Flatfoot

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Pes planus, or flatfoot, has a variety of causes—congenital, developmental, neuromuscular, inflammatory, and infectious. Fortunately, the vast majority of children with flatfoot have hypermobile or flexible flatfoot; this is a manifestation of generalized ligamentous laxity, which is an autosomal dominant trait. Flexible flatfoot is usual in infants, common in children, and within normal limits in adults.1,2

Physical examination. In flexible flatfoot, the ankle, subtalar, and transverse tarsal joints usually demonstrate full range of motion. The medial longitudinal arch returns in the non–weight-bearing position or when the child stands on his or her toes. There may be some callus formation over the medial aspect of the talonavicular joint from collapse of the medial longitudinal arch and increased pressure with shoe wear. Fortunately, this is rarely symptomatic. In painful or rigid flatfoot, there is usually decreased subtalar and midfoot motion. In the non–weight-bearing position, and when standing on the toes, the medial longitudinal arch will not reform.3

Radiographic evaluation. In children with rigid flatfoot, it is important to perform a more extensive evaluation to determine the exact cause.

AP and lateral weight-bearing radiographs of the feet are required for radiographic evaluation of symptomatic flatfoot.1,2 In the lateral view, there is an increased lateral talocalcaneal angle, a talonavicular sag, and parallel alignment of the metatarsals. Additional views may also be necessary, depending on the suspected diagnosis. In tarsal coalition, an oblique view of the foot will reveal a calcaneonavicular coalition. If a middle facet talocalcaneal coalition is suspected, CT will be diagnostic.

Management. In the vast majority of children, flatfoot can be managed by observation. The indication for treatment with an orthosis is typically pain or abnormal shoe wear. Severely flat or pronated feet may cause abnormal medial shoe wear. When this happens, the use of an orthosis that restores the medial longitudinal arch may be beneficial in relieving symptoms and improving shoe longevity. This can be accomplished with athletic shoes with built-in arch supports, commercially available inserts or, in some cases, a custom-made orthosis. The last is only occasionally indicated because of its expense. Moreover, an orthosis will not permanently correct a pes planus deformity.4,5 The foot will still have a flat or pronated appearance.

Operative treatment of hypermobile flatfoot is rarely indicated. However, in certain children, lengthening of the neck of the calcaneus and plication of the talonavicular joint capsule may be beneficial.3 Midfoot fusions have also been reported to produce satisfactory long-term results.6 However, these fusions restrict motion and produce added stress on the remaining mobile joints. Subtalar joint arthroplasties are contraindicated.7 In children with tarsal coalitions, such as a calcaneonavicular or middle facet talocalcaneal coalition, resection and soft tissue interposition may help restore motion and relieve symptoms.

References:

REFERENCES:


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