Bowed Legs

Bowed legs in a toddler is very common. When a child with bowed legs stands with his or her feet together, there is a distinct space between the lower legs and knees. This may be a result of either one, or both, of the legs curving outward. Walking often exaggerates this bowed appearance.

Adolescents occasionally have bowed legs. In many of these cases, the child is significantly overweight.

Cause

In most children under 2 years old, bowing of the legs is simply a normal variation in leg appearance. Doctors refer to this type of bowing as physiologic genu varum.

In children with physiologic genu varum, the bowing begins to slowly improve at approximately 18 months of age and continues as the child grows. By ages 3 to 4, the bowing has corrected and the legs typically have a normal appearance.

Blount's disease is a condition that can occur in toddlers, as well as in adolescents. It results from an abnormality of the growth plate in the upper part of the shinbone (tibia). Growth plates are located at the ends of a child's long bones. They help determine the length and shape of the adult bone.

In a child under the age of 2 years, it may be impossible to distinguish infantile Blount's disease from physiologic genu varum. By the age of 3 years, however, the bowing will worsen and an obvious problem can often be seen in an x-ray.

Rickets is a bone disease in children that causes bowed legs and other bone deformities. Children with rickets do not get enough calcium, phosphorus, or Vitamin D — all of which are important for healthy growing bones.

Nutritional rickets is unusual in developed countries because many foods, including milk products, are fortified with Vitamin D. Rickets can also be caused by a genetic abnormality that does not allow Vitamin D to be absorbed correctly. This form of rickets may be inherited.

Symptoms

Bowed legs are most evident when a child stands and walks. The most common symptom of bowed legs is an awkward walking pattern.

Toddlers with bowed legs usually have normal coordination, and are not delayed in learning how to walk. The amount of bowing can be significant, however, and can be quite alarming to parents and family members.

Turning in of the feet (intoeing) is also common in toddlers and frequently occurs in combination with bowed legs.

Bowed legs do not typically cause any pain. During adolescence, however, persistent bowing can lead to discomfort in the hips, knees, and/or ankles because of the abnormal stress that the curved legs have on these joints. In addition, parents are often concerned that the child trips too frequently, particularly if intoeing is also present.
Doctor Examination

Your doctor will begin your child’s evaluation with a thorough physical examination. If your child is under age 2, in good health, and has symmetrical bowing (the same amount of bowing in both legs), then your doctor will most likely tell you that no further tests are currently needed. However, if your doctor notes that one leg is more severely bowed than the other, he or she may recommend an x-ray of the lower legs. An x-ray of your child’s legs in the standing position can show Blount’s disease or rickets.

If your child is older than 2 1/2 at the first doctor’s visit and has symmetrical bowing, your doctor will most likely recommend an x-ray. The likelihood of your child having infantile Blount’s disease or rickets is greater at this age. If the x-ray shows signs of rickets, your doctor will order blood tests to confirm the presence of this disorder.

Treatment

Physiologic genu varum nearly always spontaneously corrects itself as the child grows. This correction usually occurs by the age of 3 to 4 years.

Untreated infantile Blount’s disease or untreated rickets results in progressive worsening of the bowing in later childhood and adolescence. Ultimately, these children have leg discomfort (especially the knees) due to the abnormal stresses that occur on the joints. Adolescents with Blount’s disease are most likely to experience pain with the bowing.

Physiologic genu varum. Although physiologic genu varum does not require active treatment, your doctor will want to see your child every 6 months until the bowing has resolved.

Blount’s disease. Infantile Blount’s disease does require treatment for the bowing to improve. If the disease is caught early, treatment with a brace may be all that is needed. Bracing is not effective, however, for adolescents with Blount’s disease.

Rickets. If your child has rickets, your doctor will refer you to a metabolic specialist for medical management, in addition to regular orthopaedic followup. The effects of rickets can often be controlled with medication.

Physiologic genu varum. In rare instances, physiologic genu varum in the toddler will not completely resolve and during adolescence, the bowing may cause the child and family to have cosmetic concerns. If the deformity is severe enough, then surgery to correct the remaining bowing may be needed.

Blount’s disease. If bowing continues to progress in a child with infantile Blount’s disease despite the use of a brace, surgery will be needed by the age of 4 years. Surgery may stop further worsening and prevent permanent damage to the growth area of the shinbone.

Older children with bowed legs due to adolescent Blount’s disease require surgery to correct the problem.

Rickets. Surgery may also be needed for children with rickets whose deformities persist despite proper management with medications.

Surgical procedures. There are different procedures to correct bowed legs, and they fall into two main types.

- This surgery of the growth plate stops the growth on the healthy side of the shinbone which gives the abnormal side a chance to catch up, straightening the leg with the child’s natural growth.

- In this procedure, the shinbone is cut just below the knee and reshaped to correct the alignment. The bone is held in place while it heals with either an internal plate and screws, or an external frame that is positioned on the outside of the leg.

After surgery, a cast may be applied to protect the bone while it heals. Crutches may be necessary for a few weeks, and your doctor may recommend physical therapy exercises to restore strength and range of motion. Your doctor will talk to you about full recovery time and return to regular activities.

Last reviewed: February 2015

Reviewed by members of POSNA (Pediatric Orthopaedic Society of North America)