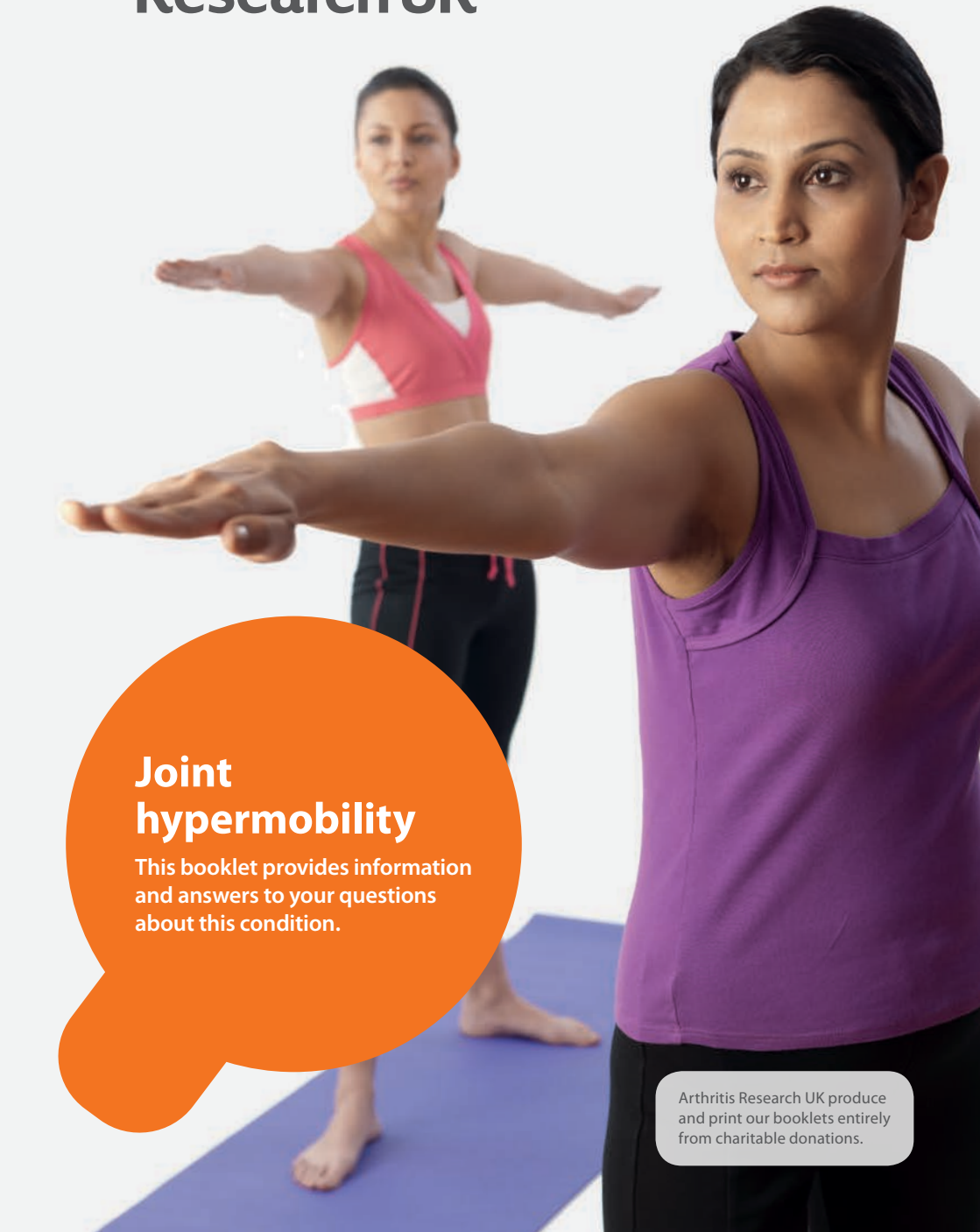
Arthritis Research UK

Condition
Joint hypermobility



Joint hypermobility

This booklet provides information and answers to your questions about this condition.

Arthritis Research UK produce and print our booklets entirely from charitable donations.

What is joint hypermobility?

Hypermobility means that you can move some or all your joints more than most people can. In this booklet we'll explain what joint hypermobility is, what causes it and some possible symptoms.

At the back of this booklet you'll find a brief glossary of medical words – we've underlined these when they're first used.

www.arthritisresearchuk.org

What's inside?

At a glance
Joint hypermobility

Joint hypermobility is very common and most people won't have any symptoms.

What is joint hypermobility?

Hypermobility means that you can move some or all your joints more than most people can. It's often known as being double-jointed and doctors sometimes refer to it as joint hyperlaxity. For some, like dancers and musicians, having a wide range of movement can have its advantages. However, a small number of people with hypermobile joints experience pain or other symptoms, and this is called joint hypermobility syndrome.

What are the symptoms?

Joint hypermobility is very common and most people won't have any symptoms. For those who do, symptoms may include:

- muscle strain/pain
- joint stiffness
- joint pain
- partly or fully dislocated joints
- weakened collagen fibres, which can cause other symptoms, such as hernias or varicose veins

If the above symptoms occur, then this is known as joint hypermobility syndrome. It may help to think of the difference like this:

Generalised joint hypermobility + symptoms = Joint hypermobility syndrome

What causes it?

Some people have a single hypermobile joint. This might be caused by:

- injuring the ligaments that keep the joint within its normal range of movement

- differences in the shape of your bones, such as shallow hip sockets.

However, causes of generalised joint hypermobility include:

- inheriting the condition from a parent – about 75% of people affected by generalised joint hypermobility have a previous family history of it
- reasons that aren't yet known that cause extra-elastic soft tissue.

What treatments are there?

If you have joint hypermobility syndrome then a combination of rest, exercise and physiotherapy will often help, but drug treatments are also available if needed, including:

- painkillers (analgesics), for example paracetamol, codeine
- non-steroidal anti-inflammatory drugs (NSAIDs), for example ibuprofen
- NSAID sprays or creams.

What else might help?

You might find the following useful:

- exercise (although you may want to be careful what types of sports or exercises you do to avoid overstretching your joints – you may want to avoid contact sports, but swimming, cycling and low-resistance strengthening exercises in the gym are recommended)
- occupational therapy
- special insoles in your shoes (orthoses).

It's important to remember that it's very common to have hypermobile joints and most people won't have any problems. However, some people will find that their symptoms are so severe that they have an effect on everyday life.

What is joint hypermobility?

Hypermobility just means that you can move some or all of your joints more than most people can. It's often known as being double-jointed and doctors sometimes refer to it as joint hyperlaxity. Hypermobile joints are very common and most people won't have any problems.

There are some advantages to having hypermobile joints. For example, they can help you in certain sports like gymnastics and diving. Hurdlers must have a wide range of movement at the hip, and swimmers, particularly those using butterfly stroke, need a wide range of movement at the shoulder. Athletics coaches will often aim to increase flexibility, as well as strength and endurance. Dancers probably need the widest range of movement of all, in most (though not necessarily all) joints.

Hypermobile finger joints can help musicians – particularly keyboard players and string players – although string players only need the hand that stops the strings to be supple (see Figure 1). For the bowing arm, a flexible shoulder may be more helpful. Some famous musicians, including the violinist Paganini and the pianist Rachmaninov, were well known for the exceptional flexibility of their fingers.

In extreme cases the joints may be easily dislocated, though most people will have few symptoms or none at all. Very rarely, joint hypermobility is part of a more serious inherited illness.

What is joint hypermobility syndrome?

Most people with joint hypermobility don't have any problems. But if you're hypermobile and have symptoms like joint pain and stiffness, you may have

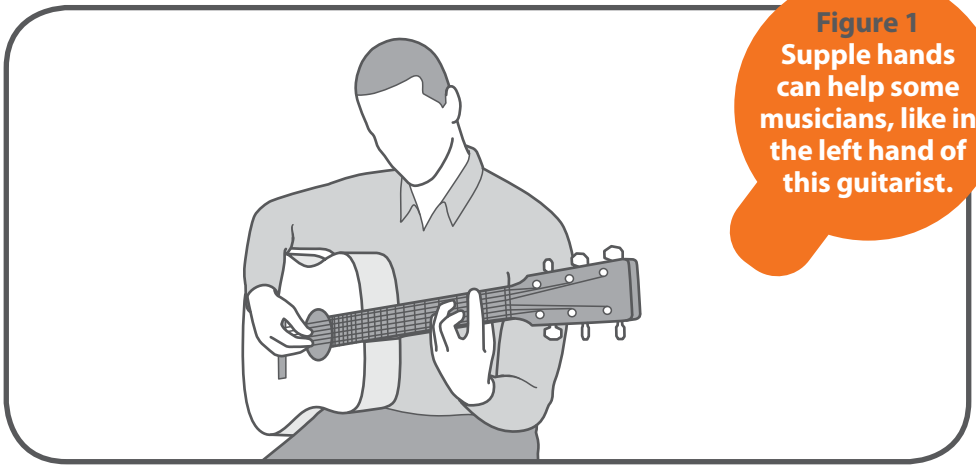


Figure 1
Supple hands can help some musicians, like in the left hand of this guitarist.

joint hypermobility syndrome, also known as benign joint hypermobility syndrome (BJHS). It may be useful to think of it like this:

Generalised joint hypermobility + symptoms = Joint hypermobility syndrome

People with joint hypermobility syndrome are more likely to have some aches and pains when performing everyday tasks. Some people may find that they're greatly affected by the symptoms of joint hypermobility syndrome, to the point where everyday tasks become difficult to manage.

If you have joint hypermobilty syndrome and you find that it's difficult to explain to friends, family and teachers, you can use this booklet to help them understand what you're experiencing.

What are the symptoms of joint hypermobility?

The main symptom of joint hypermobility is having an unusually large range of movement in your joints. You may have been aware from an early age that your joints were more supple than usual, and this might not have caused any further problems or symptoms. You may even have found that your flexible joints have been an advantage.

But if you have joint hypermobility and any of the following symptoms, you may have joint hypermobility syndrome:

Muscle strain or pain: The most common problem with having hypermobile joints is pain, especially after hard physical work or exercise. Your muscles have to work harder if your joint is very mobile and this can lead to muscle strain. As a result, 'overuse' develops in the muscles around your joint (though the pain may appear to come from the joint itself). Athletes often experience this after hard training or after an event.

Joint stiffness: Sometimes your joint may feel tense or stiff, which may be caused by fluid collecting inside your joint. This is probably because your body is trying to repair the small amounts of damage that are caused if a muscle or joint is over-stretched. Your pain will often feel worse as the day goes on and improve at night with rest, although sometimes you may also feel pain at night.

Joint pains: You may have a flat arch to your foot and this can lead to foot pain, particularly after standing for a long time.

Backache: This can be a problem if the base of your spine is particularly supple, and the muscles around your spine aren't working to support it correctly. Very occasionally the joints in your back (vertebra) can slip on another – this is called a spondylolisthesis.

Injured or dislocated joints: Hypermobile joints are more likely to get injured than normal if they're over-stretched. Sometimes your joint may dislocate – this is most common in the shoulder or the kneecap.

Women or girls who are hypermobile may notice that their joints are more painful around the time of their period, and they may be more clumsy than usual.

During pregnancy and breastfeeding, due to the hormonal changes, joints tend to become even more hypermobile. Occasionally the 'waters' may break early.

What are the complications of joint hypermobility?

Recent research suggests that hypermobile people may have more supple collagen in other parts of the body as well as the joints. This may be linked to a number of other symptoms including mild asthma, irritable bowel syndrome (IBS) and urinary stress incontinence. Blood pressure may also be lower than normal, so people who are hypermobile may be more prone to fainting.

Sometimes the heart valves can be floppy. This may not cause any symptoms and may only be discovered by accident when a medical examination of the heart is carried out.

About a quarter of people affected by joint hypermobility have no previous family history of it.

Who gets joint hypermobility?

Joint hypermobility is very common, and whether you're affected or not can be down to your gender, ethnic background, age and whether you inherited it from your parents.

Genetics

There's fairly strong evidence that joint hypermobility can be inherited when it's caused by abnormal collagen, and therefore affects many joints. However, members of the same family may be affected differently. Providing your partner isn't affected, half of your children are likely to inherit the condition, though how much each child is affected varies a lot. Girls are often affected more than boys.

Where joint hypermobility affects one or a small number of joints, particularly the hip and/or shoulder, suggesting shallow sockets in these joints, the condition is also likely to be inherited.

We don't yet know whether joint hypermobility resulting from a poor sense of joint movement (proprioception) is inherited (see section 'What causes joint hypermobility?'). About a quarter of people affected by joint hypermobility have no previous family history of it.

Gender

Women tend to be more supple than men of the same age because of the effect of a hormone called relaxin (which allows the pelvis to expand during childbirth).

Women are therefore more likely than men to have hypermobile joints.

Age

The collagen fibres in your ligaments tend to bind together more as you get older, which is one reason why many of us become stiffer with age. This means that joint hypermobility is more common in younger people. Hypermobile people who are very flexible and pain-free when younger may find that they're less flexible and find stretching movements more uncomfortable when they're in their 30s or 40s.

Ethnic background

People of different ethnic backgrounds have differences in their joint mobility, which may reflect differences in the structure of the collagen proteins. For example, people from the Indian sub-continent often have much more supple hands than Europeans.

Other factors

Joint hypermobility can sometimes be developed, for example by gymnasts and athletes, through the training exercises they do. Yoga can also make the joints more supple by relaxing the muscles.

Many people with Down's syndrome are hypermobile.

What causes joint hypermobility?

Four factors may affect people in different amounts:

The shape of your bones – If the socket part of your hip or shoulder joint is particularly shallow, the range of movement in your joint will be greater than usual and you'll also have a greater risk of dislocation.

Weak or stretched ligaments – Ligaments are made up of several types of protein fibre, including elastin (which gives stretchiness) and collagen (which gives strength). Small changes in the chemical processes in your body can result in weakened collagen fibres and more elastic ligaments, and this in turn causes weakness and elasticity in the ligaments that help to hold your joints together. This is likely to cause hypermobility in many joints.

Muscle tone – The tone (or stiffness) of your muscles is controlled by your nervous system. The more relaxed your muscles are, the more movement you'll have in your joints.

Sense of joint movement (proprioception) – Some people find it difficult to sense the position of a joint without being able to see it, and they may develop joint hypermobility by overstretching their joints without realising it.

How is joint hypermobility diagnosed?

Your GP will be able to make a diagnosis of generalised joint hypermobility or joint hypermobility syndrome by examining you and asking you a series of questions based on two commonly used scoring systems:

- The Beighton's score measures your flexibility using a standard set of movements. A high Beighton's score itself means you're hypermobile but *doesn't* mean you have joint hypermobility syndrome.
- Diagnosis of joint hypermobility syndrome depends on having symptoms as well as hypermobile joints and is made using the Brighton criteria.

The Brighton criteria state that if you have four or more hypermobile joints and you've had pain in those joints for three months or more, it's more likely that you have joint hypermobility syndrome.

If you have any of the symptoms listed in this booklet, you should speak to your doctor to find out whether you have joint hypermobility syndrome or whether something else is causing the pain.

What treatments are there for joint hypermobility?

Symptoms of joint hypermobility can often be controlled by a combination of pacing your activity level and physiotherapy. Drug treatments are available if you need them.

Physical therapies

Research funded by Arthritis Research UK has proven the value of exercise. In most cases you can ease your symptoms by doing gentle exercises to strengthen and condition the muscles around the joints that are particularly flexible. The important thing is to do these strengthening exercises often and regularly but not to overdo them. Use only small weights, if any. A physiotherapist will be able to advise you on suitable exercises. For some people gentle stretching seems to be as effective as strengthening.

You can use splints or firm elasticated bandages if you need to protect against dislocation. An occupational therapist or physiotherapist can advise on these. It's also quite common for hypermobile people to manipulate and click their loose joints, which often makes the joints feel better.

But sometimes you may need professional help to get back the flexibility of your movement. If your joints dislocate, you may need medical help to manipulate the joint back into place.

See Arthritis Research UK booklets *Occupational therapy and arthritis; Physiotherapy and arthritis.*

Drugs

Painkillers (analgesics) are the usual treatment if you have symptoms. Paracetamol is normally the first choice. It's often better to take a dose before activity to keep the pain under control rather than waiting until it's very bad. Your doctor can prescribe a stronger painkiller such as co-codamol or co-dydramol if needed. Note that these sometimes cause side-effects such as constipation or dizziness.

If your joint often swells up, especially after dislocation, a non-steroidal anti-inflammatory drug (NSAID) such as ibuprofen may be better. You can buy this from your local chemist or supermarket without a prescription. See your doctor if the regular dose isn't helping, as they may prescribe a higher dose or a different NSAID if the standard dose of ibuprofen isn't strong enough.

You can also get either painkillers or NSAIDs as a spray or a cream, which you can apply directly onto the site of pain. This may not be quite as effective but may be an option if the tablets aren't suitable for you.

NSAIDs and side-effects

Like all drugs, NSAIDs can sometimes have side-effects, but your doctor will take precautions to reduce the risk of these – for example, by prescribing the lowest effective dose for the shortest possible period of time. NSAIDs can cause digestive problems (stomach upsets, indigestion or damage to the lining of the stomach), so in most cases they'll be given along with a drug called a proton pump inhibitor (PPI), which will help to protect your stomach.

NSAIDs also carry an increased risk of heart attack or stroke. Although the increased risk is small, your doctor will be cautious about prescribing NSAIDs if there are other factors that may increase your overall risk – for example, smoking, circulation problems, high blood pressure, high cholesterol or diabetes.

Newer NSAIDs known as COX-2 inhibitors (or coxibs) are less likely to cause stomach problems but they've been linked with increased risks of heart attack and stroke, so they aren't suitable for people who've had these in the past or for people with uncontrolled high blood pressure.

Doctors have also been advised to be cautious about prescribing coxibs to people who have an increased risk of heart disease, such as people with high blood pressure, high cholesterol levels (hyperlipidaemia) or diabetes, or people who smoke. Some standard NSAIDs have also been shown to be associated with a small increased risk of heart attack and stroke, especially when used in high doses and for long periods. Your doctor should take these risks into account.

See Arthritis Research UK drug leaflets *Non-steroidal anti-inflammatory drugs; Painkillers.*

Surgery

In general, surgery isn't recommended for hypermobile joints. This is because tissue that's very supple doesn't usually heal as well as less supple tissue. Also, some hypermobile people can bruise easily and may need more blood transfusions if they have major surgery. However, if you tear a tendon (which is more likely than normal if you have hypermobile joints) this should usually be repaired with surgery.

Self-help and daily living

Exercise

Regular exercise is important as part of a healthy lifestyle, and there's no reason why people with hypermobile joints shouldn't exercise. However, if you find that certain sports or exercises involve movements that cause pain, you should stop these activities. What's important is to avoid overstretching your joints, usually because you haven't got the muscles controlling the joint movement in this range. Swimming can help, although breaststroke can irritate the knee and hip, so it's best to paddle the legs. We also recommend cycling and simple strengthening exercises.

If any of your joints dislocate regularly it may help to wear a splint or elastic bandage while exercising. You may need to see a physiotherapist or orthotist for supports if this becomes a significant problem.

See Arthritis Research UK booklet *Keep moving.*

Diet and nutrition

There's no specific diet to help joint hypermobility, but we'd recommend a balanced diet to keep your weight under control and for your general health.

See Arthritis Research UK booklet *Diet and arthritis.*

Complementary medicine

People with hypermobile joints often ask about complementary therapies to help with pain relief. There's no evidence to support a particular therapy, although acupuncture is now recommended in the National Institute for Health and Care Excellence (NICE) guidelines for low back pain. Generally speaking complementary and alternative therapies are relatively safe, although you should always discuss their use with your doctor before starting treatment. There are some risks associated with specific therapies.

In many cases the risks associated with complementary and alternative therapies are more to do with the therapist than the therapy. This is why it's important to go to a legally registered therapist, or one who has a set ethical code and is fully insured.

If you decide to try therapies or supplements you should be critical of what they're doing for you, and base your decision to continue on whether you notice any improvement.

See Arthritis Research UK booklet and report *Complementary and alternative medicine for arthritis.*

If any of your joints are prone to dislocation it may help to wear a splint or elastic bandage while exercising.

Footwear

There's a wide variation in the shape of the foot in people who are hypermobile. Most tend to have flat feet but a few have a high-arched foot. Special insoles your shoes (orthoses) may help to restore the arch of your foot.

See Arthritis Research UK booklet *Feet, footwear and arthritis*.

What else should I know about joint hypermobility?

While joint hypermobility isn't itself a type of arthritis, some forms of hypermobility are thought to be associated with an increased risk of developing osteoarthritis.

It's hard to predict which cases of hypermobility may lead to osteoarthritis. If you've inherited hypermobility and osteoarthritis is also common in your family then you'll probably have a greater risk of developing osteoarthritis yourself. Joint injuries, whether they result from hypermobility or not, can also increase the risk of osteoarthritis later on.

There's no evidence that the symptoms of osteoarthritis are any worse in people who are hypermobile than in people who aren't. If you're hypermobile we'd recommend keeping to a healthy weight as it's known that obesity is often an important factor in the development of osteoarthritis.

See Arthritis Research UK booklet *Osteoarthritis.*

What else should I know about joint hypermobility syndrome?

Although most people with joint hypermobility syndrome will only experience a few symptoms, others may have hypermobility as part of a more serious condition. More serious conditions that may rarely be associated with hypermobility include:

- osteogenesis imperfecta, which causes the bones to become fragile
- Marfan's syndrome, which involves the heart, eyes and blood vessels
- Ehlers–Danlos syndrome (EDS), which is the most difficult to diagnose because there are many different types – the most severe form causes weakness of the major blood vessels, which may swell (this is called an aneurysm).

The symptoms of these conditions may have a large impact on everyday life. Also, some people may find that they're greatly affected by the symptoms of joint hypermobility syndrome, to the point where everyday tasks become difficult to manage.

Research and new developments

Arthritis Research UK recently funded research showing that joint hypermobility is very common in teenagers. The study, which was done at the University of Bristol, showed that joint laxity was very common in a group of 13–14 year olds – 45% of girls and 29% of boys had finger joints that could stretch beyond the normal range seen in adults. The study suggested that this ability shouldn't be seen as a symptom of joint disease and doesn't necessarily mean these children would develop joint hypermobility syndrome or experience joint pain.

Glossary

Acupuncture – a method of pain relief that originated in China. Very fine needles are inserted, virtually painlessly, at a number of sites on your skin (meridians) but not necessarily at the painful area. This interferes with pain signals to your brain and causes the release of natural painkillers (endorphins).

Analgesics – painkillers. As well as dulling pain they lower raised body temperature, and most of them reduce inflammation.

Asthma – a condition that affects the airways that carry air in and out of the lungs. The muscles around the walls of the airways tighten and the lining of the airways becomes inflamed and starts to swell, causing breathing difficulties.

Collagen – the main substance in the white, fibrous connective tissue that's found in tendons, ligaments and cartilage. This very important protein is also found in skin and bone.

Ehlers-Danlos syndrome (EDS) – an inherited disorder of collagen, the building material of body tissues. People with Ehlers-Danlos syndrome have unusually stretchy and fragile skin that bruises easily, heals slowly and leaves scars. The joints tend to be looser than normal and prone to dislocation.

Hernia – a condition where an internal part of the body pushes through a weak point in the muscle or surrounding tissue wall. It often involves the intestine.

Irritable bowel syndrome (IBS) – a common condition where the bowel doesn't function as normal, often causing abdominal pain, bloating and episodes of diarrhoea or constipation.

Ligaments – tough, fibrous bands anchoring the bones on either side of a joint and holding the joint together. In the spine they're attached to the vertebrae and restrict spinal movements, therefore giving stability to the back.

Marfan's syndrome – a rare inherited disorder that affects the connective tissues of the body (the material that supports and binds other tissue). It's characterised by unusually long, thin fingers and toes, heart defects, extreme tallness, and partial dislocation of the eye lens.

Non-steroidal anti-inflammatory drugs (NSAIDs) – a large family of drugs prescribed for different kinds of arthritis that reduce inflammation and control pain, swelling and stiffness. Common examples include ibuprofen, naproxen and diclofenac.

Occupational therapy – a therapy which uses a range of strategies and specialist equipment to help people to reach their goals and maintain their independence. It's given by a trained specialist who gives practical advice on equipment, adaptations or changing the way you do things (such as learning to dress using one-handed methods following hand surgery).

Osteoarthritis – the most common form of arthritis (mainly affecting the joints in the fingers, knees, hips), causing cartilage thinning and bony overgrowths (osteophytes) and resulting in pain, swelling and stiffness.

Osteogenesis imperfecta – a genetic condition existing at birth (congenital), resulting in fragile bones that fracture easily. The whites of the eyes of affected individuals often appear blue.

Physiotherapy – a therapy given by a trained specialist that helps to keep your joints and muscles moving, helps ease pain and keeps you mobile.

Proton pump inhibitor (PPI) – a drug that acts on an enzyme in the cells of the stomach to reduce the secretion of gastric acid. They're often prescribed along with non-steroidal anti-inflammatory drugs (NSAIDs) to reduce side-effects from the NSAIDs.

Tendon – a strong, fibrous band or cord that anchors muscle to bone.

Urinary stress incontinence – an accidental urine leak caused by pressure in the abdomen (such as a laugh, cough or sneeze) opening the muscular valves to the bladder (sphincter muscles).

Varicose vein – swollen and enlarged veins. They're usually blue or dark purple in colour and may also look lumpy, bulging or twisted. They're mostly found in the legs.

Where can I find out more?

If you've found this information useful you might be interested in these other titles from our range:

Conditions

- *Osteoarthritis*
- *What is arthritis?*

Therapies

- *Occupational therapy and arthritis*
- *Physiotherapy and arthritis*

Self-help and daily living

- *Complementary and alternative medicine for arthritis*
- *Diet and arthritis*
- *Feet, footwear and arthritis*
- *Keep moving*
- *Looking after your joints when you have arthritis*

Drug leaflets

- *Drugs and arthritis*
- *Non-steroidal anti-inflammatory drugs*
- *Painkillers*

You can download all of our booklets and leaflets from our website or order them by contacting:

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St Mary's Court
St Mary's Gate, Chesterfield
Derbyshire S41 7TD
Phone: 0300 790 0400
www.arthritisresearchuk.org

Related organisations

The following organisations may be able to provide additional advice and information:

Arthritis Care
Floor 4, Linen Court
10 East Road
London N1 6AD
Phone: 020 7380 6500
Helpline: 0808 800 4050
Email: info@arthritiscare.org.uk
www.arthritiscare.org.uk

Brittle Bone Society
Grant-Paterson House
30 Guthrie Street
Dundee DD1 5BS
Phone: 01382 204446
Email: contact@brittlebone.org
www.brittlebone.org

Ehlers-Danlos Support Group
P.O. Box 748
Borehamwood WD6 9HU
Phone: 020 736 5604
www.ehlers-danlos.org

Hypermobility Syndrome Association (HMSA)
49 Orchard Crescent
Oreston
Plymouth PL9 7NF
Phone: 0845 345 4465
www.hypermobility.org

Marfan Association UK
Rochester House
5 Aldershot Road
Fleet
Hampshire GU51 3NG
Phone: 01252 810472
Email:contactus@marfan-association.org.uk
www.marfan-association.org.uk

National Osteoporosis Society
Manor Farm, Skinners Hill
Camerton
Bath BA2 0PJ
Phone: 01761 471771
Helpline: 0845 450 0230
Email: info@nos.org.ukwww.nos.org.uk

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We're here to help

Arthritis Research UK is the charity leading the fight against arthritis.

We're the UK's fourth largest medical research charity and fund scientific and medical research into all types of arthritis and musculoskeletal conditions.

We're working to take the pain away for sufferers with all forms of arthritis and helping people to remain active. We'll do this by funding high-quality research, providing information and campaigning.

Everything we do is underpinned by research.

We publish over 60 information booklets which help people affected by arthritis to understand more about the condition, its treatment, therapies and how to help themselves.

We also produce a range of separate leaflets on many of the drugs used for arthritis and related conditions. We recommend that you read the relevant leaflet for more detailed information about your medication.

Please also let us know if you'd like to receive our quarterly magazine, *Arthritis Today*, which keeps you up to date with current research and education news, highlighting key projects that we're funding and giving insight into the latest treatment and self-help available.

We often feature case studies and have regular columns for questions and answers, as well as readers' hints and tips for managing arthritis.

Tell us what you think

Please send your views to:
feedback@arthritisresearchuk.org
or write to us at:
Arthritis Research UK, Copeman House, St Mary's Court, St Mary's Gate, Chesterfield, Derbyshire S41 7TD

A team of people contributed to this booklet. The original text was written by Prof. Howard Bird, who has expertise in the subject. It was assessed at draft stage by research physiotherapist and clinical specialist Dr Caroline Alexander, consultant senior lecturer and honorary consultant rheumatologist Dr Emma Clark and senior physiotherapist in rheumatology Sin-ti Towlson. An **Arthritis Research UK** editor revised the text to make it easy to read, and a non-medical panel, including interested societies, checked it for understanding. An **Arthritis Research UK** medical advisor, Dr Ben Thompson, is responsible for the content overall.

Arthritis Research UK

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You can help to take the pain away from millions of people in the UK by:

- volunteering
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- asking your company to support us
- buying products from our online and high-street shops.

To get more **actively involved,** please call us on **0300 790 0400**, email us at **enquiries@arthritisresearchuk.org** or go to **www.arthritisresearchuk.org**

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Registered Charity No 207711

Published June 2013 2019/HYPER/13-1