

A GUIDE TO HAMMERTOE DEFORMITY

OVERVIEW

Healthy toes maintain a straight position due to an intricate balance between flexor and extensor tendons. There are many structural and functional foot problems that can lead to flexor or extensor tendon imbalances during gait e.g. pronation, cavus, or contracture of Achilles tendon. One tendon group overpowers the other causing the toe joints to buckle, i.e. hammertoe deformity. Joint instability may also be caused by chronic inflammatory arthritides such as RA.

APPEARANCE

A normal toe often has a slight bend at each joint, say 0 to 5 degrees. In a hammertoe deformity one or more joints may be contracted in excess of 30 to 90 degrees. The deformity occurs primarily in the sagittal plane, but can also exhibit transverse or frontal plane components. In the beginning stages, the hammertoe is flexible, but as time passes the toe can become permanently contracted and rigid. A rigid deformity usually indicates significant cartilage damage in the affected joint. There are three terms used to differentiate different types of hammertoes based on location of deformity: 1) *hammer toe proper* is a contracture at proximal interphalangeal joint (PIPJ), 2) *mallet toe* is a contracture of the distal interphalangeal joint (DIPJ) and 3) *claw toe* is a contracture of both PIPJ and DIPJ. In addition, severe hammertoes of all three types often exhibit a contracture deformity at metatarsal phalangeal joint.



SYMPTOMS

A hammertoe may be painful. Shoes may also irritate the digit leading to inflammation, bursitis, or callus formation. Intra-articular pain usually ensues in chronic cases. In diabetics, ulcerations may develop on the digits or plantar metatarsal heads especially when neuropathy is present.

DIAGNOSIS

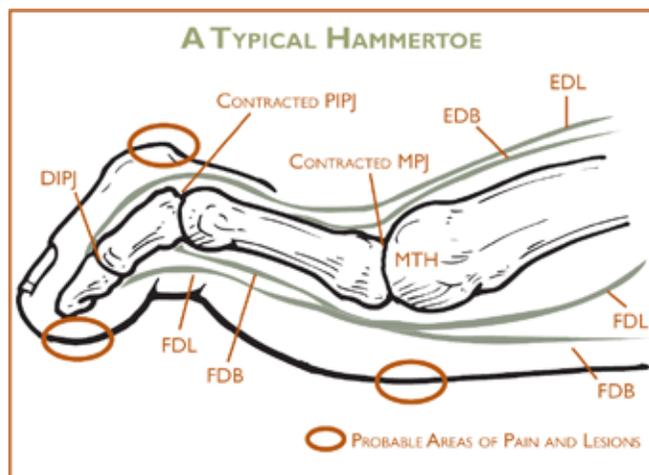
Clinical examination and x-rays are used to determine whether the cause is a biomechanical imbalance (flexor/extensor tendons), hereditary, neuromuscular disease, or systemic arthritis.

TREATMENT

Patients with Minor Discomfort: The symptoms can be treated by debridement of calluses, functional orthotics, and wearing shoes with a higher toe box. If conservative treatment does not provide relief of symptoms surgery may be necessary.

Patients with Flexible Joints: Contracted tendons are lengthened and/or repositioned and contracted joint capsules are released.

Patients with Rigid Joints: Bone procedures are necessary to straighten the toe. Arthroplasties, phalanx, osteotomies and joint fusions are appropriate depending on the structural and junctional deformities that exist. Small absorbable pins or screws are routinely used to stabilize the toe during healing. Immediate weight bearing is permitted following surgery. A surgical shoe is worn for 2-4 weeks.



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Chicago Podiatric Surgeons is dedicated to providing the best possible podiatric care for your patients. This care includes answering patient questions and ensuring they understand their treatment options. Of course, the understanding of treatment options starts with you, the primary care physician. We hope that you find this overview of common podiatric disorders to be helpful in the care of your patients, and that you look forward to receiving future topics from us.