

Sample Topic

## Bunion



# *The Medical Disability Advisor: Workplace Guidelines for Disability Duration*

Fifth Edition

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Editor-in-Chief

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# Bunion

## Related Terms

- Hallux Abducto Valgus
- Hallux Valgus

## Medical Codes

- ICD-9-CM: 727.1, 735.0
- ICD-10: M20.1, M20.3

## Definition

A bunion is an abnormal, bony enlargement of the medial side (medial eminence) of the first metatarsal, which is the foot bone that connects to the big toe.

The bunions that affect younger individuals usually result from a structural deformity of the first metatarsal called “metatarsus primus varus.” This malposition of the metatarsal allows shoe pressure to irritate the portion of the metatarsal head by the base of the big toe. This part of the metatarsal enlarges over time. Sometimes a soft-tissue sac (bursa) forms between the skin and the enlarged bone, and this also becomes inflamed (bursitis). The big toe (hallux) drifts toward the second toe, sometimes underlapping or overlapping it. Arthritis of the big toe joint may develop (hallux limitus or hallux rigidus). Bunions can also occur on the joint of the little toe (bunionette).

Bunions may not be painful (asymptomatic) or may cause pain on the medial eminence when shoes are worn.

**Risk:** The following factors may increase an individual’s risk of bunions: high heels, ill-fitting shoes, flat feet, arthritis, and inherited foot type. Other causes of bunions include foot injuries, congenital deformities, neuromuscular disorders such as cerebral palsy, and occupations that put extra stress on the feet (e.g., waitresses, factory workers, athletes, dancers).

**Incidence and Prevalence:** Bunions are 2 to 4 times more common in women than in men. Bunions occur in 3% of the population aged 15 to 30 years, in 9% of the population aged 31 to 60 years, and in 16% of the population older than 60 years.



## Diagnosis

**History:** Individuals may complain of a painful, bony enlargement on the inside edge (medial side) of the first metatarsal that causes pain when shoes are worn. The pain may be persistent or intermittent and mild or severe. Or, the individual may relate that the bunion does not hurt.

**Physical exam:** The exam may reveal swelling and tenderness of the joint at the base of the big toe. The big toe may turn outward, growing over or under the second toe. The individual may experience pain when the bunion is touched (palpation) or when the joint between the metatarsal and toe is moved. Other signs and symptoms may include thickening of the skin at the base of the big toe, corns and calluses caused by overlapping first and second toes, and restricted motion of the big toe. Toenails may begin to grow into the sides of the nail bed, and the smaller toes may become bent or claw-like.

**Tests:** X-rays reveal the size of the enlargement, extent of joint damage, and angular relationship between the first and second metatarsals (intermetatarsal angle). Blood tests rule out other diseases such as rheumatoid arthritis and gout.

## Treatment

Nonpainful (asymptomatic) bunions require no treatment. Bunions that are small and only mildly painful are managed with roomier, more comfortable shoes. Padded shoe inserts (orthotics) can be used to relieve pressure. The heating effect of ultrasound therapy or whirlpool baths can relieve bunion pain. The painful bursitis of bunions can be treated conservatively with corticosteroid injections.

In cases that do not respond to conservative treatment, surgery is indicated. More than 100 different surgical procedures have been described for bunions, and over a dozen are in common use today. These procedures range from the simple removal of the enlarged bump (Silver procedure) to procedures in which the bones of the big toe and metatarsal are cut (osteotomy) and repositioned. These osteotomy procedures may involve cutting and repositioning the big toe bone (proximal phalanx; Akin procedure) or the first metatarsal bone at the portion closest to the toe (distal portion or metatarsal head; Mitchell, Austin, Hohmann, Wilson procedures) or the portion closest to the mid-foot (proximal portion or metatarsal base; Loison-Balascescu, Mau procedures). If arthritis of the metatarsophalangeal joint is present, removal (Keller procedure) or fusion (McKeever procedure) of the joint is necessary. Most osteotomy procedures require internal fixation and immobilization.

## Prognosis

Early treatment of a small bunion with corticosteroid injection may relieve the symptoms and circumvent the surgery associated with more severe cases. Large bunions may need surgery to relieve symptoms. Surgery is not recommended unless a bunion causes severe pain. To prevent a recurrence of symptoms, individuals should wear roomier, more comfortable shoes after recovery.

## Differential Diagnoses

- Gout
- Osteoarthritis
- Rheumatoid arthritis

## Specialists

- Orthopedic Surgeon

## Comorbid Conditions

- Peripheral neuropathy (such as diabetic neuropathy)
- Poor blood supply (atherosclerosis)

## Complications

Untreated bunions may continue to worsen. Degenerative arthritis may develop in the metatarsophalangeal joint of the big toe, causing pain and stiffness.

## Factors Influencing Duration

Disability after surgery could be lengthened by advanced age, poor nutrition, or surgical complications such as poor healing, infection, inflammation of the bone (osteomyelitis), injury to nerves or blood vessels (reflex sympathetic dystrophy), or necrosis.

## Length of Disability

For bunionectomy with osteotomy, medium to very heavy work should be suspended until healing is confirmed on follow-up x-ray.

Surgical treatment, bunionectomy without osteotomy.

DURATION IN DAYS			
Job Classification	Minimum	Optimum	Maximum
Sedentary	3	7	14
Light	7	21	21
Medium	14	21	28
Heavy	28	35	42
Very Heavy	28	35	42

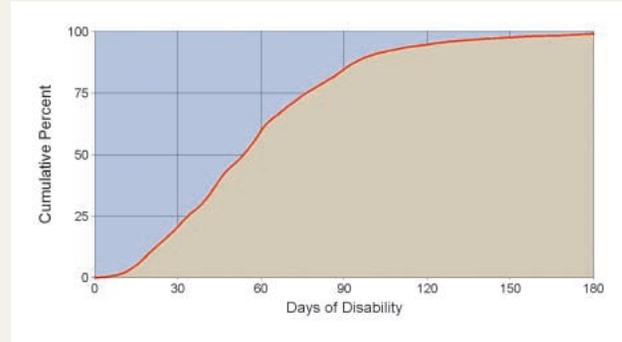
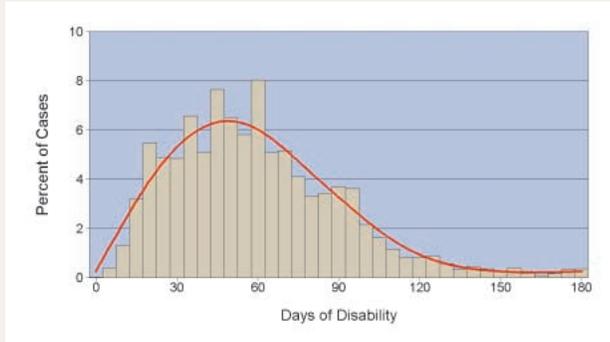
Surgical treatment, bunionectomy with osteotomy.

DURATION IN DAYS			
Job Classification	Minimum	Optimum	Maximum
Sedentary	14	21	42
Light	21	28	42
Medium	28	42	84
Heavy	42	84	168
Very Heavy	42	84	168

## Reference Data

### DURATION TRENDS - ICD-9-CM: 727.1, 735.0

Cases	Mean	Min	Max	No Lost Time	Over 6 Months	Percentile:	5th	25th	Median	75th	95th
3898	59	0	218	0%	1.0%	Days:	16	34	54	77	123



Note: Differences may exist between the duration tables and the reference graphs. Duration tables provide expected recovery periods based on the type of work performed by the individual. The reference graphs reflect the actual experience of many individuals across the spectrum of physical conditions, in a variety of industries, and with varying levels of case management. Selected graphs combine multiple codes based on similar means and medians.

## Return to Work

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After surgery, prolonged standing and walking are limited until the foot is completely healed. This can take 6 to 8 weeks or longer depending on type of surgery performed. The individual will need to elevate the foot periodically throughout the day and may have to use a walker, crutches, or wheelchair. Driving is prohibited until normal shoes can be worn. Because the individual will probably be taking pain medication, drug policies must be reviewed.

## Failure to Recover

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### Regarding diagnosis:

- Did individual experience symptoms such as a painful bony enlargement on the inside edge of the big toe?
- Did the physical exam confirm the diagnosis of a bunion?
- Were x-rays done to determine the size of the bunion and extent of joint displacement or damage?
- Were additional diagnostic studies done to rule out other conditions such as arthritis or gout?

### Regarding treatment:

- Did roomier, more comfortable shoes or placement of taping and toe spacers reduce discomfort?

- Did the condition warrant surgical intervention (severe or worsening deformity, worsening pain)?
- Would individual benefit from removal (Keller procedure) or fusion of (McKeever procedure) of the joint?

### Regarding prognosis:

- Based on the treatment required, what was the expected recovery?
- Was adequate time allotted for recovery? Did individual return to activity too soon?
- Have follow-up x-rays been taken to rule out complications of the bunion surgery, including infection, osteomyelitis, nonunion, recurrence, avascular necrosis, and reflex sympathetic dystrophy?
- Does individual have any underlying conditions such as vascular disease, obesity, or diabetes that may affect recovery and prognosis?

## General References

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Mayo Clinic Staff. "Bunions." *MayoClinic.com*. 26 Jan. 2005. Mayo Foundation for Medical Education and Research. 19 May 2005 <<http://www.mayoclinic.com/invoke.cfm?id=DS00309>>.