



# Lesser Toe Deformities

A number of conditions can result in deformities of the lesser toes, including congenital malformations, neuromuscular disorders (particularly those affecting the intrinsic muscles of the feet), inflammatory arthritis, and injury. Inadequate shoe length or toe box width can also be causative factors. The customer's primary complaint is usually toe irritation due to friction against the shoe upper or an adjacent toe. Many forms of lesser toe misalignment are observed, and certain recurring patterns are recognizable, including claw toe, hammertoe, mallet toe, and crossover toe deformities.

**Claw Toe:** A claw toe has a flexion deformity at both the PIP(proximal interphalangeal) and DIP(distal interphalangeal) joints. The deformity can be flexible or rigid, and the MTP joint may be neutral or extended. Pain and callus formation are usually greatest dorsal to the PIP joint, but may also be present dorsal to the DIP joint and at the tip of the toe just below the distal nail. Multiple flexible claw toes are usually seen in patients who chronically wear shoes that are too short or are pointed or constrictive. Can be indicative of arthritis and deep compartment syndrome in the calf, which causes the flexor digitorus longus to contract.

**Hammer Toe:** In a hammertoe, the PIP joint is flexed, the DIP joint is extended and the MTP(metatarsophalangeal joint) is neutral or extended. Multiple hammertoes are uncommon. The second toe is most often involved, and, as with the isolated claw second toe, this may be related to excessive length of the digit. Patients complain of dorsal irritation and callus formation at the PIP joint. Associated second ray metatarsalgia, which worsens as the toe deformity progresses, is common.

**Mallet toe:** A toe with a neutral or extended PIP joint and a flexed DIP joint is a mallet toe. The MTP joint is neutral. Pain and callus formation may be present dorsally over the DIP joint and at the tip of the toe. The deformity is usually of gradual onset. Occasionally a traumatic episode that results in avulsion of the long extensor insertion may be the cause of the condition. The flexed posture of the DIP joint may be rigid or flexible. A contracture of the long flexor tendon may also be a factor in the mallet toe deformity, particularly in those with toe tip pain at push-off. DIP joint motion should be assessed with the ankle both dorsiflexed and plantar flexed. A mallet toe that is rigid with the ankle dorsiflexed and passively correctable with the ankle plantar flexed is caused by a tight flexor digitorum longus. .

**Crossover Toe Deformity:** Instability of an individual lesser MTP joint can lead to misalignment of the involved toe and subsequent crossing of the toe over the adjacent normally aligned digit. Deep MTP joint pain, metatarsalgia, and discomfort due to impingement all contribute to these patients' symptoms. This condition occurs most often at the second MTP joint, but can occur at the third MTP articulation. MTP joint capsular insufficiency may be the result of an injury, synovitis, or capsular degeneration and attenuation in the toe box. May need an additional metatarsal support to help decrease pressure on the ball of the foot. Avoid high heels because they place undue strain on the forefoot and can contribute to a number of foot problems. Rest the foot and massage the affected area. Use an ice pack to help dull the pain and improve comfort. If these self-treatments do not provide relief, podiatric medical treatment or surgery may be necessary.

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