

## **FLAT FOOT**

The foot is made of 26 bones which are arranged such that they form an arch. Flat foot is the condition in which the arch collapses and the entire sole comes into contact with the ground. The arch does not develop in one or both feet in 20-30% of the general population.

As the foot strikes the ground it must be supple in order to absorb the shock. Subsequently in the gait cycle, the foot must become rigid to provide an effective lever for the push off. A person with a flat foot has to spend more energy since the foot loses its rigidity partially and becomes a less effective lever. Additionally the ligaments and muscles which normally maintain the foot's arch become weak. The improper biomechanical action of a flat foot leads to lower back, hip, leg, knee, ankle and arch pain.

The foot in infants is normally flat since the arch has not yet fully developed and the fat in the infant's foot masks the developing arch. The human arch gets fully developed by the age of four to six years. Flat foot can also develop in adults due to injury, illness, unusual or prolonged stress to the foot, or the normal aging process.

Flat foot can be detected by parents by visual inspection. It could also be suspected when a child begins to walk oddly, limp, or complain about foot pain or fatigue during long walks. The flat feet can be diagnosed by "wet footprint" test. The child is made to stand on a smooth, level surface such as concrete or paper after wetting the feet and the foot prints are assessed. The foot is flat if the sole makes more contact with the surface.

Most flexible flat feet are asymptomatic and don't need any treatment. In a rigid flatfoot, the sole of the foot is rigidly flat even when a person is not standing. It can cause pain in 25% of those affected. Bony abnormalities should be ruled out and treatment started early. In addition treatment of flat feet is needed if there is associated foot or lower leg pain, or if the condition affects the knees or the back. The pain is managed by medicines, physiotherapy and contrast bath. In addition treatment includes arch supports, orthotics like flat foot in sole and foot exercises. Surgery is rarely required.