Arthritis and your feet

Arthritis
NEW SOUTH WALES
Introduction

There are over 100 different forms of arthritis. When arthritis develops in the feet it can result in changes such as swollen joints or crooked toes. This can make standing and walking difficult and painful.
COMMON TYPES OF ARTHRITIS INCLUDE:

**Osteoarthritis**

Osteoarthritis (OA) is sometimes referred to as degenerative joint disease or wear-and-tear arthritis. In OA the affected joint cartilage breaks down, usually unevenly, leaving the ends of the bones exposed. The joint then loses the ability to move smoothly.

**Rheumatoid arthritis**

Rheumatoid arthritis (RA) is an autoimmune disease associated with chronic inflammation that damages joints and associated structures. It can affect other body organ systems as well.

**Gout**

Gout is caused by the formation of crystals made of uric acid. Uric acid is one of the body’s normal waste products. The uric acid crystals are deposited in the joints leading to inflammation with associated swelling and pain.

The foot and ankle consist of 100 ligaments, 30 muscles and 26 bones that together form 30 joints. The foot provides a stable base of support for the body to adapt to the different surfaces we walk on. The foot also acts as a shock absorber during most activities, e.g. walking, running, hopping or dancing. With each step taken, the feet bear the weight of the entire body.
Bones of the feet

THE FOOT IS MADE UP OF A NUMBER OF DIFFERENT BONES, LIGAMENTS AND MUSCLES THAT WORK TOGETHER TO SUPPORT AND BEAR THE WEIGHT OF THE BODY.

THE COMPONENTS THAT MAKE UP THE FOOT INCLUDE:

Bones

There are 26 bones in the foot that can be split into 3 main groups. These are the:

- **Tarsals** (calcaneum, talus, navicular, cuboid, and the medial, intermediate and lateral cuneiform bones). The calcaneum and talus, along with the tibia, form the ankle joint. The navicular, cuboid and three cuneiform bones form the midfoot and arch.
- **Metatarsals**
- **Phalanges**, which are the bones of the toes.

Tendons

Tendons are strong bands of connective tissue that attach muscles to bones.

Skeletal muscles

Skeletal muscles are made up of fibres that are able to contract or shorten, therefore creating movement.

Ligaments

Ligaments are bands of connective tissue that attach bones together.

Articular cartilage

Cartilage is a shiny substance that covers the ends of a bone as they come together to form a joint. The cartilage is very smooth, allowing for easy movement. Cartilage does not have its own blood supply and receives nutrition from the synovial fluid. Synovial fluid is circulated around a joint when you move it. Therefore, movement of a joint is important to promote good cartilage nutrition and to help keep your joints healthy.
How does arthritis affect the foot?

ARTHritis often affects the feet. The inflammation and degeneration associated with arthritis may contribute to changes in the way the foot looks and functions.

While arthritis may occur in any part of the foot, certain forms of arthritis have a tendency to affect specific parts. For example, rheumatoid arthritis commonly affects the smaller joints of the foot while osteoarthritis tends to involve the big toe or the ankle.

The signs and symptoms of arthritis of the foot vary, depending on which joint is affected.

**Common symptoms include:**

- Pain or tenderness
- Stiffness
- Reduced movement
- Swelling
- Difficulty walking

**PAIN**

Not all foot pain is due to arthritis; therefore, it is important that the cause of foot pain is accurately diagnosed by a specialist. Pain is more commonly caused by soft tissue problems such as muscle strains or tendon injuries, nerve compression or an abnormal foot shape. Occasionally, pain in the foot can be related to a disorder elsewhere in the body, such as the back, hips or knees.
Pain associated with arthritis will also vary with the type of joint disease. The pain may come and go. For example, the initial stages of gout may cause attacks of severe pain in the big toe, with the joint being completely normal between attacks. Rheumatoid arthritis may start as early morning stiffness in the feet and then progress to more severe pain, making it difficult to stand and walk. Osteoarthritis, when it involves the foot, tends to produce pain that escalates with increasing activity and eases with rest.

**SHOULD YOU TRY TO MOVE YOUR FEET AND EXERCISE WHEN YOU ARE IN PAIN?**

When you have an acute flare up of arthritis in your feet it is advisable to rest, but:

- Maintain gentle movement at the ankles and toes. Stiff joints make you clumsy, increasing your chances of falling, especially in the mornings.

- As shown in the accompanying diagram, try to exercise your ankles and point your toes before you get out of bed, whilst watching TV, at the movies, or when required to sit for long periods.

There are various pain management strategies that you can try. For further information, speak to your doctor or health professional.
Changes in the appearance of the foot

Over time, painful changes in the appearance and function of the foot can result in decreased movement and changes in the way a person walks. This, together with the inflammation associated with arthritis, can contribute to the development of callus (hard skin) and corns over those parts of the foot that are subjected to increased pressure. Additionally, skin over enlarged joints may break down leading to infection and possibly ulcers. A change in foot shape may occur and make it hard to find comfortable, well-fitting shoes.

Many joints may appear enlarged as a result of the inflammatory process. This can contribute to the formation of a bunion, which is a bony outgrowth over the side of the big toe (see accompanying diagram). In addition, a “fluid-filled sac under the skin (a bursa) may develop here too, especially if shoes press against the bunion. The bursa may become inflamed and painful. Sometimes, as the bunion develops, the big toe may be pushed over towards the smaller toes (this condition is known as hallux valgus).

This can cause the other toes to become clawed, a condition known as hammer toes. In RA a bunion combined with clawing of the toes is common” (Arthritis Research UK, 2003). See the accompanying diagram for an example of what changes occur in the bones of the feet for claw and hammer toes.

DIAGNOSIS

The diagnosis of arthritis in the foot is based on the combination of symptoms and clinical signs on examination. In addition, blood tests, x-rays and scans are often required to differentiate the various forms of arthritis. A gait analysis may be performed to assess the way the person walks and how the foot functions. There is a relationship between the position of the bones, muscle
function and movement of the leg and foot in normal daily activities. Abnormal movement as a result of arthritis can involve joint stiffness possibly leading to abnormal function of the foot.

**TREATMENT**

Treatment will vary depending on the type of arthritis and the area of the foot involved. Medical therapies are often necessary to help manage pain and, in some instances, to control the disease process. This should also be combined with advice on appropriate footwear, foot care, padding and, in some cases, mechanical support.

Health professionals who can help treat your feet and provide you with a plan to maintain movement and independence include your GP, rheumatologist, orthopaedic surgeon, podiatrist, physiotherapist, occupational therapist, pharmacist and community nurse.

**Podiatry**

Podiatrists specialise in conditions affecting the feet and lower limb. For people with arthritis podiatry plays an important role in relieving pain and maintaining mobility. The podiatrist often assesses the function of the foot and lower limbs during walking and prescribes orthotic insoles to support the feet, making walking easier. They also provide toe nail/skin care and footwear advice.

**Physiotherapy**

Physiotherapists can advise you on foot exercises, maintaining good posture and pain relief.

**Surgery**

Orthopaedic surgeons manage patients with bone, joint, ligament, tendon, nerve and muscle disorders. Most foot surgery corrects the position of joints and bones. Sometimes the bones that form the joint are joined (or fused) together in the corrected position. As a result of this type of surgery the joint involved can no longer move. This means the joint is more stable and free of pain.
How to care for your feet

- See your doctor for treatment and management of your arthritis.
- Consult a podiatrist.
- Before getting out of bed or a chair, rotate your ankles slowly as you may be stiff after resting or sitting.
- Wash your feet every day and dry them thoroughly. Dry in between your toes with a thin towel, or cotton buds, using a patting motion rather than dragging at the skin, which may be fragile and break down. If this is hard for you to do, try using a hairdryer on a cold setting to dry between your toes. If the skin between the toes is moist and not broken, try using methylated spirits diluted with water (equal volume of each) once a week.
- Do not use talcum powder as this will clog the skin and may cause an infection.
- Check your feet daily for skin wounds by carefully inspecting between your toes. Use a mirror if you cannot see these areas easily.
- If the skin is broken or split, it can be the result of not drying your feet properly, especially between the toes. Cover the split broken skin with a clean, dry dressing. Do not use a Band-Aid or other adhesive plaster, as you cannot easily observe further skin breakdowns.
Only use removable padding over bunions and hammer toes; lambswool or adhesive dressings are constricting and break down the skin. Any areas that remain painful and inflamed for more than 2-3 days should be seen by your podiatrist or medical practitioner.

Remember to take care of your feet as they outnumber you 2-to-1.

- Use a moisturiser twice a day around your heels and joints. This helps manage dry skin and is also soothing for tired joints and feet.

- Take care of your toenails. Toenails are there to protect your toe. Nails should be cut straight across the top making sure not to leave an edge in the corner. Then file with an emery board or nail file, always filing away from you in one direction only. If you have ingrown toenails see your podiatrist for the correct treatment. If you are unable to cut your toenails, it is important to ask a family member or your podiatrist to do this for you.
Consult your podiatrist or pharmacist regarding the use of podiatry products that can help relieve pain and provide padding over bunions, corns and callosities or on hammer toes.

Check with your podiatrist how to manage any corns and callosities. These are a symptom of excessive pressure from abnormal walking patterns or tight footwear and can be made worse by joint swelling. The podiatrist can assess your current footwear to see if you need a wider shoe with a high toe box and, if necessary, can remove the corns and callosities to relieve the pressure. Your podiatrist may use pressure-relieving padding or toe buttresses to help the toes push off when walking and increase your mobility.

Change your socks and stockings every day. These should be roomy and preferably not stretchy or too elasticised as they tend to be too restrictive. When your feet swell they can constrict and interfere with the circulation of your leg and foot. If you have toes that are clawed, tight socks or stockings could also worsen the condition due to the pressure being placed on the toes. Hosiery should be made of a large percentage of cotton or wool with nylon being minimal in content. Nylon does not absorb moisture and allows perspiration to lie on the skin.
Shoes for people with arthritis

SPORTS JOGGERS OR RUNNERS OFFER A SOLUTION FOR PEOPLE WITH PAINFUL JOINTS. THEY ARE LIGHT, CUSHIONED AND CAN EITHER BE LACED OR USE VELCRO STRAPS.

Care should be taken that the shoe is high enough to allow the big toe to clear the top when walking and that the toe box is broad. The heel of the shoe needs to be broad and shaped for ample stability. The ideal heel height is between one and three centimetres. Shoe ventilation is usually available via mesh uppers. Care should also be taken with the shoe undersoles. Do not choose a jogger/runner with too much grip as this can cause the shoes of a person with a shuffling or stiff walking pattern to stick to the floor and possibly cause the person to fall. A bootmaker can often fit a replacement sole that has less ‘grab’.
Orthotics or orthoses

Orthotics or orthoses are inserted into your shoes as inner soles. They are designed to improve foot function, relieve pain and improve body posture, therefore helping to improve or maintain your mobility and independence.

A podiatrist can custom make an orthotic by firstly taking a cast of your feet. This cast is then used to make the orthotic that will fit into your shoes. Alternatively, there are a number of pre-fabricated orthoses/shoe inserts that can be purchased from a podiatrist or at a chemist. It is recommended that you have your feet and your orthotic regularly assessed as your feet may change over time.

To use an orthotic, the shoe needs to have extra depth, to accommodate the thickness of the orthotic. The cost of a custom made device is high, but may be partly deductible from private health funds. A person should consider the cost and fit of the shoe to the device before proceeding. Frequently a simple, cheaper pre-fabricated insert may relieve your pain and meet your needs.

Metatarsal bars, domes and external modifications to shoes are more difficult now due to new shoe technology, which does not easily adapt to gluing any addition to the sole.
Summary

As can be seen from this booklet, there are a number of things that you can do to take care of your feet and minimise problems that may arise because of your arthritis. The following are some of the key points from this booklet:

For assessment, advice and treatment it is helpful to consult a podiatrist. You may need to consult other members of your healthcare team as well.

Remember that pain is your body’s way of telling you that your feet may need further assessment and treatment.

When the arthritis in your feet is causing you pain it is important to maintain a balance between rest and movement.

Remember to check your feet regularly so that any problem can be treated promptly.

For whatever reason, if you are unable to take care of your feet it is important that you ask a family member, friend or health professional to help you with this.

This booklet has aimed to give you a better understanding of how arthritis can affect the feet and what can be done to help keep you mobile and maintain your quality of life. For further information and assistance with foot care, contact the Australian Podiatry Association (NSW) on (02) 9698 3751 or Arthritis NSW (toll free 1800 011 041).

Reference

www.arthritisresearchuk.org/files/6012_FEET_03-4_01032010103720.pdf
URL Accessed 4 April 2011.

Acknowledgements

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