



Orthopaedic surgery



PROSTHETIC REPLACEMENT OF THE KNEE JOINT

Advanced osteoarthritis is painful, leads to disturbed joint function and affects very negatively the quality of life. In such a situation, prosthetic joint replacement offers a reliable solution for this problem.

Operative technique

The destroyed joint surfaces are resected and precisely replaced by prosthetic implants. These implants are fixed either cementless or with bone cement. There are different types of prostheses available like unicompartmental or totalcondylar prosthesis. For the implantation of these modern prostheses only a very small bone resection is necessary. The main ligamentous structures like collateral ligaments and posterior cruciate ligament (PCL) are spared. There is always a component for the femoral and the tibial part, whereas the replacement of the patellar surface is not necessary in most of the cases. Today the technology of these implants has reached a very high standard and the kinematic behaviour is quite similar to a natural joint. The implants are available in different sizes which makes preoperative planning by the help of transparent templates very accurate. The normal outcome is a sufficient range of movement and pain-free walking. The estimated survival time is more than 10 years and reaching good results after total hip replacement.

Rehabilitation

The procedure requires a hospitalisation time of about 10 days. The operation is followed by immediate functional treatment with muscle exercises and continuous passive motion (CPM). The patients are mobilized on 2 crutches and full weight bearing is allowed from the very first day. After the patients have reached a controlled gait pattern and are able to walk up and down a staircase safely they are usually transferred to a rehabilitation center for another 2 to 3 weeks. The overall rehabilitation time takes

about 3 months. In standard cases sports like bicycling, swimming, golf and cross country skiing are allowed.



advanced osteoarthritis of tibial head with osteophytes and destruction of joint surface (view from above)



unicompartmental prosthesis

- this type of prosthesis is used in osteoarthritis, limited to one joint compartment



totalcondylar prosthesis

- this type of prosthesis is used in osteoarthritis, referred to more than one compartment



totalcondylar prosthesis

- x-ray of a totalcondylar prosthesis right knee