under control and so that you have enough strength to control your vehicle.

• **Airport**: You will very likely set off the metal detector in airports. You will be provided with a certificate indicating that you are a prosthesis wearer.

WATCH OUT in the event of **dental treatment**, **colonoscopy** or **gastroscopy**. You will have to take a preventative **antibiotic**. Speak about your prosthesis with the doctor and dentist concerned.

6. CHECKLIST PRIOR TO DISCHARGE FROM THE HOSPITAL

- Discharge letter for your Treating Physician
- Prescriptions for analgesics and injections (Clexane/Fraxiparine)
- Prescription for physiotherapist
- Proof of work disability
- Hospitalisation insurance papers

7. PRACTICAL INFORMATION

- Our secretarial office (Jeanine) **02/434.25.36**
- Or the departmental assistant **02/434.25.86**
  02/434.25.91

8. IN THE EVENT OF A PROBLEM AT HOME

You can call our secretarial office at any time during business hours.

You can also contact us by email: yorick.berger@chirec.be
arnaud.deltour@chirec.be

In the event of a problem on the weekend, contact the emergency room:

02/434.88.00

In all cases, do not hesitate to contact us: «**Prevention is better than cure!**»

In case of doubt, you will be seen rapidly for consultation.

IN ALL CASES:
NEVER TAKE ANTIBIOTICS WITHOUT HAVING CONSULTED OR INFORMED YOUR SURGEON!