OVERVIEW
Your child has been diagnosed with physiologic genu valgum, which is commonly known as "knock knees". Your child’s genu valgum is considered physiologic, because it is due to a normal growth pattern. Most children have genu varum (bowed legs) at birth that grows into genu valgum (knock knees) then continues to grow into a normal adult alignment. This is a natural and expected (physiologic) process that is part of normal growth pattern. Although it is common to be concerned that the alignment is getting worse, almost all children follow the normal growth pattern and it does not cause problems later in life.

BACKGROUND
Most children are bow legged at birth, become knock-kneed by age 2. This knock-knee alignment usually peaks by age 4, and then improves by age 9. The graph below shows data measured from nearly 200 children showing the average range for leg alignment during childhood. The central line is the average alignment, while the gray zone represents the range that includes 95% of the children at that age.

- At birth, the average alignment is 15 degrees of varus or bow-legged-ness and the range is from nearly straight to 30 degrees of varus or bow-legged-ness.
- By age 6 to 24 months almost all of the children had grown straight and then into valgus alignment (knock knee-ness) which peaked by age 3-4 years.
- After age 4, most children gradually grew into a normal adult alignment, which is a mild degree of valgus (knock knee-ness) by age 7-9.

A family history of knock knees is common. There should be no other complaints or motion limitation. Boys and girls seem to follow the same growth patterns in this age group.

Occasionally, genu valgum can be due to a history of trauma to the growth areas in the knee, infections, neurologic abnormalities, and very rarely, related to juvenile arthritis. These conditions are present long before the genu valgum and are not of concern for otherwise healthy children.
**DIAGNOSIS**
Parents have usually noticed that that child stands and walks with his/her knees very close together, perhaps even touching or bumping when walking. This sometimes makes them look awkward when they run and may cause occasional tripping and falls. Usually, there is no history of pain or limitations to activities. Your doctor will make the diagnosis based on the physical exam. No xrays or blood tests are needed to make this diagnosis.

**TREATMENT**
No treatment is needed for physiologic genu valgum. With time and growth, the alignment improves and will nearly always grow into a normal adult alignment. There is no medication, physical therapy, stretches, exercises, shoes, or braces which will influence this normal growth process. You may want to take a picture of your child standing and, several months later, take another photo to compare the straightening process.

Occasionally, bracing is used if the knock knees continue to progress outside the expected ranges of alignment for the child's age. Only in rare cases is an operation needed (after 10 years of age) to correct the legs. Generally, surgery is performed for cosmetic reasons and not because of medical necessity.

**EXPECTED OUTCOMES**
Even if knock knees continue into adulthood, rarely would any serious complications occur. Children with knock knees can effectively participate in sports. Knock knees should not interfere with your child’s ability to have children or lead a normal life.

**MORE INFORMATION**
Further information can be obtained on the internet. Your local public library can help you explore these sources if you are interested. Two good sites for expert and peer reviewed information are the American Academy of Orthopedic Surgeons at [www.aaos.org](http://www.aaos.org) and [www.emedicine.com](http://www.emedicine.com).

**FEEDBACK**
If you have questions or comments, please contact the office or submit them to the web site at [www.pedortho.com](http://www.pedortho.com).