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 **Arthritis**
AUSTRALIA

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What this booklet is about

This booklet has been written for anyone who wants to learn about osteoarthritis, including people who have osteoarthritis, their families and friends. Topics include:

- a description of what osteoarthritis is
- the joints affected
- who is at risk
- how it can be prevented, and
- the financial and health impacts of osteoarthritis.

It provides an overview of the status of osteoarthritis in Australia using the latest statistics available.

Caution

Although this booklet provides an overview of some of the current management strategies for osteoarthritis, it should not be used as a guide to self-management. Please consult a qualified health professional for treatment and management of osteoarthritis.

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Key facts about osteoarthritis

- Osteoarthritis (OA) is the most common type of arthritis. It affects more than 1.3 million Australians.
- The main symptoms are pain, stiffness and limited movement of the affected joint(s).
- OA is a major cause of disability, psychological distress and poor quality of life.
- OA is more common at older ages, and affects more females than males.
- To help prevent OA it is important to avoid:
 - excess weight or obesity
 - joint injury
 - repetitive use of joints, such as activities that involve repetitive kneeling, heavy lifting and squatting.
- Management of OA includes medication, physical therapy, weight loss for those who are overweight, and surgery.
 - About 40% of Australians with OA use pharmaceuticals and 46% use dietary supplements.
 - To manage their OA, 20% of people exercise most days and 6% are trying to lose weight.
 - More than 41,000 total hip and knee replacements were performed for OA in 2004–05.
- More than 2% of total health expenditure by governments, individuals and industry in Australia is for OA, at \$1.2 billion in 2000–01.

What is osteoarthritis?

Osteoarthritis (OA) is the most common chronic joint disease, affecting 1.3 million Australians. It is a major cause of pain and disability. The disease is uncommon before the age of 45 years and mostly affects people aged 65 years or over. It is more common in females than in males.

The main symptoms of OA are pain, stiffness and limitation of movement. Pain is initially felt in the joint during and after activity, but as the disease progresses it may occur with minimal movement or even during rest. The disease disrupts normal functioning of the joint. Over time the joint tends to lose its normal shape, becoming enlarged and sometimes inflamed.

The main underlying feature of OA is loss of or damage to cartilage tissue. This tissue is needed for easy joint movement. Other tissues in the joint may also be damaged, affecting joint function. This is described in more detail below.

OA commonly affects the joints of the hips, knees, hands and spine but can involve any moveable joint. Other organs and tissues of the body are not directly affected by OA, but many people will have other health problems that need to be considered when managing it. The outcomes and response to treatment vary from person to person: some people develop a disability where activities are restricted while others only ever have mild problems.

A healthy joint

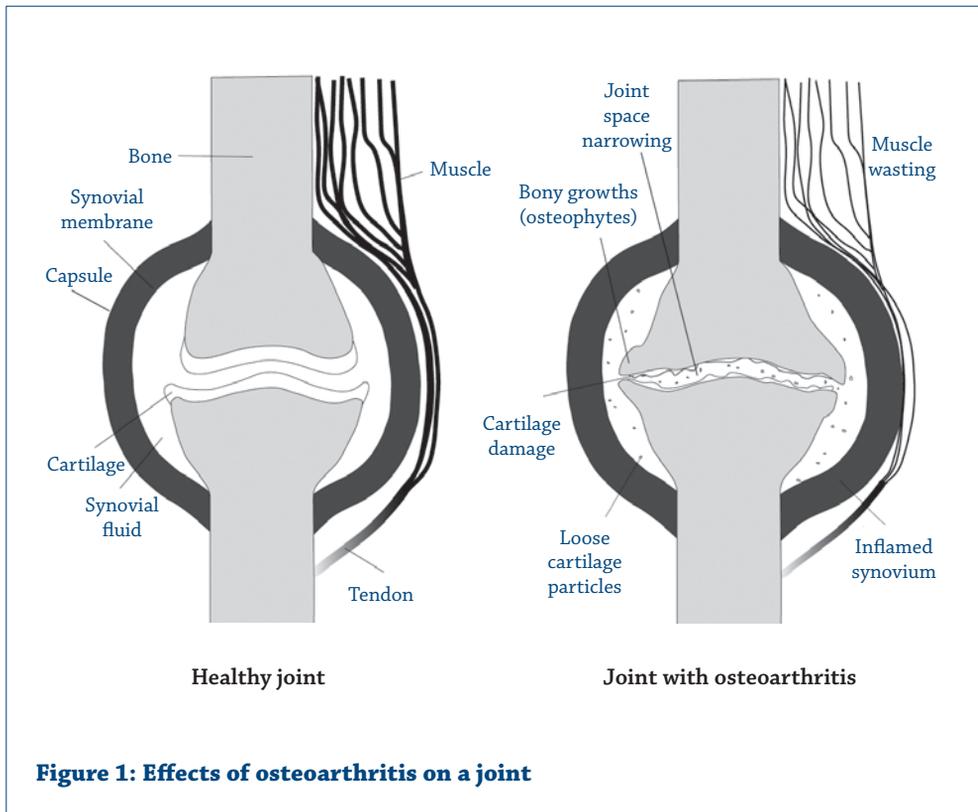
To understand what happens with OA it helps to consider a healthy joint. A joint is where two bones meet. Some joints, like those in the skull, are fixed. Others are moveable, and these are the ones that allow movement and flexibility of the body. Any moveable joint can develop OA.

The movement of joints is controlled by muscles that attach to the bone through tendons (Figure 1). The ends of the bones within a joint are covered by a hard, smooth tissue called cartilage. Its main functions are to reduce friction in the joints and to absorb the shock of movement. The cavity of the joint is filled with a thick fluid called synovial fluid. This fluid acts to lubricate the joint and prevent friction. It is made by the synovium, a tissue that surrounds the joint. The joint is stabilised by the tough outer part of the synovium known as the capsule and also by the surrounding muscles and ligaments.

The loss of cartilage

Cartilage tissue needs to be continuously repaired and maintained. This involves a continuous cycle where old components are broken down as they age and new components are incorporated to replace those lost.

With ageing, the production of new components and the breakdown of old components becomes out of balance, leading to a net loss of healthy cartilage tissue. The imbalance in cartilage repair causes the cartilage to lose its elasticity and become more susceptible to damage. Over time the cartilage degrades to a point that it becomes rough and can split, break off or break down and expose the bone underneath. This process occurs gradually over many years.



Cartilage loss can be accelerated or slowed by mechanical, biochemical and genetic factors. Factors that accelerate cartilage loss are described as risk factors for OA.

An osteoarthritic joint

Other tissues in the joint, including bone, synovium, ligaments and muscles, are also affected by the osteoarthritic process. Unlike cartilage, which does not have a blood supply or nerves, these other tissues have many nerve endings. When affected by osteoarthritic degeneration and inflammation, these tissues are the likely source of the pain of OA. Different sites in and around the joint will contribute to different types of pain at different times, so the symptoms of OA can vary a lot in the one person over time, as well as between different people.

As the cartilage breaks down, the underlying bone is often left exposed and unprotected. It can thin out, lose shape and thicken at the edges of the joint, producing bony spurs called osteophytes (Figure 1). In addition, soft-tissues around the joint (such as the synovium, ligaments and tendons) can become inflamed and swollen.

As these changes occur, the joint loses its smooth movement, becoming stiff and painful. Reduced use of the painful joint causes the muscles to weaken and lose bulk. This in turn increases the load and damage to the cartilage, bone and soft tissues.

In advanced stages of OA, the space between the bones is reduced and bones can be in direct contact during movement. This results in increased pain and further joint damage.

Diagnosing OA

A joint can be defined or diagnosed to have OA by symptoms, structural changes, or both. Generally, a diagnosis (without special tests) is all that is needed to commence treatment. Symptoms of OA include:

- pain
- stiffness
- tenderness
- limitation of movement
- crepitus (a crunching or grating sound or feeling), and occasionally
- swelling.

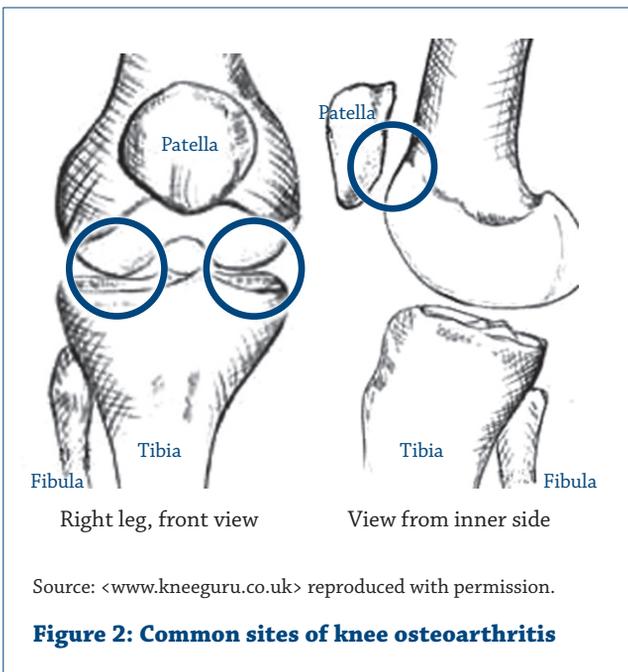
Some of the structural changes in an osteoarthritic joint—the narrowing of the joint space and the thickening of the bones—can be observed on an X-ray. These are known as radiological changes. However, radiological changes are not always observed in people with joint symptoms, and people with radiological changes do not always have symptoms. Cartilage does not show up on X-rays. Other tests, including ultrasound and magnetic resonance imaging (MRI), are being used in research studies to see if OA can be diagnosed earlier.

Joints most commonly affected

OA can affect any moveable joint in the body but it most commonly affects the knees, hips, hands, feet, spine and neck. One or more joints may be affected. For example, OA of the hip often occurs on its own, whereas OA of the hand commonly occurs with OA of the knees and spine (March 1997). Depending on which joints are affected, a person will experience varying symptoms and long-term effects, as described below.

Knees

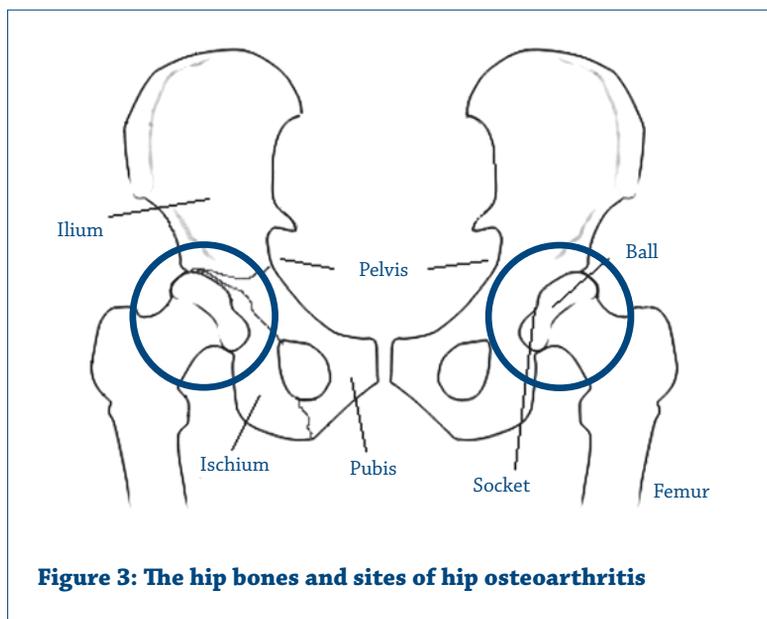
Each knee has three ‘compartments’ where OA can occur; the inner (medial) or outer (lateral) side of the joint between the thighbone (femur) and shinbone (tibia), or between the kneecap (patella) and the thighbone (Figure 2). All compartments or a combination of compartments in either or both knees may be affected.



Symptoms tend to begin gradually and worsen with time. As the joint space between the bones narrows due to loss of cartilage there may be deformity of the joint, as one side is often more affected than the other. For example, if the inner compartment is more affected than the outer, the knee may bow outwards. A variety of factors can affect the way knee OA progresses and the amount of disability it causes. These include mechanical abnormalities (where the joint doesn't function normally), joint misalignment, obesity and poor thigh muscle strength.

Hips

Hip OA affects the joint between the thighbone (femur) and the pelvic bones (ilium, ischium and pubis) (Figure 3). Either one or both hips may be affected. Pain is typically felt in the groin but is also felt in the buttocks, back and thighs, and can be referred to the knees. As the disease progresses, movement of the affected hip can become limited.



Hands

The joints in the hands that are most affected are the base of the thumb and the two joints in the fingers. The joints closest to the nail are more commonly affected than the joints in the middle of each finger. The knuckle joints are not commonly affected by OA. The symptoms are pain, tenderness and often bony deformities. Hand OA is strongly associated with a family history of arthritis and occurs more often in females.

Spine

Any part of the spine, including the cervical (neck), thoracic (mid-back) and lumbar (lower back) regions, can be affected by OA. Spinal OA is marked by pain, stiffness and loss of range of motion, but can have other complications such as the compression of nerve roots by bony spurs, and degenerative disk prolapse. This can cause pain that radiates to other parts of the body (referred pain) and muscle weakness from under use.

Data in this booklet

This booklet presents a range of data about OA and its impacts on the Australian population. Most of these data were obtained from national population surveys conducted by the Australian Bureau of Statistics. The information collected in these surveys is self-reported information—that is, people are asked questions about their health, rather than having a physical examination or medical tests. Based on the information collected from a sample of randomly chosen Australians, researchers can make estimates about the entire Australian population. At relevant points throughout the booklet, you will find boxes like this one, which describe some of these surveys.

The National Health Survey

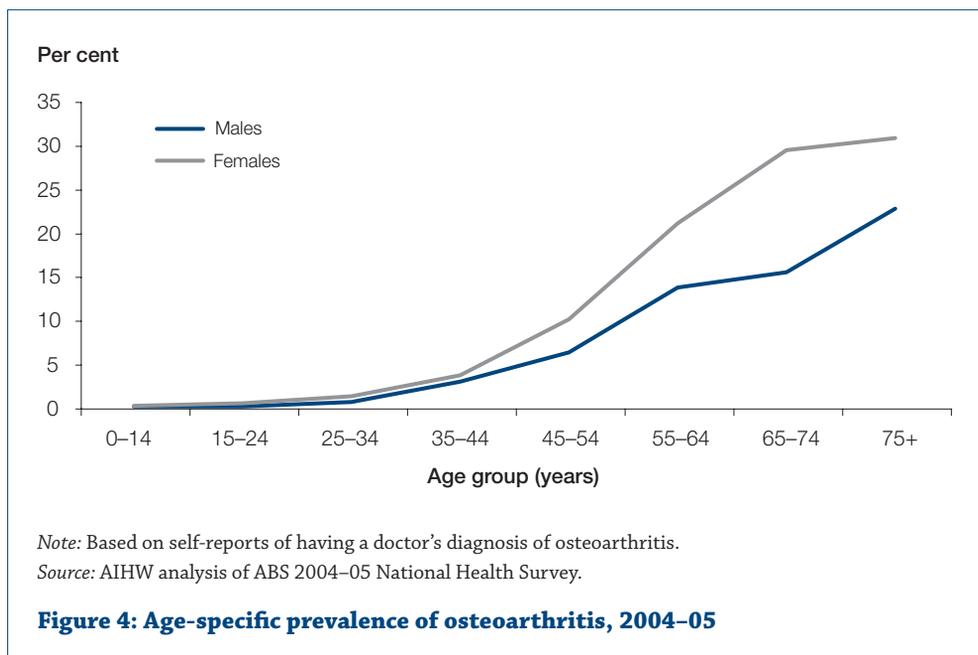
Most of the data in this publication are from the ABS's National Health Survey (NHS), which was last conducted in 2004–05. In this survey, people are asked if they have ever had OA, if they still have it, and if it was diagnosed by a doctor or nurse. If people answer 'yes' to these three questions, we say that they have self-reported 'doctor-diagnosed OA'. The NHS data in this booklet are about people who have doctor-diagnosed OA.

The NHS does not include people who live in institutions, such as hostels and residential care units. As OA is more common among older Australians, the lack of information on people in these institutions might cause us to underestimate how many Australians have it.

How common is OA?

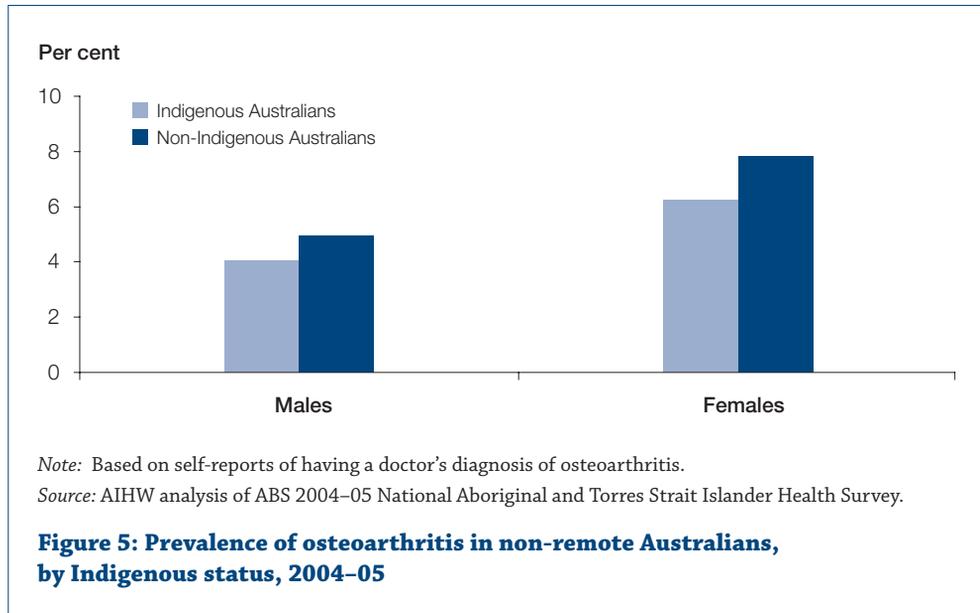
OA is very common in Australian adults, in particular those aged 45 years or over. Information from the 2004–05 National Health Survey (NHS) suggests that about 1.3 million Australians (almost 7% of the population) have doctor-diagnosed OA. Females (8%) are more likely than males (5%) to have OA, and it is much more common among older Australians (Figure 4).

Most health problems affect some parts of the community more than others. For example, a disease may be more common among people of a certain nationality or cultural group, or among people living in particular areas of Australia. It may be that certain risk factors are more common in these parts of the community, or that treatment is less accessible, or a combination of these and other reasons. Two sections of the Australian community that often have poorer health than others are Aboriginal and Torres Strait Islander persons, and people who live in socioeconomically disadvantaged areas. They are discussed below.



Aboriginal and Torres Strait Islander persons

Unlike with other chronic diseases such as diabetes and heart disease, Aboriginal and Torres Strait Islander persons (Indigenous Australians) do not have a greater burden of OA than other Australians do.



About 5.3% of Indigenous Australians living in non-remote areas (4% of males and 6% of females) report that they have doctor-diagnosed OA (Figure 5). In comparison, 6.5% of non-Indigenous Australians living in non-remote areas (5% of males and 8% of females) report it.

The National Aboriginal and Torres Strait Islander Health Survey

The National Aboriginal and Torres Strait Islander Health Survey (NATSIHS) is a survey of Indigenous Australians that takes place at the same time as the National Health Survey (NHS). Data are collected by interview in the same way as in the NHS, but slightly different questions are asked of people in remote and non-remote areas, so that information about the most important issues in Indigenous health can be collected efficiently. This means that for some topics we cannot compare the whole Indigenous population to the whole non-Indigenous population. For the 2004–05 NATSIHS, the questions about OA were only asked of Indigenous Australians living in non-remote areas. Therefore, data about OA can only be compared between Indigenous and non-Indigenous Australians living in non-remote areas.

People in socioeconomically disadvantaged areas

People living in the most disadvantaged areas of Australia are more likely to report having OA than those living in the least disadvantaged areas (Table 1).

Table 1: Prevalence of osteoarthritis by socioeconomic status, 2004–05

Socioeconomic status	Per cent of people reporting doctor-diagnosed OA
Most disadvantaged areas (Group 1)	7.3
Group 2	7.0
Group 3	6.4
Group 4	6.2
Least disadvantaged areas (Group 5)	5.7

Note: Socioeconomic status is determined according to the Index of Disadvantage calculated by the Australian Bureau of Statistics. The Index score of an area is based on a range of factors including the average income, educational attainment, unemployment rate and proportion of jobs in unskilled occupations of the people living in the area. Each postcode area of Australia can be placed into one of five broad groups (from most to least disadvantaged) based on their Index score.

Source: AIHW analysis of ABS 2004–05 National Health Survey.

The higher prevalence of OA among people living in disadvantaged areas could be related to the greater proportion of people in these areas who have jobs involving manual labour, which is associated with repetitive use of joints and joint injury. Another contributing factor is the greater proportion of people in disadvantaged areas who are obese. Repetitive use of joints, joint injury and obesity all increase the likelihood of getting OA.

Factors associated with getting OA

A range of factors contribute to the onset and progression of OA. These are called 'risk factors'. Some risk factors increase the risk of disease by affecting the mechanics (load, wear and tear) of the joint. These include:

- being female
- joint misalignment
- joint injury or trauma
- excess weight, and
- repetitive joint-loading tasks.

Several biological factors associated with cartilage repair also increase the risk. Many of the factors act through a variety of mechanisms. Some of the risk factors for OA are described below.

Female sex

Females are at a higher risk of developing OA than males. They are affected more severely and at more sites. Females have a higher rate of knee cartilage tissue loss than males (Ding et al. 2007), though the reasons for this are unknown. Some factors that might contribute to females' increased risk are the effects of female sex hormones and growth factors, the different distribution of weight in females compared to males, and the possible advantages of the larger bone and body size of males on the rate of cartilage tissue loss. More research is needed to determine exactly how these factors affect the development of OA.

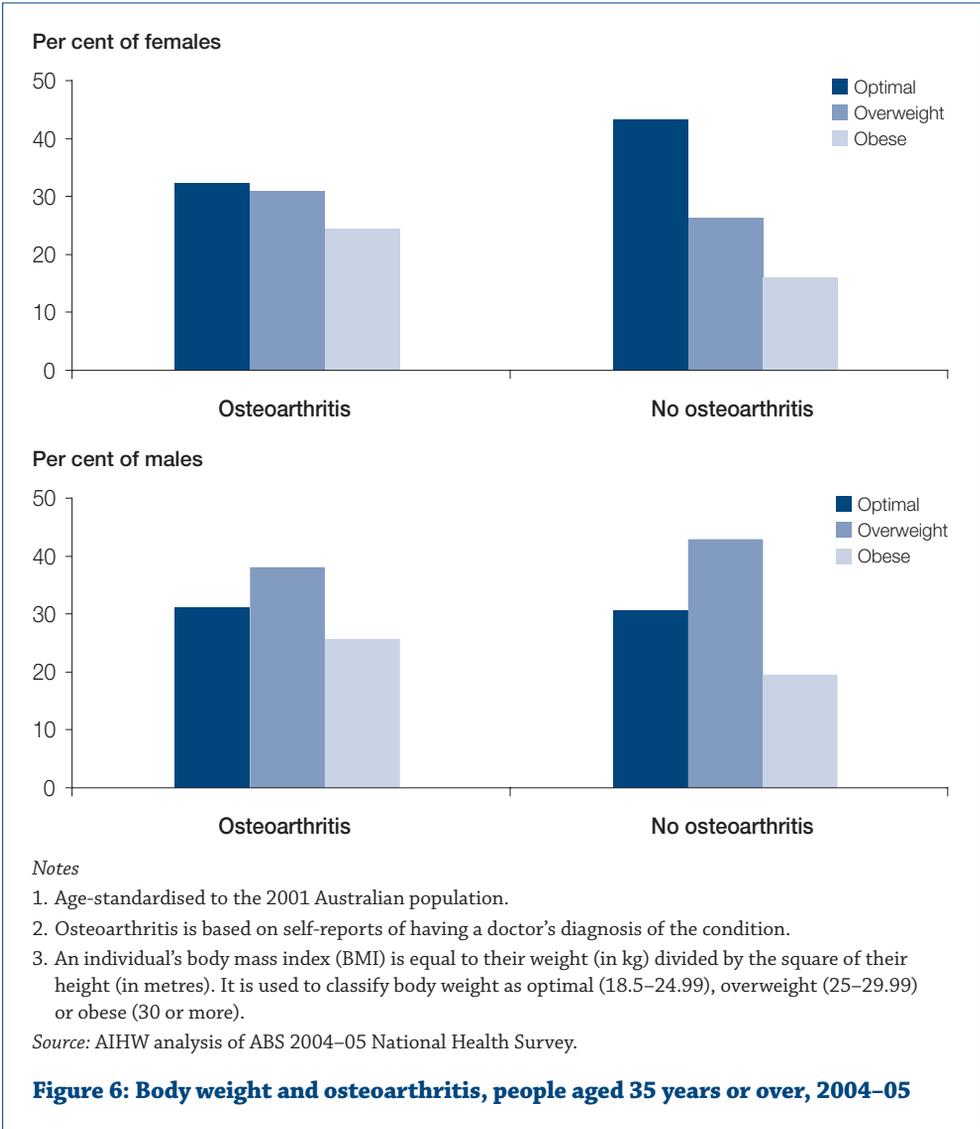
Overweight and obesity

Being overweight or obese can contribute to OA, particularly in females. Obesity is more strongly associated with OA of the knee than the hip. It has been shown to be a predictor of OA as early as 30 years before the onset of symptoms (Felson et al. 1988).

Obesity increases the load across the weight-bearing joints, thus increasing the stress on the cartilage and ligaments. However, it has also been associated with OA of non-weight bearing joints such as the joints of the hand. This suggests that obesity may also have biologic effects that promote OA in a non-mechanical way.

In the 2004–05 National Health Survey, a higher percentage of females that reported having OA were overweight or obese compared with females that did not have it (Figure 6). Having excess weight is also associated with higher rates of OA in males, but the relationship is weaker than for females.

OA in turn can contribute to excess weight. The painful joints may limit physical activity, causing weight gain.



History of joint trauma or injury

Individuals with a history of joint trauma or injury are more likely to develop OA. Injury damages the tissues within the joint, which can increase the stress on the cartilage. The process of OA then develops slowly over many years before it starts to cause symptoms of pain or stiffness in the previously injured joint.

Joint injuries include dislocation, fracture, and tears of the cartilage or ligaments. These injuries are commonly caused by sporting or recreational activities. Joint surgery can also cause trauma to the joint tissues and increase the risk of OA.

Repetitive joint-loading tasks

Repetitive movements that involve placing abnormal stress, strain or heavy loads on the joints increase the risk of both hip and knee OA. Jobs involving continuous kneeling, squatting, and climbing stairs are associated with higher rates of knee OA. Jobs that require frequent heavy lifting, including farming and construction, are associated with higher rates of hip OA.

Joint misalignment

Congenital abnormalities (conditions that are present at birth) can cause abnormal joint alignment, which may lead to OA. The alignment of a joint affects the load across the cartilage and other tissues. Areas of cartilage under high load or pressure can degrade faster or be damaged by joint movement. This may lead to early-onset OA.

Family history

OA may run in families. A person is more likely to develop OA if their parents have OA that is early in onset or involves more than one joint. Genes, which are the body's 'blueprint' and differ from person to person, can affect the cartilage repair mechanisms or joint alignment. Although a number of genes involved in cartilage repair have been identified, how they affect an individual's risk of OA is not yet clear.

Impacts of OA

Pain and functioning

OA is a major cause of pain, loss of functioning and disability. Pain is initially felt in the joints during and after activity, but as the disease progresses it may occur with minimal movement or even during rest. Pain during rest can prevent a person from being able to sleep.

Pain, reduced mobility of joints, deformity or body stiffness experienced by people with OA can affect their day-to-day functioning. Fatigue, depression and psychological distress associated with OA also affect functioning.

OA is only severe enough to cause disability in a moderate proportion of people. Information from the 2003 Survey of Disability, Ageing and Carers suggests that about 5% of Australians aged 35 years or older have a disability caused mainly by arthritis or a related disorder (AIHW: Rahman & Bhatia 2007). Arthritis-associated disability is more commonly reported by females than males, and is more common in those aged 45 years or over. There are currently no national data available on disability specifically associated with OA. However, being the most common type of arthritis, OA would make up the majority of arthritis that is reported in surveys.

The Survey of Disability, Ageing and Carers

The ABS's Survey of Disability, Ageing and Carers (SDAC) collects information about people with a disability, people aged 60 years or over, and people who are carers. It was last conducted in 2003. Unlike the National Health Survey, the SDAC includes people living in non-private dwellings, such as aged-care homes and hospitals. In the SDAC, people who have a disability are asked to name the health condition or injury that causes them the most problems. This is called the main disabling condition. This booklet reports data about people whose main disabling condition is arthritis or a related disorder (such as gout). We say that these people have 'arthritis-associated disability'.

Activity restrictions

OA can make it difficult to perform the activities needed for daily living. These activities include self-care, mobility, accessing health care services and household maintenance. Physical limitations can also restrict participation in life activities such as employment and social events.

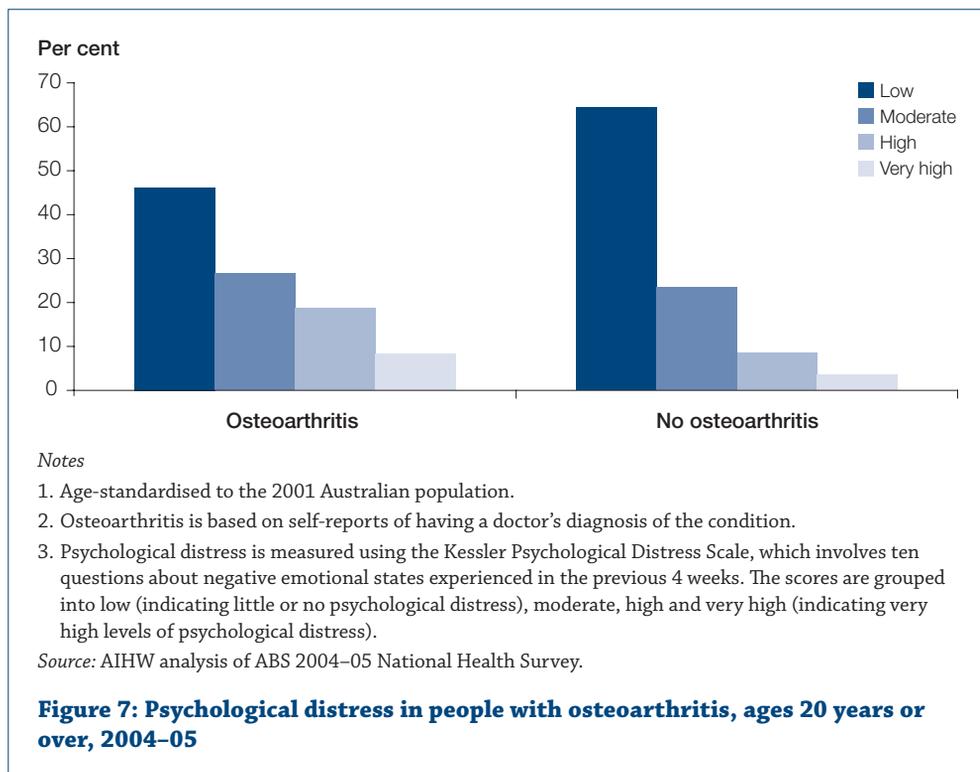
The type of activity a person with OA finds difficult is greatly determined by which joints are affected. Hand and arm problems may lead to a need for help with self-care needs such as household chores and dressing. When hip or knee function is affected, there may be problems with bathing, dressing (especially undressing the lower half of the body), going up and down stairs, rising from a chair or bed, and walking.

OA can also have a major effect on the capacity to work. A person may be unable to work in a desired job, need to change jobs or be limited in the number of hours of work they can do each day. This may affect their income and their family's financial circumstances, and can also lead to psychological distress, anxiety and reduced self-esteem.

Psychological distress

Pain and functional limitations caused by OA can cause much psychological distress. These limitations may affect people's self-esteem and self-image, and can cause emotional problems. Anxiety and depression are also common responses to having OA.

Psychological distress is more common in people with OA. In the National Health Survey, more people that reported having OA had high or very high levels of psychological distress compared with people that did not report it (Figure 7).



Help and support for dealing with the psychological impact of OA can be gained from community services, mental health services and telephone help lines (for example, Lifeline, on 13 11 14, and Arthritis Australia, freecall 1800 011 041).

The effects of environmental and personal factors

Environmental and personal factors can contribute to the physical and psychological impacts associated with OA. These factors affect how symptoms and activity restrictions are experienced by the individual.

Environmental factors affecting the physical experience of OA include the layout of the home and public buildings (such as the need to use stairs), transport available and workplace requirements (physical demands of the job and pace of work). Personal factors that affect a person's ability to cope with OA can include attitudes towards illness, fear of deformity and altered body image, and feelings about dependency and accepting help from others.

Osteoarthritis management

Osteoarthritis cannot be cured, but its impact can be reduced. Management of OA aims to control pain, reduce the load on the affected joint(s), improve or maintain mobility of the joints, and increase or maintain the strength of the muscles around the joint. This helps to minimise disability and improve the quality of life. Management involves several strategies, which work together to help meet these aims. It needs to be individualised to account for disease severity, the presence of other conditions and a person's needs and expectations.

Management strategies for OA

- *Medication*
- *Physical therapy*
- *Self-management*
- *Diet and weight loss*
- *Education*
- *Mechanical aids*
- *Surgical joint replacement or repair*
- *Other therapies*

Effective management of OA is a team effort, involving the person with OA, their family, carers, the GP, specialists and allied health professionals. A vital component of this collaboration is the concept of self-management.

Self-management and education

As OA is a chronic condition, people with OA engage in various forms of self-management. They may seek and receive professional help and support only when they enter the health-care system for short periods during acute flare-ups of their symptoms.

Self-management involves the individual with OA, their family, carers and health-care professionals. It aims to optimise quality of life despite ongoing symptoms, provide self-care education, promote adherence to management regimes, and encourage regular follow-up and monitoring. Self-management promotes collaboration between the person with OA and their health-care providers.

Self-management also includes the ability to regulate the use of medication and physical therapies, and to seek appropriate help and treatments. Education can help people to self-manage OA, by helping them to understand the disease process, its natural history and the rationale and implications of managing their disease. Education can be provided by GPs, specialists, other health professionals, community groups, the Internet and pamphlets. A variety of programs and courses are available for promoting self-management in people with OA. These are often offered by Arthritis Australia (through their state and territory offices) or by community health centres.

Medication

Medication for pain and swelling is one of the main treatments for OA. The type of medication used needs to be individualised according to the severity of symptoms, the presence of other diseases, other medication taken, side effects, costs and individual preferences. For more information on medication options, speak to your doctor, or you can read the review 'Medical management of osteoarthritis of the knee and hip joints', published in the Medical Journal of Australia in 2004.

Medications commonly prescribed for OA include paracetamol, paracetamol combinations and non-steroidal anti-inflammatory drugs (NSAIDs). Paracetamol acts to reduce pain, whereas NSAIDs reduce both swelling and pain. Commonly prescribed NSAIDs are diclofenac sodium, celecoxib, meloxicam and naproxen. All of these medications have potentially serious side effects, even those available without prescription, so using them needs careful medical evaluation. You can find more information about medications used for OA on the Arthritis Australia and Australian Rheumatology Association websites (<www.arthritisaustralia.com.au> and <www.rheumatology.org.au>). It is important to discuss all medication use with a doctor or pharmacist.

In the National Health Survey, 40% of people with OA reported using prescription medication for OA. The most common types reported were celecoxib, paracetamol and meloxicam (Table 2).

Table 2: Most common medications used by people with osteoarthritis^(a)

Medication	Type of medication	People with osteoarthritis ^(a) taking this medication, %
Celecoxib	NSAID	8.0
Paracetamol	Paracetamol	6.6
Meloxicam	NSAID	5.3
Diclofenac sodium	NSAID	3.9
Paracetamol combinations	Paracetamol and opioid	1.6

(a) From self-reports of having a doctor diagnosis of osteoarthritis.

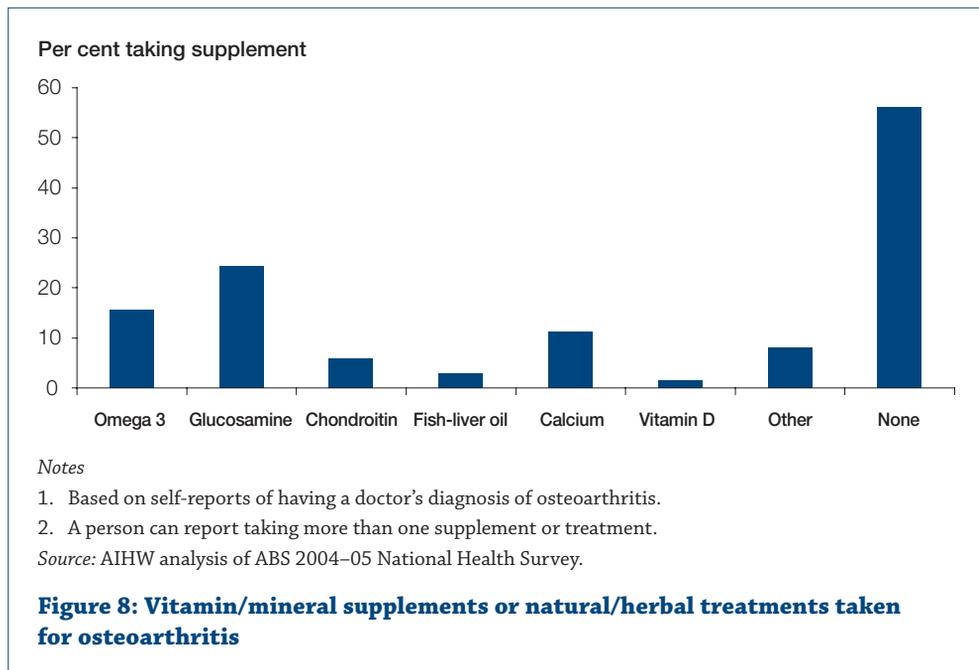
Source: AIHW analysis of ABS 2004–05 National Health Survey.

Dietary supplementation and natural therapies

As part of self-management, many people with OA supplement their diet with micro- or macro-nutrients, or take natural or herbal remedies. However, evidence for the effectiveness of these supplements and natural remedies is inconclusive.

Forty-six per cent of people with OA in the National Health Survey reported taking dietary supplements or natural remedies for the condition. All types of supplements are taken more commonly by females than by males. This may reflect the severity of the disease in females or their higher acceptance of these therapies.

Glucosamine and chondroitin are two of the most common supplements taken for OA. These are derivatives of cartilage components known as glycosaminoglycans. Twenty-six per cent of females and 21% of males with OA in the National Health Survey reported taking glucosamine (Figure 8). Other dietary supplements commonly reported to be taken by people with OA include omega-3 fatty acid (17% of females and 12% of males) and calcium (15% of females and 5% of males).



Physical therapy and exercise

Physical therapy and exercise can strengthen the muscles surrounding the joints and improve cartilage nutrition and health. This improves joint stability and joint flexibility, and helps to protect the joint from impact loads.

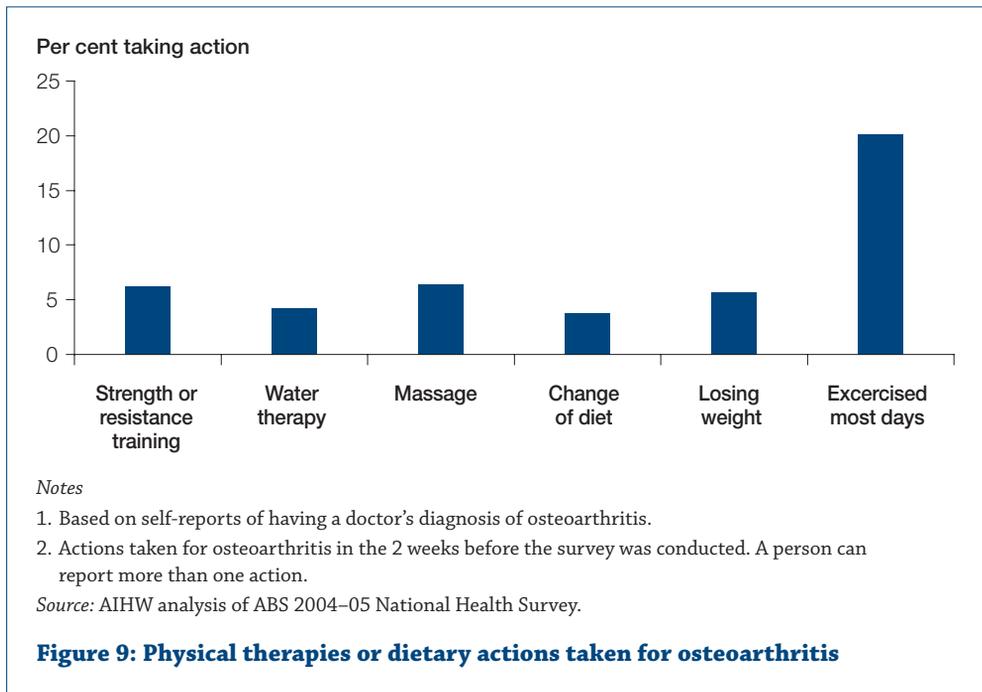
In the National Health Survey, people with OA were asked about the actions they took to manage their condition in the 2 weeks before the survey. Twenty per cent of people reported that they exercised most days (Figure 9). Other physical therapies reported included strength or resistance training, water therapy and massage. In general, these actions were more commonly reported by females.

Physiotherapists can deliver targeted physical therapy to reduce pain and improve the function of joints affected by OA. They can also recommend stretching, exercise and strengthening programs that can be done at home to improve and maintain function and mobility.

Exercise is an important part of the management of OA, and the type and length of exercise undertaken can be modified to be safe for people with the condition. Exercise participation can be improved by incorporating pain management strategies into the exercise program and by obtaining specific exercise advice. Mechanical aids such as walking sticks, orthotics and bracing can also protect the joints from further damage.

Weight loss and diet

Weight loss from exercise and controlled dieting can reduce the severity of symptoms in people with knee OA. It reduces the impact load on the joint and can improve joint flexibility and reduce pain. Weight loss can be achieved through either a change of diet, an exercise program or both. About 6% of females and 5% of males with OA reported trying to lose weight to manage their condition (Figure 9).



Aids and modifications

Many restrictions can be overcome with aids or by modifying the home or workplace. Aids used by people with OA include shoehorns, grips on taps, ergonomic cutlery, long-handled cleaning aids and specialised mobility devices. The home can be modified to remove the need to use stairs or to change the height of benches and cupboards. This can make it easier for a person with OA to perform day-to-day tasks and retain their independence.

Changes to the workplace can make it easier for people with OA to stay employed. For example, people with hand OA can use a special mouse or thicker pens that are easier to hold. Occupational therapists can help to modify the work environment and suggest alternative work arrangements that suit a person's abilities.

Surgery

Joint replacement (or 'arthroplasty') is the most common surgery used for OA. It is used to treat severe OA where other treatment options no longer provide sufficient relief. Joint replacement is cost-effective and highly successful for the majority of people.

A total joint replacement involves replacing the bony parts of the joint with artificial components, called a prosthesis. For example, in a total hip replacement both the ball at the top of the thighbone and the socket where the three pelvic bones meet (Figure 3) are replaced with metal or ceramic parts that are surgically joined to the bones.

Joint replacement can reduce the pain and disability of advanced OA, restoring some patients to near-normal function. In the financial year 2004–05, 41,108 total joint replacements were performed in Australia on people with OA. Other surgical procedures are also available, depending on the site and severity of the problem (Table 3).

Table 3: Surgical procedures used for osteoarthritis

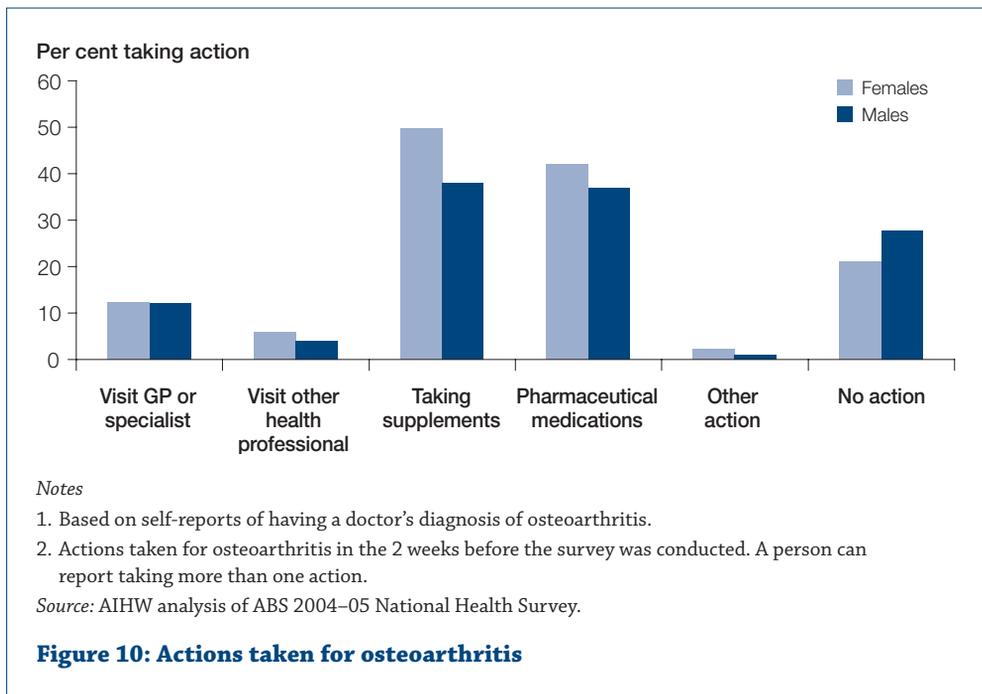
Medical name	Procedure	When used for osteoarthritis
Osteotomy	To cut or reshape bone	Early, to slow progression when wear is on a single area of cartilage in a joint.
Arthroscopy	To look inside the joint, with or without repair by removing debris	Early, for temporary relief, to know what is happening in the joint and repair degenerative cartilage tears. It is now more common to look inside the joint using magnetic resonance imaging (MRI) scans.
Arthrodesis	Joint fusion	On small joints of spine, hands or feet.
Arthroplasty	Joint replacement: to replace some or all of the bones in the joint with a prosthesis	Advanced osteoarthritis. Joint replacement is available for the knees, hips, shoulders, elbows, ankles and the base of the thumb.

Support and health-care services

A range of support and health-care services are required to effectively manage OA. As with many chronic diseases, management involves the person, their carers and various health professionals. The need for support and health-care services changes over the course of the disease.

Health professionals

General practitioners (GPs) are often the first and most common source of health care for people with OA. GPs provide assessments, prescriptions, education, referrals and advice on self-management. Specialists such as orthopaedic surgeons, rheumatologists and geriatric medical specialists also play a key role in many cases.



In the 2004–05 National Health Survey, 12% of people with OA reported that they visited a GP or specialist for their condition in the 2 weeks before the survey. In addition, 6% of females and 4% of males reported visiting other health professionals such as physiotherapists, osteopaths, podiatrists, chiropractors or occupational therapists (Figure 10). These allied health professionals assist with physical therapies, help to improve joint functioning, and provide skills for people with OA to care more effectively for their condition between GP visits.

Carers

People with OA often receive support or assistance to help them manage day-to-day tasks. Assistance can be provided by family, friends, volunteers, and paid care workers or service providers.

Family members are the main providers of help or informal care for people with OA. The frequency and duration of assistance needed will depend on the number and location of joints involved, the severity of pain, and the type and severity of any functional limitations or disability. A large proportion (42%) of carers of people with arthritis-associated disability spend more than 40 hours a week caring (AIHW 2005). The majority (68%) have been providing care for at least 10 years.

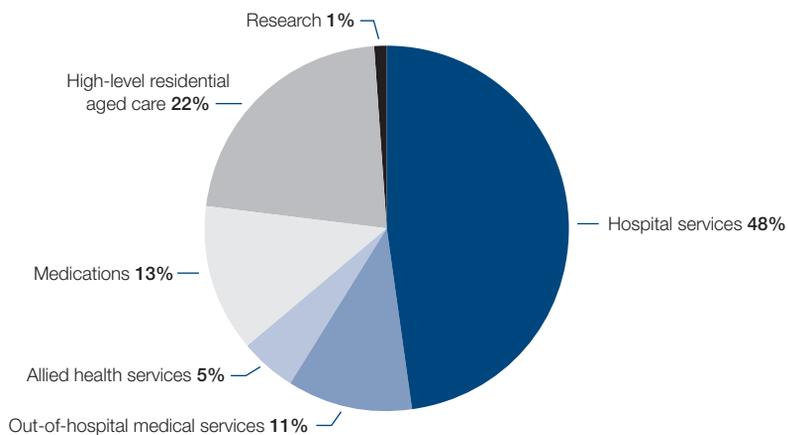
Carers often find that they need advice, support or assistance with caring and with the impacts caring has on their life. The National Respite for Carers Program provides information, counselling and support for carers, and assistance to help carers take a break from caring (respite). You can obtain more information about this program and other carer support services from Carers Australia (<www.carersaustralia.com.au> or phone 1800 242 636).

Health spending on OA

OA imposes a substantial financial burden on people with the disease, governments, community organisations and insurance companies. Expenses may include care workers for personal care or home tasks, travel to and from medical appointments, medications, natural supplements, aids, home modifications (including furniture), GP, specialist and allied health care visits, and specialised exercise programs or equipment.

Many of these expenses are called 'indirect costs'. These are costs other than those directly spent on health services, medications, residential (nursing home) care and medical research for the condition. For example, a GP visit or filling a prescription would be direct costs, but transport to the appointment or exercise classes to improve muscle strength would be indirect costs. Costs of retraining or loss of earnings for a person who needs to change or give up their job due to OA are also indirect costs. These costs would vary greatly from person to person. One study estimated that the indirect financial costs of osteoarthritis in 2007 were more than \$7 billion (Access Economics 2007).

Direct health expenditure on OA in Australia was almost \$1.2 billion in 2000–01. This was about 2.3% of the country's total allocated health expenditure for that financial year. The largest amount of money was spent on hospital services (\$567 million), followed by high-level residential aged-care services (\$266 million) and medications (\$148 million) (Figure 11). A recent study estimated that population growth and inflation would have increased direct health expenditure on OA to \$2.3 billion in 2007 (Access Economics 2007).



Note: Percentages based on total osteoarthritis expenditure of \$1,183 million.

Source: AIHW Disease Expenditure Database (AIHW: Penm et al. 2006).

Figure 11: Components of direct health expenditure for osteoarthritis, 2000–01

Joint replacement surgery is a major component of the hospital costs for OA. The Australian Government Department of Health and Ageing estimates that a single total hip replacement procedure (without complications) in a public hospital costs around \$14,000 on average. In recent years, increases in the number of Australians with OA and wider availability of joint replacement surgery has led to increased government, industry and personal spending on hospital services for the condition.

Preventing OA

OA is no longer thought of as an inevitable result of ageing. Several actions can be taken to help prevent or delay its onset, such as:

- exercise
- a healthy diet
- avoiding joint injury and repetitive movements
- addressing joint misalignment.

A healthy lifestyle including a healthy diet and regular exercise is the best preventive approach. Maintaining optimal weight minimises any strain on the joints of the knees, hips and spine.

Exercise not only helps to prevent obesity but also maintains the strength of the muscles that support the joints. Low-impact exercise that involves a low risk of joint injury, such as walking or swimming, is preferred. Sports injuries can also be avoided by using proper equipment and protective gear, varying activities and resting when something hurts, and by rehabilitating weakened muscles before returning to full activity. It is also important to seek out appropriate treatment for any injuries so they heal properly.

To prevent repetitive kneeling, squatting and heavy lifting in the workplace, precautions can be taken such as varying tasks and using appropriate occupational health and safety techniques. People with joint misalignment may reduce their risk of developing OA by wearing appropriate footwear, strapping or wedges.

Where to get more information

More information about preventing and managing OA can be obtained from:

- your general practitioner or Aboriginal and Torres Strait Islander health worker
- your local community health centre or Aboriginal Medical Service
- Arthritis Australia
 - <www.arthritisaustralia.com.au>
 - freecall 1800 011 041, or
 - visit your local state or territory Arthritis office.

Arthritis ACT

27 Mulley St
Holder ACT 2611

Arthritis NT

6 Caryota St
Coconut Grove NT 0810

Arthritis South Australia

1/202 Glen Osmond Rd
Fullarton SA 5063

Arthritis Victoria

263–265 Kooyong Rd
Elsternwick VIC 3185

Arthritis Queensland

Cartwright St (Cnr Lutwyche Rd)
Windsor QLD 4030

Arthritis NSW

13 Harold St
North Parramatta NSW 2151

Arthritis Tasmania

127 Argyle St
Hobart TAS 7000

Arthritis Western Australia

17 Lemnos St
Shenton Park WA 6008

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