Joint replacement

A practical guide to understanding joint replacement surgery









Arthritis AUSTRALIA

How can this booklet help you

This booklet is designed for people who are thinking about having or have already decided to have joint replacement surgery.

Since every person and every operation is unique, it is not a substitute for expert medical advice. However, this booklet offers information and practical advice to help you:

- weigh up whether joint replacement surgery might be a good option for you, and when
- come up with questions to ask your health practitioners about what you can expect from surgery
- prepare and plan for your surgery
- know where to go to find out more information.

The information inside is based on the latest research and recommendations. It has also been reviewed by Australian experts in the field of arthritis and joint surgery and who have had joint replacement to make sure the contents are current and relevant to your needs.

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Introduction

Joint replacement surgery – the broad picture

Joint replacement involves replacing a damaged joint with an artificial joint. In the year ending December 2015 more than 102,000 hip and knee procedures were performed in Australia. Joint replacements were once only offered to older people with severe arthritis of the hip or knee. Now they are increasingly performed on younger people if there is a need. This is largely due to advances in materials being used to build artificial joints, making them longer-lasting, as well as options such as partial joint replacements and other less invasive operations. The procedure is also available for shoulders, elbows, wrists, fingers, ankles, toes and intervertebral discs in the spine.

Joint replacement operations differ according to the joint involved, the reason for the replacement, the kind of artificial joint used and many other factors. Nevertheless the principles of preparation for and recovery from joint replacement operations are similar in many ways. More time spent in pre-operative preparation, both physically and mentally, has been shown to improve satisfaction with the final result.



Understanding joint replacements

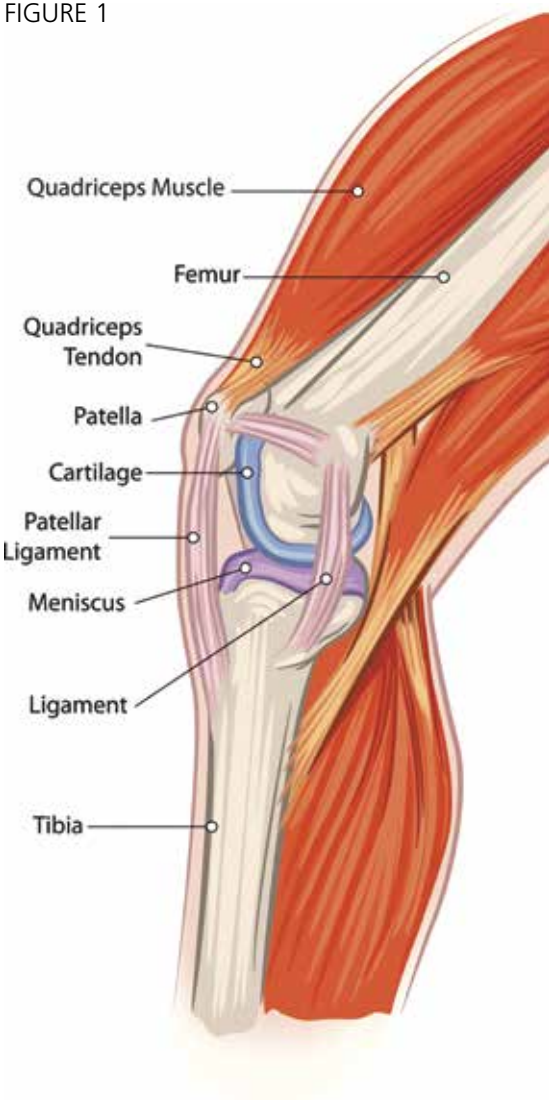
The basics of healthy joints

Joints are where bones fit together and move against each other. The ends of the bones are covered with hard cartilage, which allows the bones to move easily against each other.

Cartilage is tough enough to resist wear, but is also sufficiently spongy to absorb pressure and cushion the bones. A normal joint also contains a small amount of fluid, called synovial fluid that further reduces friction. Muscles, tendons and ligaments keep the joints stable and in correct alignment, as well as allowing movement. Figure 1 shows the main structures of a normal knee joint.

During joint replacement surgery, the surgeon replaces the damaged joint with an artificial joint. The surgeon first cuts through the skin and the underlying muscles or tissues to expose the joint. The length and exact location of the surgeon's cut will vary depending on the joint being replaced, the type of operation performed, your age and physical condition and the surgeon's preference. The surgeon then removes the damaged bone and cartilage and inserts the prosthesis (the artificial joint). The prosthesis is either held in place with special bone cement or other methods. Different types of surfacing of the implants are made to allow the bone to grow into the prosthesis over time and help keep it in place.

FIGURE 1



Your surgeon will choose the prosthesis that is best for you but it is important you understand what your surgeon is proposing and why. After the prosthesis is secured in place, the wound is closed with staples or stitches. One or two tubes may be inserted into the wound to drain blood and fluids that accumulate for the first few days following surgery.

Conditions that may lead to joint replacement

Although various kinds of joint disease can lead to joint replacement (see box to the right), most of these operations are done to relieve severe pain and reduced mobility of advanced arthritis, particularly osteoarthritis. When the cartilage in your joint becomes damaged, the joint surfaces become rough and uneven, and your bones may actually rub together. Bone spurs can also grow on the edges of the joint. These changes cause the joint to become painful, stiff and swollen, and limits its range of movement. The joint may lock or it may become unsteady. As all people with arthritis know, not only are these symptoms unpleasant, they can also make the activities of day-to-day living seriously difficult.

Conditions that may lead to joint replacement

- Osteoarthritis
- Inflammatory arthritis, such as rheumatoid arthritis
- Trauma or injury
- Birth defects and growth disorders
- Certain fractures that don't heal properly – the most common is a fracture at the top end or 'neck' of the thigh bone (femur) near the hip
- Avascular necrosis – interruption of the blood supply of a bone, leading to the death of bone tissue
- Severe infections of joints
- Cancer in or near a joint.



Making a decision

Why have a joint replaced?

The aim of having a joint replaced is usually to relieve severe pain and restricted movement, especially when non-surgical treatments such as exercise programs and pain medications are no longer effective. These kinds of operations can improve quality of life, by reducing the pain and making getting about, exercise, hobbies, work and everyday activities easier.

When should I consider joint replacement?

Not every person with problems with their joints will need joint replacement surgery. This type of operation is usually an option when the joint is severely damaged and can't be managed with other treatments. Joint replacement may be an option if:

- You have severe joint pain that does not improve with rest, medication, exercise, weight loss or other treatments.
- You have pain at night that affects your ability to sleep.
- You have major limitation in walking and everyday activities such as showering, getting dressed, preparing meals, getting out of a chair.
- Your ability to work or look after people who require your care is reduced.

How long will a new joint last?

An artificial joint does not necessarily last for the rest of your life, especially if you are younger and more active. A replacement joint may wear out and loosen over time and it is not possible to predict exactly how long the new joint will last. The average knee replacement, for example, will last 10 – 15 years. An artificial joint tends to wear out more quickly in people who are overweight, more physically active or younger. If an artificial joint loosens or wears out, another operation will be necessary to replace all or part of the prosthesis. This is called 'revision surgery'. Revision surgery is more difficult than the initial joint replacement surgery.

Ask your surgeon to give you the details of your prosthesis and keep this information in a safe place for when you need to seek medical attention relating to your artificial joint in the future.

What are the possible disadvantages/ Complications?

All surgery carries some risk but serious complications occur only in about one in every 100 people undergoing joint replacement surgery. It is important to know about possible complications before deciding to have surgery, but it is equally important not to assume that you will get any of these.

The list in the box to the right does not cover all possible complications of joint replacement surgery, but it does give you a starting point for discussing this important issue with your surgeon. The best time to discuss these and other concerns is before the operation.

Possible complications of joint replacement surgery

- A replacement joint will never be quite as good as a natural joint and you're still likely to have difficulties with some movements or activities
- Loosening, wearing or breaking the prosthesis
- Dislocation of the joint, following total hip replacement
- Injury to nerves and blood vessels
- Infection at the site of the operation or spreading to other parts of the body
- Blood clots in the deep veins of the legs, which can travel to the lungs
- Persistent pain or stiffness in the joint that may require further surgery
- A build up of fluid in the joint
- Failure of the wound to heal
- Allergies to medicines used at the time of surgery, dressings or stitches

Are there any alternatives to joint replacement surgery?

Non-surgical treatments

There are many treatments that can help you successfully manage joint problems without surgery. Most doctors will recommend trying non-surgical treatments before considering joint replacement. These include:



- **Weight control or weight loss**
  Additional body weight increases the stress on the back, hips, knees, ankles and feet. The good news is that even small amounts of weight loss can be beneficial. For example, with every kilogram of weight you lose there is a four-fold reduction in the load on the knee joint. Most people will notice a 30% improvement in joint pain and function after losing just 5% of their body weight.



- **Exercise**
  Exercise is one of the best treatments for arthritis, even for people who have advanced disease, have severe pain, are on a waiting list for joint replacement surgery or have very limited function. It can be difficult to get started because of the pain but there are ways that you can start gently and still improve the strength and flexibility of your joints as well as reduce pain. See a physiotherapist for advice.
- **Medication**
  Taking the right medication at the right times can make a big difference in how you manage your pain. Talk to your doctor or pharmacist about your options and how best to use your medications.



- **Pain management**
  There are many things you can do to manage your pain. Pacing your activities, balancing activity with rest, using aids and specialised equipment, practising ways to take your mind off the pain, using heat, ice and TENS machines are just some of the things you can try to make your pain more manageable.
- **Injections**
  Corticosteroid or hyaluronic acid (artificial joint fluid) injections may reduce symptoms including pain and stiffness. However, having an injection may delay the surgery for between one to three months to make sure the injection has not caused an infection in the joint.

Other surgical treatments

Operations other than joint replacement are also available and your surgeon will be able to tell you if any of these are suitable for you. Generally these don't provide as good a result as an artificial joint but they may allow you to delay having a joint replacement operation for some years.

- **Arthroscopy:** 'keyhole surgery'
  Using a thin telescope-like instrument called an arthroscope, can be used to smooth damaged cartilage and remove loose pieces of tissue from the joint. In some cases it may be a useful operation for removing or repairing structures inside the joint, for example repairing a torn ligament or removing loose bits of cartilage or bone that are causing the joint to lock (where the joint gets stuck in one position) or catch (when it feels like something gets caught during certain movements). However it isn't recommended as a treatment for the pain caused by arthritis. Recent research indicates that the benefits of arthroscopy in reducing pain are no better than a placebo

('fake' treatment with no known medical effects) and may make the pain worse for people with arthritis. Caution is recommended for people expecting significant improvement in a joint affected by advanced arthritis, unless there are locking or catching symptoms.

- **Synovectomy**
  Removal of the inflamed lining of the joint is usually only carried out in the knee, elbow, wrist or hands.
- **Osteotomy**
  Bones near the joint are cut and repositioned to correct the alignment of the joint or shift the load away from the area affected by arthritis.
- **Arthrodesis**
  An operation in which the joint is fused to make it immovable, thereby removing the source of pain.
- **Cartilage grafting and implantation**
  There are several techniques that attempt to either stimulate new cartilage to grow, transplant cartilage to areas that are damaged or grow new cartilage cells in a test tube. These techniques are still experimental and generally not recommended for people with advanced arthritis.



Who to see and what to find out

If you think that joint replacement might be an option for you, talk to your GP who can refer you to an orthopaedic surgeon.

An orthopaedic surgeon will first assess whether joint replacement is appropriate for you. They will ask detailed questions about the joint causing problems, your other joints and your health in general. The surgeon will also conduct a physical examination. X-rays, blood tests and other examinations may be arranged, if they haven't already been done. When the assessment is done, the surgeon will tell you whether or not you are likely to benefit from joint replacement surgery. In some cases, the surgeon may recommend that you don't proceed. There are several conditions, including smoking, that might make the operation too dangerous or likely to fail. Your orthopaedic surgeon will be able to discuss the various surgical options and the potential pros and cons of having or delaying surgery, taking into account your age, health and level of activity.

If the surgeon says you are likely to benefit from joint replacement surgery, the decision whether to have the operation is still yours to make. To help you make an informed decision about having joint replacement surgery, it is important to find out as much as you can about the operation from the surgeon.

To help you make a decision, consider asking the following questions:

- ☐ What are the possible benefits from a joint replacement in my case?
- ☐ What can I expect if I don't have surgery?
- ☐ Are there any other options?
- ☐ What are the general risks of surgery for me (with the other medical conditions I have) and what are the specific risks related to the kind of joint replacement I would have?
- ☐ Is there a waiting list and, if so, how long is the wait likely to be?
- ☐ How will my pain be managed after surgery and what exercises will I have to do in hospital?
- ☐ What will I be able to do/not do immediately after my joint replacement and when I first get home? What support will I need?
- ☐ How long will I be in hospital?
- ☐ What rehabilitation is required after surgery?
- ☐ How much will it cost me all up and what will be the out-of-pocket expenses?
- ☐ When will I be able to get back to my work or my normal daily activities?
- ☐ How long will it take for me to fully recover?
- ☐ How long will the artificial joint last and what can I do to make it last as long as possible?

Consider the information you receive carefully before coming to a decision. Not having surgery is always one of your options, regardless of whether the surgeon recommends it, and you may decide to continue with non-surgical treatments.



How do I choose a surgeon?

It is important to find an orthopaedic surgeon who you have confidence in and can trust. Here are some tips to help you:

- Ask your GP to recommend a surgeon based on his/her experience in referring other patients
- Talk to your family and friends about their experiences with orthopaedic surgeons
- Contact the Australian Orthopaedic Association on (02) 8071 8000 or use the 'Find a surgeon' feature at **www.aoa.org.au**
- Ask your surgeon about their experience and their particular areas of expertise
- Take written questions in written form and make sure you ask them. A good surgeon will take the time to understand your concerns and answer all of your questions to make sure you understand the procedures and the risks.
- Trust your instincts. If you walk away from the initial consultation with a surgeon and you do not feel confident or comfortable with that surgeon, trust yourself and keep looking for the right surgeon for you.

Seeking a second opinion

A second opinion may help you make the decision about whether joint replacement surgery is the best option for you. Most good surgeons will have no problem with a request for a second opinion and will be happy to review and discuss that second opinion with you if necessary.

Financial planning

Ask your surgeon for an estimate of the cost, which will include the costs of the operation, the prosthesis, hospital and anaesthetic fees, and about the likely rebate from Medicare or private health cover, if this applies.

The surgeon can only give an estimate as the final treatment may differ from the planned treatment.

You can choose to have joint replacement surgery as a public patient, in which you are treated at no charge under Medicare by a doctor appointed by the hospital. Alternatively, you can elect to be treated as a private patient, either in the public system or in a private hospital. As a private patient, part or all of the fee may be covered by Medicare and your private health fund. Any part not covered by these is called the 'gap'. Check with your health fund about the out-of-pocket costs you are likely to incur.

If you have private health insurance, check with your health fund if aids like crutches, walkers and raised toilet seats are reimbursable expenses.

Also check if allied health services, such as physiotherapy and occupational therapy, are covered following surgery, both while you're in hospital and when you return home.

Getting prepared for surgery

How long should I wait?

Once you decide to go ahead with the operation, don't put it off. There is evidence that the outcome from surgery may be better if you don't let yourself get too immobile or unfit before an operation.

Getting ready for surgery

Your chances of a better outcome will be improved if you use the time before surgery to plan ahead for the recovery period following the operation. Consider addressing the following:

☑ **General health**

- Lose weight if you are overweight. Do not go on a crash diet immediately before the operation but try to eat a healthy, balanced diet and seek advice from a dietitian if you are finding it difficult to reach or maintain a healthy weight.
- Stop smoking if you are a smoker. Smoking reduces circulation, which can seriously hinder the healing process.
- Talk to your doctor about any other illness or health conditions you have. Attend to any health problems that might increase the risk of complications, such as skin ulcers and dental problems.
- Tell your doctor about all the medications you are currently taking, or have taken recently, including 'natural' and over-the-counter medicines. Some medicines, including those commonly used for joint pain and inflammation, can cause prolonged bleeding during and after surgery. Sometimes your surgeon may recommend certain medications should be stopped before your operation. If in doubt, check with your doctor. Even some natural remedies, such as garlic, ginger and ginseng, can interfere with blood clotting and may need to be stopped one to two weeks before surgery.
- Your surgeon may recommend that you 'donate' some of your own blood several weeks before the operation, to be given back to you if you need a transfusion at the time of surgery.



☑ Prepare yourself physically

Staying active and doing regular exercise can greatly increase your chance of a faster recovery following joint replacement surgery. Do all you can to ensure your body in general and the muscles around the affected joint are as strong and healthy as possible. Here are some things to consider:

- If you have severe pain when walking, try exercising in water. Hydrotherapy with an aquatic physiotherapist, warm water exercise classes or swimming can all be effective ways to exercise without putting extra load or strain through joints.
- See a physiotherapist for advice about specific exercises to strengthen the muscles around your affected joint. The physio may also show you how you will do activities such as getting out of bed, walking with crutches and climbing stairs following surgery, giving you a chance to practise before you go in to hospital.
- Building upper body strength will help you be better prepared for using a walker, crutches or a walking stick during your recovery.
- Don't forget to strengthen the muscles in your 'good' leg too as it will be working extra hard in the first few days or weeks after surgery.

☑ Attend pre-admission clinic

Most hospitals hold orthopaedic pre-admission clinics. Attending the clinic usually occurs a week to 10 days before the operation. A pre-admission visit is a good opportunity to:

- Ensure you have completed all necessary paperwork and pre-operative tests, such as blood tests and X-rays.
- Discuss your estimated length of stay in hospital.
- Decide upon a likely discharge plan from hospital, including referral to the appropriate community support agencies or an acute rehabilitation centre, if required.
- Discuss with a hospital physiotherapist the exercises you will need to do after the operation, and walking aids and other equipment you may need, such as handrails and raised toilet seats.

☑ Plan for returning home after surgery



In the first few weeks and months while you are recovering from surgery you may need help with day-to-day chores such as cooking, cleaning, bathing, shopping and errands. Before having the operation, be sure to consider the support system you have at home. If you live alone, it might be beneficial to consider a short-stay at a rehabilitation unit after leaving hospital. Alternatively, you may be able to organise for someone you trust to move in or visit daily to help with some of these activities. Express any concerns you might have about your ability to cope at home after your surgery with the nurse, occupational therapist or social worker at the hospital pre-admission clinic. They can help you explore all your options for receiving assistance at home, such as a home health care professional or services from local community agencies.

Well before the operation, think about ways to make your return home from hospital safer and more comfortable, such as:

- Arrange furniture to make it easier to get around. Remember you will likely be using a walker, crutches or a walking stick for the first few weeks so ensure there will be enough space to move.
- Remove rugs, wires and objects, or cover cords or cables, that may cause you to trip.
- Place things you use often within easy reach, for example the phone.
- Select chairs with arms and high, firm seats.
- Beware of bathroom hazards: place non-slip strips in the bath or shower and arrange things in the shower so they are easy to reach.
- Install hand railings wherever you might need additional support, eg. steps, shower, toilet.
- Have comfortable clothes that you can get on and off easily.
- Seek advice from an occupational therapist about additional aids and modifications to your home environment to help you be as independent as possible after surgery.

Check with your surgeon whether a short-stay at a rehabilitation centre is recommended after leaving hospital. If so, be aware that some private health policies may not cover the cost of private rehabilitation.

Before your operation, discuss with your health fund whether rehabilitation or home health care are covered to help you plan for your discharge from hospital.

In hospital

Before the operation

You will be required to fast (usually for a minimum of six hours) before your operation.

On admission to hospital more tests may be needed to assess your general health, such as a chest X-ray and an electrocardiogram (ECG).

You will be seen by an anaesthetist to discuss the type of anaesthetic you will receive.

You may also be seen by the hospital physiotherapist, who will explain your post-operative physio program.

There may be more changes to your medicines – new medicines may be started to prevent blood clots or infections in the recovery period.

You will need to sign a consent form giving your permission for the operation to go ahead. Read this carefully before you sign it. The hospital may also ask for permission to include information about your operation on the Australian Orthopaedic Association National Joint Replacement Registry. This registry collects information on all people in Australia who have knee, hip and other joint replacements to improve understanding about the factors that lead to the best long-term outcomes for joint replacement surgery.



The operation

Generally, joint replacement operations take about one to three hours. You will be monitored in a recovery room before being returned to the ward.

After the operation

Depending on the operation, you may have:

- an intravenous (IV) tube leading to a vein in your arm
- a drainage tube from the site of the operation, and
- a urinary catheter, which empties urine directly from the bladder, to make sure your kidneys are functioning well.

There is always some pain and discomfort after any operation. You will be given medicines to keep your pain at a manageable level. For the first few days following surgery, you will probably receive regular pain medication either via the IV tube, by injection into muscle, or by mouth. You will probably experience the greatest amount of pain in the first day after surgery, but you should find that the pain begins to decrease over the next few days.

Activity is encouraged early after most joint replacement operations to prevent stiffness, muscle wasting and blood clots. If you are having a hip or knee joint replaced, you will need some form of assistance with walking in the early phase of recovery. A walking frame, crutches or a walking stick will probably be necessary for at least the first six weeks.



Long-term outlook

Rehabilitation

Recovery from joint replacement surgery is gradual and full recovery usually takes several months. The recovery time will vary from person to person but the full benefits of the new joint may not be felt for six to 12 months. During this time it is essential to follow your physio program, to maintain your strength and flexibility, progress your mobility and improve your endurance. Putting in the hard work during this stage of your recovery will give you the best chance to get the best result from your new joint. Eventually you should be able to resume many of your usual hobbies and activities, such as walking, swimming, playing golf and gardening.



Looking after your new joint

High-impact activities and sports that involve running, jumping and twisting should generally be avoided. Your surgeon, together with the allied health team, will describe in detail what you should be able to do and what you should avoid, according to the specific type of joint replacement you undergo. To increase the life-span of your new joint, try to keep to a healthy weight as extra body weight will put additional strain on the joint.

Glossary of terms

The jargon of joint replacement

Sometimes it can feel like you need a medical degree to understand all the technical terms associated with joint replacements. Here's a quick cheat sheet:

Arthroplasty	Medical name for a joint replacement operation. Also called 'total joint replacement' as all the surfaces of the joint are replaced. For example, total hip replacement (THR) and total knee replacement (TKR).
Hemiarthroplasty	Medical name for replacement of part of a joint. Also known as 'partial joint replacement' because only some surfaces of the joint are replaced. For example, hip hemiarthroplasty involves replacing only the top of the thigh bone (femur). A partial knee replacement may involve replacing only one side of the joint (also called unicompartmental knee replacement).
Prosthesis	The artificial joint or implant. These are usually made from a combination of various metal alloys and a very high density, medical grade plastic.
Cement	A hard substance that holds the artificial joint solidly in position.
Incision	The cut made by the surgeon through skin and the other tissues below.
Orthopaedic surgeon	Doctors who specialise in diagnosis and surgical treatment of bone, muscle and joint disorders.
Physiotherapist	A health professional who uses treatments to keep your joints mobile, and can suggest exercises and devices for you to use at home.
Occupational therapist	A health professional who can suggest changes to your home or work activities, or aids to make everyday life easier and safer, and help you be more independent.
Anaesthetist	Specialist doctors who administer anaesthetic to patients during surgery and assist with pain management following surgery.
Anaesthetic	Medicines that eliminate all sensations including the feeling of pain and other unpleasant sensations, which allows surgical procedures to be undertaken without causing undue distress or discomfort.
Arthritis	A name for more than 100 different conditions that affect joints and other tissues around a joint, causing pain, stiffness and difficulty using the joint.
Revision	A repeat operation to replace a loose, worn out or broken prosthesis, or because of infection in the artificial joint.

Useful resources

Australian resources

The Australian Orthopaedic Association can help you find an orthopaedic surgeon. Information about the National Joint Replacement Registry can also be found on the Australian Orthopaedic Association's website
www.aoa.org.au
Ph: (02) 8071 8000

To find a physiotherapist, contact the Australian Physiotherapy Association
www.physiotherapy.asn.au
Ph: 1300 306 622

To find an occupational therapist, contact Occupational Therapy Australia
www.otaus.com.au
Ph: 1300 682 878

Check for waiting times and infection rates at your hospital of choice at **www.myhospitals.gov.au**

International resources

The American Academy of Orthopaedic Surgeons provides information for patients on a variety of conditions and procedures at **www.orthoinfo.aaos.org**

Please be aware that some issues and treatments from overseas may not be relevant in Australia.

Notes

My contact details

My name:

Telephone:

My GP

Name:

Telephone:

My specialist

Name:

Telephone:

My support team

Name:

Telephone:

Name:

Telephone:

My medicines

Name	Dosage	Instructions

Arthritis Australia

Arthritis Australia is a not-for-profit organisation that provides support and information for all Australians affected by arthritis.

Contact your State/Territory Arthritis Office to find out about the range of awareness and education programs, support services and resources available.

Arthritis Infoline: 1800 011 041 **www.arthritisaustralia.com.au**

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