The future of knee surgery.
Adelaide Orthopaedic and Trauma Specialists - OrthoRobotics

Adelaide Orthopaedic and Trauma Specialists (AOTS) are excited to introduce MAKOplasty®, an innovation for those suffering with debilitating knee pain.

The surgeon controlled Robotic Arm enables our team of specialists to treat your specific knee condition with precision, resulting in minimally invasive surgery, little post operative pain and, most importantly, fast recovery to get you out and about doing the things you love.
Ongoing knee or joint pain can be debilitating and stop you from being active and doing the things you love.

Whilst there can be other causes of chronic knee pain, it is likely caused by the most common form of arthritis, osteoarthritis.

**What is osteoarthritis of the knee?**

Osteoarthritis is a degenerative joint disease characterised by the breakdown and eventual loss of joint cartilage. Cartilage is the connective tissue that serves as a cushion between the bones of a joint.

With osteoarthritis, the top layer of cartilage breaks down and wears away, allowing the bones under the cartilage to rub together. This causes pain and discomfort.

**What are the causes?**

Although the root cause of osteoarthritis is unknown, the risk of developing the disease is influenced by a number of factors such as age, gender, and inherited traits that can affect the shape and stability of your joints. Other factors can include:

- A previous knee injury
- Repetitive strain on the knee
- Joint malalignment
- Exercise or sports-generated stress placed on the knee joint
- Being overweight
The symptoms

Whilst every individual will have their own unique experience, the most common symptoms experienced are:

» Pain while standing or walking short distances, climbing up or down stairs, or getting in and out of a chair

» Pain with activity

» Pain or stiffness when activities are initiated from a sitting position

» Joint stiffness

» Swelling in one or more areas of the knee

» A grating sensation or crunching feeling in the knee during use

» Pain at night

The stages of the disease

Treatment options

Whether your osteoarthritis is mild or severe, your surgeon will most likely recommend certain lifestyle changes to reduce stress on your knee joints. Additional treatment strategies may include:

» physiotherapy

» over-the-counter pain medications such as paracetamol and nonsteroidal anti-inflammatory drugs (NSAIDs)

» topical pain-relieving creams

» steroid injections

» viscosupplementation

If your symptoms are not responding to non-surgical solutions, or your pain can no longer be controlled by medication, you may be a candidate for surgery.

The most common surgical intervention is a total knee replacement. During this procedure, the natural joint is removed and replaced with an artificial implant. This treatment option is usually offered to patients with late-stage osteoarthritis of the knee.

Since all three compartments of the knee are replaced in a total knee replacement, it is not always optimal for patients with early to mid-stage osteoarthritis in just one or two compartments of the knee. For these patients, Adelaide Orthopaedic and Trauma Specialists - OrthoRobotics are able to offer a MAKOplasty® Partial Knee Replacement, which may be a more appropriate solution.
MAKOplasty® Robotic Assisted Joint Replacement Surgery has been successfully used throughout the world over the last 10 years and is now available in South Australia and Northern Territory through Adelaide Orthopaedic and Trauma Specialists - OrthoRobotics at Burnside Hospital.

What is MAKOplasty®?

MAKOplasty® Partial Knee Replacement is a minimally invasive procedure for those suffering with painful osteoarthritis of the knee. It is performed using a surgeon controlled Robotic Arm, enabling our team of specialists at AOTS OrthoRobotics to treat a patient’s specific knee condition with precision.

The robotic arm allows the surgeon to accurately resurface only the diseased portion of the knee, saving as much of the original knee as possible — including healthy bone and ligaments. This minimally invasive approach, results in a more natural feeling knee when compared with a total knee replacement.

AOTS OrthoRobotics MAKOplasty® can be performed on any one of the three knee compartments: the inside (medial), behind the kneecap (patellofemoral), or outside (lateral) compartments, known as a unicompartmental procedure, or it can be performed on both the medial and patellofemoral portions of the knee together, which is known as a bicompartamental procedure.

How does MAKOplasty® work?

Because no two knees are the same, MAKOplasty® customises the procedure for your unique anatomy. Before surgery, a CT scan is taken of your knee, and a 3-D anatomical model is created.
This allows the surgeon to plan the size, placement and alignment of your knee implants prior to surgery, and helps to accurately position them.

The Robotic Arm provides measurements and visualisation of your unique anatomy, enabling the surgeon to adjust and customise as needed throughout surgery.

What is the average hospital stay and recovery time?
Following an AOTS OrthoRobotics MAKOplasty® procedure, hospital stays average 2-4 days.

Patients are actively encouraged to walk the day of their surgery. A treatment program will describe the exercises you are able to perform. A walking aid may be used for a short period of time. Normal daily activities can recommence as symptoms permit.

### Knee Surgery Failure Rates

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<th>Failure Rate (%)</th>
<th>Manual surgery</th>
<th>MAKOplasty®</th>
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<td>3.6%</td>
<td>0.4%</td>
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MAKOplasty® failure rate (revision or reoperation) was only 0.4% at two years,¹ which is nine times lower than that of manual surgery.

¹ Roche MW, Coon T, Pearle AD, Dounchis J. Two year survivorship of robotically guided medial MCK onlay. 25th Annual Congress of ISTA; October 3-6, 2012, Sydney, Australia.

Live the life you want, now.
What is the lifespan of a MAKOplasty® implant?

All implants have a life expectancy that depends on several factors including the patient’s weight, activity level, quality of bone stock, and compliance with their surgeon’s orders.

Proper implant alignment and accurate positioning during surgery are also very important factors that can improve the life expectancy of an implant. Through the use of the robotic arm technology, implants can be optimally aligned and positioned resulting in very low failure rates being seen at two and five years.

What are the benefits of MAKOplasty®?

» It is a minimally invasive procedure
» It offers fast recovery
» It results in little post-operative pain
» It has evidence based results

Am I a good candidate for MAKOplasty®?

Patients with the best outcomes have osteoarthritis in one or two parts of the knees. Typically, patients share the following characteristics:

» Knee pain with activity, usually on the inner knee and/or under the kneecap
» Start-up knee pain or stiffness when activities are initiated from a sitting position
» Failure to respond to non-surgical treatments or nonsteroidal anti-inflammatory medication
» Pain at night

If you would like to discuss your individual care with our experienced team of surgeons, please call us on 08 7325 4800 or visit www.orthorobotics.com.au to book an appointment. Live the life you want now.

Our Team of Specialists

MAKOplasty® is exclusive in SA and NT to our team of certified surgeons Dr. Robert Baird, Dr. Robert Fassina and Dr. Justin Munt.

Dr Robert Baird
ORTHOPAEDIC SURGEON
orthorobotics.com.au

Dr Baird is an Australian trained Orthopaedic Surgeon with a special interest in hip and knee surgery and orthopaedic trauma. He is trained and certified in the use of Robotic Arm Assisted Joint Replacement Surgery.

After completing his training in South Australia he conducted further subspecialty training in complex joint replacement surgery at St Michaels Hospital, Toronto, Canada and orthopaedic trauma surgery at Vancouver General Hospital, Vancouver, Canada.

A special interest of his is joint replacement surgery and revision surgery which includes problems due to fractures, infection, loosening, instability or implant fractures. Dr Baird is one of the first surgeons in South Australia to be trained and certified in the use of Robotic Arm Assisted Joint Replacement using the Stryker MAKO robotic system TM.

Dr Baird is a member of the arthroplasty unit at the Royal Adelaide Hospital where he is a senior visiting surgeon.
Dr Robert Fassina is a fellowship trained Orthopaedic surgeon who has a special interest in Joint Replacement Surgery. He is a founding member of AOTS - OrthoRobotics, SA’s only orthopaedic group conducting Robotic Assisted Joint Replacement surgery.

One of the many challenges he and colleagues face every day is how to improve the already fantastic results seen with joint replacement surgery. Since his exposure to the world of Robotic Joint Replacement Surgery in early 2015, he has immersed himself in the literature and technology to determine if the results that have been obtained by surgeons overseas - namely better patient outcomes and improved long term survival of replaced joints - are translatable to his practice and most importantly to his patients.

Dr Fassina traveled to the USA, where robotic technology has been used for 10 years. There he had the opportunity to spend time with, and be instructed by, some of the most experienced orthopaedic robotic surgeons in the world. He personally saw the results that the Stryker Mako Robot offered and was incredibly excited about the possibility of being able to bring this innovative surgical technique to South Australia.

This advanced technique of Robotic Assisted Joint Replacement Surgery complements Dr Fassina’s extensive range of surgical options which he can offer his patients.

Dr Justin Munt is a knee and hip surgeon with a special interest in joint replacement surgery. After completing his orthopaedic training he undertook further subspecialty training focusing on all aspects of hip and knee replacement surgery including computer navigation and revision surgery.

His focus is on providing his patients with the best possible outcomes by utilising the most up to date clinical evidence and technology available. The MAKOplasty robotic arm system is one such technological advance that has the potential to offer significant benefits for patients undergoing joint replacement surgery.

Dr Munt is excited to be able to offer this procedure as an option to his patients. While partial knee replacement surgery can be a technically challenging operation at times this innovative system can eliminate some of those difficulties and allows us to implant the components accurately through a small incision. The MAKOplasty robotic arm system has also been used internationally for hip replacement surgery, including direct anterior approach, and Dr Munt would be happy to discuss this with his patients.
Contact details
orthorobotics.com.au
orthorobotics@aots.net.au
08 7325 4800

AOTS - OrthoRobotics conduct all MAKOplasty® procedures at Burnside Hospital. CT scan is performed by Dr Jones & Partners Medical Imaging, conveniently located within the grounds of the Hospital.

Locations
Adelaide Orthopaedics & Trauma Specialists – OrthoRobotics
Suite 3, 120 Kensington Road
Toorak Gardens, South Australia 5065
Ph (08) 7325 4800

The Burnside War Memorial Hospital
120 Kensington Road
Toorak Gardens, South Australia 5065
Ph (08) 8202 7222

Dr Jones & Partners Medical Imaging (for CT scan)
Attunga Medical Centre (Co-located at Burnside Hospital)
97 Hewitt Avenue
Toorak Gardens, South Australia 5065
Ph (08) 8403 3100

Regional Patients
Regional SA and NT consultations are also available.
Contact us to find out more information regarding this service.

What do I need to bring?
A valid GP referral letter
Medicare, DVA, Private Health Insurance details
Recent X-rays and/or MRI of your knees
Wear loose clothing or bring shorts for your examination
The information provided herein is not designed to substitute the in-depth consultation you should have with your surgeon. Only a registered surgeon can adequately diagnose and explain your underlying orthopaedic condition, the natural history of the condition without intervention, the MAKOplasty® procedure, medically acceptable alternative procedures, and the potential complications and risks of any procedure and/or operation. In every case your surgeon must guide you on all aspects of your surgery, including pre- and post-operative care. Individual results will vary.

The Stryker Mako Robot has TGA approval.