About Sahlgrenska University Hospital

Sahlgrenska University Hospital has the experience and the expertise to carry out many of the most advanced treatments currently available in modern medicine. The hospital is the Swedish centre for certain types of specialized care, especially in pediatrics, and is well known for its successful transplant activity, treatment of cardiovascular diseases, immunology and research into vaccines.

The COO team

In 1999, the Centre of Orthopaedics, Osseointegration, COO, was set up at Sahlgrenska University Hospital. Today, the COO team is world leading in the field of orthopaedic osseointegration.

This treatment success is due both to technical skills and to the treatment itself in which every patient is offered an individual treatment plan, based on varying individual conditions.

The COO team also collaborates with several other units within the hospital, including a complete team of researchers. They conduct studies on everything from the surface characteristics of the screw to the quality of life of patients, as well as ways of improving the prostheses.

Sahlgrenska I.C.

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You can also contact us for further information:

Sahlgrenska I.C.

Box 7163

402 33 Göteborg

Sweden

Phone: +46 (0)31 342 68 00

Fax: +46 (0)31 13 26 25

E-mail: info@sahlgrenskaic.com

Care and treatment

For further information, please feel free to contact our patient co-ordinator at Centre of Orthopaedic Osseointegration:

Phone: +46 (0)31 342 88 06

E-mail: coo.su@vgregion.se
The OPRA implant system provides bone-anchored prostheses

Osteointegrated Prostheses for the Rehabilitation of Amputees, OPRA, improve quality of life and offer a greater degree of freedom in everyday life for 9 out of 10 patients.

The majority of people who use prostheses have reported a range of problems and difficulties with the prosthetic socket. For instance, the socket is unstable to have the prosthesis in a fixed position. There are also limits that are not suited to the use of a prosthetic socket, due to a lack of stability, ease of time or muscle damage, among other things. The Osteointegrated Prosthesis for the Rehabilitation of Amputees, OPRA, method provides direct bone anchorage. This is made possible by surgically implanting a titanium screw into the bone. The prosthesis can therefore be attached without using a socket, which means that the prosthesis always fits, always attaches correctly and is always held firmly in place.

Improved moving ability

With a bone-anchored attachment, you can move more freely and this is what keeps me going, Dr. Brånemark says. ‘You do whatever you want, as long as you do regular physical exercise, which means that the prosthesis always fits, always attaches correctly and is always held firmly in place.’

Stable attachment

A bone-anchored prosthesis is attached without using a socket, which means that it is more stable. Another benefit is that it only takes a few minutes to attach the prosthesis.

Enhanced comfort

The absence of the prosthetic socket will improve comfort and will enable patients to engage in physical activities and to take part in social activities.

The OPRA method provides direct bone anchorage by means of a bone-anchored prosthesis, which means that it is more stable. It is also easier to attach the prosthesis.

Reduced pressure, sores and pain

In a Swedish scientific survey of patients with unilateral above-elbow amputation, the patients reported a significantly reduced risk of pressure, sores and pain with a bone-anchored prosthesis, due to a lack of friction.

A bone-anchored prosthesis you no longer need to worry about chafing or discomfort.

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Improved moving ability

With a bone-anchored attachment, you can move more easily but also in a more regular basis, as you will no longer need to move about shifting or dissipating

Stable attachment

A bone-anchored prosthesis is attached without using a socket, which ensures stability. Another benefit is that it only takes a few minutes to attach the prosthesis.

Enhanced comfort

The absence of the prosthetic socket will improve comfort and will enable patients with above-knee amputations to, for example, sit more comfortably and also cross their legs.

The new prosthesis has made it easier for her to take part in exercise. It is important to be strong, as you move your legs with your back and stomach, Irene explains. The new prosthesis has made it easier for her to take part in exercise. It is important to be strong, as you move your legs with your back and stomach, Irene explains.

The OPRA method is a surgical innovation that uses a combination of the principle of osseointegration with conventional prosthetics. The bone-anchored prosthesis is surgically implanted into a specially constructed titanium screw.

The OPRA method was developed in the 1960s, when he discovered that titanium is not rejected by the body but instead integrates with the surrounding bone tissue. The discovery was initially used for dental implants but it has since been further developed.

What is osseointegration?

Osseointegration is a method for anchoring the prosthesis directly to the bone. Swedish Professor Per-Ingvar Brånemark, born 1923 in an environment where information was always present, Dr. Brånemark became increasingly aware of the advantages of osseointegration. He also realised that he had the ability to help people achieve a greater degree of freedom in everyday life.

Dr. Brånemark explains. "I have learnt from the audience who had had surgery in Sweden by Dr. Rickard Brånemark. When he deemed our system ready, I was asked at his request to help. As I had been experiencing a number of problems with the prosthetic socket, I decided to do nothing else but study this new system, Irene explains.

In November of the same year, she had her first operation in Gothenburg and, even though she experienced problems with an infection afterwards, she is certain she would do it over and over again.

It is important to be strong, as you move your legs with your back and stomach, Irene explains. The new prosthesis has made it easier for her to take part in exercise. It is important to be strong, as you move your legs with your back and stomach, Irene explains.

"But the best thing to me is that it feels like this leg is my own"

When she returned from the hospital, Irene decided to live her life to the fullest and she later instead of doing sports such as rolling, diving and snowboarding, she now works as a prosthesis advisor and it was at a presentation of her first novel in Baskia in 2005 that the first case was in contact with the bone-anchored prosthetic method.

She says, here with Dr. Rickard Brånemark.

Dr. Brånemark, the positive relationships he establishes with his patients are based on the importance of thousands of clinical studies.

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Improved moving ability

With a bone-anchored attachment, you can move more freely and also move with more control than with a socket. A range of problems and difficulties with the prosthetic socket. The absence of the prosthetic socket will improve comfort and thereby live a normal life, no longer controlled by their prostheses. I really feel that I am doing something meaningful and it feels like the leg is my own.”

With the absence of the prosthesis, there is no need to bend down when shaving or dressing. The OPRA method provides direct bone anchorage by surgically implanting a titanium screw into the bone. The OPRA method provides direct bone anchorage by surgically implanting a titanium screw into the bone.

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Feeling of stability

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Stable attachment

A bone-anchored prosthesis is attached without using a socket, which means it’s easier. Another benefit is that it takes only a few seconds to attach the prosthesis.

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Setting

The everyday exercise is based on your imposing a load on the bone/implant system. The abutment protrudes through the skin. The treatment consists of two operations with a six-month interval. In the first operation, a specially constructed titanium screw (fixture) is installed in the residual femur. The period of hospitalisation is usually about seven days.

The procedure

The OPRA (Osseointegration and Prostheses Rehabilitation of Amputees) treatment plan will be based on a treatment protocol. Moreover, every limb is different, due to individual risks and needs, every patient is given his/her own treatment plan within the framework of the two basic programmes (normal or half-speed programme).

Pre-treatment

We will prepare your patients to stop smoking and, if necessary, to lose weight before the operations. We also need to know if you are suffering from any diseases. Operations will not be possible if you are suffering from a serious vascular disease.

Implant surgery

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In the second operation, an abutment is added to the fixture. The abutment is made of stainless steel and will be fixed to the fixture with a screw. The period of hospitalisation is usually about seven days.

Once the surgery is performed, the patient will begin to walk unaided or supported with crutches. The patient will be able to carry out any heavy manual work or carry out some simple manual work.

Post-treatment

After the skin protection area has healed, which is approximately six weeks after the second operation, brushing of the prosthetic socket can begin, using a chamois-like soft polishing tool.

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Confirm your interest to start to walk unaided or supported by one crutch or a cane will give after the follow-up visit and X-ray six months after the second operation.

Recovery and check-ups

If no complications occur, osseointegration will normally be realised within one year of surgery. If complications occur, osseointegration will usually be realised within one year of surgery.

Applying

It is to be considered an oncological operation, and the removal of the pathological area, which is usually a joint from the knee, will be performed at Sahlgrenska University Hospital. In addition to the checks-up, the Department of Prosthetics and Orthotics will examine the position of the prosthesis.

Service providers

Please do not hesitate to contact us for more information regarding the wearers of bone-anchored prostheses. backwards. As with all types of surgical treatment, there is a risk of complications. The following can change the treatment or lead to a less satisfactory result.

1) Thumb amputation
2) Above-elbow (transhumeral) amputation
3) Above-knee (transfemoral) amputation

One of Dr. Brånemark’s patients is Irene Villa from Spain. At the age of 12, she lost both her legs and several of her fingers due to a bomb planted in her mother’s car by the terrorist organization ETA. At the age of 12, she lost both her legs and several of her fingers due to a bomb planted in her mother’s car by the terrorist organization ETA.

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Dr. Brånemark, the positive relationships he establishes with his patients is enormously important. Dr. Brånemark became increasingly aware of the advantages of osseointegration. He also realised that it would be possible to improve the quality of life and freedom in their everyday lives.

Today, Dr. Brånemark is the director of the world-leading Center of Osseointegrated Orthodontics (COO) at Linköping University Hospital. The Bone Peg Anchorage of Osseointegration Perioperative Methods protocol has been established by the team at the COO and is based on 20 years of clinical studies.

Advanced development in medical technology takes a long time to achieve. Attaching prostheses directly to bone with implantation was an unrealistic target for a long time, and the development has been ongoing for more than 50 years, as it has to be in a scientifically acceptable manner.

Dr. Brånemark explains, Even though a prosthesis can never fully replace an arm, a leg or a hand, studies show that patients treated with osseointegration have significantly enhanced their quality of life. Dr. Brånemark, the positive relationships he establishes with his patients is enormously important.
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PO Box 7163
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The OPRA Implant System
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