

Knee replacement surgery



Please take this guide with you when you arrive for the previsit and the joint replacement surgery

Welcome to knee replacement surgery at Peijas Hospital!

The purpose of this guide is to help you to prepare for the upcoming operation as well as post-operative recovery and rehabilitation.



Dear Patient,

You have been placed on the waiting list for joint replacement surgery.

Visit a HUS laboratory for your laboratory tests.

It is not necessary to book an appointment, but you can do so at:

www.hus.fi/potilaalle/hoidot-ja-tutkimukset/laboratorio-ja-kuvantaminen.

You can drink and eat normally before the laboratory visit.

Remember to book a dentist appointment!

Immediately notify the surgery scheduler with a Maisa message or by calling 09 471 73500 when the dentist provides you with a certificate stating that your teeth are fine. Our telephone service is available Mon–Fri from 8 am to 3 pm (call-back service). The surgery scheduler will call you back by the next business day.

Please contact the surgery scheduler if

- There have been any changes in your health status or medication
- You have sought treatment elsewhere
- You have any questions about the waiting list
- Your municipality of residence, address or phone number has changed

Your preliminary date of surgery is _____ .

Day of surgery

Washing and showering

Have a shower in the morning of the day of surgery or in the previous evening. Wash yourself carefully with liquid soap and shampoo your hair. Pay particular attention to the surgical site, armpits, groin, skin beneath your breasts and skin folds and the genitals. Avoid chafing your skin just before the surgery. Dry yourself with a clean towel and put on clean clothes. If you take a shower in the evening, change the sheets for the night.

Skin

Check the condition of your skin. The skin must be completely healthy and intact. Pay particular attention to the skin between the toes, the surgical site, groin, skin folds and skin beneath the breasts. Do not shave or remove skin hair yourself.

Eating

Do not eat anything after 2 a.m. on the night before the surgery. You can drink a glass of water (2 dl) in the morning, for example, when you take your medication. You can drink a cup of coffee or tea without milk two hours before arriving to the hospital.

Medication

Take the following home medication on the morning of the surgery as instructed by the anesthesiologist:

Bring your own insulin, asthma medication, hormone replacement medication and eye drops with you to the hospital.

Clothes

Avoid wearing make-up or strong perfumes when arriving to the hospital. Wear clean and loose-fitting clothes that are easy to put on. Take with sturdy and roomy indoor shoes that stay on your feet and are easy to put on.

Please bring with you to the hospital

- Forearm crutches borrowed from the Assistive Equipment Center; if you use a rollator, bring it with you.
- Your own shoes that are easy to put on.
- Personal toiletries (e.g. toothbrush and paste).
- Home medication you have agreed with the nurse, e.g. asthma inhalers, insulin (and your blood glucose meter), hormonal medication and eye drops. If you use a CPAP device, please bring it with you.
- Your phone and a charger. It is also a good idea to take some money with you, e.g. for a taxi.
- Also bring this guide.

Please leave your valuables at home

– The hospital is not responsible for lost valuables.

Do not drive to the hospital.

In the morning of the operation, arrive to the **Surgery Outpatient Clinic 4 at 7 a.m.**

The door opens at 6.50 a.m. If the arrival time or place of surgery changes, we will call you the weekday before between 2 and 3 p.m.

If you notice anything unusual in the way you feel on the morning of the operation, please call the Surgery Outpatient Clinic 4, tel. 09 471 66361. **Note! This number is only to be used on the morning of the operation!**



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The operation aims to decrease pain and improve your functional capacity.

About knee replacement surgery

The primary treatment of osteoarthritis of the knee is conservative: pain medication, physiotherapy, arthrocentesis (joint aspiration) and knee supports. Knee replacement surgery is indicated when appropriate conservative treatment has not sufficiently alleviated the symptoms and X-rays show a clear change.

The main reason for a knee replacement surgery is primary osteoarthritis, in which the underlying cause is not known. Osteoarthritis can be caused by various rheumatic diseases, post-traumatic sequelae (aftereffect) and sequelae of certain joint diseases.

A knee prosthesis consists of metal parts attached with bone cement to the surface of the femur and the tibia, and a polyethylene plastic piece attached to the metal part on the side of the tibia and joint to the metal piece for the femur. The patella (knee cap) is also resurfaced, when necessary. In some cases, a partial knee prosthesis is implanted to replace the joint surfaces on the inner side of the knee.

The operation aims to decrease pain and improve your functional capacity. **Some patients experience occasional pain in the knee after the surgery.** The operation corrects

a possible malposition of the knee. It is usually not possible to significantly improve the mobility of the knee by an operation. The preoperative range of motion is usually the main predictive factor of post-operative range of motion.

A knee prosthesis restricts life in various ways. You generally are not able to run, and it may be difficult to get down on your knees and to squat.

Spinal anesthesia

Spinal anesthesia is the most common form of anesthesia in lower limb operations.

When the patient is lying on their side or sitting down, the anesthesiologist uses a thin needle to inject the anesthetic into the fluid compartment surrounding the spinal cord. This makes the operative site numb and pain-free. You cannot move your legs during the surgery. You may also be administered intravenous sedation in connection



An orthopedist in the operating room.



Knee prosthesis



with the anesthesia to make you sleep lightly through your procedure.

In knee replacement surgery, a surgeon injects an anesthetic into the operated site. This local anesthetic treats pain even after the effect of the actual spinal anesthesia wears out.

Compared to general anesthesia, the benefits of spinal anesthesia include decreased need for breathing support and better post-operative pain management.

Certain disorders of blood coagulation, medication affecting coagulation, disorders affecting the spinal cord and structural abnormalities of the back may inhibit the use of spinal anesthesia.

General anesthesia

General anesthesia is used especially when local anesthesia is not suitable due to the location of the operative

site, type of procedure or some other reason.

When the patient is asleep, the anesthesiologist maintains an open airway by inserting a special tube into the pharynx or the trachea. The patient is connected to a ventilator. Modern anesthetics and methods are safe, particularly when there are no known severe diseases of the face, mouth, pharynx, respiratory organs or the cervical spine.

Preparing for surgery

General state of health and medication

Good general health speeds up recovery from the operation and improvement of physical functional capacity. Possible underlying diseases (e.g. diabetes, hypertension) must be well controlled before the operation. Elevated blood glucose increases the risk of post-operative infection, and your physician or diabetes nurse should check that the diabetes is controlled well before the operation.

Smoking is one of the biggest risk factors for wound infection. That is why it is essential for the healing of the surgical wound to quit smoking before the operation (preferably more than four weeks before).

Constant heavy drinking requires appropriate treatment well before the planned operation. Withdrawal symptoms significantly impair recovery from the operation. Heavy drinking also affects liver function and blood coagulation. Habitual daily drinking may be a contraindication for joint replacement surgery.

A severe disease in the last few months, such as a cardiac infarction, recent balloon dilatation, cerebral event, vascular occlusion, pulmonary embolism, pneumonia or another severe infection, usually requires postponing the planned joint replacement surgery. Contact the attending physician, when necessary.

Exercise and muscle strength

Good muscle strength promotes post-operative recovery. Keeping up your muscle strength and joint mobility is part of preparing for the joint replacement surgery.

Before the operation, it is important to strengthen your muscles and maintain joint mobility as much as pain allows. Suitable forms of exercise include going to the gym, (Nordic) walking, water aerobics, swimming, cycling and gymnastics. You can safely continue to exercise until the operation but take it

light during the last few days. Ask your local health center for exercising instructions.

Overweight

Losing just a small amount of weight can alleviate knee pain. Ask your local health center for tips on diet and weight loss.

Significant overweight complicates technical performance of the operation and increases the risk of problems related to wound healing. It may also increase recovery time and the risk of losing the prosthetic joint. You can find more information and tips (in Finnish) at Painonhallintatalo.fi.

Treatment of infections and skin care

A prosthetic joint is a foreign body that attracts bacteria, especially during recovery. Infections can be a contraindication to the surgery, and symptomatic urinary tract infections and dental infections must be treated before the operation.

Rashes, breaks in the skin between the toes and in the heels, wounds and inflammation of the nail fold must also be treated. The skin must be free of wounds, pimples and scabs.

Assistive devices and coping at home

Before the operation, borrow forearm crutches or a rollator from your local Assistive Equipment Center. They are

lent free of charge. A physiotherapist helps you with assistive equipment.

Because your stay in the hospital is short (approximately 1-2 days), it is a good idea to plan beforehand how you will cope with shopping, cooking and washing, for example.

Dental care

Your mouth and teeth must be in good condition for the joint replacement surgery. Before the surgery, the patient's teeth are X-rayed (orthopantomography and more detailed images, when necessary).

Foci of inflammation in the teeth are known to cause occasional spread of bacteria into the circulation. Sometimes the foci of inflammation are only visible in X-ray. They can be located in the oral mucosa, gums, teeth or jawbone, even in a completely toothless jawbone.

They must be treated well before the scheduled joint replacement surgery. The attending dentist must be aware of the planned joint replacement surgery to be able to actively treat any foci of inflammation before the operation. An extraction socket, for example, takes at least two weeks to heal.

Completely toothless jaws must also be X-rayed to detect possible foci of inflammation inside the jawbone or retained roots.

Special attention must be paid to the health of the supporting dental tissues. Gingivitis may spread to the teeth and

the supporting dental tissues without the patient noticing. Untreated gingivitis (and possible destruction of the supporting tissue) is equivalent to an open wound the size of the palm. Appropriate treatment of gingivitis takes time and requires your active participation. That is why you should visit a dentist well before the joint replacement surgery.

Preparing a treatment plan well in advance can often help to avoid extraction of teeth and maintain your own teeth. **A healthy mouth improves the success rate of joint replacement surgery.**

Your local health center is responsible for your dental care. You can also receive reimbursement from Kela



Form for the dentist

Based on a clinical and radiological examination, I declare that

there is no indication of foci of inflammation in the teeth or jaws that may interfere with the joint replacement surgery. The oral mucosa are healthy.

Place

Date

Dentist

**Bring this form with you to the admission interview.
Do not send the form beforehand.
This certificate is valid for six months
from the date of issue.**





**It is a good idea to think
beforehand about how you
will cope after the surgery.**

Consider the possible need for help and where to get it. Support from your loved ones is an important part of the recovery, and you can bring them with you to the counselling session, if you have one.

for treatment at a private dental clinic (you don't need a separate referral). We recommend making an appointment with a dentist as soon as the decision to operate is made. **If the dentist must extract a tooth, you must wait at least three weeks before having the joint replacement surgery.**

Immediately notify the surgery scheduler with a Maisa message or by calling 09 471 73500 when the dentist provides you with a certificate stating that your teeth are fine. The telephone service is available Mon–Fri from 8 a.m. to 3 p.m. Bring the certificate on the following page with you to the hospital.

Preoperative counselling

Usually, you will be notified of the date of surgery by letter (after you have notified us that your teeth are fine).

The letter includes instructions for possible laboratory tests and X-rays as well as how to prepare for them. The letter also says if you will be invited to the Surgery Outpatient Clinic to see a nurse or a physician or if you will receive instructions for preparing for the operation by phone. This will take place 1–2 weeks before surgery.

In connection with the appointment or telephone call, you will discuss with a nurse who will check your health history and provide you with individual instructions. Guidance by a physiotherapist is usually provided in small groups. Anesthesiologists check the



A physician describing the knee replacement surgery to the patient.

patients' health history and call you in only when necessary. A consultation with an orthopedist is agreed individually.

Based on a consultation, the anesthesiologist will provide you with individual instructions on drugs that affect blood coagulation and their use. If you use Omega 3 products, you should discontinue their use when you are placed on the surgery waiting list.

We recommend being vaccinated against influenza and COVID-19 because you will be in contact with several people in the health care setting. You can get vaccinated against influenza or other diseases 2 weeks before the surgery and 1–2 weeks after the surgery.

When arriving for the previsit or having a nurse call you, please have ready all the forms sent with the invitation carefully filled out, any prescriptions and the certificate provided by the dentist. The visit may take several hours.

A break in the skin may prevent the operation. Attention is also paid to broken skin or skin folds and the skin between the toes. Your skin will be examined during the visit. If instructions for preparing for the operation are provided by phone and you have broken skin or wounds, please contact the Surgery Outpatient Clinic and schedule an appointment for skin examination before the nurse calls you.

Laboratory tests

Have a blood test (crossmatch) at a HUS laboratory.

You can eat and drink as usual.

You will receive a prescription for nasal ointment at the previsit, if not before. It aims to decrease the risk of infection. Start using the ointment five days before the operation. Apply a small amount on nasal mucosa twice a day.

What happens on the day of operation?

Please read carefully all instructions on preparing for the operation and arrival to the hospital provided in the beginning of this guide. It is important to prepare carefully to ensure that the day of operation goes smoothly.

Before the operation, you will put on a hospital gown and you will be administered pain medication prescribed by the anesthetist. The operation takes approximately 1–2 hours. Before the operation, you will be given antibiot-

ics to reduce the risk of infection. The operation is performed under spinal or general anesthesia. Spinal anesthesia is the preferred mode of pain management, if possible co-morbidities and medication allow. The procedure generates noise, and you can opt to wear ear plugs during the procedure. In addition to anesthesia, you will be given sedative drugs that also help you to sleep, if necessary.

After the surgery, you will be transferred to a recovery room to monitor coming out of anesthesia and your condition. Afterwards, you will be transferred to an inpatient ward for regular monitoring of your condition. On arrival at the ward, you will receive something to drink as well as dinner or an evening snack, depending on the time of the day. We hope that you let the medical staff know if there are any changes in your condition.



Pumping the ankle improves venous circulation after the surgery.

On arrival at the ward, you will get your mobile phone back so that you can contact your loved ones.

When you are able to move your feet, start moving your ankles to improve circulation in the lower limbs. This prevents venous thrombosis, promotes elimination of anesthetics from the body and decreases swelling in the lower limbs. Flex and extend your ankles and toes often when awake and breathe deeply to improve ventilation.

Daily routine in the ward

7–9 a.m.

Laboratory tests (when necessary)

8–9 a.m.

Breakfast and morning medication, morning routines; washing up, rehabilitation, care measures, examinations, discharges, etc.



A pain scale is used to assess post-operative pain.

12–1 p.m.

Lunch

2–7 p.m.

Visiting hours

4–5 p.m.

Dinner

Approximately

7:30 p.m.

Evening snack and evening medication

Pain management

Post-operative recovery may sometimes include intense pain and swelling in the operated area. Pain is managed with regular pain medication. Cold therapy can also be used to treat pain and swelling.

The amount of pain experienced after surgery varies by patient. If you experience pain, let us know as early as possible so that we can help.



After the surgery, you will be given regular pain medication.

Pain is assessed using various methods, e.g. numerical scales. Zero means you are pain-free and ten means the worst imaginable pain. If the pain becomes a burning sensation or feels like an electric shock, please let the medical staff know. Adequate pain medication helps you get back on your feet and facilitates recovery.

Post-operative treatment and rehabilitation

On day 1 after the surgery, nurses remove the thick dressing around your leg and the urinary catheter, if used. Nurses help you to wash up in the morning. You can go to the toilet assisted by the staff as soon as your condition allows. You can have a shower on the second day after surgery. Due to the short treatment time, we encourage you to be independent in the ward. An active attitude enhances your recovery and rehabilitation after the surgery.

If you have been prescribed with prophylactic injections against embolisms, we will teach you how to inject it in the ward. Continue to take your medication at home as instructed by the physician.

When lying on your back, avoid using a pillow under the knee because it is important to fully extend the knee. You can place a pillow between the knees when lying on your side. The staff will give you instructions on how to find a comfortable position.

If you like, you can apply cold therapy to the operative site or the surrounding area for approximately 10–15 minutes at a time. You can repeat the treatment several times a day and elevate the limb.



When eating, we recommend sitting on the edge of the bed or at a table.

Moving after surgery

Pain should not stop you from moving. There is always some pain but ask for more pain medication, when necessary. **You are allowed to sit but avoid sitting for longer periods at first to prevent swelling.**



The aim of rehabilitation is to be able to move as normally as possible. Usually, you are allowed to place full weight on the operated lower limb. We recommend using forearm crutches or a rollator first to support walking and avoid limping. In addition to walking, we will instruct you with exercises in the ward.

These exercises help to improve blood circulation, activate your muscles and help to regain mobility in the knee. From the start, the aim is to achieve full extension of the knee as well as maximal flexion.

The following exercises are designed to improve the function of the operated joint. You can safely start them right after the operation. During the exercises, you can experience some muscle

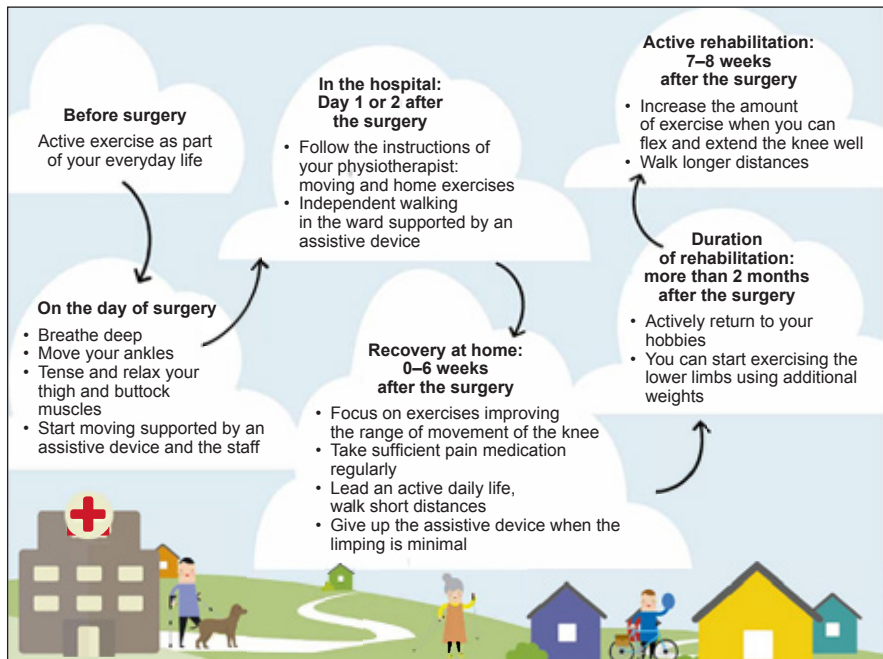
tightness but they should not cause intense pain.

After the operation, increase the number of repetitions and strain gradually because healing of tissues takes time. Pain should be managed before increasing the strain.



Use both lower limbs as symmetrically as possible when sitting down and standing up. Help with your hands, when necessary.

Progress of rehabilitation



Remember that recovery varies individually.

Post-operative exercises

Weight transfer

Transfer weight from one foot to the other. You can intensify the exercise by lifting the feet from the floor one at a time.

Weight transfer and step exercises intend to improve control of the pelvis and lower limbs. At the same time, you practise placing weight on the operated side.

Walking with crutches: three-point gait

Place the crutches in front of you. Move the operated foot in between the crutches. Step with your good foot past the operated foot.



Walking with crutches: two-point gait

Advance the opposite crutch and foot together.



You can gradually give up the crutches when you stop limping. Give up one crutch first. Keep the crutch on your good side. You can also use walking poles when giving up the forearm crutches.

Climbing up the stairs

Take support from the railing and place the crutch on the side of the railing as shown in the image. Step up with your good foot. Place the operated foot next to the good foot. Move the crutch on the same step with your feet.



Climbing down the stairs

Use the railing for support. First, move the crutch on the lower step. Next, move the operated foot on the same step with the crutch. Place the good foot next to the operated foot. Advance one step at a time.



Flexing your knee

To improve knee mobility, flex the operated knee by sliding the foot on the floor. Keep the stretch for a while. Your mobility will improve gradually.



- Please note that recovery of tissues takes time.
- At first, it is more important to regain mobility of the knee than to increase strain and exercising.
- You should gradually increase the number of repetitions and strain. Pain should be managed before increasing the strain.
- Exercising should not cause intense pain.



Tensing your thigh muscles

Flex your knee slightly and then extend it flat on the mattress. This exercise activates the knee extensor muscles.



To alleviate swelling, elevate the foot and pump the ankle.



Flexing and extending your knee on a step

Place the operated foot on a step and bring your weight forward to increase knee extension. Keep the stretch for a while. Then, extend the knee by bringing your weight backward. Keep still for a moment. Gradually increase the flexion according to the way it feels.

Dynamic calf stretch

Take a step back with the operated foot and place your weight on that foot. Extend the operated knee and press your heel against the floor.

Next, bring your weight on the foot in front, lift the heel of the operated foot and let the operated knee flex.

You can find more information about rehabilitation (in Finnish) at: kuntoutumistalo.fi

Discharge from the hospital

A nurse will discharge you from the hospital in 1–2 days, as your condition allows. In some cases, ambulatory surgery is also possible but this is always agreed in advance and the patient is provided with separate additional instructions. You can be discharged when pain is manageable with oral painkillers, you can walk with an assistive device and there is no excessive discharge from the surgical wound. You can leave the hospital at any time of the day, also during the weekend.

When leaving, you will be provided with the necessary electronic prescriptions for painkillers and prophylactic medication for the prevention of embolisms, a sick leave certificate, when necessary, as well as rehabilitation and wound care instructions. The hospital issues a sick leave of 1–3 months. If you need a longer sick leave, please contact your occupational health care. 2–3 months after the surgery, you will be invited for a follow-up examination with a physiotherapist at an outpatient clinic. In case of a reoperation, patients are invited to see a physician approximately 2–4 months after the surgery.

You can go home by a car, a taxi or a taxi for disabled people. If you take a taxi, you must pay a copayment. You do not need to have someone to pick you up from the hospital or receive you at home.



You can drive when you are able to reliably and safely press the pedals. This usually takes approximately 6–8 weeks, but varies individually. You can travel by car as soon as your knee mobility and pain allow.

At home, it is enough to walk inside at first. When you are feeling better, you can start walking outside and exercise according to the instructions of the hospital. Increase the amount of exercise and strain gradually as your condition allows. Take into account the restrictions caused by surgery. You can stop using assistive devices when you can walk safely and limping is minimal.

Swelling in the operated leg can last for several months. Sitting for long periods of time and excessive strain generally increase swelling. To alleviate swelling, elevate the limb and pump the ankle.

Low-impact water aerobics is beneficial and reduces swelling. You can start water aerobics when the wound has healed and you can safely get into the pool. You can start cycling lightly on a stationary bicycle when the pain and knee mobility allow.

The operated knee is often warmer than the rest of the leg and the other knee. This difference will last up to one year after the surgery. The surgery leaves a small numb area on the outer surface of the knee. Both the temperature difference and numbness are normal after the surgery.

Home care instructions

Wound care

- Keep the wound clean and dry.
- You can take a shower starting from day 2 after the surgery. Do not apply soap directly on the wound. Otherwise, you can wash yourself normally. Avoid rubbing the wound. Finally, carefully rinse the wound with clean water. It is not necessary to take a shower every day but we recommend taking one at least every 2–3 days. It is normal to have some discharge from the wound for approximately one week after the surgery. Use a clean towel to pat the wound dry.
- You have to wait for one day after the removal of staples before can go to sauna, take a bath or swim.
- Replace the bandage with a clean one after taking a shower. You can

purchase wound dressings from a pharmacy. Upon discharge, you will be provided with an appropriately sized dressing to use as a model. The surgical wound is approximately 15–30 cm long, in case you want to purchase dressings in advance.

- Staples are removed **at a health center** two weeks after the surgery, on ____/____/202____. Call your local health center after leaving the hospital and make an appointment with a nurse for removal of the staples. A home care professional or another care professional can also remove the staples using an appropriate tool.
- A dressing prevents the staples from sticking to your clothes, and we recommend using one until the staples are removed. You can start to apply cream to the wound when the staples have been removed and the surface of the wound has fully closed up.



After leaving the hospital, if the wound becomes red, feels warm, there discharge from the wound, you have fever or experience intense pain in the wound area, please call the ward. It is normal to have some discharge from

the wound for approximately one week after the surgery. If the discharge continues after a week, call the ward, **tel. 09 471 37500**. A call-back service is available from Monday to Friday from 8 a.m. to 3 p.m.

The scar can sometimes feel tight or restrict movement and cause pain, numbness or be sensitive to touch. To prevent these symptoms, you can gently rub the scar after the wound has healed completely. You can also apply oil or basic lotion available from a pharmacy on the scar.

You can find more information about scar self-care (in Finnish) at: **www.kuntoutumistalo.fi**.



If you have any problems concerning the operated area before the follow-up examination, please contact the Peijas Hospital.

Do not start oral antibiotics in outpatient care due to an actual or suspected wound infection.

Prevention of infections

Observe good hand hygiene. Wash your hands before replacing the dressing and dry with a clean towel.

- Avoid touching the wound unnecessarily.
- Carefully treat any wounds, rashes, inflamed cuticles and urinary tract infections and take good care of your teeth and the interdigital spaces of the toes.
- Avoid smoking and drinking because that slows down wound healing.
- If you have any underlying diseases, ensure that they are well controlled.
- Eat a variety of food.

Pain management

- At first, take a sufficient amount of the prescribed painkillers regularly and for a sufficient period of time. To prevent adverse effects, you should gradually reduce the amount of painkillers you take as the pain decreases. Painkillers are intended for symptomatic treatment.
- Some painkillers can cause constipation. If you do not have bowel movements, purchase a laxative from a pharmacy.
- Pain should not stop you from moving or disturb your sleep at night.
- The use of NSAIDs can cause stomach problems. You can purchase stomach protectants from a pharma-

cy, if necessary. They are prescription-free.

- You can also use cold therapy to alleviate pain. You should place a towel or a similar article between the cold pack and your skin. You can use a gel pack sold in pharmacies or a bag of frozen vegetables, for example. Use the cold pack for 10 to 15 minutes at a time.
- Remember to get enough rest and elevate the leg when resting.
- Relaxing, humour and listening to music can help to distract yourself from pain.

Prevention of venous thrombosis

- Pump your ankles several times a day and exercise daily.
- Your physician has prescribed you an injectable or oral prophylaxis.
- Continue injecting the medicine or taking the tablets at home as instructed. Usually, the treatment lasts for 10 days at home.
- Inject the medicine or take the tablet at the same time each day. You may get bruises at the injection site but that is nothing to worry about.
- Discard the needles in a container with a lid and return them to a pharmacy.



- Follow the physician's instructions on when to start taking other medicines. If you use Omega 3, do not start taking it before the prophylactic treatment for embolisms ends.

Swelling and bruising

- Normally, swelling in the operated leg may last for months.
- The swelling moves downwards, and you may also experience swelling in the ankle and the toes.
- Ways to decrease swelling include elevating the leg, resting, exercising, pumping the ankles, cold therapy and painkillers.
- Try to avoid sitting for long periods of time because it increases swelling.

- There is often bruising around the surgical wound. The bruises may be painful and take a long time to heal.
- Usually, bruises are most visible 1–2 weeks after the surgery. Bruises also move downward in the tissues.
- Bruises heal by themselves.

Nutrition

You may experience a lack of appetite after the surgery.

- Eat a variety of food and drink plenty of liquids, preferably water.
- You need more protein after the operation. You can get protein from meat, fish, eggs, dairy products, legumes, peas and grains.
- You also need carbohydrates (grains, potatoes, root vegetables, berries, vegetables, fruit).
- Vitamins and minerals, particularly zinc, are needed for wound healing. You can get it from grains, dairy products and meat.
- Red meat and green vegetables contain iron.

Support services

- When necessary, nurses can have someone assist you at home, for example in wound care.
- Ask your neighbours, family or friends to help you with daily activities.

Risks related to joint replacement surgery

Patient consent

Examinations and treatment related to the operation and anesthesia are invasive and require your consent. If the patient is incapacitated, their representative is consulted. If it is not possible to assess the patient's will, the patient is treated in a way that is considered to be in their best interest.

Despite careful preparations, surgical procedures always involve a risk of complications.

The operated area may become infected. If there is discharge from the surgical wound for more than seven days after the operation or the wound becomes redder after you leave the hospital or you have fever (over 37.5 degrees Celsius) without any other explanation, you should contact the ward.

Sometimes, it is necessary to clean the surgical wound or the area surrounding the joint prosthesis in the operating room. In case of a severe prosthetic joint infection, the prosthetic joint must be removed. A new prosthetic joint is inserted approximately 6–12 weeks after the operation, when the infection has healed.

There is always swelling in the operated limb. Abnormal swelling in the ankle or leg can be a symptom of venous thrombosis, however. So is tight pain deep in the calf, especially when you flex the ankle.

If you suspect a venous thrombosis, please contact the ward. A suspected venous thrombosis is confirmed with an ultrasound.

A joint replacement surgery is the best treatment of pain, and the outcome is good in terms of pain management. However, a small portion of patients will still have pain after the surgery. Even detailed examinations do not always provide an explanation for the pain.

A prosthetic joint is a mechanical spare part. After the surgery, you can often hear small crunching or cracking sounds from the knee.

More rarely, post-operative problems include nerve damage, which lead to numbness and weakness of the operated limb. **This risk is particularly related to corrective surgery for valgus deformity of the knee.**

Patients often experience some numbness in the region of the surgical wound but that does not affect the function of the knee.

Usually, a joint replacement surgery removes joint pain and allows patients to lead a normal life. As the name implies, a prosthetic joint is a replacement. It is not identical to a natural healthy knee and it may feel different.

Recovery from knee replacement surgery takes time, and **the final outcome can be assessed approximately one year after the surgery.**

The quality and durability of prosthetic joints have improved over the years, but a prosthetic joint is a mechanical spare part and it can wear out or become detached from the bone. It is estimated that approximately 95 % of knee prostheses are still intact and function normally 10 years after the operation.

Risks related to anesthesia

Anesthesia also involves a risk of complications. Spinal and epidural anesthesia involve a risk of severe or permanent adverse effects (e.g. bleeding in the spinal cord, infection or paralysis of the spinal cord), but this risk is very rare. The risk related to these types of anesthesia is increased by severe illnesses of the spine and the spinal cord or problems related to discontinuation of anticoagulant therapy. The risk is small when you follow the instructions on anticoagulant therapy provided before the surgery. In case of general anesthesia, the most significant risk is related to problems with keeping the airways open. Severe airway management problems are extremely rare, but the risk is higher in certain risk groups (e.g. patients with structural abnormalities of the mouth, jaw or cervical spine, patients with severe sleep apnea and patients with problems with gastric emptying). Severe adverse effects (permanent sensory loss or numbness) related to nerve block anesthesia used for post-operative pain management are very rare.

Risks related to blood transfusion

All procedures performed in the operating room involve a risk of bleeding, which may require a blood transfusion. The risk of blood transfusion can be reduced by, for example, good preoperative treatment of anemia and following the instructions on the discontinuation of anticoagulant therapy. Common adverse effects related to blood transfusion (fever, mild allergic reactions) are rare. There are approximately ten cases of severe adverse effects of blood transfusion (acute hemolysis) in Finland annually. The blood products available in Finland are of very high quality, and there have not been any cases of transfusion-transmitted viral infections in recent years.

Living with a prosthetic joint

Prevention and careful treatment of infections remains to be important because infections can spread to the prosthetic joint via the



blood circulation. Your dentist should be aware that you have a prosthetic joint. Some dental procedures may require antibiotic prophylaxis to prevent an infection of the prosthetic joint via blood.

Your local health and sports services, adult education centers, various associations and several private companies arrange individual and group exercise sessions for different levels that you can participate in after the follow-up examination.

You can find general recommendations on physical activity at: <https://ukkinstituutti.fi/en/products-services/physical-activity-recommendations>. Generally recommended forms of exercise include walking, swimming, cycling and cross-country skiing. You may participate in other hobbies as well, as your condition allows.

Weight management is essential to ensure that the prosthetic joint remains in place for a long time. Severe overweight may shorten the life of the prosthetic joint. You can find more information (in Finnish) at: painonhallintatalo.fi.

If you have physiotherapy after the joint replacement surgery, medical diathermy is not allowed in the area of the prosthetic joint.

Travelling with a prosthetic joint

A prosthetic joint may cause an alarm in the airport security check, for example. You do not need a separate certificate for travelling, however.

Feedback form

Without feedback, we don't know how we succeeded. Is there something we should improve? Are you satisfied with the treatment? **Every patient's opinion counts.** We develop health care services based on patient feedback.

Please fill in a short feedback form. It takes approximately five minutes. You can fill in the form:

- **With a smart phone or a tablet using a QR code application:** To read the QR code below, place the code in the middle of the smartphone camera and make sure that the entire code is visible. Most QR readers scan the code automatically. If not, select a scanning function on the screen. The Internet browser of your mobile device displays a website that contains the information represented by the QR code.
- **On the Internet at hus.fi:**
www.hus.fi/en/feedback
- **With a paper form:** There is a box for the feedback forms in the ward day room. You may also give the form to a nurse.



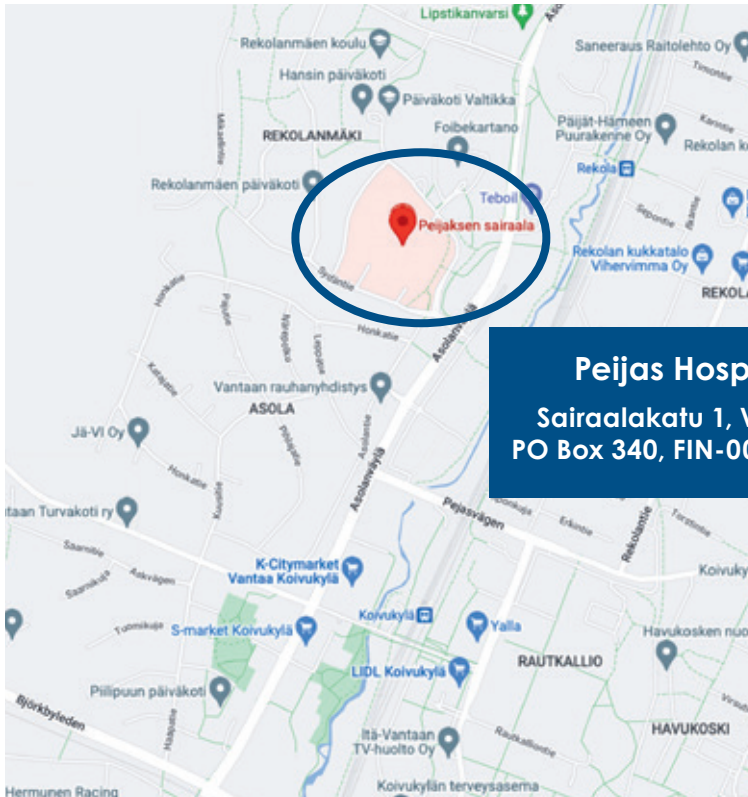
**K2 treatment unit:
1191012**

**K3 treatment unit:
1191013**

**Outpatient treatment clinic:
1191016**

**Thank you in advance
for your feedback!**

Map and how to get there



Peijas Hospital
Sairaalakatu 1, Vantaa
PO Box 340, FIN-00029 HUS

How to get there

Information about public transport and timetables is available at the HSL app or hsl.fi. Parking in the hospital area is subject to a fee.

We do not recommend driving home when leaving the hospital.

Ward K2

Visiting hours: 2–7 p.m.

Telephone: 09 471 73500, call-back service
Mon–Fri from 8 a.m. to 3 p.m.

Inquiries about treatment queues and changes:
09 471 73500, Mon–Fri 7 a.m. to 2 p.m.
We have a call-back service.

Physiotherapist's helpline
09 471 67841, Mon–Wed at 12:30 p.m. to 1 p.m.

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- Printing house: PunaMusta Oy
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