

Rediscover pain-free mobility
With your new artificial hip joint



HIP JOINT

Information for patients

LINK[®] 
Moving on.

Dear Patient,



■ You will be having your artificial hip joint implanted in the near future. We would therefore like to offer answers to some of the questions you may have.

Your new hip joint is one of the best researched medical technology products available. It is an exceptional high-tech device: state-of-the-art, intelligently designed, safe and, if well looked after, highly durable.

Over the past 60 years countless engineers have worked to continuously improve artificial hip joints. As such, there are very few medical

technology products on the market today which are as advanced as an artificial hip joint, also known as a total hip replacement in the medical world.

The design, material and production process all satisfy the highest of standards. Atraumatic surgical techniques ensure that you will be quite literally back on your feet soon after your operation.

LINK has been developing joint prostheses, made in Germany, for 50 years. You will find more information online at www.linkorthopaedics.com.

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Why do I need an artificial hip joint?

- **If your hip joint disorder** can no longer be treated using conventional methods then you should consider a total hip prosthesis if
 - **you cannot walk and climb stairs without experiencing pain**
 - **you also experience hip joint pain when resting**
 - **you have very little social life because your hip pain greatly restricts your mobility**
 - **you are so immobile that your physical condition is deteriorating**
 - **you have to take painkillers so frequently that it is only a question of time until you start suffering from side effects.**

When is the ideal time for an artificial hip joint?

- **You decide together with your physician when the ideal time** for a hip prosthesis has arrived. Your physician will make a diagnosis which takes all the examination results into consideration and will provide you with expert advice. Trust your physician: he knows when the operation makes sense from a medical perspective to alleviate your pain and thus improve your quality of life.



Which disorders can make an artificial hip joint necessary?

■ **Osteoarthritis:** For example due to wear or rheumatism. The cartilage in the acetabular cup¹ and on the femoral head² wears down over time. As a result, the femoral head slides less well in the acetabular cup and is less well cushioned. In extreme cases this can be very painful.

Femoral neck fracture: The bone in the region of the femoral head or neck is fractured in an accident³.

Hip dysplasia: The roof of the natural acetabular cup is missing. This results in malalignment of the hip joint and, over the years, osteoarthritis.

Necrosis of the femoral head: The blood supply to the femoral head is either partially or completely interrupted. As a consequence it loses its round smooth form and can no longer move in the joint without causing pain.

^{1,2,3}see page 6–7.

What does a natural hip joint look like?

The spine

determines our posture and allows us to walk upright

The pelvis

ensures that we can stand up straight and safely for extended periods

The sacrum

is made up of fused vertebrae and forms part of the pelvic girdle

The acetabular cup

is lined with cartilage. The femoral head slides in the acetabular cup.

The femoral head

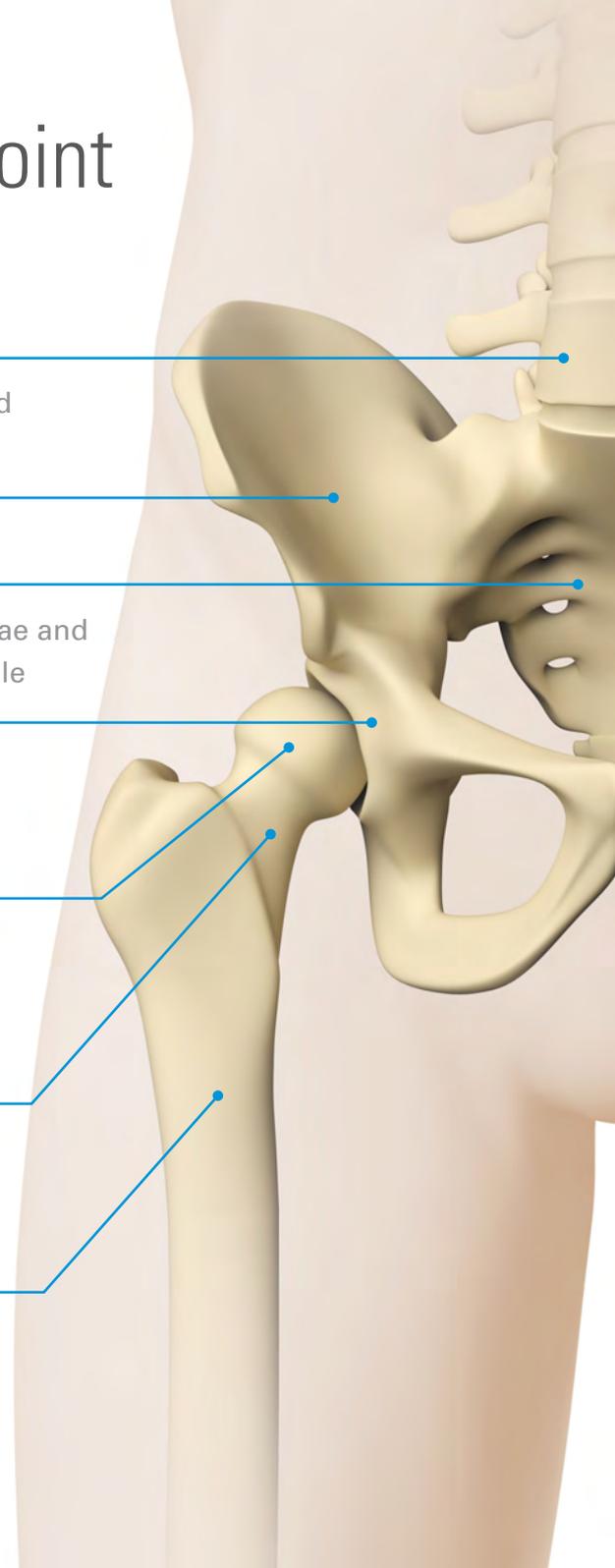
is covered by a layer of cartilage and slides in the acetabular cup.

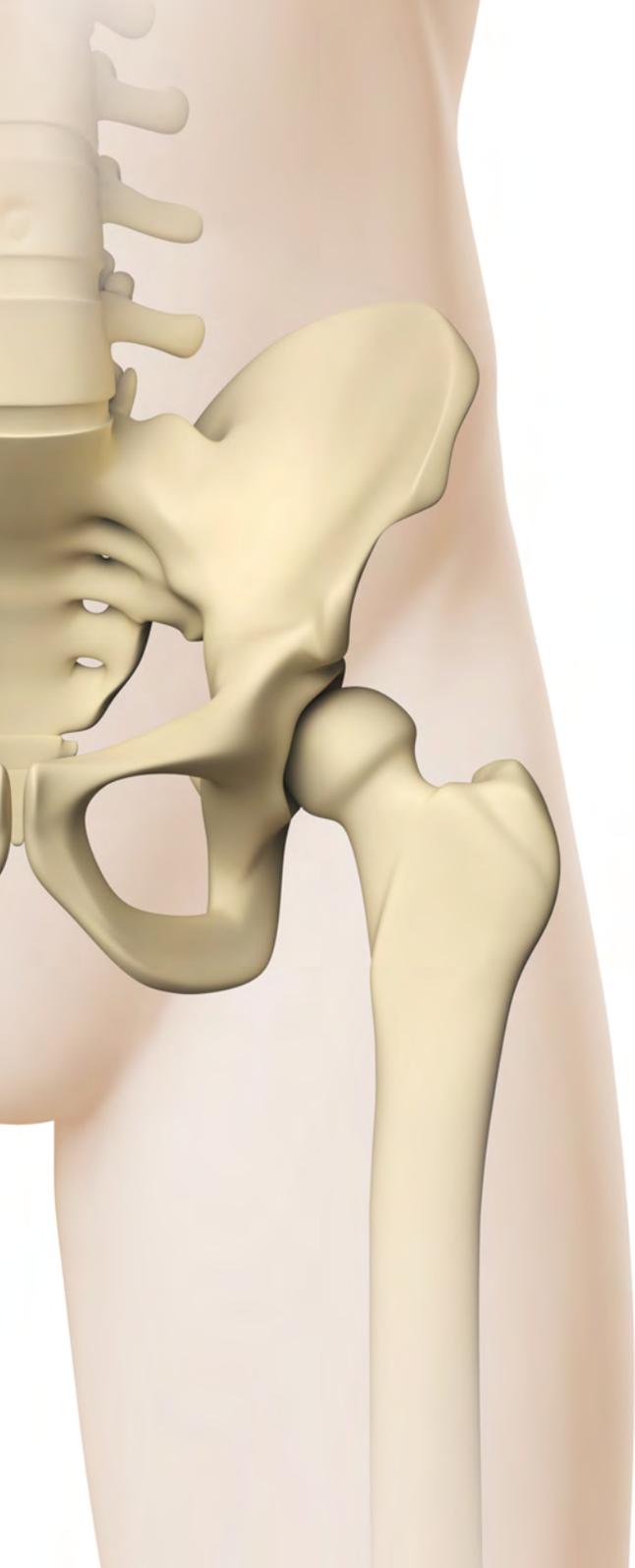
The femoral neck

is located between the shaft and head of the femur

The femur

is one of the strongest bones in the body.





Notes

- **After the knee, the hip joint** is the second biggest joint in the body. It comprises the femoral neck, the femoral head and the acetabular cup. The **hip joint** is extremely strong. Over the course of a lifetime it has to withstand great loads and support countless movements. Some hip joints are more susceptible to these loads than others and therefore degenerate more quickly.

What types of artificial hip joints exist?

■ **Artificial hip joints** are classified according to the prosthesis stem length (short/long) and type of implantation (cemented/cementless). Every implant has particular properties and is suitable for specific patients

Cemented implantation

- The prosthesis is anchored securely in the femur or acetabular cup using bone cement.
- The joint can be subjected to loads sooner.
- This method has been proved over decades.

The hip prosthesis head

is placed on the hip prosthesis stem; it is made of a special metal alloy or an extremely hard-wearing ceramic

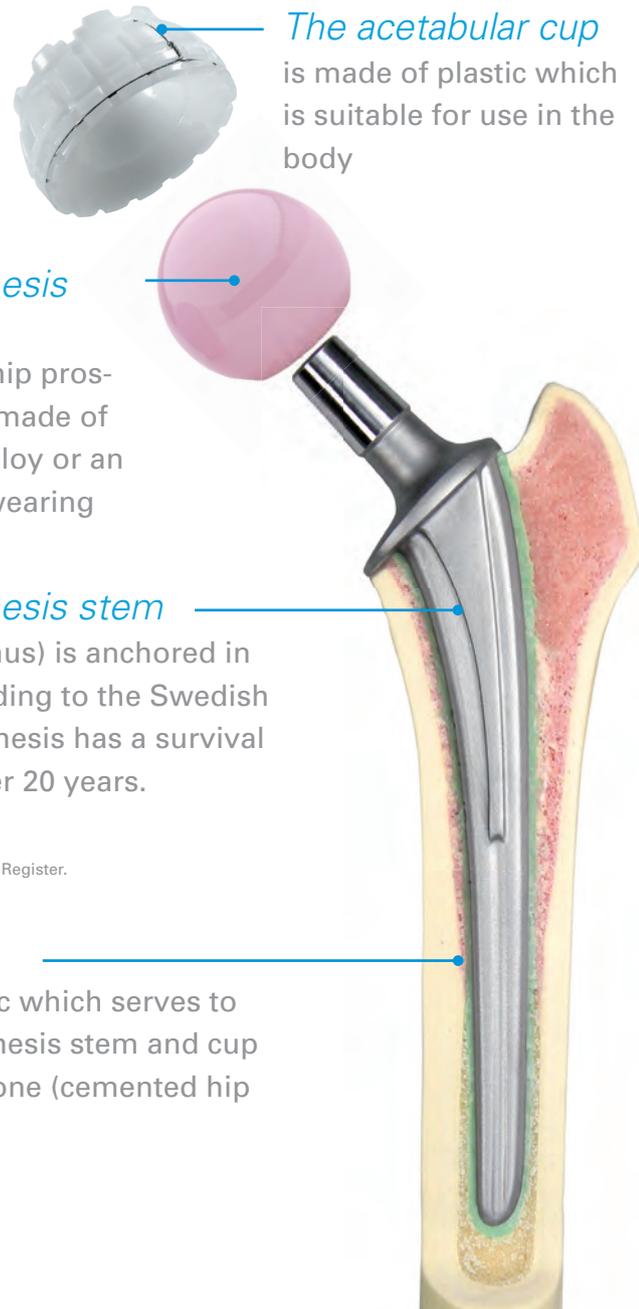
The hip prosthesis stem

(here: SPII® Lubinus) is anchored in the femur. According to the Swedish study* this prosthesis has a survival rate of 93.5% after 20 years.

*The Swedish Hip Arthroplasty Register.

Bone cement

is a special plastic which serves to anchor the prosthesis stem and cup securely in the bone (cemented hip prosthesis)



The acetabular cup is made of plastic which is suitable for use in the body

The cup insert

is made of ceramic or various plastics which are suitable for use in the body



The acetabular cup

is designed to be securely screwed or pressed into the pelvic bone



The hip prosthesis head

is made of a special metal alloy or an extremely hard-wearing ceramic

The short hip prosthesis stem

(here: C.F.P.[®] model) with its short stem is designed to be securely anchored in the upper region of the femur whilst ensuring maximum bone preservation

- With cementless **hip prostheses**, the prosthesis stem is anchored in the femur without bone cement. The acetabular cup is screwed or pressed directly into the pelvic bone.

Cementless implantation

- The prosthesis is anchored securely in the femur without bone cement.
- The implantation technique ensures maximum bone conservation.
- Particularly suited for young and active patients.

Which artificial hip joint is ideal for me?

■ **An artificial hip joint** should replicate the natural joint as perfectly as possible. It must therefore sit securely in the bone with millimeter-level accuracy and support all the movements involved in everyday life. This enables it to withstand loads without any problem over many years.

The material used for a total hip prosthesis must be well tolerated by the body, promote bone ongrowth and avoid metal allergies and infections.

Materials

- **Metal alloys (e.g., titanium alloy)**
Stable in the long term, biocompatible, hypoallergenic
- **Plastics**
Excellent sliding and friction properties
- **Ceramics**
Extremely hard-wearing and biocompatible



■ **Special prosthesis surface treatments** can counteract metal allergies



Cementless hip prostheses, which promote bone attachment, are generally preferred for younger patients. For older patients whose bones have, for example, been changed by osteoporosis, prostheses which are fixed with special bone cement are more suitable. In the case of "hybrid" hip prostheses, cemented stems are combined with cementless acetabular cups.

Your physician will decide upon the ideal hip replacement for you depending on your symptoms, the anatomy of your hip and the condition of your bones. He will opt for a joint prosthesis model whose quality and lifetime have been confirmed in long-term studies.

A good hip prosthesis

- must sit securely in the bone
- must facilitate an atraumatic operation
- must be well tolerated
- must be hard-wearing
- has demonstrated its quality and service life in long-term studies.

How should I prepare for the operation?

■ **Surgeons perform hip joint operations** with instruments designed specially for the particular hip prosthesis, so usually only small skin incisions are necessary, the hip muscles and bones are preserved and patients are then back on their feet quicker following the operation. You too can play a role in ensuring that your operation is a success:

- **Ensure that you are in the best possible health when you arrive at the clinic. The healthier you are, the smoother the operation and subsequent healing will be.**
- **Tell your physician about any medication you are taking, including over-the-counter**

products. Your physician should also be informed about any other illnesses, e.g. allergies.

- **Tell your physician about any infections, particularly in the mouth, nose and throat, and also any problems with your teeth, skin and nails.**
- **Build up your muscles, go to gait training to improve your walking ability and, if necessary, lose weight prior to the operation. This will create the optimal conditions for your new joint prosthesis.**
- **Talk to your physician in good time about the possibility of donating your own blood for use in the operation.**

Check list for consultations

- Do you feel healthy?
- What medication are you taking?
- Do you wish to donate your own blood for use in the operation?
- Would you like to take part in gait training?



What happens after the operation?



Important

- Do not put more strain on your new hip than permitted by your physician. A newly implanted hip joint requires a certain amount of time to heal.

How quickly will I be mobile again?

- You normally stand up for the first time on the day after the operation. However, you still need to be very careful, so your physician will tell you which movements you should avoid and whether you should use crutches. Rehab at a clinic or at an out-patient center

begins a few days after the operation. Training will make your hip muscles stronger each day and this will help to stabilize your artificial joint. The majority of patients can walk pain-free and without crutches a few weeks after the operation.

What can I expect from my artificial hip joint?

- **Your artificial hip joint** is a very reliable and safe medical technology product made in Germany. It has been developed and manufactured to allow you to be mobile again without experiencing pain.

- **Naturally, life with an artificial hip joint involves making some adjustments.** Some things which were a matter of course before are no longer possible for safety reasons or require that you take particular caution.

Competitive sports are not recommended with an artificial hip joint. However, there is nothing to stop you cycling, hiking and swimming for example.

How long will my new hip joint last?

- High-quality hip prostheses have an average lifetime of 15 years. But there are patients who have had the same artificial hip for 25 years and longer.

In order to ensure the longest possible lifetime of your prosthesis, it is particularly

important that you take a number of precautions, always follow your physician's advice and consult him immediately in the event of problems.

Yet there is also a solution for after this: The hip prosthesis can be replaced with a new one in a revision intervention.

Tips for everyday life

- **Attend all check-ups.**
- **Avoid heavy physical work.**
- **Consult your physician in the event of any problems.**
- **Remove any trip hazards from your home, for example, loose carpet edges.**
- **Avoid high-impact sports and activities with a high risk of injury.**
- **Suitable sports include gentle gymnastics, hiking on flat terrain and cycling on a bike with a low frame (to allow you to mount and dismount easily).**
- **Swimming, ideally front crawl, is also permitted with a hip prosthesis.**

Information for patients: Artificial hip joint

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Important information

This brochure has been researched with great care and compiled in conjunction with medical experts, physiotherapists and patients. The information it contains is of a general nature and cannot be applied to all patients. Publication data:

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