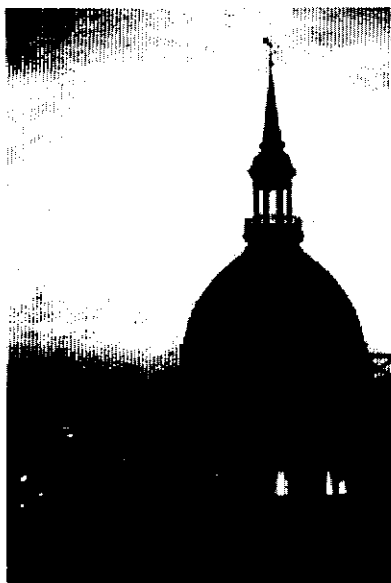


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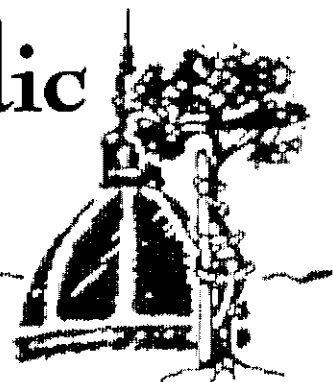
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JOHNS HOPKINS DEPARTMENT OF

# Orthopaedic Surgery

Pediatric Orthopaedics



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## *Patient Guide to Achondroplasia Genu Varum*

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### **What is achondroplasia?**

Achondroplasia is a genetic condition. This means that a gene that directs growth in the body does not work properly. In this particular condition, a protein in the body called the "Fibroblast Growth Factor Receptor" begins to function abnormally. This results in abnormal cartilage where cartilage cells do not grow as much. Bones grow from cartilage so people with achondroplasia have shorter bones, abnormally shaped bones, and shorter stature.

### **What is genu varum?**

'Genu' is the Latin term referring to knees. 'Varum' means that the knees or legs point inward toward the midline of the body. The common term for genu varum is bowlegged. It is one of the major orthopedic problems that children with achondroplasia develop.

### **What causes genu varum?**

Children with achondroplasia tend to have less muscle strength as infants. They also tend to have ligaments that are more flexible than normal. The bones in achondroplasia often grow

incorrectly so that one leg bone called the fibula may grow longer than the other leg bone called the tibia. It is believed that these features often result in the bow-legged knees called genu varum.

**Is genu varum a problem?**

Yes. Genu varum can worsen and cause knee pain or difficulty walking in some people with achondroplasia.

**What are the signs and symptoms of genu varum?**

Looking at the legs will often show the different alignment. People may also report knee pain and problems with walking.

**Should I see a doctor regularly?**

Yes. It is important to have regular visits with a doctor to watch for and monitor genu varum. The physician will ask questions, physically examine the knees and order tests such as X-rays to measure the angles of the knees at each visit.

**What is the treatment for genu varum?**

Most times children with genu varum do not require treatment. However, if the genu varum is severe, surgery can be performed. Surgery is often a tibial osteotomy. This means cutting the tibia bone in the lower leg, moving it in the normal position, and fixing it in place with hardware. Surgery is only recommended in 10-20% of children with genu varum.

Bracing the leg is difficult to perform in people with achondroplasia and has not been shown to be very effective.

**How will my child do in the long run with genu varum?**

With adequate treatment, people with corrected genu varum do well. They often report relief of pain and a better ability to walk.

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