



World Arthritis Day

17 September 2024

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This document has been prepared by Cochrane Cameroon to **provide healthcare professionals** with evidence-based data on interventions for the management of osteoarthritis. Enjoy your reading!

EDITORIAL

Every 17 September, World Arthritis Day is celebrated, providing an opportunity to discuss this degenerative joint disease that affects more than 500 million people worldwide, including more than 10 million people in France.

Osteoarthritis is one of the main causes of chronic suffering and disability worldwide, affecting millions of people. Osteoarthritis affects the entire joint and the tissues surrounding it. The areas most frequently affected are the knees, hips, spine and hands and a number of factors can contribute to the onset of osteoarthritis, such as a history of joint injuries or overuse of the joints, older age and being overweight. It affects women more than men.

Symptoms can be reduced by exercising and eating a balanced diet to strengthen muscles and maintain a healthy weight.

The WHO highlights the importance of osteoarthritis as a major public health problem, as it reduces the quality of life of those affected and places a significant economic burden on healthcare systems (WHO, 2024).

- In 2019, around 528 million people worldwide were living with osteoarthritis, a 113% increase since 1990.
- Around 73% of people with osteoarthritis are aged over 55, and 60% are women.
- With 365 million people affected, the knee is the joint most frequently affected, followed by the hand and hip.
- Of those with osteoarthritis, 344 million have levels of severity (moderate or severe) for which rehabilitation would be beneficial.
- The prevalence of osteoarthritis is expected to keep increasing worldwide due to the ageing of the population and rising rates of obesity and physical injury.
- Osteoarthritis is not an avoidable consequence of ageing.

Why was this summary produced?

To provide up-to-date evidence on the prevention and treatment of osteoarthritis.

What is a systematic review?

A summary of studies that answers a clearly formulated question and uses systematic and explicit methods to identify, select and critically appraise relevant studies. Data from different studies are extracted and can be analysed together using meta-analysis techniques.

THE CASE OF OSTEOARTHRITIS IN CAMEROON

Osteoarthritis is a joint disorder that is affecting more and more people in Cameroon, particularly the elderly. This trend is fuelled by longer life expectancy and an ageing population. According to specialists at the *Société Camerounaise de Rhumatologie* (SCR), more than 20% of people over the age of 50 suffer from osteoarthritis, with a higher prevalence among women.

The treatment of osteoarthritis in Cameroon presents a number of obstacles. The high cost of drugs and orthopaedic care means that access to quality treatment is still limited for a large proportion of the population. In addition, traditional medicine is still widely used, despite the risks of worsening symptoms.

One of the major challenges is limited access to specialist care. Despite the presence of rheumatology departments in urban health centres such as the Yaounde Central Hospital and other tertiary care facilities, they are often overcrowded and patients in rural areas are often denied access to specialist care. However, local initiatives are being taken in order to raise awareness of the disease and promote early treatment.

Osteoarthritis is a growing public health issue in Cameroon, but efforts to care for patients are limited due to unequal access to care and reliance on traditional medicine.

SUMMARIES OF SYSTEMATIC REVIEWS

I. Antidepressants for osteoarthritis

Background

Osteoarthritis is a disease of the joints characterised by reduced cartilage and narrowing of the space between the joints. It may result in pain, deformity and disability.

Antidepressant medicines are thought to affect pain by modulating nerve pathways in the central nervous system.

We aimed to evaluate the clinical benefits and harms of antidepressants for knee and hip osteoarthritis pain.

Study characteristics

This review is current to January 2021. We included nine clinical trials with 2122 participants comparing antidepressants to placebo (a dummy treatment) and non-steroidal anti-inflammatory medicines (which are widely used to relieve pain and reduce inflammation). More participants were female (70%) and the average age was 54.4 to 65.9 years. Seven trials examined only knee osteoarthritis. Two also included people with hip osteoarthritis. All trials compared antidepressants to placebo, with or without non-steroidal anti-inflammatory medicines.

Key results

Compared with a placebo, antidepressants resulted in a small benefit.

Pain

Pain reduced by 0.59 points more on a 0- to 10-point scale with antidepressants compared to placebo.

- The placebo group had a pain reduction of 1.73 points.
- The antidepressant group had a pain reduction of 2.32 points.

Response

A clinical response is considered a 50% or greater reduction in pain. About 16% more people taking an antidepressant had a reduction compared to placebo (that is, one in six people).

- 28.65% of people taking placebo had a clinical response.
- 45.2% of people taking antidepressants had a clinical response.

Function

Physical function is measured using walking, stair climbing and domestic duties. It improved 6% more with antidepressants compared to placebo. With antidepressants, the function score reduced by 5.65 on a 0- to 100-point scale (lower score = better function), compared to placebo. This is a small improvement.

- The placebo group had an improvement in function of 10.51 points.
- The antidepressant group had an improvement in function of 16.16 points.

Quality of life

Quality of life improved by 4% more with antidepressants compared to placebo. This was 0.04 points higher on a -0.11 to 1 scale in people taking antidepressants compared to placebo (higher score = better quality of life).

- In the placebo group, quality of life improved by 0.07 points.
- In the antidepressant group, quality of life improved by 0.11 points.

Withdrawals due to side effects

The risk of stopping treatment was 2.15 more in the antidepressant group compared to placebo. This means that 1 in 17 people stopped taking the antidepressant because of side effects.

- 5.1% of the placebo group withdrew because of side effects.
- 10.9% of the antidepressant group withdrew because of side effects.

Total side effects

The risk of having any side effects was 1.27 more in the antidepressant group compared to the placebo group. About 14.8% more people reported a side effect in the antidepressant group. This is equivalent to 1 in every 7 people having a side effect.

- 49.3% of the placebo group had a side effect.
- 64.1% of the antidepressant group had a side effect.

Serious side effects

There was no difference in serious side effects between groups.

- 1.7% of the placebo group had serious side effects.
- 1.6% of the antidepressant group had serious side effects.

Quality of the evidence

In people with osteoarthritis, high-quality evidence shows that antidepressants have a small positive effect on pain and function and that one in six people have a clinically important response of a 50% or greater reduction in their pain. High-quality evidence also demonstrates that people taking antidepressants have a higher frequency of side effects than those taking placebo.

Moderate-quality evidence shows very small, probably unimportant, improvements in quality of life for people taking antidepressants compared to placebo. People receiving antidepressants are more likely to stop them because of side effects than placebo.

Low-quality evidence shows little difference in serious side effects between antidepressants and placebo.

Citation: Leaney AA, Lyttle JR, Segan J, Urquhart DM, Cicuttini FM, Chou L, Wluka AE. Antidepressants for hip and knee osteoarthritis. Cochrane Database of Systematic Reviews 2022, Issue 10. Art. No.: CD012157. DOI: 10.1002/14651858.CD012157.pub2.

2. Additional therapies used with exercise therapy for hip or knee osteoarthritis

What was the aim of this review?

Osteoarthritis, a chronic degenerative condition that commonly affects hip and knee joints, causes pain and difficulty with everyday activities such as walking. Land-based exercise therapy refers to exercise conducted on land (as opposed to exercise in the water) and is a first-line treatment. This review aimed to find out if adding additional therapies to land-based exercise therapy improved pain, function, quality of life, participant-reported overall change or X-ray changes in people with hip or knee

osteoarthritis. Additional therapies include manual (hands-on) therapy, psychological or dietary therapies, electrophysical agents (such as heat, cold, nerve stimulation, ultrasound or laser therapy) or acupuncture. We included studies comparing additional therapies plus land-based exercise therapy to either 1) sham (or dummy) therapy plus land-based exercise therapy or 2) land-based exercise therapy only.

Search date

This systematic review is up-to-date to 10 June 2021.

What did we find?

We found 62 randomised controlled trials with 6508 participants, mostly women, from 24 countries. The average age was between 52 and 83 years, with symptoms present from 9 months to 12 years. Sixty studies enrolled people with knee osteoarthritis, one enrolled people with hip osteoarthritis and one enrolled people with knee or hip osteoarthritis. Twenty-two trials compared additional therapies plus exercise therapy to sham additional therapies plus exercise therapy, and 41 compared to exercise therapy. Thirty-eight trials studied electrophysical agents, seven studied manual therapies, four studied acupuncture/dry needling or use of tape, three studied psychological or dietary interventions, whole body vibration (this involves standing on a vibration platform), or spa/mud therapy, and one studied foot orthotics (shoe insoles).

Funding source

Thirty-eight studies were funded, four received no funding and funding support was not reported in 20.

Main results

Eleven trials (18%) measured adverse (unwanted harmful) events, which included both non-serious and serious adverse events. The most common were increased pain, stiffness or swelling. There was no difference in adverse events between additional therapies used with exercise and sham therapies with exercise.

Additional therapies plus exercise therapy compared with sham additional therapies plus exercise therapy (22 studies)

Compared with sham additional therapies used with land-based exercise therapy, additional therapies such as electrophysical agents, acupuncture, dry needling or taping, used with exercise therapy, may not be more effective in improving pain, physical function or quality of life up to six months after treatment.

Pain (lower scores mean less pain)

Improved by 10% or 0.77 points on a zero to 10-point scale.

Physical function scores (lower scores mean better physical function)

Improved by 12% or 5.03 points on a zero to 68-point scale.

Quality of life (higher scores mean better quality of life)

Worse by 1% or 0.75 points worse on a zero to 100-point scale.

Adverse events

Although not commonly reported in studies, there was no difference in adverse events between additional therapies used with exercise and sham therapies with exercise.

Additional therapies plus exercise therapy compared with exercise therapy (41 studies)

Compared with land-based exercise therapy, additional therapies (manual therapies, electrotherapy, dietary interventions, psychological therapies, whole body vibration, acupuncture, dry needling, taping, spa/mud therapy or foot orthotics) plus exercise therapy, may not be more effective in improving pain, physical function, quality of life or joint changes measured with X-rays up to six months after treatment.

Pain (lower scores mean less pain)

Improved by 7% or 0.41 points on a zero to 10-point scale.

Physical function scores (lower scores mean better physical function)

Improved by 9% or 2.83 points on a zero to 68-point scale.

Quality of life (higher scores mean better quality of life)

Worse by 2%, or 1.04 points worse on a zero to 100-point scale.

Patient-reported overall change

17% more people rated their treatment a success.

X-ray changes

Improved by 12% (based on one study)

Adverse effects

Although not commonly reported in studies, risks appear no greater for additional therapies used with exercise compared to exercise only.

Fewer studies assessed outcomes six or 12 months after treatment. Additional therapies plus land-based exercise therapy may be no better in reducing pain or improving physical function or quality of life than exercise therapy at 6 or 12 months. In patient-reported overall assessment, 31% reported improvement at 6 months, and 42% reported improvement at 12 months.

Conclusions and certainty of evidence

Additional therapies plus exercise therapy do not appear to offer meaningful improvements in pain, function, quality of life or overall change for people with hip or knee osteoarthritis compared with sham additional therapies plus land-based exercise therapy; or in pain, function, quality of life or changes on X-rays when compared with exercise therapy only. Compared with exercise therapy there is probably a clinical benefit in patient-reported overall change for additional therapies plus exercise therapy, based on a small number of studies. Our confidence in the evidence varies between moderate to little or no confidence for different outcomes. Although results indicate no increased adverse events from additional therapies used with exercise therapy, this was poorly reported. Most studies evaluated short-term effects, with limited medium- or long-term evaluation.

Citation: French HP, Abbott JH, Galvin R. Adjunctive therapies in addition to land-based exercise therapy for osteoarthritis of the hip or knee. Cochrane Database of Systematic Reviews 2022, Issue 10. Art. No.: CD011915. DOI: 10.1002/14651858.CD011915.pub2.

3. Shoulder replacement surgery for osteoarthritis and arthritis associated with torn rotator cuff tendons

Background

Osteoarthritis is a condition of the joints. Over time, the cartilage becomes thinner and exposed bone surfaces rub against each other, causing pain and loss of movement. People with torn shoulder tendons can develop a specific type of arthritis, called rotator cuff tear arthropathy. People usually need pain relief medicines and may be offered non-surgical treatments initially, including physiotherapy and injections. Some people with ongoing symptoms from advanced arthritis are offered shoulder replacement surgery. In 'humeral hemiarthroplasty', just the head (ball part) of the humerus is replaced with an artificial one and continues to articulate in the socket. In 'total shoulder replacement', the socket is also replaced with an artificial one. In 'reverse total shoulder replacement', the replacement is intentionally done back-to-front with an artificial ball fixed to the old socket and an artificial socket placed on top of the humerus. The type of replacement performed usually depends on the pattern of joint and tendon damage.

It is not clear when or whether shoulder replacement is the best treatment for people with osteoarthritis or rotator cuff tear arthropathy, or which type of replacement is best for different people. We searched for the best evidence from studies called randomised trials to try to answer these questions.

Study characteristics

This review is current to 31 January 2019 and includes only studies in which treatment was allocated randomly by type. All study participants had osteoarthritis or rotator cuff tear arthropathy of the shoulder and had tried non-surgical treatments already. The average age of study participants was between 63 and 81 years old. Slightly more than half of the participants were female. We found no studies comparing shoulder replacement surgery to any other type of treatment, including other types of non-replacement surgery, physiotherapy, or no treatment at all. We found five studies comparing one type of shoulder replacement to another type of shoulder replacement. We found 15 studies comparing one type of shoulder replacement technique to the same type, performed with a technical modification or a different prosthetic component. Eight out of 20 studies were funded by a shoulder replacement manufacturer. A further seven out of 20 studies were conducted by researchers who had other financial relationships with shoulder replacement manufacturers.

Key results

Three trials (126 participants) met our inclusion criteria for our main comparison of conventional stemmed total shoulder replacement (TSR) versus stemmed humeral hemiarthroplasty (HA) for treatment of osteoarthritis. TSR may result in less pain and better function compared to HA at two-year follow-up, but this may not be noticeable. We are very uncertain whether there are any differences in the frequency of adverse events and further operations.

TSR resulted in 15% less pain (1% less to 29% less).

- People who had HA rated their pain as 2.8 points (0 to 10 scale).

- People who had TSR rated their pain as 1.29 points.
TSR resulted in 11% better function (2% better to 19% better).
- People who had HA rated their function as 72.8 points (0 to 100 scale).
- People who had TSR rated their function as 83.4 points.
TSR resulted in similar quality of life to HA (5% lower to 7% higher, 5 points lower to 7 points higher (0 to 100 scale)).
- People who had HA rated their quality of life as 57.4 points.
- People who had TSR rated their quality of life as 58.4 points.
TSR resulted in a similar number of adverse events (25% fewer to 21% more) and a similar number of further operations on the same shoulder (8% fewer to 15% more) compared to HA.
- Following HA, 286 per 1000 people experienced an adverse event and 103 per 1000 required further operations.
- Following TSR, 143 per 1000 people experienced an adverse event and 77 per 1000 required further operations.

Quality of the evidence

For the main comparison, the quality of evidence for assessing pain, function, and quality of life was low. For assessment of adverse events and further operations, the quality of evidence was very low. Across the other 12 comparisons, the quality of evidence was also very low.

Citation: Craig RS, Goodier H, Singh JA, Hopewell S, Rees JL. Shoulder replacement surgery for osteoarthritis and rotator cuff tear arthropathy. *Cochrane Database of Systematic Reviews* 2020, Issue 4. Art. No.: CD012879. DOI: 10.1002/14651858.CD012879.pub2.

4. What are the most effective treatments for arthritis of the big toe, excluding surgery?

Key messages

- Compared with sham shoe inserts, arch-contouring foot inserts or shoe-stiffening inserts probably do not provide any clinically important benefits for pain, function, or quality of life. The risk of unwanted effects may be the same.
- Compared with a placebo injection, a single injection of hyaluronic acid probably does not provide any important benefits for pain or function. Quality of life may be the same and the risk of unwanted effects may be lower.
- We have no clear evidence of the benefits and harms of other treatments and more research is required to determine these.

What is arthritis of the big toe and how is it treated?

Arthritis means inflammation of the joints and is very common. Arthritis affecting the big toe causes pain, deformity and decreased range of movement. Common non-surgical treatments include cold and heat therapy, painkillers, steroids, modified footwear and shoe inserts.

What did we want to find out?

We wanted to find out if non-surgical treatments for arthritis of the big toe reduced peoples' pain and improved their function, quality of life and the structure of the big toe joint (based on X-rays). We also wanted to know if there were any unwanted effects.

What did we do?

We searched for studies that investigated any non-surgical treatment compared with placebo (dummy or sham) treatment or another non-surgical treatment in people with arthritis of the big toe.

We compared and summarised the results of the studies and rated our confidence in the evidence, based on factors such as study methods and sizes.

What did we find?

Six studies with 547 participants aged between 32 and 62 years. Four studies took place in Australia, one in Turkey, and one in the USA. Each study looked at different treatments:

- arch-contouring foot inserts versus sham inserts;
- shoe-stiffening inserts versus sham inserts;
- hyaluronic acid (substance occurring naturally in the body that helps to lubricate and cushion the joints) injection versus saline (placebo) injection;
- arch-contouring foot inserts versus rocker-sole footwear;
- peloid therapy (application of clay mud at 42°C) versus paraffin therapy;
- sesamoid mobilisation (moving the small bones in the foot), flexor hallucis longus (muscle connecting the calf muscle to the big toe) strengthening and gait training plus physical therapy versus physical therapy alone.

Key results

Arch-contouring foot inserts compared with sham inserts (1 study, 88

people) probably do not reduce pain, or improve function or quality of life. There may be a similar risk of unwanted effects. This study did not report X-ray results.

On a scale of 0 to 10, where 0 is no pain, people with arch-contouring foot inserts reported a pain reduction of 0.4 points

- people with arch-contouring foot inserts rated their pain as 3.5 points;
- people with sham inserts rated their pain as 3.9 points.

On a scale of 0 to 100, where 100 is best function, people with arch-contouring foot inserts reported a worsening in function by 7.8 points

- people with arch-contouring foot inserts rated their function as 65.5 points.
- people with sham inserts rated their function as 73.3 points.

On a scale of -0.04 to 1.00, where 1.00 is best quality of life, people with arch-contouring foot inserts reported no difference in quality of life

- people with arch-contouring foot inserts rated their quality of life as 0.81 points.
- people with sham inserts rated their quality of life as 0.81 points.

Unwanted effects (mostly foot pain) were reported by 6% fewer people with arch-contouring foot inserts

- 4/47 (9%) people with arch-contouring foot inserts reported an unwanted effect.
- 6/41 (15%) people with sham inserts reported an unwanted effect.

Withdrawals due to unwanted effects were reported by 2% more people with arch-contouring foot inserts

- 1/47 (2%) people with arch-contouring foot inserts withdrew due to unwanted effects.

- 0/41 (0%) people with sham inserts withdrew due to unwanted effects.

Shoe-stiffening inserts compared with sham inserts (1 study, 100

people) probably do not reduce pain, improve function or quality of life. There was probably a similar risk of unwanted effects.

Injection of hyaluronic acid compared with placebo injection (1 study, 151

people) probably do not reduce pain, or improve function, and may not improve the quality of life. There may be a lower risk of unwanted effects.

What are the limitations of the evidence?

For arthritis of the big toe, we are moderately confident that there are no benefits of arch-contouring foot inserts, shoe-stiffening inserts, or an injection of hyaluronic acid, but there are not enough studies to be certain.

How up to date is this evidence?

This updates our previous review, published in 2010. The evidence is up-to-date until 21 February 2023.

Citation: Munteanu SE, Buldt A, Lithgow MJ, Cotchett M, Landorf KB, Menz HB. Non-surgical interventions for treating osteoarthritis of the big toe joint. Cochrane Database of Systematic Reviews 2024, Issue 6. Art. No.: CD007809. DOI: 10.1002/14651858.CD007809.pub3.

5. Cold therapy following total knee replacement surgery **What are the benefits and risks of cold therapy after total knee replacement?**

Key messages

Compared to placebo, cold therapy may improve blood loss, pain, knee range of motion and short-term swelling after total knee replacement (TKR). We are less certain of its effect on blood transfusions, knee function, pain relief, length of hospital stay, quality of life or activity level. Though evidence was limited, there was little concern for serious adverse events with cold therapy.

What is osteoarthritis, and how is it treated?

Osteoarthritis is a degenerative disease of the joints, such as the knee. Osteoarthritis of the knee can cause pain, limit function and worsen quality of life. TKR can help this condition in the long term, but the effects of surgery during the recovery period (up to 6 months after surgery) can leave people weakened and impaired. Cold therapy (cryotherapy) involves the application of low temperatures to the skin surrounding an injury or surgical site. This can be done using bags of ice or specialised devices that deliver cooled water to the area.

What did we want to find out?

We wanted to find out if cryotherapy has effects on blood loss, pain and knee function within 48 hours after TKR.

What did we do?

We searched for studies that investigated cryotherapy compared with placebo in people after TKR. We compared and summarised the results of the studies and rated our confidence in the evidence, based on factors such as study methods and sizes.

What did we find?

We included 22 trials where people undergoing TKR received any form of cold therapy (with or without other treatments) and were compared with those not receiving any cold therapy. There were a total of 1839 people, aged between 64 and 74 years old. The outcomes of interest were in the acute phase (within 48 hours of surgery), but some studies included up to 12 weeks of follow-up.

Main results

Blood loss

Blood loss was 264 mL less with cryotherapy at up to 13 days after surgery.

- People lost 561 mL of blood with cryotherapy.
- People lost 825 mL of blood without cryotherapy.

Pain (lower scores mean less pain)

Pain was better by 1.6 points on a 0- to 10-point scale with cryotherapy at 2 days after surgery.

- People who had cryotherapy rated their pain as 3.2 points.
- People who had no cryotherapy rated their pain as 4.8 points.

Blood transfusion

42% more people had a blood transfusion with cryotherapy, or 42 more out of 100, at up to 13 days after surgery.

- 79 out of 100 people had a transfusion with cryotherapy.
- 37 out of 100 people had a transfusion without cryotherapy.

Knee range of motion

Flexion (bending of the knee joint) was 8.3 degrees greater with cryotherapy when people left hospital.

- People who had cryotherapy had 71.2 degrees of flexion.
- People who had no cryotherapy had 62.9 degrees of flexion.

Knee function

Knee function was 13.2 points better on a 0- to 100-point scale with cryotherapy at 2 weeks after surgery.

- People who had cryotherapy had a function score of 88.6.
- People who had no cryotherapy had a function score of 75.4

Total adverse events

0% more people reported adverse events with cryotherapy, or 0 more out of 100, up to 30 days after surgery.

- 2.7 out of 100 people reported adverse events with cryotherapy.
- 2.1 out of 100 people reported adverse events without cryotherapy.

Withdrawals due to adverse events

0% more people withdrew from the study due to adverse events with cryotherapy, or 0 more out of 100, up to 30 days after surgery.

- 0.4 out of 100 people withdrew due to adverse events with cryotherapy.
- 0.2 out of 100 people withdrew due to adverse events without cryotherapy.

What are the limitations of the evidence?

We have little confidence in the evidence showing that cold therapy may slightly improve blood loss, pain and range of motion after surgery. We are uncertain if it lowers the risk of a blood transfusion, improves knee function, increases the risk of adverse events or contributed to withdrawals due to adverse events. Factors that decreased our confidence include flaws in the study design (participants were not assigned to treatments randomly; some participants dropped out of the study; participants could tell what treatment they were receiving), not having enough studies or participants to be certain about the results, and variations between studies in results and methods.

How up to date is the evidence?

The evidence is current to 27 May 2022.

Citation : Aggarwal A, Adie S, Harris IA, Naylor J. Cryotherapy following total knee replacement. Cochrane Database of Systematic Reviews 2023, Issue 9. Art. No.: CD007911. DOI: 10.1002/14651858.CD007911.pub3.

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