

Bunions: Examination, Investigations and Treatment

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Presentation and risk factors

Hallux valgus, or bunion, is a common orthopaedic forefoot presentation. Patients usually present with pain over the 1st metatarsophalangeal joint (MTPJ) medial prominence preventing them from wearing shoes and/or paresthesia in the dorsomedial great toe due to nerve compression. Patients are often female with a positive family history. Other risk factors include ligamentous laxity, pes planus, inflammatory arthritis.

Examination

Examination starts with patient standing for assessment of lower limb alignment looking for hindfoot valgus and pes planus. Deformities at the 1st MTPJ and at the 1st interphalangeal joint are assessed. Associated hallux pronation and its resultant medial callosity are noted. 1st MTPJ irritability and correctability as well as 1st tarsometatarsal joint hypermobility are assessed. Lesser toes are examined for deformities such as crossover toes and hammers toes as these can be secondary to the hallux valgus. Plantar callosity and pain under the lesser metatarsal heads, especially the 2nd and 3rd, are assessed for transfer metatarsalgia. Neurovascular supply of all toes shall also be examined with particular attention to the dorsomedial hallux as the dorsomedial cutaneous nerve is commonly compressed in shoes or stretched.



Figure 1. Photo of weight bearing right foot – note the clinical hallux valgus, erythematous medial eminence.

Figure 2. AP weight bearing X-ray right foot. 1: intermetatarsal angle; 2: hallux valgus angle; 3: hallux valgus interphalangeus angle; incongruency between the articular surfaces of proximal phalanx and metatarsus (green and yellow lines)

Investigations

Weight bearing AP, oblique and lateral foot x-rays are the first line imaging investigation. It is important to obtain weight bearing x-rays as weightbearing maximizes most deformities and reflects the true foot alignment during standing and gait. Intermetatarsal, hallux valgus, hallux valgus interphalangeus and distal metatarsal-articular angles are assessed (Figure 2). 1st MTPJ is assessed for

congruency (Figure 2) and degenerative changes. The lesser toes are also reviewed.

Treatment Options

Non operative

Non-operative treatment includes accommodating shoe, pads and spacers, and for patients with flatfeet, orthosis with medial arch support. However, these are for symptom control rather than definitive treatment of the underlying altered anatomy.

Surgical options

Surgery is indicated when patients are still symptomatic despite appropriate shoes and other non-operative measures. It needs to be emphasized that cosmesis is not an indication for surgical correction as surgical goal is a painless and shoeable foot. Operative treatments are either joint sparing (realignment osteotomies) or joint sacrificing (1st MTPJ arthrodesis). Realignment osteotomies usually consist of proximal phalanx Akin osteotomy and 1st metatarsal SCARF or Chevron osteotomies. This can be performed percutaneously through multiple 5mm incisions rather than the traditional 8cm medial incision. 1st MTPJ arthrodesis (Figure 3) is indicated when there is significant degenerative change. It is a very reliable realignment and pain-relieving operation when arthritis is present.



Figure 3. 1st MTPJ arthrodesis.

Post-Operative Recommendations

The short term (0-42 days) post-operative pain is significantly lower with the percutaneous technique but there is no difference between the two techniques long term except scar cosmesis. Patients are allowed to weight bear as tolerated immediately post-op in a stiff-sole post-op shoe and can transition into accommodating off-the-shelf shoes at 6 weeks post-op. Specific risks associated with these surgical measures are persistent hallux dorsomedial numbness, non-union, and over or under correction. Patients are advised to wear sensible shoes lifelong as hallux valgus can recur, particularly in younger patients. ■

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