CONDITION

Bowlegs

Learn when bowlegs are a normal part of childhood, what can cause persistent bowing, and when medical evaluation or treatment may be needed.

WHAT IT IS
Outward curvature of the legs

BODY SYSTEM
Bones and joints

MAIN SYMPTOMS
Space between knees, curved legs, limping, leg or knee pain

WHAT CAUSES IT
Normal development or underlying bone disorders

HOW IT IS DIAGNOSED
Clinical examination, standing X-rays, blood tests

MAIN TREATMENT
Observation or cause-specific treatment

CAN IT BE CURED?
Sometimes - normal bowing often resolves

IS IT AN EMERGENCY?
Sometimes - severe pain or pale, cold foot

LONG-TERM OUTLOOK
Usually resolves, but untreated abnormal bowing may cause joint damage

Overview

Bowlegs are an outward curve of the legs. The medical term is genu varum . When a person with bowlegs stands with the feet and ankles together, the knees remain apart.

Some bowing is normal in babies and young toddlers. It reflects how the legs were positioned before birth. As a child grows and begins walking, the legs usually become straighter. Many children later go through a temporary knock-kneed stage, in which the knees angle inward.

Normal developmental bowing is called physiologic genu varum . It is usually present in both legs, does not cause pain, and gradually improves. Special shoes, exercises, or braces do not make this normal process happen faster.

Bowing may need evaluation if it is severe, affects one leg more than the other, becomes

worse, or continues beyond the expected age. In these situations, it can be related to a growth-plate disorder, a bone-mineral problem such as rickets, a previous injury, or another medical condition.

Adults may have bowlegs that continued from childhood. Bowing can also become more noticeable when knee arthritis wears down the inner side of a knee joint. The importance of adult bowing depends on whether it causes pain, instability, difficulty walking, or joint damage.

Symptoms

The main sign is a visible space between the knees when the feet and ankles are together. A child's feet may point inward while walking, although intoeing is a separate feature and does not always require treatment.

Normal childhood bowing is usually:

Bowing caused by an underlying condition may look different. One leg may curve more than the other, or the curve may be sharply focused below the knee. The bowing may increase rather than improve. A child may limp, have an unusual thrust of the knee while walking, tire easily, or report leg or knee pain.

Other symptoms can offer clues. Delayed growth, muscle weakness, bone tenderness, delayed tooth development, or widened wrists and ankles can occur with rickets. Rickets is a condition in which growing bones do not mineralize, or harden, normally.

In adults, symptoms may include pain along the inner side of the knee, stiffness, reduced movement, or difficulty with longer walks. However, leg shape alone does not show how healthy a joint is. Some adults with bowlegs have little or no discomfort.

- Similar on both sides
- Painless
- Gradually improving as the child grows
- Not interfering with walking or play

Causes and risk factors

In most infants and young toddlers, bowing is a normal stage of development. This physiologic bowing generally becomes less noticeable during the first few years of life.

Blount disease is an abnormality of the growth plate near the top of the shinbone, or tibia. A

growth plate is an area of developing tissue near the end of a child's bone. In Blount disease, growth becomes uneven, causing progressive bowing below the knee. It can affect one or both legs.

Blount disease can begin in early childhood or during adolescence. Risk is associated with early walking, higher body weight, and family or genetic factors, but these features do not mean that a child has the condition. Diagnosis requires a medical assessment.

Rickets can also cause bowing. Nutritional rickets most often results from too little vitamin D or calcium. Vitamin D helps the body absorb calcium and supports normal bone mineralization. Less common forms of rickets can result from inherited conditions or problems involving phosphate, the kidneys, liver, or intestines.

Other possible causes include:

Family leg shape can influence alignment. A person's natural alignment varies, and a mild curve is not necessarily a disease.

- A fracture that healed in an angled position
- Injury or infection involving a growth plate
- Skeletal dysplasia, a group of conditions affecting bone and cartilage growth
- Certain metabolic or genetic bone disorders
- Uneven wear from knee osteoarthritis in adults

Diagnosis

A healthcare professional usually begins by asking when the bowing was first noticed and whether it is improving or worsening. They may ask about pain, walking, growth, diet, vitamin use, previous injuries, and family history.

During the examination, the clinician may watch the child stand and walk. They will look at whether the bowing is symmetrical, where the curve is located, and whether the knees move normally. They may measure the space between the knees or assess the alignment from the hip through the ankle. Height and growth over time may also be reviewed.

Imaging is not always needed for a young child with mild, symmetrical bowing that is clearly improving. Standing X-rays may be appropriate when bowing is persistent, severe, one-sided, or getting worse. X-rays can show the shape of the bones and growth plates and help distinguish normal development from Blount disease, a previous injury, or another bone disorder.

If rickets or another metabolic bone condition is suspected, blood tests may measure calcium, phosphate, alkaline phosphatase, vitamin D, and markers of kidney or hormone function. The exact tests depend on the person's history and examination. Urine testing or genetic evaluation may be needed in selected cases.

No single home measurement can determine the cause. Photos taken several months apart may help show whether alignment is improving, but they do not replace an examination.

Treatment and management

Treatment depends on age, cause, severity, symptoms, and whether the bowing is changing.

Normal physiologic bowing usually needs observation rather than active treatment. Routine visits allow the clinician to follow growth and alignment. Ordinary play and physical activity are generally appropriate if the child is comfortable.

Corrective shoes, shoe inserts, stretching, and exercises do not straighten normal developmental bowing. Bracing is also not used for uncomplicated physiologic genu varum. Families should not give high-dose vitamin D or calcium solely to change leg shape unless a clinician has identified a need.

Management of Blount disease depends on the child's age and the degree of growth-plate change. A brace may help some younger children with early disease. Bracing requires proper fitting and regular monitoring and is not effective for every child.

Surgery may be considered when Blount disease is advanced, bracing is unlikely to work, or the deformity continues to progress. One approach is guided growth , which temporarily slows growth on one side of a growth plate so that continued growth can gradually improve alignment. This option requires enough growth remaining.

An osteotomy is another procedure in which a surgeon cuts and realigns a bone. It may be used for more severe deformity or when guided growth is not suitable. Surgical planning is individualized because the location and direction of the deformity vary.

Rickets is treated according to its cause. Nutritional rickets generally requires replacement of the missing nutrients and correction of dietary or absorption problems under medical supervision. Inherited or kidney-related forms may require specialist treatment. Leg alignment can improve as bone health recovers, but marked or persistent deformity may still need orthopedic care.

For adults, treatment is guided more by symptoms and joint health than appearance alone. Options may include weight management when relevant, activity changes, physical therapy, pain-management strategies, or a supportive brace. These measures may reduce symptoms

but do not permanently straighten the bones.

Adults with substantial deformity and damage limited to part of the knee may sometimes be considered for an osteotomy. Advanced arthritis may be treated with knee replacement when symptoms and loss of function justify surgery. An orthopedic surgeon can explain the expected benefits and limitations of each procedure.

Complications

Normal childhood bowing usually resolves without complications.

Untreated pathologic bowing can place uneven force across the knees, ankles, or feet. Over time, this may contribute to pain, an altered walking pattern, joint instability, or early wear of the knee. Severe bowing can also limit physical activity or affect confidence about appearance.

Blount disease may become harder to correct after substantial growth-plate damage has developed. Rickets can weaken bones and increase the risk of deformity or fracture if the underlying problem is not treated.

Surgery has potential risks, including infection, blood clots, nerve or blood-vessel injury, incomplete correction, overcorrection, delayed bone healing, or recurrence as a child grows. The risks differ by procedure and should be discussed with the surgical team.

Follow up

Routine follow-up is often appropriate for a young child with painless, symmetrical bowing that is improving. The clinician may document the child's growth, leg alignment, and walking pattern over time. Attend scheduled visits even if no imaging or treatment is currently needed.

Arrange a non-emergency medical appointment if:

Seek prompt medical care for new inability to bear weight, significant swelling, or rapidly increasing pain.

Emergency assessment is appropriate after a major injury or when leg symptoms occur with a visibly deformed limb, loss of feeling, a pale or cold foot, or severe pain. Fever with a hot, red, swollen joint also needs urgent assessment because infection is possible. These symptoms are not typical of uncomplicated bowlegs.

- Bowing is becoming more noticeable instead of improving
- One leg is more bowed than the other

- The curve appears sharp or is centered just below the knee
- Bowing continues beyond the usual toddler stage
- There is persistent pain, limping, weakness, or difficulty keeping up with peers
- Growth seems slow or there are other signs of a bone or nutrition problem
- Bowing appears after a fracture or other leg injury

Sources

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