

## **Flat Feet (Pes Planus)**

### **What Is It?**

Pes planus or Flat feet is a condition in which the arch or instep of the foot collapses and comes in contact with the ground.

Flat feet are a common condition. In infants and toddlers, the arch is not developed and flat feet are normal. The arch develops in childhood. By adulthood, most people have developed normal arches although it may still occur in 20% of adults. Many people with flat foot can walk as comfortably and as easily as others with normal arches and there is some evidence that flat feet protect against stress in other parts of the foot, but are poor shock absorbers with regard to the lower back.

When flat feet persist, most are considered variations of normal. Most feet are flexible and an arch appears when the person stands on his or her toes. Stiff, inflexible, or painful flat feet may be associated with other conditions and require attention.

Most flat feet do not cause pain or other problems. Flat feet may be associated with pronation, in which the ankle bones lean inward toward the center line. When the shoes of children who pronate are placed side by side, they will lean toward each other (after they have been worn long enough for the foot position to remodel their sole).

### **What are the Causes & Who does it Affect?**

- Congenital
- Muscle weakness
- Previous fracture or dislocation in the foot
- Other conditions can lead to it.

The terms "flat feet" and "foot pronation" are often used interchangeably. Foot pronation can cause rotation of leg bones and lead to pain in the knee. Some research shows that incidence of anterior knee pain is more common in those with flat feet<sup>1</sup>



### **What are the Signs & Symptoms?**

- Absence of foot arch when standing
- Heel tilts away from the midline of the body more than usual
- Pain may be present that is increased by standing, walking or running
- Muscle spasm may be present
- Increased mobility of the joints may be seen **or** there may be stiffness

### **What can I do?**

According to some reports, flexible flatfoot is not a relevant issue, and requires no treatment as it can have no symptoms and rarely causes disability. However as it can sometimes cause symptoms and lead to problems it is worth discussing with your Physical Therapist to determine if any other condition exists that may be leading to or perpetuating the flat feet, and to rehabilitate the feet as far as possible.

Rigid or painful flat feet require evaluation by your Physical Therapist or GP. The treatment depends on the cause of the flat feet.

If you have pain due to flexible flat feet, an orthotic (arch-supporting insert in the shoe) can bring relief. With the increased interest in running, many shoe stores carry shoes for normal feet and pronated feet. The shoes designed for pronated feet make long distance running easier and less tiring because they correct for the abnormality.

**Stretch** - Stretch Calf muscles – hold 30 seconds, repeat 3 times (or more) per day

**Strengthen** – Exercise – Sitting, slide the foot inwards keeping the heel in place. This can be progressed to using bands to give resistance.

Other Exercises to try:

**Toe clawing:** The toes of the foot are flexed fully; hold in that position and then release again...extend them fully. Repeat this 10-15 times, thrice a day to develop intrinsic muscles of the foot.

**Rising the inner border of the foot-**The foot is slightly inverted (the internal arch is raised), but the sole is not turned upwards. The height of the arch is increased, whilst the toes are still gripping the ground.

**Foot-closing-**Making fist with foot, relax and then repeat it again.

**Active foot rolling.** The patient tries to draw an 'O' with his/her big toe in sitting position. For the right foot clockwise; for the left foot anti-clockwise.

**Standing on the outer borders of the foot,** hold it for 10 seconds, relax and then repeat it again.

**Curved foot walking:** It involves walking with the foot in arched position and touching the heel and the toe on the ground with the center in arched position. This will help the foot developing the arch.

**Heel walking:** It involves walking on the heels with the whole body weight on the heels.

**Toe walking:** It involves walking on the toes to strengthen the intrinsic muscles of the foot.

**Physical Therapy** - Uses soft tissue and friction techniques to reduce adhesions and tightness in the tissues; Stretching and strengthening techniques will safely stress the tissues and rebalance surrounding muscles. Taping may be applied to the foot to support the arch. A home care programme is agreed with you, which may include some of the Lower Body Stretch Programme.



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