

## Patient information from the BMJ Group

# Bunions

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## Bunions

If you have a bony bump at the base of your big toe, you probably have a bunion. Bunions are very common, especially in women. They can hurt a lot and make it hard to walk and wear shoes. You may need an operation to get rid of your bunion. But most people try simpler treatments first.

We've brought together the best research about bunions and weighed up the evidence about how to treat them. You can use our information to talk to your doctor and decide which treatments are best for you.

## What are bunions?

A bunion is a bony bump at the base of your big toe.

A bunion happens when the two bones in your big toe joint move out of line with each other. <sup>[1]</sup> This makes your toe joint stick out. The bony bump is the bunion. <sup>[2]</sup>

## Key points for people with bunions



- Bunions are far more common in women than in men. About one half of all women get them.
- Usually, bunions are caused by problems with the shape of your foot and how you walk.
- Wearing shoes that don't fit well makes bunions worse. But these bony bumps also happen in 1 in 50 people who don't often wear shoes.

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- Bunions usually get worse if you don't treat them. Your toe can hurt a lot, make it hard to walk, and limit which shoes you can wear. But these things don't happen to everyone.
- Simple treatments such as shoe insoles may help your bunions hurt less. But an operation is the only way to make your toe straight again.

## Your toes and feet

Your toes, especially your big toes, help you balance. They also help push you forwards as you walk or run. You have 14 bones in your toes. They are among the smallest in your body. Two bones meet at the joint of your big toe.

- One is the bone in your big toe. Doctors call this a **phalange**.
- The other is the main bone in your foot. Doctors call this a **metatarsal**. It runs along the arch of your foot to your big toe. <sup>[1]</sup>

At the joint, the ends of the two bones are held together by tissue. This is called the joint capsule. It has a lining that makes fluid. The fluid makes your toe joint slippery and helps it move smoothly.

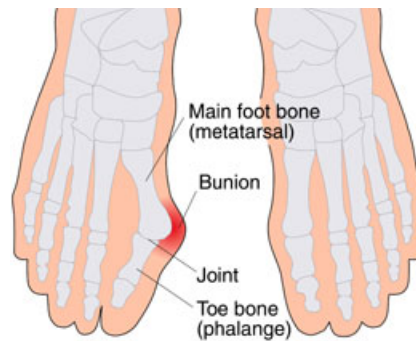
Your toe joints are designed to cope with walking, jumping, and other actions you do over and over. Several tissues wrap around each joint. They help keep the joint stable so the bones stay in place. These tissues include **ligaments**, **tendons**, and muscles. Doctors call them soft tissues.

The joint at the base of your big toe moves more than other joints in your foot. It needs to, because it carries most of your weight as you push off your foot when you walk forwards. This means that this joint differs a bit from your other toe joints. <sup>[2]</sup>

Your big toe joint has two tiny round bones. Doctors call these **sesamoid bones**. They sit inside a tendon underneath the joint. These tiny bones stop the tendon getting squashed when you stand on your foot. And they help your toe move up and down in a straight line.

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### What goes wrong in your foot to cause bunions?



A bunion happens when the two main bones in your big toe joint move out of line with each other.

Usually, this occurs when something upsets the balance of the soft tissues around your joint.

All the parts of a joint depend on each other. When something goes wrong in one part, it affects the others. For example, a bunion may start when the muscles in your foot get tighter and the tendons get looser. This makes your toe joint less stable, so the bones there begin to move. <sup>[1]</sup> <sup>[3]</sup> <sup>[4]</sup>

- Your big toe starts to point towards your smaller toes.
- The main bone in your foot starts to point towards your other foot.
- Then the ends of the two bones don't fit together snugly any more at your toe joint.
- As the bones get more out of line, your toe joint starts to stick out. <sup>[5]</sup>
- This bony bump is the bunion. It's actually the top end of the main bone in your foot.

Often, a sac of fluid forms over the bump. It's like a blister. Doctors call this sac a **bursa**. <sup>[3]</sup> <sup>[4]</sup> The sac can get **inflamed** when your bunion rubs on your shoes. If this happens, you also have **bursitis**.

Doctors call bunions hallux valgus. Hallux means big toe. Valgus means bent outwards. A bunion is simply a joint that is out of line. It isn't a growth on the side of your toe, as some people think.

A bunion can hurt a lot. You may find it hard to walk. Your big toe may start to roll on its side and cross over your second toe. And your big toe can push your second toe towards your third toe, and so on. In bad cases, your toes may even lie on top of each other. <sup>[3]</sup> <sup>[4]</sup>

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Some people get a small bunion, called a bunionette, on their little toe. This is also known as a tailor's bunion.<sup>[6]</sup> It can hurt a lot and change the shape of your small toe joint.

### Bunions: why me?

Doctors don't really know why some people get bunions. The shape of your foot and how you walk are probably the main causes.<sup>[7]</sup> But wearing shoes that are too tight could make the problem worse.

Some things increase your chances of getting bunions. Doctors call these things risk factors. Having a risk factor doesn't mean you'll get a bunion for sure. It just means you're more likely to get one than someone who doesn't have the risk factor. Here are some things that make it more likely that you will get a bunion, or that your bunion will get worse.

- Your foot rolls to the inside when you walk. Doctors call this pronation. This puts most of your weight on the inside of your foot when you're walking. It puts too much pressure on your main foot bone. This makes your toe joint less stable, so your bones start to move.<sup>[2]</sup>
- You have a long big toe. Your big toe may be a lot longer than your other toes. Bunions seem to be more common in people with long big toes.
- The main bone in your foot has a rounded end. The end of this bone joins the end of your big toe bone. The ends should fit together snugly. But if the end of the main bone is rounded, instead of flat, your big toe bone can slip around it and move out of place.
- Your parents have bunions. You don't get bunions from your parents. But you may get their foot type. Some types of feet are more likely to get bunions. For example, if you have flat feet, your arches are low, or your joints or tendons are loose, it's more likely.<sup>[3] [8]</sup>
- You are older. Bunions are more common in older people. This is probably because of the extra years of using the joint.
- Your shoes are too tight. Wearing shoes that are too narrow or pointed may make your bunions worse.<sup>[2]</sup>
- You wear high heels. High heels force your toes into the front of your shoes and crowd them.<sup>[9]</sup>
- Your job keeps you on your feet. Jobs like this put more stress on your feet. Some examples are working as a waiter, factory worker, dancer, or athlete.<sup>[4]</sup>

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- You're a woman. The bones of men's feet and women's feet differ a bit. <sup>[10]</sup> In women's feet, the bones can move more, and the big toe joint gets out of line more easily. <sup>[10]</sup> Women are also more likely to wear tight shoes with high heels that make bunions worse.
- You have arthritis. With arthritis, the tough tissue that covers and protects your big toe joint is weak. Doctors call this tissue **cartilage**. Also, the ends of the bones in your joint could become bumpy instead of smooth. These things can let your bones slip out of place. Arthritis can cause bunions and make them worse. <sup>[3]</sup>
- You injured your foot. Injuries can damage the bones, muscles, or tendons in your toe joint. If your joint is less stable after an injury, your big toe may start to move out of line. Other foot injuries can affect the way you walk and put more pressure on your big toe joint. Sports injuries are common causes of bunions.

### What are the symptoms of bunions?

If you have a bony bump on the side of your big toe, you probably have a bunion. The skin over the bump may be red and sore.

With a bunion, your big toe usually points towards your other toes. <sup>[3]</sup> <sup>[4]</sup> It may even push your other toes out of line. Sometimes you get a sac of fluid over the bump too. Doctors call this a **bursa**. It's like a blister. If it gets inflamed, you also have **bursitis**. A bunion can hurt a lot. You may not like the way your foot looks. And you may find it hard to buy shoes that fit and don't rub. You may notice that the area around your bunion: <sup>[9]</sup>

- Hurts
- Is swollen, warm, or red
- Burns
- Doesn't have any feeling in it
- Is stiff
- Doesn't move properly.

But you may not get these symptoms. Some people have big bunions that don't hurt but make it hard to wear shoes. Other people have small bunions that hurt a lot. You may also get other symptoms with bunions.

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- Calluses on the bottom of your foot. Calluses are patches of skin that are thicker and can hurt. If your bunion hurts when you walk, you may walk more on the middle of your foot instead. That can make the skin there get thicker.
- Sores between your toes. As your big toe moves out of line, it pushes your smaller toes into each other. You may get sores if your toes rub together.
- Toenails that are ingrown. If your toes are pushed together, your toenails may grow into the sides of the nail bed.

Bunions usually get worse if you don't treat them. If your bunion gets too bad, you may have problems walking.<sup>[11]</sup> A study of older people with foot problems found they walked more slowly and didn't have such good balance.<sup>[12]</sup>

And you may get arthritis in your big toe joint. This happens because the bunion puts extra wear and tear on the cartilage in your joint. Arthritis makes your joint hurt. For more, see our articles on [Osteoarthritis](#).

### How do doctors diagnose bunions?

If your doctor thinks you may have a bunion, they will examine your feet and ask you some questions. And your doctor may suggest an X-ray to see the bones inside your feet.

Bunions usually get worse if you don't treat them. That's why it's important to get a diagnosis. See your doctor if you notice any of these symptoms.

- You have a bump on your big toe joint that hurts.
- You have trouble walking.
- Your big toe or foot isn't moving as it should.
- You have a hard time finding shoes that fit, because of the bump.

Doctors can usually diagnose a bunion just by looking at it.<sup>[8]</sup> Your doctor will check to see if your big toe joint is red or swollen. And they will ask you to move your big toe up and down to see if it's stiff. Your doctor will also ask you questions, such as:

- Does your toe or foot hurt?
- When did your foot problem start?
- What type of shoes do you wear?
- Does anyone in your family have bunions?

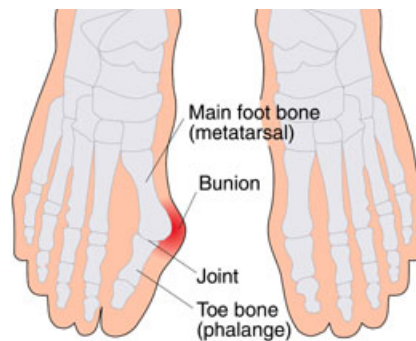
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- Have you ever injured your foot?
- Do any of your other joints hurt?

This helps doctors work out if you have any of the things that make you [more likely to get bunions](#). Your doctor will check the shape of your foot and how you walk. These things can also affect your chances of bunions.

You may have an **X-ray** of your big toe joint so that your doctor can see how far your toe has moved. <sup>[5]</sup> You stand up while this X-ray is taken. It shows the angles between the bones in your feet.

- The angle between your big toe and the main long bone of your foot is called the **hallux abductus angle**. If this angle is more than 15 degrees, it's a sign of bunions.
- The angle between your main foot bone and the foot bone next to it is called the **intermetatarsal angle**. If this angle is more than 9 degrees, it is also a sign of bunions.



The X-ray can help your doctor tell if treatment can make your toe straighter and get rid of the bony bump.

It can also help you and your doctor decide which type of bunion operation might work best. And your X-ray can show if you have another type of joint problem, such as **arthritis**.

Different sorts of health professionals are trained to diagnose and treat bunions. Your GP may refer you to one of these:

- A medical doctor who specialises in joint problems and does operations. This person is called an **orthopaedic surgeon**.
- A health professional who is specially trained in caring for feet. This person is called a **podiatrist** (or sometimes a chiropodist). Podiatrists are not medical doctors. But they do have special training in foot and ankle problems, including bunions. Podiatrists

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can order tests and X-rays, and may be able to recommend treatments, such as insoles for your shoes. And some podiatrists can do bunion operations.

In the UK, all podiatrists and chiropodists who work in the NHS must be specially trained and registered with the Health Professionals Council. If you want to see a podiatrist privately, check if they have the right training to treat you. You can do this by seeing if the podiatrist is registered with the Health Professions Council at <http://www.hpc-uk.org>

### How common are bunions?

Bunions are very common, especially in women.<sup>[7]</sup> Less than one quarter of men have these bony bumps, compared with up to one half of women.<sup>[13]</sup> Women may get bunions more because they wear tighter shoes. But bunions also happen in 1 in 50 people in parts of the world where shoes aren't often worn.<sup>[7]</sup> <sup>[8]</sup>

Bunions are also more common in older people than in younger people.<sup>[14]</sup> About twice as many people over the age of 60 have bunions compared with people between the ages of 30 and 60.

Bunions are less common in children. A study of school children found that about 1 in 50 children aged 9 and 10 years had problems with their toe joints that can lead to bunions.<sup>[15]</sup> Girls were more likely to have a big toe out of line than boys.

### What treatments work for bunions?

If you have bunions, they may hurt and make it hard for you to walk and wear shoes. And you may worry that they will get worse. But treatments can help.

Some simple treatments can help your bunions hurt less. But only an operation can get rid of them. Your doctor may suggest surgery if your bunions are causing you a lot of problems.

This information is about treating bunions in adults. If your child has bunions, see [Bunions in children](#) .

### Key points about treating bunions

- Wearing insoles in your shoes can protect your big toe and support your foot. Insoles may help your bunion hurt less in the short term.
- We don't know if splints you wear at night help.
- Only surgery can get rid of your bunion.
- There are more than 100 types of operations for bunions. The type you have depends on things such as how bad your bunion is.



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- Most people have fewer problems after bunion surgery. But your big toe may not be perfectly straight and free of pain afterwards. And it may take up to one year to get better.
- We need more research to know the best way to hold your bones in place after surgery, the best cover for your foot, and how soon you should start putting weight on it.

There are several treatments for bunions. But which treatment works best? We've looked at the research and given a rating for each treatment according to how well it works.

For help in deciding which treatment is best for you, see [How to make the best decisions about treatment](#).

## Treatment Group 1

### Treatments for bunions

#### Treatments that are likely to work

- [Bunion surgery called osteotomy](#) : In this surgery, your bony bump is taken out and the bones in your toe joint are cut and put back into line with each other. This can get rid of your bunion and help you walk more easily. [More...](#)

#### Treatments that need further study

- [Bunion surgery called Keller's arthroplasty](#) : This surgery is used only if you have bad bunions and you are older, or if you also have arthritis . [More...](#)
- [Bunion surgery called arthrodesis](#) : In this kind of surgery, doctors join the ends of the two bones in your big toe joint permanently. [More...](#)
- [Shoe insoles](#) : Doctors call these orthoses. They protect and support your foot and take the pressure off your bunion. They may help your bunion hurt less, but they don't make your toe straighter. [More...](#)
- [Night splints](#) : You wear these on your feet to hold your toes straight while you sleep. They aim to slow down or stop your bunions getting worse. [More...](#)

#### Other treatments

We haven't looked at the research on these treatments in the same detail we have for the other treatments we cover. (To find out more, see [Our method](#).) But we've included some information in case you're interested or have questions.

- [Other types of bunion surgery](#) : There are more than 100 types of bunion surgery. Most of them try to put the two bones in your big toe joint back into line. [More...](#)

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### What will happen to me?

Bunions usually aren't serious. But they can hurt a lot and stop you doing things you enjoy.

If you have a bunion, the two bones in the joint of your big toe have moved out of line with each other. This makes your big toe joint stick out. The bony bump you can see and feel is the bunion.

The bones in your toe joint won't move back on their own. And bunions usually get worse if you don't treat them. But it's hard to say how bad your bunion will get and how quickly, because there isn't a lot of research on this.

Some people get bad bunions that hurt a lot right away. This is more likely if your bunion is caused by more than one problem. For example, it could happen if you have [rheumatoid arthritis](#) and you injured your toe and the arch of your foot is low.<sup>[16]</sup> But other people don't get any symptoms from their bunions at all.

You will probably start with a bunion on just one foot,<sup>[13]</sup> but you'll usually end up with bunions on both feet.

One study showed that, after one year, the symptoms of bunions weren't as bad for:<sup>[17]</sup>

- About 80 in 100 people who had surgery for bunions
- Less than 50 in 100 people who used insoles in their shoes
- About 25 in 100 people who didn't have any treatment.

These people said that their foot hurt less and they could walk more easily than they could one year before.

If you don't treat bunions, they usually get bigger and hurt more. You can try treatments that don't involve surgery first. But they may not work as well as surgery. The only way to get rid of your bunion is to have an operation to make the bones in your big toe joint line up again.

If you wait too long, your smaller toes can get out of line too. Then you could end up needing a bigger operation that might not work so well. Talk to your doctor about which treatment is best for you now.

Bunions are more common in older people, but it is possible for children to get bunions. Doctors are usually cautious about recommending surgery for children. To read more, see [Bunions in children](#) .

There are some simple things you can try to stop your bunions getting worse and make them hurt less. See [What can you do for your bunions?](#)

### Questions to ask your doctor

If you have been told that you have bunions, you may want to talk to your doctor to find out more.

Here are some questions you may want to ask.

- How do you know that I have bunions?
- Do I need an X-ray ?
- Will my bunions get worse?
- What can I do to stop them getting worse?
- What can I do to make them hurt less?
- What kind of shoes should I wear?
- Could a shoe insole help?
- What exercises can I do to try to stop my bunions getting worse?
- Do I need to have an operation?
- What are the risks of surgery for bunions?
- How long will it take me to get better after surgery?
- Will my toe be straight and stop hurting after an operation?
- Will it be easier for me to walk and wear shoes?
- What will happen to my feet if I don't have surgery?

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### Treatments:

#### Bunion surgery called osteotomy

In this section

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[What is it?](#)

[How can it help?](#)

[How does it work?](#)

[Can it be harmful?](#)

[How good is the research on bunion surgery called osteotomy?](#)

# Bunions

This information is for people who have bunions. It tells you about an operation called osteotomy, a treatment used for bunions. It is based on the best and most up-to-date research.

## Does it work?

Yes. A type of surgery called an osteotomy can get rid of your bunion and put your big toe joint back into line. Your toe may hurt less afterwards, so you can walk more easily. Most people are happier with how their foot looks too.

But there are risks with this operation. And your toe may not be perfectly straight afterwards.

This information is about surgery for adults. To read about surgery for children, see [Bunions in children](#) .

## What is it?

You get a bunion when the two bones in the joint of your big toe move out of line with each other. This makes your big toe joint stick out. The bony bump you can see and feel is the bunion. For more, see [What are bunions?](#)

In an osteotomy operation, doctors cut away the bony bump. Then they usually take out a small piece of bone from one of the two bones. This lets them push the bones in your toe joint back into line with each other. <sup>[2]</sup>

There are more than 100 types of osteotomy operation. <sup>[7]</sup> The type you have depends on your doctor and how far the bones in your toe joint have moved. Your doctor may:

- Take out a small piece of bone from your main foot bone and move it back into line
- Take out a small piece of bone from the base of your big toe to straighten this toe, as well as taking out a piece from your main foot bone
- Take out more bone to get your bones to line up better
- Cut the main bone in your foot further down the bone and away from your toe
- Operate on the **tendons** and **ligaments** around your big toe joint. This can make them tighter or looser. It's done through a separate cut, usually between your big toe and second toe.

Your doctor might use screws, pins, wires, or a plate to hold your bones in place after the operation. <sup>[20]</sup> <sup>[21]</sup> These parts may be left in your foot, may dissolve over time, or may be taken out in a second operation. For more, see [Holding your bones in place](#) .

For more about what happens when you have this operation, see Bunion surgery in our section on operations and tests.

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After surgery, you'll probably be given crutches and a special shoe to protect your foot. You can typically start to put weight on your foot after one or two weeks. But for some kinds of bunion surgery, you might need a plaster cast on your foot and up to your knee. The cast stops you putting weight on your foot. You won't be able to walk on it for up to six weeks. For more, see [Caring for your foot after surgery](#) .

An operation is the only way to get rid of your bunion, but surgery has risks. Your doctor will probably recommend that you try simple treatments first. For example, wearing [insoles in your shoes](#) can take the pressure off your bunion and make it hurt less. And medications can also help with pain and swelling. For more, see [What can you do for your bunions?](#)

You and your doctor may think about surgery if: <sup>[7]</sup>

- Your bunion hurts a lot
- You can't fit your foot into normal shoes
- You can't walk easily or do your usual activities.

If you have **arthritis** in your big toe joint, you may have another type of bunion operation. You might have an operation called [arthroplasty](#) or one called [arthrodesis](#) .

### How can it help?

After an osteotomy, your big toe should be straighter and your toe joint should stick out less. Also: <sup>[7]</sup> <sup>[17]</sup> <sup>[26]</sup>

- Your toe may hurt less
- You may feel happier about how your foot looks
- You may be able to move your toe up and down more comfortably
- You may be able to walk more easily.

It's hard to say how much better your toe will get because there haven't been many good studies on this. One small study followed people for up to three years after their bunion surgery: <sup>[7]</sup> <sup>[26]</sup>

- About 75 in 100 of the people said they were completely happy with the results
- About 70 in 100 people didn't have pain any more
- About 90 in 100 people could walk easily.

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But your big toe may not be perfectly straight or free of pain after an osteotomy. You may also not be able to wear all types of shoes. So be sure to talk to your doctor about what you should expect. Studies show that up to one quarter of people are not happy with the results of some osteotomy surgery. <sup>[27]</sup> <sup>[28]</sup>

- Between 10 and 20 in 100 people still have pain after the operation.
- Between 5 and 15 in 100 people still need special shoes.
- Between 2 and 3 in 100 people have problems walking easily.
- Some people, expecting their toe to be straight, aren't happy with how their foot looks.

### Different types of osteotomy

We don't know which type of osteotomy operation works best because there hasn't been much good research comparing them. <sup>[17]</sup> The type that's right for you depends on how bad your bunion is and the position of the bones in your foot. <sup>[7]</sup>

### Osteotomy compared with arthroplasty

The research shows an osteotomy might work better than another type of operation for bunions known as [arthroplasty](#). <sup>[26]</sup> In that operation, one half of your toe joint is taken out. You may be able to move your toe more after an osteotomy.

### Osteotomy compared with arthrodesis

The research shows that an osteotomy might work about as well as an operation called [arthrodesis](#) at about two years. <sup>[29]</sup> In arthrodesis, doctors join the ends of two of your bones.

### Osteotomy compared with shoe insoles or no treatment

Having an osteotomy is likely to help your bunion symptoms more than wearing [insoles you put in your shoes](#) and more than no treatment at all. <sup>[17]</sup>

- More than 80 in 100 people think their bunions are better one year after an osteotomy.
- Less than 50 in 100 people think their bunions are better after using shoe insoles for one year.
- And about 25 in 100 people think their bunions are better after one year without any treatment.

# Bunions

## How does it work?

Unlike simple treatments for bunions, an operation straightens the bones in your big toe joint. You get a bunion when the two bones in your big toe joint move out of line. This makes your joint stick out. The bunion is the bony bump you can see and feel.

An osteotomy operation takes out the bony bump and puts your big toe back into a straight line. So the joint on the inside of your foot doesn't stick out any more.

## Can it be harmful?

Yes, bunion surgery has risks. At least 6 in 100 people have problems from a type of osteotomy operation known as chevron osteotomy.<sup>[17]</sup> The problems you could have include:<sup>[17]</sup>

- An infection in your wound
- Small breaks in the bones that were operated on (doctors call these stress fractures)
- Not having any feeling around your big toe and joint, from damage to your nerves.

There's also a chance that your toe joint won't bend as much after surgery. This may be a problem if you are very active.

Other research found that as many as 40 in 100 people have problems.<sup>[27]</sup> It said the problems you could have include:<sup>[27]</sup>

- Swelling around your toe joint
- A toe that points slightly outwards rather than straight ahead.
- Very slow healing of your joint
- Getting another bunion
- Corns and calluses (these are thick patches of skin that can hurt)
- A shorter toe than before surgery
- Stiffness of your toe
- Pain in the ball of your foot.

You may also still have problems wearing all types of shoes. We don't know if this operation is harmful in the long term. The research has followed people for only a few years after surgery.

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You may be more likely to get problems if you have [diabetes](#) or your circulation isn't so good. In these conditions, you might not have as much blood flowing to your feet. Your feet need blood to heal properly.

### How good is the research on bunion surgery called osteotomy?

There isn't much research on the kind of bunion surgery called osteotomy. So it's hard to say how much better your bunion might get with this surgery. Also, there isn't enough evidence to show which type of osteotomy works best. <sup>[17]</sup>

The studies that we found followed people for only up to three years after their operation. So we don't know how long any good results last.

### Osteotomy compared with shoe insoles or no treatment

We found one summary of the research (a [systematic review](#) ) on bunion surgery. It included one good study (a [randomised controlled trial](#) ) on a type of osteotomy known as chevron osteotomy. <sup>[17]</sup>

The study looked at 209 people under the age of 60 who had bunions that hurt. Most were women. One group of the people had a chevron osteotomy. A second group wore insoles in their shoes (also called orthoses). And a third group didn't have any treatment. Surgery worked better than wearing insoles or having no treatment.

### Different types of osteotomy

We also found several small studies that compared different types of osteotomy. <sup>[27]</sup> <sup>[28]</sup> <sup>[30]</sup> <sup>[31]</sup> <sup>[32]</sup> The studies showed that all the operations worked the same for relieving pain from bunions. Some operations worked better than others to straighten the toe joint. <sup>[33]</sup> <sup>[34]</sup> But most of the studies weren't good enough to say for sure.

### Osteotomy compared with arthroplasty

The research shows an osteotomy might work better than another type of operation for bunions, called [arthroplasty](#) . <sup>[26]</sup>

### Osteotomy compared with arthrodesis

The research shows that an osteotomy might work about as well as an operation called [arthrodesis](#) . <sup>[35]</sup>

### After your bunion surgery

After bunion surgery, doctors use different ways to hold your foot bones in place. The studies we found weren't good enough to say if one way works better than another. <sup>[20]</sup> <sup>[21]</sup> <sup>[36]</sup> For more, see [Holding your bones in place](#) .

You'll also need some kind of cover on your foot to protect it. And you'll need to stay off your foot for a while. But the studies we found weren't good enough to say which type



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of cover works best and how long to rest your foot. <sup>[7]</sup> <sup>[22]</sup> <sup>[23]</sup> For more, see [Caring for your foot after surgery](#) .

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### Bunion surgery called Keller's arthroplasty

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[Does it work?](#)

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[How good is the research on bunion surgery called Keller's arthroplasty?](#)

This information is for people who have bunions. It tells you about surgery called Keller's arthroplasty, a treatment used for bunions. It is based on the best and most up-to-date research.

#### Does it work?

Maybe. This operation may get rid of your bunion. But it also removes a lot of your toe joint. And we don't know how well it works compared with other operations that take out only a small part of your toe joint.

This information is about surgery for adults. To read about surgery for children, see [Bunions in children](#) .

#### What is it?

A Keller's arthroplasty is a type of bunion surgery. It's used to put the bones in your toe joint back in a line with each other. Arthroplasty means that the shape of your joint is changed. Keller is the name of the doctor who first used this surgery for bunions.

If you have a bunion, the two bones in the joint of your big toe are out of line. This makes your toe joint stick out. The bony bump you can see and feel is the bunion. For more, see [What are bunions?](#)

In an arthroplasty operation, your doctor takes out the end of the bone in your big toe. Then they take out some of the main bone in your foot, to change this bone's shape. This means that one half of your toe joint is taken out. <sup>[2]</sup>

In a type of arthroplasty called Keller-Lelievre arthroplasty, your doctor takes out a more curved piece of some of your bone than in Keller's arthroplasty.

There are lots of ways to do bunion surgery. An arthroplasty takes out a lot of your big toe joint. But other operations take out only a small piece of bone from your joint. The operation that's right for you depends on things such as your doctor and how bad your bunions are.

Your doctor may recommend an arthroplasty if:

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- You have bad arthritis. **Arthritis** damages the ends of your bones and the **cartilage** in your joint. This can make your toe joint less stable, so your bones can slip out of place. You may need an arthroplasty to take out all the damaged bone.
- You have a very big bunion and are older. If the bones in your toe joint have moved a lot, your doctor may need to take out a lot of bone to push them back into line. Smaller operations may not work, and you may need more surgery later. If you are older, you may prefer to have just one operation.
- You have had other bunion surgery that hasn't worked. You may need to have more bone taken out to get the bones to line up. <sup>[7]</sup>

For more on other bunion operations, see [Bunion surgery called osteotomy](#) and [Other types of bunion surgery](#) .

For more about what happens when you have this operation, see Bunion surgery in our section on operations and tests.

### How can it help?

We don't know how well Keller's arthroplasty works, because there hasn't been much research on it. This operation may: <sup>[7]</sup> <sup>[26]</sup>

- Get rid of your bunion and make your big toe straight
- Help your toe hurt less
- Help you bend your toe further so you can walk more easily
- Make your foot look better.

There hasn't been much research about Keller-Lelievre arthroplasty, either. <sup>[37]</sup>

It's also hard to say how much better your toe will get. In one small study that followed people for up to three years after arthroplasty: <sup>[7]</sup> <sup>[26]</sup>

- About 75 in 100 people were completely happy with the results
- About 70 in 100 people didn't have pain any more
- About 90 in 100 people could walk easily.

Arthroplasty might work better than another operation for bad bunions in which the two bones in your toe joint are joined together permanently. <sup>[38]</sup> Doctors call this [arthrodesis](#). After this surgery, you won't be able to bend your joint properly. This means that people

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who have an arthroplasty may be able to move their toe further and walk more easily than people who have an arthrodesis. Both operations can make your big toe straighter.

### How does it work?

Keller's arthroplasty is used to put the bones in your toe joint back into a straight line. It aims to make your toe hurt less and let it move more, so you can walk more easily.<sup>[2]</sup>

### Can it be harmful?

Yes. You may have more problems after an arthroplasty than after other kinds of bunion surgery.<sup>[26]</sup> <sup>[38]</sup> But we can't say for sure how likely it is that you will get problems, because there hasn't been much good research on this.

We do know that your big toe won't work very well after a Keller's arthroplasty.<sup>[7]</sup> You may not be able to move it properly. And it may be shorter than it was before. Also, more than one half of people can't put the soft part of their toe down on the ground as they walk.<sup>[38]</sup> (doctors call this a cock-up deformity). This problem is more common after an arthroplasty than after an arthrodesis.

About 25 in 100 people who have arthroplasty are not happy with the results.<sup>[7]</sup>

### How good is the research on bunion surgery called Keller's arthroplasty?

There isn't much research on the type of bunion surgery called Keller's arthroplasty. We didn't find any good studies ( [randomised controlled trials](#) ) comparing this operation with no treatment.

We found one summary of the research (a [systematic review](#) ). It looked at four studies comparing Keller's arthroplasty or Keller-Lelievre arthroplasty with other types of surgery.<sup>[7]</sup> But the studies were small. This means we can't say for sure how well Keller's arthroplasty works compared with other bunion operations.

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## Bunion surgery called arthrodesis

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[How good is the research on bunions surgery called arthrodesis?](#)

This information is for people who have bunions. It tells you about surgery called arthrodesis, a treatment used for bunions. It is based on the best and most up-to-date research.

# Bunions

## Does it work?

We don't know. There hasn't been enough research to say whether arthrodesis works for bunions.

## What is it?

This is an operation to permanently join the ends of the two bones in your big toe. This is called fusing your bones, or **arthrodesis**. It's a serious operation. You won't be able to bend your joint afterwards. This can affect how well you walk.

For more about what happens when you have this operation, see Bunion surgery in our section on operations and tests.

## How can it help?

If you have your bones joined together in an operation called arthrodesis: <sup>[39]</sup> <sup>[40]</sup>

- Your operation may work as well as surgery called an [osteotomy](#) . A study of about 100 people found that people who had arthrodesis had as good results as people who had [osteotomy](#) . <sup>[41]</sup>
- You may not be able to move your toe quite as well as after a [Keller's arthroplasty](#) . Another study of about 100 people found those who had Keller's arthroplasty could move their toe better than those who had arthrodesis. But there was no difference in the amount of pain that people had after two years or in how happy people were with the operation. <sup>[40]</sup>

## How does it work?

Doctors may recommend this operation if you have **arthritis** . In arthritis, the **cartilage** and bones in your joint are damaged. The ends of your bones can get bumpy instead of smooth. This makes your joint less stable, so your bones could move out of place. Taking out the damaged bone and joining the ends of the bones together can hold your joint together and make it hurt less.

## Can it be harmful?

In studies, about 50 in 100 people who had this operation got problems afterwards. These included pain and hard skin, **infections** , and loss of feeling in the foot for some time. For some people the bones didn't join properly, although this didn't always cause problems.

About 2 in 100 people needed another operation for their bunions. <sup>[39]</sup>

### How good is the research on bunions surgery called arthrodesis?

There isn't very much evidence on arthrodesis for bunions. There have been only two small studies.

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## Shoe insoles

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[How good is the research on shoe insoles?](#)

This information is for people who have bunions. It tells you about shoe insoles, a treatment used for bunions. It is based on the best and most up-to-date research.

### Do they work?

We don't know. Insoles you put in your shoes may help with some symptoms of bunions, such as pain, early on. But your toe joint may start to hurt again. And insoles can't get rid of your bunion. Doctors call insoles **orthoses**.

This information is about shoe insoles for adults. To read about shoe insoles for children, see [Bunions in children](#) .

### What are they?

Insoles are shaped like your foot. You put them inside your shoe. <sup>[19]</sup> You can buy them ready-made or have them specially made to fit your foot. Your doctor can suggest the best ones for you. They come in many shapes and materials.

- A soft, padded insole absorbs shocks and cushions parts of your foot.
- A stiff insole supports your foot and shifts weight around your foot as you walk. For example, it may hold up the arch of your foot, to stop your foot rolling inwards and pressing on your big toe when you walk.

Most shoe insoles are made of both soft and stiff materials.

If you have a bunion, shoe insoles can't straighten your toe or get rid of the bony bump. <sup>[17]</sup> But they can take some pressure off your big toe.

Doctors usually recommend trying shoe insoles before other treatments such as surgery. Your doctor may also suggest some [exercises](#) to make the muscles in your toe stronger.

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## How can they help?

Insoles for your shoes can make small bunions hurt less in the early stages.<sup>[17]</sup> And if you are waiting for surgery, they may help reduce your pain while you wait.<sup>[17]</sup>

One study compared insoles with no treatment. People who wore insoles to treat their bunions had less pain after six months than people who didn't have any treatment.<sup>[17]</sup> But in most people who used the insoles, the pain came back again after one year. Also, people who wore insoles were not any happier with how their foot looked after one year than people who didn't have any treatment.<sup>[17]</sup>

There haven't been any good studies to say if shoe insoles can stop you getting bunions or stop them getting bigger. If you don't have surgery, your bunion will probably get worse. But it's hard to say how quickly this will happen. Some people have bunions that get bigger quickly. Others have only small bunions for years. For more, see [What will happen to me?](#)

## Insoles compared with surgery

For most people, surgery is probably better than shoe insoles for treating bunions that hurt. In one study, people who had surgery on their bunions were less likely to have pain or problems with shoes after one year than people who wore shoe insoles.<sup>[17]</sup> More than 80 in 100 of those who had surgery said that their foot looked and felt better than it did one year before, compared with about 50 in 100 people who wore insoles.

## How do they work?

A shoe insole works by shifting weight and pressure away from your big toe to another part of your foot as you walk.<sup>[19]</sup> The padding and ridges on the insoles aim to cushion or support your foot. If there is less pressure on your big toe, your bunion shouldn't hurt as much.

But shoe insoles can only help with your symptoms. They can't put the bones in your big toe joint back in line or get rid of the bony bump.

## Can they be harmful?

There isn't any research to show that shoe insoles are harmful for adults.<sup>[17]</sup> It's possible that insoles could make your bunion worse.<sup>[17]</sup> But most experts agree that this won't happen if your insoles are fitted properly.

## How good is the research on shoe insoles?

There isn't much research on shoe insoles, also called **orthoses**. We found only one small study (a randomised controlled trial) looking at shoe insoles for treating bunions that hurt.<sup>[17]</sup> It had 209 adults. This means we don't know whether they work for treating bunions or which people they are most likely to help.

## Night splints

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[How can they help?](#)

[How do they work?](#)

[Can they be harmful?](#)

[How good is the research on night splints?](#)

This information is for people who have bunions. It tells you about night splints, a treatment used for bunions. It is based on the best and most up-to-date research.

### Do they work?

We don't know whether splints worn at night to support your big toe can stop your bunions getting worse. There isn't any good evidence to tell us.

### What are they?

You wear night splints on your feet while you sleep. They are usually a plastic brace with a padded cushion that you strap around your big toe. Your doctor can recommend a night splint that fits you properly. You can buy the splint through mail order.

Night splints are used to support your big toe at night and stop it moving even more towards your other toes. But these splints won't get rid of your bunion.

### How can they help?

We don't know if night splints help because there isn't any good research to tell us. <sup>[7]</sup>

### How do they work?

Night splints try to balance the pull of your muscles, tendons, and ligaments around your big toe. You get bunions if these get out of balance. When this happens, your joint is less stable and your bones start to move out of line. So in theory, a splint to hold your big toe in line should slow your bunion getting worse.

### Can they be harmful?

There isn't any good research to tell us whether night splints have side effects. <sup>[7]</sup>

### How good is the research on night splints?

We didn't find any good studies ( randomised controlled trials ) comparing night splints with other treatments, or with no treatment for bunions. <sup>[7]</sup> This means that we can't say whether they work.

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## Other types of bunion surgery

In this section

# Bunions

## [Which operation is right for you?](#)

This information is for people who have bunions. It tells you about several of the operations that can be used to treat bunions.

We haven't looked at the research on these types of surgery in as much detail as we've looked at the research on most of the treatments we cover. (To read more, see Our method.) But we've included some information because you may have heard of these treatments or be interested in them.

## Which operation is right for you?

You get a bunion when the two bones in the joint of your big toe move out of line. This makes your big toe joint stick out. The bony bump you can see and feel is the bunion. Most bunion surgery aims to put the two bones back into line.

You may be surprised to know that there are more than 100 types of bunion surgery. There are different ways to take out bone, mend the shape of your joint, and make the tissues around your joint tighter or looser.

The type of surgery you need depends on things such as how bad your bunion is, how far your bones have moved, and what your doctor suggests. There isn't much good evidence that one type of operation works better than another. Talk to your doctor about how they plan to get rid of your bunion.

- The most common type of surgery is [osteotomy](#). The bones in your toe joint are cut and put back into line with each other.
- A less common type is [arthroplasty](#). This is usually used if you have bad bunions and are older.
- Another type is called [arthrodesis](#). This is sometimes used if you have [arthritis](#).

There are also other options, which we look at here. We don't have enough evidence yet to say if they work and how safe they are.

## Surgery just to get rid of your bony bump

The surgery that doctors use just to get rid of your bony bump is called **exostectomy**. In this operation, doctors just shave off the part of the bone that's sticking out (the bunion). They don't put the bones in your toe joint back into line with each other. This is the least serious type of bunion surgery.<sup>[7]</sup>

Your foot may look better afterwards and your shoes may fit better. But this surgery doesn't mend your toe joint. That means your bones can keep moving and cause another bunion. Doctors don't use this operation very often.



### Surgery just on your soft tissues

Different kinds of tissues wrap around your toe joint and help hold your bones in place. Doctors call these soft tissues. They include muscles, [tendons](#) , and [ligaments](#) .

Sometimes these tissues get too tight or too loose. This upsets the balance around your joint, so your bones can start to move out of line. Then you get a bunion. Surgery can mend these tissues, so that your toe can move properly again.

Surgery on your soft tissues is sometimes done on its own. But the results may not last very long. It's usually used with other types of operations that take out some bone or fix the shape of your toe joint. <sup>[42]</sup>

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### Further informations:

#### What can you do for your bunions?

Here are some things you can try to stop your bunions getting worse and make them hurt less. <sup>[18]</sup>

- Wear roomy, comfortable shoes that have lots of space for your toes. Don't wear shoes that are too tight, too narrow, or too pointed.
- Wear shoes that have laces or buckles that you fasten. Shoes that fasten up give your foot more support than slip-on shoes.
- Wear flat shoes or shoes with a low heel. High heels force your toes into the front of your shoes and crowd them. This can make your bunions worse.
- Put a pad on your bunion. Covering your bunion with a pad may protect it from pressure and rubbing, so it won't hurt as much.
- Ask your doctor about painkillers. These include nonsteroidal anti-inflammatory drugs (NSAIDs for short), such as ibuprofen. NSAIDs might help with your pain and swelling.
- Ask about insoles you put in your shoes. Doctors call these orthoses. The way you walk can put extra stress on your big toe joint. Shoe insoles may stop the stress and the pain for a short while. For more, see [Shoe insoles](#) .
- Ask about splints you wear at night. You can wear these to hold your toes straight while you sleep. For more, see [Night splints](#) .

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- Ask about exercises. Your doctor can suggest exercises to make the muscles in your big toe stronger. For example, you can try putting your feet side by side and moving your big toes towards each other three or four times a day.

### Bunions in children

#### How common are they?

Bunions don't happen only in adults. Some children and teenagers get them too. A study of 6,000 school children aged between 9 and 10 years found that 122 children had bunions. Some of the children didn't have any symptoms. But X-rays showed that the bones in their toe joint had moved out of line.<sup>[13]</sup>

#### When to see your doctor

See your doctor if your child has a bony bump at their big toe joint that hurts or stops their shoes fitting properly.

#### Treating your child's bunions

##### Shoe insoles

Children's bunions are sometimes treated with insoles that go in their shoes.<sup>[19]</sup> Insoles are shaped like feet. You can buy them ready-made or have them specially made to fit your child's feet.

Doctors call insoles **orthoses**.

Insoles come in many shapes and materials.<sup>[19]</sup>

- A soft, padded insole absorbs shock and cushions your child's foot.
- A stiff insole supports your child's foot and shifts weight to another part of their foot as they walk.

Most insoles are made of both soft and stiff materials.

One type of shoe insole that's often used aims to stop the arch of your child's foot getting too flat when they walk. This way of walking puts pressure on the inside of their foot and may cause bunions.<sup>[13]</sup> The insole also stops your child's foot rolling to the inside. Doctors call this type of insole an **antipronatory orthosis**.

In theory, the support from this insole should stop your child getting bunions or stop their bunions getting worse. But research shows that this type of insole might make their bunions worse, not better.<sup>[19]</sup>

## Bunions

In the study above, one half of the 122 children with bunions got a shoe insole to wear, and one half didn't have any treatment. Ninety-three of the children had a foot X-ray again three years later. The X-rays showed that bunions had got worse in both groups of children but were slightly worse in the children who wore shoe insoles.

There isn't enough research to tell us if other types of shoe insoles for children might also be harmful.

### Bunion surgery

It's possible for children to have bunion surgery to put the bones of their toe joint back in line. But most doctors say it's best to wait until your child's bones are fully grown. Having surgery too young makes it more likely that your child's bunion will come back soon.

### Holding your bones in place after surgery

If you have bunion surgery, doctors usually cut and move some of the bones in your big toe joint. Then they use special parts to hold these bones in place while you heal. Your doctor will use screws, pins, wires, or a plate to do this. These parts may be:

- Left in your foot permanently
- Made of material that dissolves over time
- Taken out later, during a second operation.

There isn't enough research to say which way works best. But here is what we know so far.

#### A pin that dissolves compared with a wire

One study compared a pin that dissolves with a wire for holding bones in place after bunion surgery.<sup>[20]</sup> The wire was a type called a Kirschner wire. It is thin and stiff. Doctors put it through holes they make in your bones.

The study showed that the pin worked as well as the wire. Also, you're less likely to need another operation with this pin than with the wire. And there isn't any metal to take out if you get problems.

#### A screw compared with a strong stitch

A small study of 30 people compared a screw with a strong stitch (called a suture) for holding bones in place after bunion surgery.<sup>[21]</sup>

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The screw was used with a shoe made of plaster. People in this group could start walking earlier after their operation. The strong stitch was used with a boot made of plaster that people wore for six weeks. People in this group didn't put weight on their foot until later.

The study showed that compared with the people who got the stitch and plaster boot, the people who got the screw and plaster shoe:

- Got back to their work and social life in almost half the time if they could walk early
- Were happier with the results
- Could wear normal shoes sooner.

But 2 in 15 people who got the screw needed another operation to take it out because of pain. And people who started walking sooner after their operation were more likely to have a stiff big toe joint later.

### Caring for your foot after surgery

Your big toe joint needs time to heal after your bunion surgery. This means wearing some kind of cover to protect it and staying off your foot for a while.

#### Which cover works best?

After bunion surgery, doctors use different kinds of covers to protect your foot:

- A hard cast made of plaster
- A special shoe
- A soft bandage made of cloth.

We don't know which one works best because there hasn't been much research on this.<sup>[7]</sup> Here is what we know so far.

A soft cloth bandage works as well as a hard plaster cast for protecting your foot after surgery.<sup>[7] [22] [23]</sup>

The two covers work the same in terms of:

- How much your foot hurts three months after the operation<sup>[22]</sup>
- How long it takes you to get back to normal<sup>[22]</sup>

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- How much better the angles between your foot bones are after surgery. <sup>[23]</sup>

## How long should you stay off your foot?

We also don't know for sure when is the best time to start standing and walking on your foot after bunion surgery. One summary of the evidence (a [systematic review](#)) showed that toe joints heal the same if you rest your foot in a plaster cast for at least one month afterwards or if you start putting weight on your foot soon after surgery. <sup>[7]</sup> <sup>[24]</sup>

It also isn't clear whether having a machine to move your toe around after surgery (called continuous passive motion) helps you to recover. Doing this is thought to prevent scar tissue. <sup>[25]</sup>

### Glossary:

#### ligament

A ligament is a strong piece of tissue that connects one bone to another. For example, ligaments in your ankle connect the bones of your leg to the bones of your heel.

#### tendons

Tendons are the tough, rope-like connections between muscles and bones.

#### inflammation

Inflammation is when your skin or some other part of your body becomes red, swollen, hot, and sore. Inflammation happens because your body is trying to protect you from germs, from something that's in your body and could harm you (like a splinter) or from things that cause allergies (these things are called allergens). Inflammation is one of the ways in which your body heals an infection or an injury.

#### arthritis

Arthritis is when your joints become inflamed, making them stiff and painful. There are different kinds of arthritis. Osteoarthritis is the most common type. It happens when the cartilage at the end of your bones becomes damaged and then starts to grow abnormally. Rheumatoid arthritis happens because your immune system attacks the lining of your joints.

#### cartilage

Cartilage is a rubbery type of tissue that's usually found at the ends of your bones. It acts like a shock absorber to keep the bones from grinding against each other. It also gives shape to certain parts of your body, such as your nose and the outside of your ears.

#### rheumatoid arthritis

If you have rheumatoid arthritis, your joints get painful, swollen, and stiff. Rheumatoid arthritis is caused by inflammation inside your joints. It happens when your immune system attacks the lining of your joints.

#### X-ray

X-rays are pictures taken of the inside of your body. They are made by passing small amounts of radiation through your body and then onto film.

#### systematic reviews

A systematic review is a thorough look through published research on a particular topic. Only studies that have been carried out to a high standard are included. A systematic review may or may not include a meta-analysis, which is when the results from individual studies are put together.

#### infection

You get an infection when bacteria, a fungus, or a virus get into a part of your body where it shouldn't be. For example, an infection in your nose and airways causes the common cold. An infection in your skin can cause rashes such as athlete's foot. The organisms that cause infections are so tiny that you can't see them without a microscope.

#### diabetes

Diabetes is a condition that causes too much sugar (glucose) to circulate in the blood. It happens when the body stops making a hormone called insulin (type 1 diabetes) or when insulin stops working (type 2 diabetes).

#### randomised controlled trials

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Randomised controlled trials are medical studies designed to test whether a treatment works. Patients are split into groups. One group is given the treatment being tested (for example, an antidepressant drug) while another group (called the comparison or control group) is given an alternative treatment. This could be a different type of drug or a dummy treatment (a placebo). Researchers then compare the effects of the different treatments.

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