

Osteoarthritis

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Citation

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Osteoarthritis is a chronic and progressive condition that mostly affects the hands, spine and joints such as hips, knees and ankles. It is the most common form of arthritis and the predominant condition leading to knee and hip replacement surgery in Australia.

Cat. no: PHE 232

Findings from this report:

- 3 in 5 people who have osteoarthritis are female
 - There was a 38% rise in the rate of total knee replacements for osteoarthritis from 2005–06 to 2016–17
 - 1 in 11 Australians (9.3%) have osteoarthritis, approximately 2.2 million people in 2017–18
 - 1 in 10 people with osteoarthritis 45 & over self-reported poor health, twice as much as people without the condition
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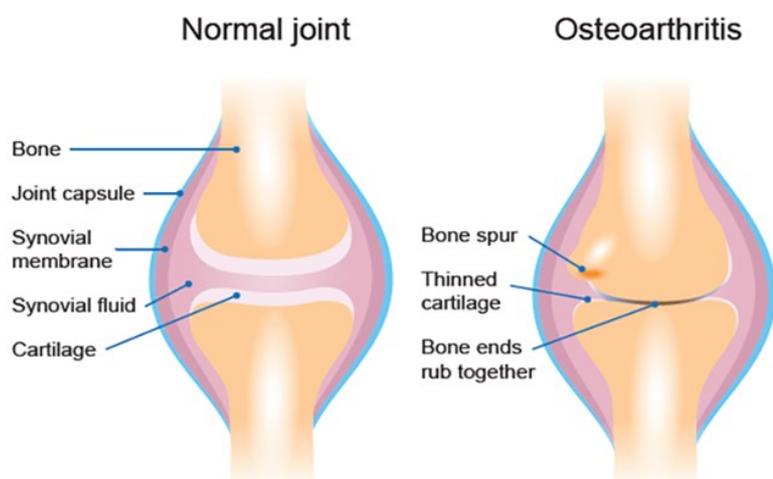
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What is osteoarthritis?

Osteoarthritis is a chronic condition characterised by the breakdown of the cartilage that overlies the ends of bones in joints. This results in the bones rubbing together, causing pain, swelling and loss of motion (Figure 1). Osteoarthritis mostly affects the hands, spine and joints such as hips, knees and ankles, and usually gets worse over time.

Figure 1: Comparison of healthy joint and joint with osteoarthritis



Source: AIHW 2015. Musculoskeletal fact sheet: Osteoarthritis. Arthritis series no. 22. Cat. no. PHE 186. Canberra: AIHW.

As osteoarthritis progresses it can become difficult to perform everyday tasks. At first pain is felt during and after activity, but as the condition worsens pain may be felt during minor movements or even at rest. Affected joints may also become swollen and tender which can affect fine motor skills.

Osteoarthritis has no specific cause, however several factors contribute to the onset and progression [1, 2, 3], including:

- being female
- genetic factors
- excess weight
- joint misalignment
- joint injury or trauma (such as dislocation or fracture)
- repetitive joint-loading tasks (for example, kneeling, squatting and heavy lifting).

How common is osteoarthritis?

Osteoarthritis is the most common form of arthritis in Australia. An estimated 2.2 million (9.3%) Australians have this condition, according to the Australian Bureau of Statistics (ABS) 2017–18 [National Health Survey \(NHS\)](#). Osteoarthritis represented over half (62%) of all arthritic conditions in 2017–18 [4].

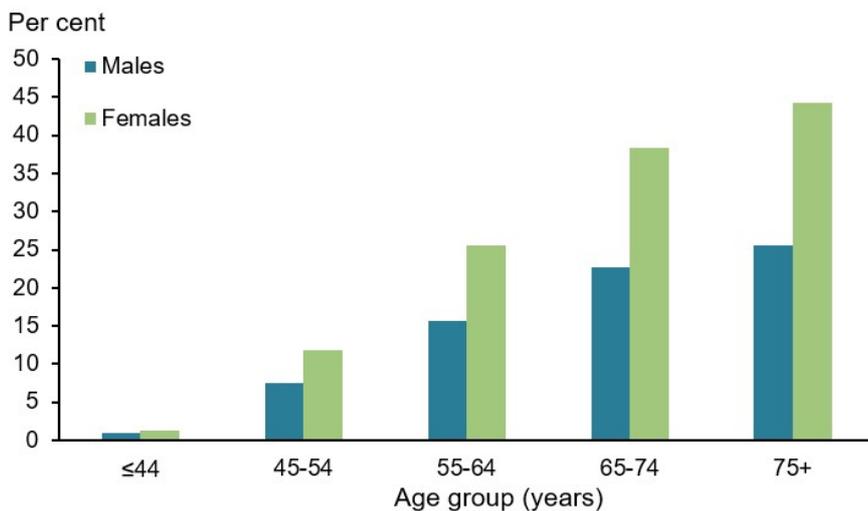
1 in 11

Australians (9%) have osteoarthritis

Although osteoarthritis affects people of all ages, the prevalence increases sharply from the age of 45 years. 1 in 5 Australians (21%) over the age of 45 have osteoarthritis. It is most common in adults aged 75 and over, with just over one-third (36%) of people in this age group experiencing the condition (Figure 2).

Osteoarthritis is also more common among females than males, affecting 10% of females compared with 6.1% of males (after adjusting for age).

Figure 2: Prevalence of self-reported osteoarthritis, by age and sex, 2017–18



Note: refers to people who self-reported that they were diagnosed by a doctor or nurse as having osteoarthritis (current and long term) and also people who self-reported having osteoarthritis.

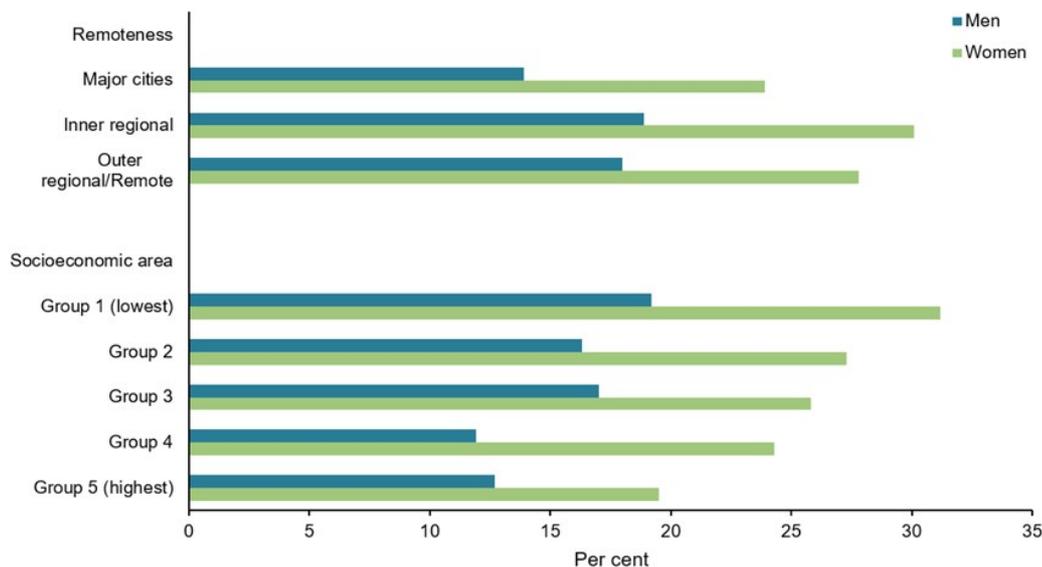
Source: AIHW analysis of ABS 2019 [4] (Data table).

Inequalities

For people aged 45 and over the prevalence of osteoarthritis was slightly lower in Major cities (19%), compared with Inner regional and Outer regional/Remote areas (25% and 23%, respectively).

The prevalence of osteoarthritis was higher for people living in the lowest socioeconomic areas (26%) compared with people in the highest socioeconomic areas (16%). Women had higher rates of osteoarthritis compared with men for all regions and socioeconomic areas (Figure 3).

Figure 3: Osteoarthritis prevalence, by remoteness and socioeconomic area, people aged 45 and over 2017–18



Note: Age-standardised to the 2001 Australian population.

Source: AIHW analysis of ABS 2019 [4] (Data table).

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Impact of osteoarthritis

Osteoarthritis can have a profound impact on every aspect of a person's life. Ongoing pain, physical limitations and depression can affect an individual's ability to engage in social, community and occupational activities [1]. In Australia, osteoarthritis accounted for 19% of the total burden of disease due to musculoskeletal conditions in 2015 [2].

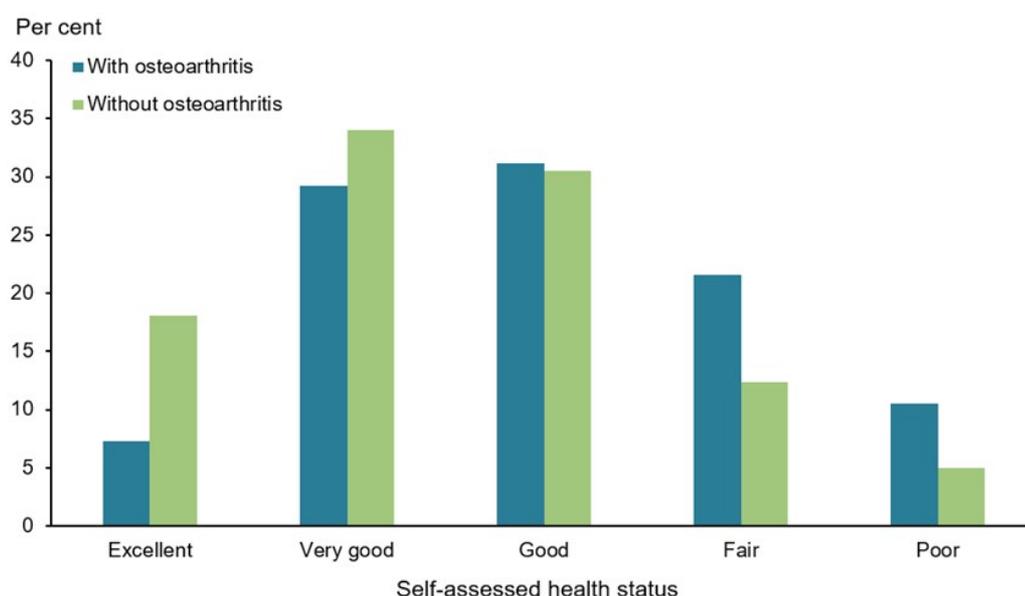
Perceived health status

2.1 x as likely

to have poor health among those with osteoarthritis compared with those without osteoarthritis

According to the ABS 2017–18 National Health Survey, people aged 45 and over with osteoarthritis are less likely to perceive their health as excellent or very good compared with people without osteoarthritis. People with osteoarthritis were 2.1 times as likely to describe their health as poor (11%) compared with those without osteoarthritis (5.0%) (Figure 1).

Figure 1: Self-assessed health of people aged 45 and over with and without osteoarthritis, 2017–18



Note: Age-standardised to the 2001 Australian population.

Source: AIHW analysis of ABS 2019 [3] (Data table).

Pain

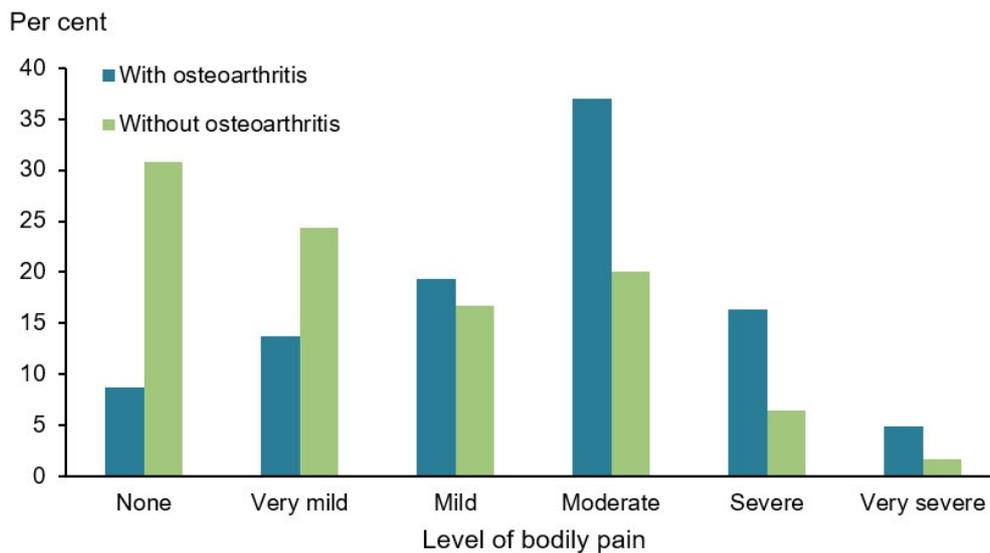
Over 1 in 2

Australians with osteoarthritis have moderate to very severe pain

Osteoarthritis can have a profound impact on a person's physical health, as joint pain and physical limitations are major symptoms of osteoarthritis. Older people with osteoarthritis can also be more prone to falls compared with those without osteoarthritis. This increased risk is due to a number of factors caused by osteoarthritis, such as decreased physical activity, joint instability, medication use and pain [4, 5].

In 2017–18, over half of people (58%) with osteoarthritis experienced 'moderate' to 'very severe' pain in the last 4 weeks. People with osteoarthritis were also 2.9 times as likely to have 'very severe pain' (4.9%) compared with those without the condition (1.7%) (Figure 2). In addition, almost half (48%) of people with osteoarthritis described their pain as having a 'moderate' to 'extreme' interference with their normal work during the last 4 weeks, compared with 22% in people without osteoarthritis (Table 2.5) [3].

Figure 2: Pain(a) experienced by people aged 45 and over with and without osteoarthritis, 2017–18



a. Bodily pain experienced in the 4 weeks prior to interview.

Note: Age-standardised to the 2001 Australian population

Source: AIHW analysis of ABS 2019 [3] (Data table).

Psychological distress

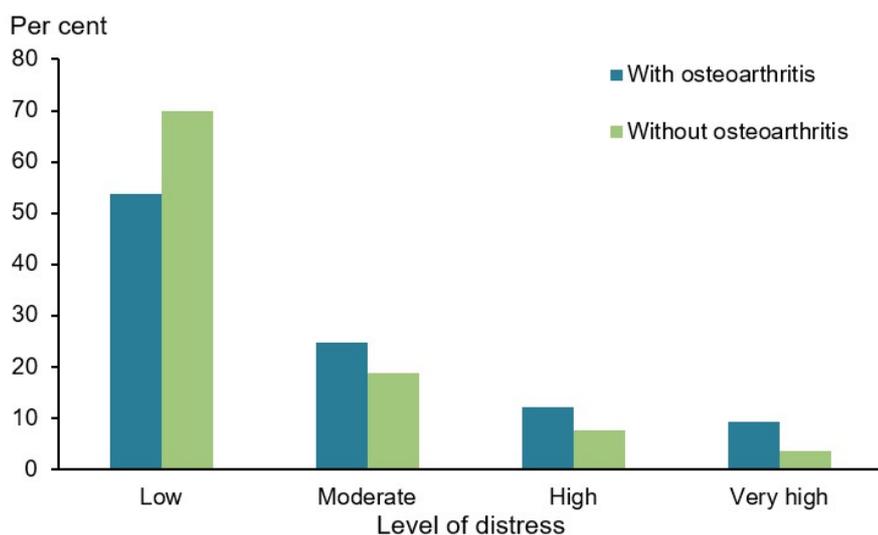
1 in 5

Australians with osteoarthritis have high or very high psychological distress

People with osteoarthritis commonly experience anxiety, depression and other mental health issues. Pain, physical limitations, poor treatment outcomes and increased pharmacotherapy can impact on a person's mental health and consequently, their quality of life [6].

According to the NHS 2017–18, 1 in 5 (21%) Australian adults with osteoarthritis experienced high or very high levels of distress. This was 2 times as likely as those without the condition (11%) (Figure 3).

Figure 3: Psychological distress(a) experienced by people aged 45 and over with and without osteoarthritis, 2017–18



a. Psychological distress is measured using the Kessler Psychological Distress Scale (K10), which involves 10 questions about negative emotional states experienced in the previous 4 weeks. The scores are grouped into Low: K10 score 10–15, Moderate: 16–21, High: 22–29, Very high: 30–50.

Note: Age-standardised to the 2001 Australian population.

Source: AIHW analysis of ABS 2019 [3] (Data table).

Economic impact

In 2015–16, osteoarthritis cost the Australian health system an estimated \$3.5 billion, representing 28% of disease expenditure on Musculoskeletal conditions and 3% of total disease expenditure [7].

Comorbidities of osteoarthritis

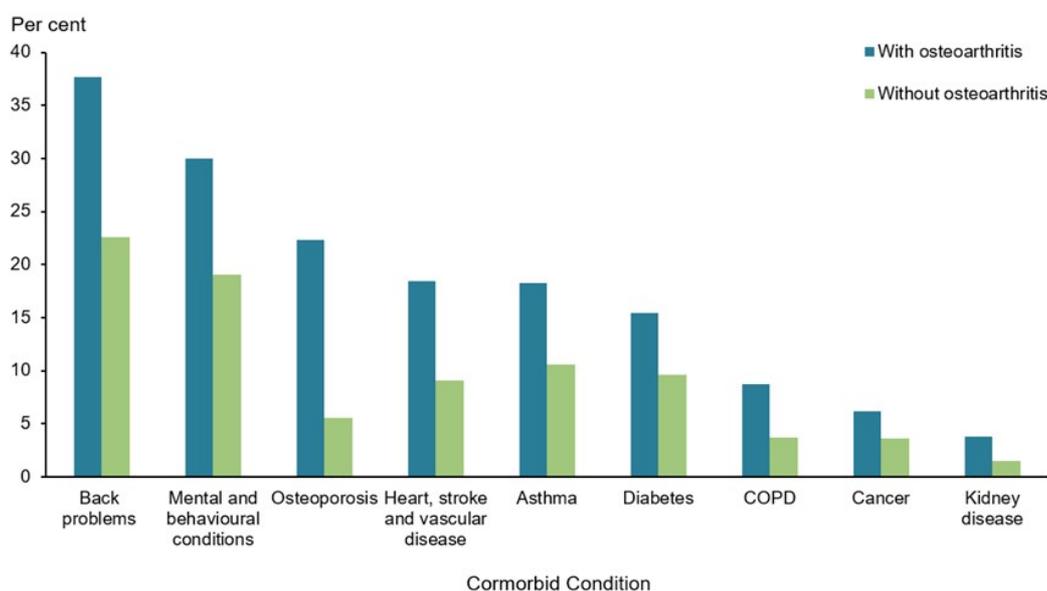
People with osteoarthritis often have other chronic conditions. Comorbidity is the term used when two or more health conditions occur at the same time. According to the ABS National Health Survey 2017–18, among people aged 45 and over with osteoarthritis:

- 38% also had back problems compared with 23% of people without osteoarthritis
- 30% also had mental and behavioural conditions compared with 19% of people without osteoarthritis
- 22% also had osteoporosis compared with 6% of people without osteoarthritis (Figure 4).

For this analysis, the selected comorbidities are heart, stroke and vascular disease, back problems, mental and behavioural conditions, asthma, diabetes, COPD, osteoporosis, kidney disease and cancer.

Most chronic conditions are more common in older age groups. The average age of people with osteoarthritis is older than the average age of the general population, so people with osteoarthritis are more likely to have age-related comorbidities. After adjusting for differences in the age structure of people with and without osteoarthritis, the rates of heart, stroke and vascular disease, back problems, mental and behavioural conditions, asthma, COPD, osteoporosis, kidney disease, and diabetes remained significantly higher for people with osteoarthritis compared with those without. There was no significant difference for cancer. It is important to note that regardless of the differences in age structures, having multiple chronic health problems is often associated with worse health outcomes [8], in addition to a poorer quality of life [9] and more complex clinical management and increased health costs.

Figure 4: Prevalence of other chronic conditions in people aged 45 and over with and without osteoarthritis, 2017–18



Note: proportions do not total 100% as one person may have more than one additional diagnosis.

Source: AIHW analysis of ABS 2019 [3] ([Data table](#)).

Data notes

The comorbidity data presented here are based on self-reported data from the Australian Bureau of Statistics National Health Survey (NHS). When interpreting self-reported data, it is important to recognise that because we rely on respondents providing accurate information, the outputs may not always be a true reflection of the situation.

In the 2017–18 NHS, the number and proportion of persons with long-term health conditions is presented as those who have ‘a current medical condition which has lasted, or is expected to last, for 6 months or more, unless otherwise stated’ [10]. For the conditions osteoarthritis, asthma, cancer, heart, stroke and vascular disease (HSVD), diabetes, kidney disease and mental and behavioural conditions, the estimates are based on: persons who reported having been told by a doctor or nurse that they had the condition/s and whether they reported that their condition was current and long-term; that is, their condition was current at the time of interview and had lasted, or was expected to last, 6 months or more.

For HSVD and diabetes, estimates also included persons who reported they had had the conditions, but that these conditions were not current and long-term at the time of interview.

The conditions data collected for back problems and COPD are ‘as reported’ by respondents and do not necessarily represent conditions as medically diagnosed. However, as the data relate to conditions which had lasted, or were expected to last, for six months or more, there is considered to be a reasonable likelihood that medical diagnoses would have been made in most cases. The degree to which conditions have been medically diagnosed is likely to differ across condition types. See the National Health Survey: Users’ Guide, 2017–18 [11] for more information.

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Treatment & management

At present, there is no cure for osteoarthritis and the disease is long-term and progressive. Treatment for osteoarthritis aims to manage symptoms, increase mobility and maximise quality of life.

Treatment of osteoarthritis consists of:

- physical activity
- weight management
- medication
- joint replacement surgery.

Physical activity

Exercise is an important and effective component in both management and prevention of osteoarthritis. Exercise helps improve symptoms (especially pain and joint stiffness) and quality of life by increasing range of motion (the ability to move joints through their full motion), strengthening muscles around affected joints, assists in weight control and reduces risk of other chronic diseases (e.g. diabetes and cardiovascular disease). Exercise may also have psychological and social benefits [1].

The American College of Rheumatology guidelines strongly recommend people with osteoarthritis to participate in cardiovascular (aerobic) and/or resistance land-based and aquatic exercises [2].

A GP or Exercise Physiologist should be consulted before undertaking an exercise program.

Weight management

Being overweight increases the risk of developing osteoarthritis, due to the increased load on weight bearing joints and increased stress on cartilage. For people with existing osteoarthritis and who are overweight, weight loss can help decrease pain, prevent further joint damage and increase mobility [1].

A GP or Dietitian can be consulted to discuss weight loss/management strategies.

Medications

Treatment of osteoarthritis with medication aims to relieve pain, reduce inflammation and improve functioning and quality of life. Analgesics, or painkillers, are commonly used to manage the pain of osteoarthritis.

In Australia, the clinical practice guidelines for management of osteoarthritis recommend non-pharmacological interventions be tried before, or in combination with, medications. Oral non-steroidal anti-inflammatory drugs (NSAIDs), taken at low doses for short periods, are recommended for some people with hip and/or knee osteoarthritis. Paracetamol may be trialled for short periods, and ceased if ineffective. Intra-articular corticosteroid injections or duloxetine may be appropriate for rapid pain relief or if pain is persistent

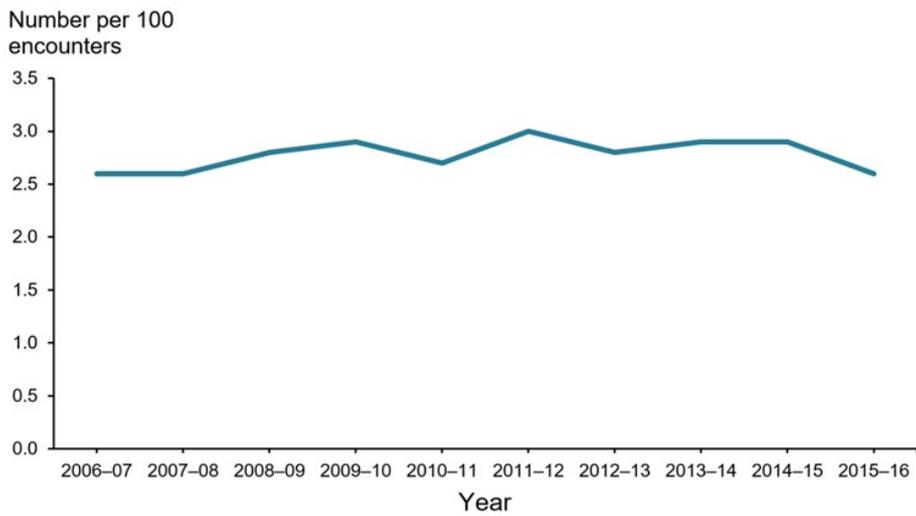
General practitioners and osteoarthritis treatment

General practitioners (GPs) are usually the first point of contact with the health care system for people with osteoarthritis [3] and they often play a coordinating role for the multidisciplinary management of osteoarthritis [1]. GP management of osteoarthritis includes assessment and diagnosis, referral to other health services, prescribing medication and providing education about the condition.

Osteoarthritis is among the most commonly managed conditions in general practice. About 2.6 of every 100 encounters were for osteoarthritis in 2015–16 [4]. This has not changed significantly since 2006–07 (Figure 1).

There is currently no nationally consistent primary health care data collection monitoring provision of care by GPs. Note that statistics on general practice activities based on Bettering the Evaluation and Care of Health (BEACH) data are derived from a sample survey of GPs and their encounters with patients, and need to be interpreted with some caution.

Figure 1: Rate of osteoarthritis managed by GPs, 2006–07 to 2015–16



Source: Britt et al. 2016 [4] (Data table).

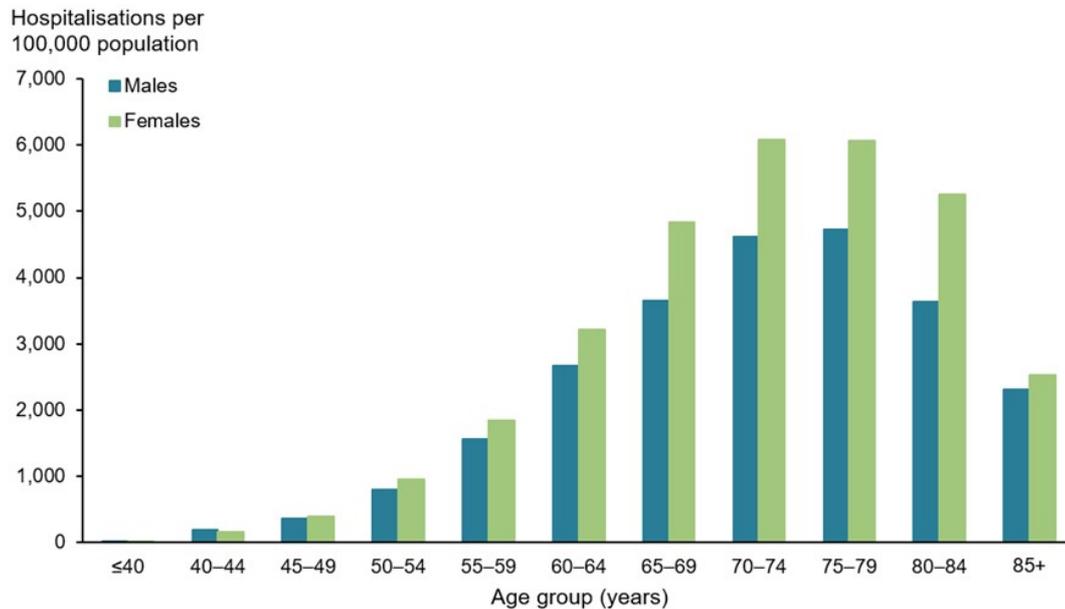
Hospitalisation and the treatment of osteoarthritis

A variety of procedures are performed in hospitals to restore joint function, help relieve pain and improve quality of life for someone with osteoarthritis [5].

Based on the AIHW National Hospital Morbidity Database (NHMD), in 2016-17:

- there were 259,110 hospitalisations with a principal diagnosis of osteoarthritis, a rate of 1,063 hospitalisations per 100,000 population
- more than half (58%) of osteoarthritis hospitalisations were for females
- the hospitalisation rate was lowest among those aged 40 and under, steadily increased until the age of 75-79, and then decreased again among people aged 80 and over (Figure 2).

Figure 2: Rate of hospitalisation for osteoarthritis by sex and age, 2016-17

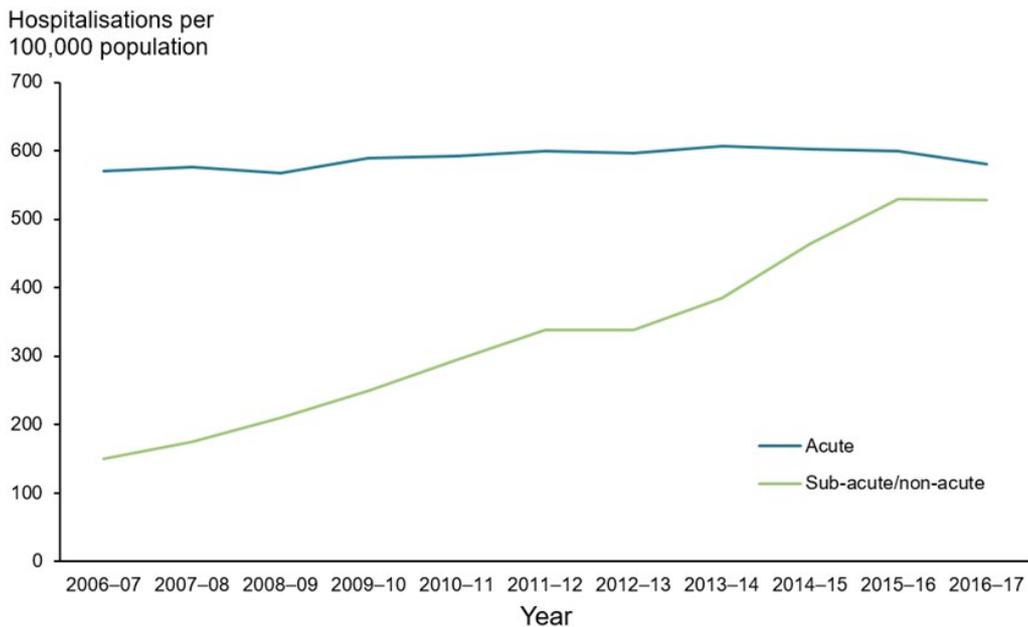


Source: AIHW National Hospital Morbidity Database (Data table).

Between 2006-07 and 2016-17, the age-standardised acute care hospitalisation rate for osteoarthritis remained stable (Figure 3). Over the same period, the hospitalisation rate for sub-acute and non-acute care for osteoarthritis increased by 2.5 times.

In 2016-17, osteoarthritis was the most common reason for rehabilitation care with arthrosis of knee accounting for 22% and arthrosis of hip accounting for 9.0% of all rehabilitation hospitalisations [6]. The primary purpose of rehabilitation care is to improve functioning of a patient with an impairment, activity limitation, or participation restriction due to a health condition.

Figure 3: Age-standardised rate of hospitalisations for osteoarthritis (any diagnosis), by care type, 2006-07 to 2016-17



Note: Age-standardised to the 2001 Australian population.

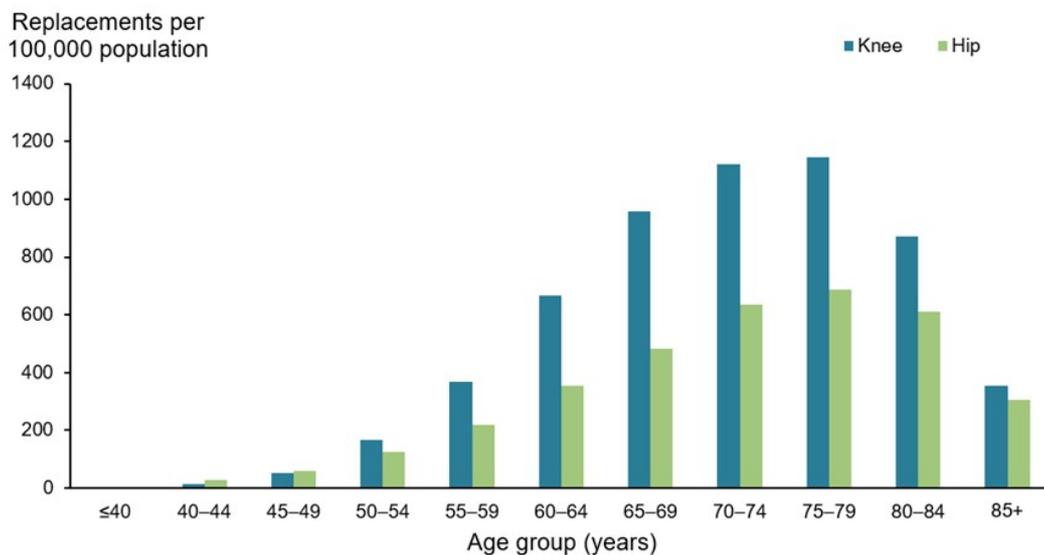
Source: AIHW National Hospital Morbidity Database ([Data table](#)).

Joint replacement surgery

Osteoarthritis is also the most common condition leading to hip and knee replacement surgery in Australia [5]. Clinical guidelines in Australia recommend joint replacement surgery as a cost effective intervention for people with severe osteoarthritis who are unresponsive to medication and exercise [7]. These procedures restore joint function, help relieve pain and improve quality of life of the affected person.

In 2016-17, 53,148 knee replacements (218 per 100,000 population) and 32,156 hip replacements (132 per 100,000 population) were performed in hospitalisations with a principal diagnosis of osteoarthritis. The rate of knee or hip replacements was lowest in people aged under 40, increased with age to 75-79, and then decreased among those aged 80 and over (Figure 4).

Figure 4: Rate of total knee and hip replacements for osteoarthritis, by age, 2016-17



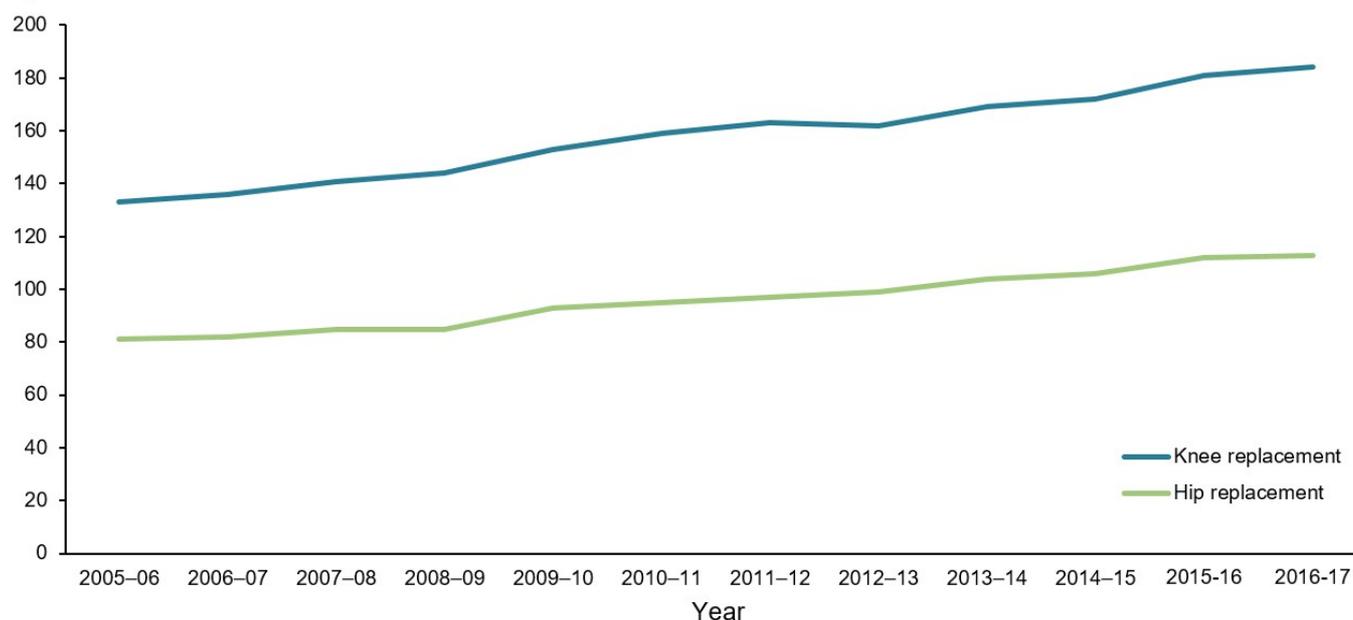
Source: AIHW National Hospital Morbidity Database ([Data table](#)).

Between 2005-06 and 2016-17, the age-standardised rate of joint replacement surgery in hospitalisations where osteoarthritis was the principal diagnosis steadily increased, by:

- 38% for total knee replacement (from 133 to 184 per 100,000 population)
- 40% for total hip replacement (from 81 to 113 per 100,000 population) (Figure 5).

Figure 5: Trends in total knee and hip replacements for osteoarthritis, 2005-06 to 2016-17

Age-standardised rate



Note: Age-standardised to the 2001 Australian population.

Source: AIHW National Hospital Morbidity Database ([Data table](#)).

Joint replacements may require correction (revision surgery) over time. Based on data from the Australian Orthopaedic Association National Joint Replacement Registry [5], there were 4,364 revision surgeries for knee replacements and 4,276 revision surgeries for hip replacements reported in 2016–17.

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Data

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