CONDITION

# High arch

A high arch is a foot shape that places extra pressure on the heel and ball of the foot.

**WHAT IT IS**
An unusually raised arch of the foot

**BODY SYSTEM**
Bones, joints, muscles, and nerves

**MAIN SYMPTOMS**
Foot pain, calluses, ankle instability, claw toes

**WHAT CAUSES IT**
Inherited structure, nerve conditions, or unknown

**HOW IT IS DIAGNOSED**
Foot examination and weight-bearing X-rays

**MAIN TREATMENT**
Supportive footwear, orthoses, therapy, or surgery

**CAN IT BE CURED?**
Sometimes - surgery corrects selected deformities

**IS IT AN EMERGENCY?**
No - usually managed through routine care

**LONG-TERM OUTLOOK**
Often manageable, though some cases slowly worsen

## Overview

A high arch is a foot shape in which the inside arch stays unusually raised when you stand. The medical term is a cavus foot or pes cavus. It may affect one or both feet.

Some people naturally have high arches and never develop problems. In others, the shape places too much weight on the heel and the ball of the foot. This can lead to pain, hard skin, difficulty fitting shoes, or repeated ankle sprains.

A high arch may be flexible, meaning the foot can still move toward a more normal position. It may also become stiff or fixed. The heel can tilt inward, and the toes may curl. These changes affect how the foot absorbs shock and adjusts to uneven ground.

High arches sometimes develop because the muscles controlling the foot are not working in balance. For this reason, a new, worsening, or one-sided high arch may need assessment for an

underlying nerve or muscle condition. This does not mean that everyone with high arches has a neurological disorder.

## Symptoms

A high arch may not cause any symptoms. When symptoms occur, they usually come from uneven pressure or reduced shock absorption.

You may notice:

Because the foot may be less able to absorb impact, some people develop pain during running or other higher-impact activity. Repeated ankle sprains can occur if weight is pushed toward the outside edge of the foot.

A stiff high arch can make walking less comfortable. If an underlying nerve condition is present, there may also be muscle weakness, numbness, tingling, or changes in the lower legs or hands.

Symptoms in both feet often develop gradually. A high arch that appears suddenly, affects only one foot, or progresses quickly deserves medical assessment.

- Pain under the heel, through the arch, or beneath the ball of the foot
- Thickened skin or calluses at pressure points
- Toes that curl downward, called claw toes or hammer toes
- An ankle that feels unstable or rolls outward easily
- Shoes wearing down unevenly
- Difficulty finding comfortable shoes
- Tired or aching feet after standing or walking
- Reduced balance, especially on uneven ground

## Causes and risk factors

High arches may be inherited as part of your natural foot structure. In many people, no specific cause is found.

They can also result from an imbalance between the muscles that pull the foot in different directions. This may happen with conditions affecting the nerves, spinal cord, brain, or muscles.

Possible underlying causes include:

Charcot-Marie-Tooth disease is an important cause of progressive high arches, but it is not the

cause in most people who simply have naturally high arches.

A neurological cause is more likely to be considered when both feet are changing, the deformity is getting worse, or there is weakness, numbness, poor balance, or a family history of similar problems. A one-sided change can sometimes point to a local nerve or spinal problem.

Having a high arch does not necessarily mean it will become painful or require treatment.

- Charcot-Marie-Tooth disease, an inherited condition affecting peripheral nerves
- Cerebral palsy
- Spina bifida
- Previous stroke or spinal cord injury
- Certain muscle disorders
- Residual changes after clubfoot
- Major foot injury

## Diagnosis

A clinician usually identifies a high arch by examining your feet while you sit, stand, and walk. They may look at the position of your heels and toes, areas of hard skin, ankle stability, and how much the foot can move.

You may be asked about when the shape first appeared, whether it is changing, previous ankle sprains, and whether relatives have similar feet. The examination may also include muscle strength, reflexes, sensation, and the shape of your legs or spine.

Weight-bearing X-rays are often used when symptoms are significant, the shape is changing, or surgery is being considered. These X-rays are taken while you stand so they show how the bones line up under pressure.

Other tests are chosen only when needed. They may include:

These additional tests do not confirm every high arch. Their purpose is usually to investigate why it developed or to plan treatment.

- Nerve conduction studies and electromyography, which test nerve and muscle function
- MRI or CT scans to examine soft tissues, joints, bones, or the spine
- Blood or genetic testing when a particular underlying condition is suspected

## Treatment and management

A painless, stable high arch may not need treatment. Management focuses on relieving pressure, improving stability, and protecting the foot.

Shoes with enough depth and width can make room for curled toes and reduce rubbing. A cushioned sole may help absorb impact. A stable heel and secure fastening can help if the ankle tends to roll.

An orthosis is an insert worn inside the shoe. It can redistribute pressure and support a flexible foot. Some people use an over-the-counter insert, while others need a custom-made device because of the shape or stiffness of the foot. An ankle brace may be useful for repeated instability or weakness.

Physical therapy may help maintain movement, strengthen muscles, improve balance, and stretch a tight calf or sole of the foot. Stretching does not usually change a fixed bony arch, but it may reduce stiffness and improve function.

Calluses should be managed carefully. A foot specialist can reduce thickened skin and advise on pressure relief. Cutting a callus yourself can cause injury, especially if you have diabetes, reduced circulation, or loss of feeling.

Surgery may be considered when pain, instability, skin damage, or walking difficulty continues despite non-surgical treatment. The operation depends on whether the foot is flexible or rigid and which joints, bones, tendons, or ligaments are involved. It may involve moving a tendon, reshaping or repositioning bone, correcting the toes, or joining a painful joint.

Recovery after surgery often involves a period of restricted weight-bearing followed by rehabilitation. Surgery aims to create a more stable, balanced foot. It cannot always restore completely normal movement or remove every symptom.

If another condition is causing the high arch, that condition may also need separate care.

## Complications

Uneven pressure can lead to painful calluses, corns, or skin breakdown. These problems are more concerning if you have reduced sensation, diabetes, or poor circulation because an injury may be harder to notice or heal.

Other possible complications include:

Not everyone develops these problems. Risk is influenced by the stiffness of the foot, activity level, footwear, muscle strength, and whether the shape is progressing.

- Repeated ankle sprains
- Ongoing pain beneath the heel or ball of the foot
- Tendon irritation
- Claw toes or hammer toes
- Stress injuries to bones on the outside of the foot
- Ankle arthritis or pain in other foot joints
- Increasing stiffness or difficulty walking

## Prevention

A naturally inherited high arch cannot usually be prevented. High arches caused by an inherited nerve condition also cannot be prevented through footwear, exercise, or lifestyle changes.

You may be able to reduce secondary problems. Wearing well-fitting shoes, replacing worn footwear, and using recommended inserts can reduce pressure and improve stability. Strength and balance work may help prevent repeated ankle sprains.

Check your feet for rubbing, blisters, or broken skin if sensation is reduced. Gradually increasing running or walking distance may also limit overload injuries.

These steps may protect the foot, but they do not necessarily lower or permanently reshape the arch.

## Living with it and what to expect

Many people with stable high arches remain active and need only suitable footwear or inserts. Symptoms may come and go depending on activity, shoe choice, body weight, and how long you spend standing.

A flexible high arch may remain much the same for years. A stiff deformity is less likely to change without surgery. If a progressive nerve or muscle condition is responsible, the arch, toes, strength, or balance may gradually change over months or years.

Routine follow-up may be useful if you have an underlying neurological condition, repeated sprains, reduced sensation, or a foot shape that is becoming more pronounced. Follow-up allows footwear, braces, or orthoses to be adjusted before pressure points cause larger problems.

Inspect shoes for uneven wear and check whether inserts still fit correctly. Children and

teenagers with high arches may need reassessment as their feet grow.

Activity is usually encouraged within comfort. Lower-impact exercise, such as cycling or swimming, may be easier during painful periods. If you run or play sport, supportive footwear and a gradual training plan may reduce stress on the foot.

The long-term course is not the same for everyone. A person with a painless inherited foot shape may need little care, while someone with progressive weakness may need ongoing support and occasional changes in treatment.

## When to get medical help

Arrange a routine appointment if:

Seek prompt medical advice for broken skin, an ulcer, warmth, swelling, or drainage, particularly if you have diabetes, poor circulation, or reduced feeling in your feet.

Get urgent care after an injury if you cannot bear weight, the foot looks deformed, or pain and swelling are severe.

Seek emergency care if a foot suddenly becomes cold, pale or blue, very numb, or difficult to move. These symptoms may indicate a serious problem with circulation or nerves rather than the high arch itself.

- Foot pain keeps returning or limits walking, work, or exercise
- You have repeated ankle sprains
- Calluses, curled toes, or difficulty fitting shoes are getting worse
- The arch appears to be increasing
- One foot has changed shape without a clear reason
- You develop weakness, numbness, tingling, or balance problems
- A child's feet are changing or causing pain

## Common questions

Why are my arches so high?

Your arches may simply be part of your inherited foot shape. In some people, high arches develop because of an imbalance in the nerves and muscles controlling the foot. An assessment is more important if the shape is new, one-sided, worsening, or accompanied by weakness or numbness.

Are high arches the opposite of flat feet?

Yes. With a flat foot, the arch lowers toward the ground when standing. With a high arch, it stays raised. Either shape can be painless, but both can cause problems when pressure is not spread evenly.

Can high arches get worse with age?

They can, but they do not always. A fixed structural arch may remain stable. High arches linked to a progressive nerve or muscle condition may become more pronounced, stiffer, or weaker over time.

What shoes are best for high arches?

Shoes often feel better when they have cushioning, a stable heel, secure fastening, and enough depth for the toes. The best design also depends on whether your foot is flexible, whether your ankle is unstable, and where pressure builds up.

Do high arches always need surgery?

No. Many people manage symptoms with footwear, inserts, braces, activity changes, or physical therapy. Surgery is usually considered for persistent pain, instability, skin problems, or major walking difficulty that has not improved with non-surgical care.

Can high arches cause knee, hip, or back pain?

A high arch can alter how force travels through the leg, so it may contribute to discomfort elsewhere. However, knee, hip, and back pain have many possible causes. Foot treatment will not necessarily resolve pain in another area.

## Sources

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