

## Information brochure

### BOW LEGS & KNOCK KNEES

Malalignment of the lower limbs is one of the commonest presentations in a Paediatric Orthopaedic out patient clinic. A bowed appearance of the legs with the knees far apart and the feet coming together is known as **genu varum (bow legs)**. The opposite appearance with the knees touching each other and the feet positioned apart is known as **genu valgum (knock knees)**.

Children are born with a mild genu varum (bow legs), which can persist up to 2 years of age. There is a subsequent tendency for the knees to go into neutral alignment followed gradually by valgus alignment (knock knees). The valgus is maximally obvious between the ages of 3 - 4 years. Thereafter, there is a gradual reduction in valgus and children achieve the adult alignment of approximately six degrees of valgus by the age of 6 years.

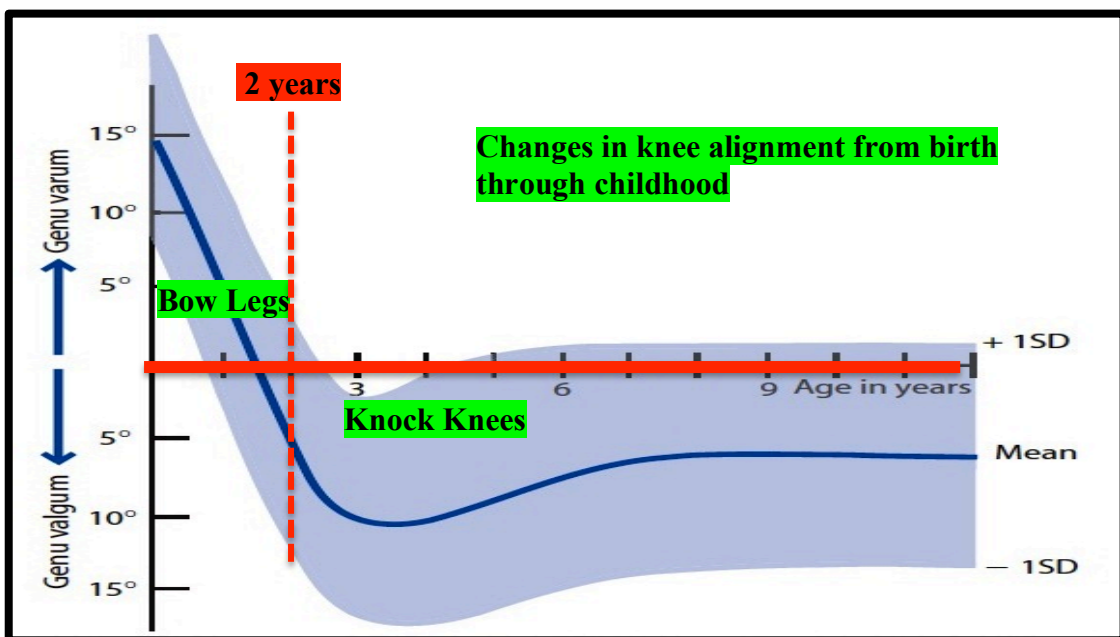
**A Paediatric Orthopaedic surgeon will be able to identify physiological variations and exclude any underlying pathologies.**

#### Frequently asked questions

**My 18 month old child's leg is bowed and appears different from other children of his age. My older child did not have such problems. Is this unique and unusual for my child ?**

All children have a certain amount of bowing (varus) at birth which is first noticed when the child starts to stand or walk. This bowing may be more apparent in some children than the others. The bowing is more noticeable in children who start walking earlier, in children who are heavier and in those who have a bit of in toeing. In most children, the bowing corrects by the age of 2 years.

The graph illustrates the changes in leg alignment from birth through childhood.



### **My 2 ½ year old's knees seem to touch each other while standing and this appears to make him / her have frequent falls ?**

All children tend to have a certain amount of knock knees after the age of 2 years, which is maximally apparent between the ages of 3 and 4 years. This is physiological valgus and not a sign of any deficiency or disability. The knock knees may be more apparent in some children than others. The natural history of physiological valgus is spontaneous and gradual improvement between the ages of 4 and 6 years (see graph above).

Physiological valgus does not warrant any treatment. Usually the child is kept under clinical surveillance until the knock knees resolve.

Physiological valgus does not cause any functional impairment in terms of ability to walk, run or participate in sporting activities. The history of frequent falls is usually unrelated to the valgus, but the child will need an evaluation to exclude other problems.

### **Do we need to take xrays to check for any abnormality ?**

If the clinical picture is consistent with a physiological growth variation i.e. if the leg alignment is appropriate for the age of the child, xrays are not necessary.

If there is any concern that the malalignment may be secondary to other problems or if the pattern of alignment is not appropriate for the age (beyond physiological limits), xrays will be necessary.

### **Do I need to massage the legs or make my child wear splints or special shoes for correcting the bow legs / knock knees ?**

The natural history of physiological varus and valgus is to go through appropriate changes in leg alignment as per the age of the child, without any permanent deformity or sequelae.

Massage or splintage has not been shown to make any alteration to the natural history. Rigid splints or special shoes can be counter productive in limiting the natural mobility of the child by being uncomfortable and heavy.

### **What are the other problems which may cause bow legs and knock knees ?**

Other causes for leg malalignment in children are  
Rickets – Vitamin D deficiency  
Metabolic bone disease  
Blount's disease (genu varum)  
Skeletal dysplasias  
Sequelae of trauma / infection