
MADE-TO-MEASURE KNEE PROTHESES

KNEE JOINT OSTEOARTHRITIS

SYMPTOMS

For some time now you have felt that something is wrong with your knee, be it after an earlier injury, because of osteoarthritis for unknown reasons, or because of a rheumatic disease. In recent months your knee joint resilience has decreased and your quality of life has become severely restricted.

You now have pain during the first steps in the morning until you have broken your knee in. Then after a better phase, the symptoms begin to appear more frequently during the day. Your knee then feels stiff. You have noticed swelling and decreased joint mobility. Perhaps you have noticed a change in the shape of your leg. It is time for something to be done.

EXAMINATION

A slight limp is visible, often the shape of your leg has changed in the X or O direction. Swelling is palpable, as well as pain upon pressure in typical places. Mobility is usually reduced. First of all, full extension of the knee joint is no longer possible. Changed contours indicate so-called osteophytes, which are typical bony thickenings on the edge of the joint. We often notice typical scraping noises in the mobility tests, an indication of the lack of a smooth joint surface.

X-rays show the classic signs of osteoarthritis (narrowed joint space, osteophytes, and possibly cyst formation in the bone) in more than one of the compartments of your knee joint.



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LEGEND

- 1 Front view X-ray of a normal knee (right)
- 2 Front X-ray view of the right knee with lifting of the joint space on the inside.

TREATMENT

The symptoms can be alleviated with medication and physiotherapy, especially with the first episode of illness or when the goal is to increase your load bearing capacity in the short term. It has been shown that knee osteoarthritis symptoms respond well to reduced weight. Your knee may respond positively to “lubricant” injections.

OPERATION

Experience has shown that if your symptoms and the typical signs of osteoarthritis on the X-ray images match, there is a good chance that we can help you be means of the of a total or partial replacement.

The goal is to reduce pain and swelling and to maintain or even improve mobility.

Conventional prostheses are available in several standard sizes. If these are used, we choose the right one for you from the 10 available sizes. In the precise work, larger or smaller compromises are often necessary. With this proven technique, a satisfactory result can usually be achieved. The situation is com-parable to that of shoes: ready-made shoes fit most feet.

However, a made-to-measure shoe always fits, and it fits perfectly. Knee joints are like feet, each person's are shaped very differently. Since 2010 the possibility has existed in Switzerland to adapt the prosthesis to your knee joint and to produce an individual prosthesis. According to your anatomy, a unique prosthesis is made to fit your knee proportions. Your personalized prosthesis is produced in 3D using a computer tomography of your knee joint. This process takes around 8 weeks from the planning phase until possible surgical intervention.

The prosthesis is made of proven material. The first study results show very convincing results. We are convinced that in many cases this procedure can be advantageous for you because the custom-made prosthesis changes your individual knee joint kinematics minimally. The principle is new, so logically long-term results with this innovative technology are unknown.

Depending on the location of the arthritics in your knee joint, we will plan a partial or full prosthesis for you. Various solutions individually tailored to your needs are possible.



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LEGEND

Prosthesis
 3 X-ray Right Knee
 Front View

4 X-ray Right Knee

Axis

5 Model of the
 Prosthesis



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We usually do not provide prosthetic restoration for the back of your patella.

The reasons:

- The type of prosthesis we use has a knee cap-friendly shape. Front knee pain is therefore very rare after the operation.
- The knee cap component is the part of a total prosthesis which causes the most complications. We want to spare you these problems.
- If you fall on your knee that has a knee cap replacement, the resulting fracture is extremely difficult to treat. We want to minimize this risk, especially for more active people.

RISKS

You will be treated by experienced surgeons. However, it's like flying - no surgery is without risk. The risks related to this operation can be summarized as follows:

- Risk of infection: **1%**
- Likelihood that you will require a blood transfusion: **under 1%**
- Damage to relevant blood vessels: **1%**
- Damage to relevant nerves: **1%**
- Thrombosis/Embolism: **2 - 3 %**
- Likelihood that you will completely forget about your knee troubles: **after 1 year approx. 50%**
- Likelihood that you are doing much better, but not perfect: **approx. 40 - 45%**

HOSPITAL STAY

From day one, our in-house physiotherapy will help you get back on your feet. The aim of the first phase: minimal pain and minimal swelling. You will already start exercising, passively on the motorized mobility splint, actively with the therapist. After 7 days you will be ready to leave the clinic. The signs are: minimal pain, a good wound, good mobility, good movement with crutches. To summarize: you are feeling comfortable with your knee and the situation.

DISCHARGE

You will either leave the clinic to go home or, if you have received an appropriate approval from your insurance company, to go to one of our partner rehab clinics. The aim of the next phase is: to regain strength and further improve upon the mobility of your knee joint. You will be supported by physiotherapy, and as well you will receive the necessary medication for swelling, pain and for thrombosis prophylaxis.

About 12 - 14 days after the operation, the stitches are removed by your family doctor. At the 6 week check-up, you are feeling comfortable on your feet again and can walk without crutches. It usually takes some time, about 6 - 12 months, to be almost completely symptom free .

If you have any questions after you leave, please contact us at

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