CONDITION

Valgus calcaneus

Valgus calcaneus is an outward tilt of the heel bone when standing.

WHAT IT IS
Outward tilting of the heel bone during standing

BODY SYSTEM
Bones, joints, muscles, and tendons

MAIN SYMPTOMS
Heel tilt, flat arch, foot pain, walking fatigue

WHAT CAUSES IT
Development, foot structure, tendon weakness, injury, or arthritis

HOW IT IS DIAGNOSED
Standing examination and weight-bearing foot X-rays

MAIN TREATMENT
Supportive footwear, orthoses, exercises, sometimes surgery

CAN IT BE CURED?
Sometimes - growth or surgery can correct alignment

IS IT AN EMERGENCY?
Sometimes - after injury with severe pain or numbness

LONG-TERM OUTLOOK
Often stable, but some painful adult cases progress

Overview

Valgus calcaneus means that the calcaneus, or heel bone, tilts outward when you stand. Viewed from behind, the heel may angle away from the middle of the body instead of sitting more vertically beneath the lower leg.

The term describes an alignment rather than a disease. A small amount of heel valgus can be part of normal foot movement. It becomes more important when the tilt is marked, causes symptoms, affects walking, or develops because another part of the foot is not working normally.

Valgus heel alignment often occurs with a low or flattened arch. This combination is commonly called a flatfoot or planovalgus foot . However, the heel and arch are separate parts of the assessment. A person may have visible heel valgus without severe arch collapse.

The alignment may be flexible or rigid. A flexible heel moves toward a more neutral position when you sit, lift the foot, or rise onto your toes. A rigid heel stays tilted. This difference helps identify the cause and guides treatment.

Children commonly have flexible, painless flat feet while their feet are developing. In adults, new or worsening heel valgus can sometimes be part of progressive collapsing foot deformity , previously called adult-acquired flatfoot. This may involve weakness of tendons and ligaments that support the arch.

Symptoms

Many people with valgus calcaneus have no pain and do not need treatment. The change may first be noticed because the heels of shoes wear unevenly or because the feet look different from behind.

When symptoms occur, they can include:

Pain on the inner side of an adult ankle may come from the posterior tibial tendon. This tendon runs behind the inner ankle and helps support the arch. As the foot changes shape, pressure can also develop on the outer side of the ankle.

In children, flexible valgus alignment is usually painless. Persistent pain, stiffness, limping, frequent activity limits, or a difference between the two feet deserves assessment rather than being assumed to be normal growth.

- Pain or aching around the inner ankle, heel, arch, or outer foot
- Tired or heavy-feeling feet after standing or walking
- A low arch that becomes more obvious during weight-bearing
- Uneven shoe wear or difficulty finding comfortable footwear
- An ankle that seems to roll inward
- Reduced balance or difficulty walking on uneven ground
- Stiffness or difficulty rising onto the toes of one foot

Causes and risk factors

Valgus calcaneus can result from several different foot shapes and conditions. Sometimes there is no single identifiable cause.

In young children, the arch and supporting tissues are still developing. Flexible flat feet and

outward heel tilt may be part of normal development. Family foot shape and naturally loose ligaments can also contribute.

In adults, valgus alignment may be longstanding or may develop later. Causes and contributing factors include:

Body weight, repeated high loads, and long periods of standing may add strain to an already vulnerable foot. They do not, by themselves, explain every case.

A newborn condition called calcaneovalgus foot has a similar name but is different. In calcaneovalgus foot, the newborn's foot is positioned upward and outward, often because of its position in the womb. It should be assessed as an infant foot-position condition rather than assumed to be the same as an older child's or adult's flatfoot.

- Flexible flatfoot that continues from childhood
- Weakness or damage of the posterior tibial tendon
- Stretching of ligaments that support the arch
- Previous fractures, sprains, or other foot and ankle injuries
- Arthritis affecting joints beneath or in front of the ankle
- A tight calf muscle or Achilles tendon
- Tarsal coalition, in which foot bones are joined abnormally
- Nerve or muscle conditions that affect foot control
- Inflammatory conditions that damage joints or tendons

Diagnosis

Diagnosis starts with an examination while you are standing and walking. The shape may look much less pronounced when you are sitting, so weight-bearing assessment matters.

A healthcare professional may look at:

A single-leg heel-rise test may be used. This involves lifting the heel while standing on one foot. Difficulty doing this, or failure of the heel to turn inward, can suggest a problem with the arch-supporting structures. Pain, balance, and other health conditions can also affect the test, so it is not used alone.

Standing, or weight-bearing, X-rays show how the bones line up under normal load. They may be recommended when symptoms are persistent, the foot is stiff, the change is progressing, or surgery is being considered.

Ultrasound or MRI can examine tendons, ligaments, and other soft tissues. CT may help identify a tarsal coalition, complex bone shape, or arthritis. These scans are not needed for every flexible, painless foot.

- The heel from behind and the height of the arch
- Whether one or both feet are affected
- How the foot moves during walking
- Whether the heel straightens when you rise onto your toes
- The strength of the muscles and tendons around the ankle
- Joint flexibility, calf tightness, and areas of tenderness
- Whether the alignment is flexible or rigid

Treatment and management

Treatment is based on symptoms, flexibility, the cause, and whether the alignment is changing. The appearance of the heel alone does not always need correction.

For painless, flexible valgus alignment, reassurance and observation may be enough. Routine follow-up may be appropriate if the shape is changing or if a child begins to develop pain or activity limits.

Supportive shoes can make standing and walking more comfortable. A firm heel counter-the part of the shoe surrounding the heel-may help control movement. Shoes should still have enough room and should not cause pressure or rubbing.

Foot orthoses are inserts worn inside shoes. They may support the arch, improve comfort, and spread pressure more evenly. Ready-made inserts are enough for some people; others may be offered custom devices. Orthoses generally manage symptoms and function rather than permanently changing the shape of a flexible adult foot.

Physiotherapy may focus on:

Short-term bracing or immobilisation may be used for a painful tendon or a more advanced deformity. Pain medicines may sometimes help, but suitability depends on your health, other medicines, and the cause of the pain.

Surgery is not usually needed for a painless flexible foot. It may be considered when pain and disability continue despite non-surgical care, when the deformity is rigid or worsening, or when there is substantial tendon or joint damage.

The operation depends on which structures are affected. It may involve repositioning the heel

bone, repairing or transferring a tendon, supporting ligaments, lengthening a tight calf muscle, removing a coalition, or joining painful arthritic joints. Recovery can take months and usually includes a period of protected weight-bearing and rehabilitation.

- Stretching a tight calf or Achilles tendon
- Strengthening muscles that support the foot and ankle
- Improving balance and control during walking
- Adjusting activity while irritated tissues recover
- Gradually returning to sport or longer walking

Complications

Valgus calcaneus does not always lead to complications. Many flexible cases remain comfortable and stable.

When the alignment is marked or progressive, possible problems include ongoing foot or ankle pain, tendon strain, calluses, difficulty with footwear, reduced walking tolerance, and less confidence on uneven ground.

Long-term changes in the way pressure passes through the foot can contribute to stiffness or arthritis in some joints. In progressive collapsing foot deformity, the foot can become flatter and less flexible over time. Pain may shift from the inner ankle to the outer ankle as the bones begin to press together differently.

Complications after surgery can include infection, delayed bone healing, nerve irritation, stiffness, blood clots, or incomplete pain relief. The risks differ according to the procedure and your general health.

Prevention

Many cases cannot be prevented. Developmental foot shape, inherited ligament looseness, tarsal coalition, and some nerve or muscle conditions are not caused by anything you did.

Shoe inserts or special shoes do not reliably prevent a painless child's flexible flatfoot from developing. They may still be useful when a child has symptoms.

You may be able to reduce strain and manage symptoms by increasing new activities gradually, using footwear suited to the activity, and completing rehabilitation after a foot or ankle injury. Seeking assessment for new adult arch collapse or inner ankle pain may allow

tendon problems to be managed before the foot becomes rigid, although progression cannot always be prevented.

Living with it and what to expect

A child with painless, flexible valgus alignment can usually take part in ordinary play and sport. The arch and heel position may change as the child grows, but some people continue to have flexible flat feet as adults without significant problems.

Pain, stiffness, limping, or withdrawal from usual activities is not something a child simply has to tolerate. These changes are reasons for a routine assessment.

In adults, longstanding flexible alignment may remain stable for years. Supportive footwear, orthoses, exercises, and changes to activity can often keep symptoms manageable. Inserts may need replacement as they wear, and exercise plans may need to change if strength or mobility changes.

A foot affected by tendon failure or arthritis may gradually become flatter, stiffer, or more painful. Not everyone follows this course. Follow-up is useful if you notice increasing tilt, loss of arch height, new weakness, or declining walking ability.

If surgery is needed, recovery is usually gradual rather than immediate. Swelling may last for several months, and rehabilitation is important for rebuilding strength and walking control. The expected result depends on the underlying cause, the joints involved, and the type of procedure.

When to get medical help

Arrange a routine appointment if:

Seek urgent medical assessment after an injury if you cannot bear weight, the foot looks newly deformed, or pain and swelling are severe.

Seek emergency care if the foot becomes cold, pale, blue, or numb, or if you lose movement after an injury. A rapidly spreading red, hot swelling with fever also needs prompt medical care, particularly if you have diabetes, poor circulation, or reduced immunity.

- Foot or ankle pain lasts, returns, or limits normal activity
- The heel position or arch is changing over time
- One foot looks noticeably different from the other

- The foot is stiff rather than flexible
- You have inner ankle swelling or difficulty rising onto your toes
- A child is limping, avoiding play, or reporting persistent pain
- Shoes repeatedly cause pressure, sores, or marked uneven wear

Common questions

Is valgus calcaneus the same as flat feet?

Not exactly. Valgus calcaneus describes the outward tilt of the heel. Flatfoot describes a low arch. They often occur together as a planovalgus foot, but each feature can be assessed separately.

Can valgus calcaneus correct itself?

Flexible alignment in children may become less noticeable as the feet develop. It can also remain into adulthood without causing problems. A rigid deformity or new adult arch collapse is less likely to correct without treating its cause.

Do I need orthotics?

Not everyone does. Orthoses may help if you have pain, fatigue, pressure points, or difficulty with footwear. They can improve support and comfort, but they do not usually create a permanent structural correction in an adult flexible foot.

Can exercises straighten my heel?

Exercises can improve strength, flexibility, balance, and symptoms. They may improve control of a flexible foot, but they cannot reliably reshape rigid bones or reverse advanced arthritis.

Can I still run or play sport?

Many people can. Activity is usually guided by comfort, strength, and the cause of the alignment. Pain that changes your gait, worsens steadily, or continues after activity should be assessed. A gradual return and suitable footwear may help.

Will I need surgery?

Most painless or mildly symptomatic flexible feet do not need surgery. Surgery is mainly considered for continuing pain, loss of function, rigid alignment, or progressive tendon and joint problems after non-surgical treatment has not provided enough relief.

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