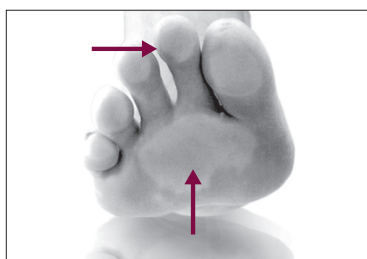


# Metatarsalgia



Metatarsalgia is an umbrella term that describes pain at the ball of the foot, also known as the forefoot. As we walk, our forefoot joints flex, twist and turn generating a force that may be equivalent to 5 times our body weight. Some common conditions that cause metatarsalgia (forefoot pain) include Morton's neuroma, Morton's syndrome, or an inflammatory process. We will examine how each condition arises and effects the foot. Keep in mind that by your 5th decade, your fat pad cushioning under the forefoot has begun thinning and this alone can cause discomfort.

## CAUSE



### MORTON'S SYNDROME

The 1st toe is shorter than the 2nd toe due to genetics

- An inherited condition
- Pain cause by lack of support with orthotics



### MORTON'S NEUROMA

A thickening of nerve tissue in the forefoot caused by:

- Improper footwear - pointy toes or high heels
- Flat feet
- High-arched feet
- Old, worn out shoes



### INFLAMMATION

Can be of the tiny sesamoid bones under the big toe, or around/inside the joint.

Caused by many factors, such as:

- Weight gain or Pregnancy
- Trauma or Overuse
- Improperly fitting or worn out shoes
- Biomechanics or arthritis

## EFFECT

### MORTON'S SYNDROME

The second toe bears more weight than it is supposed to. This increase in pressure, leads to pain, callusing or corns. Changing the way you walk to avoid pain, can lead to aches and sprains elsewhere. In diabetic patients, this increased pressure can lead to a wound.

### MORTON'S NEUROMA

As a result of this thickened tissue, patients complain of pain in the forefoot that is worse when the forefoot is squeezed, such as in a tight shoe. Sometimes the pain may be sharp and other times, numbness or tingling is felt in the nearby toes.

### INFLAMMATION

When the joints, surrounding muscles or bones become inflamed, it can cause redness, pain or swelling. Sometimes it becomes difficult to wear shoes or walk long distances comfortably.

## THE SOLUTION



### FOOTWEAR

Footwear fit and function is crucial in alleviating metatarsalgia pain. Your BioPed clinician can recommend footwear that may include:

- Wide toe box, extra depth or stretch uppers to ensure ample toe space and avoid crowding which can irritate a neuroma
- Wide stable based shoes to promote proper mechanics
- Rocker soles - the sole of the shoe is rounded at the forefoot to limit forefoot flexion which can irritate painful forefoot joints
- Removable insoles to accommodate a custom-made orthotic



### ORTHOTICS

Your BioPed clinician can design an orthotic with various features to relieve metatarsalgia pain. The casting, materials and design will be chosen based on your foot type, pain, shoes and lifestyle. Some features the orthotic may include:

- Forefoot cushioning
- Thickening of material under strong joints
- Hollowing under painful joints to relieve pressure
- Forefoot pad to lift and separate metatarsal joint heads
- Wedges to redistribute weight more evenly throughout the forefoot



### TOPICAL PAIN RELIEF

There are topical products that reduce inflammation and soothe sore spots. Your BioPed clinician may recommend Topical Pain Relief (TPR) cream to relieve your pain. TPR cream contains Lidocaine, which is a topical anesthetic for pain relief, as well as Menthol, which provides a cooling sensation but also helps the absorption of the lidocaine.