

# Bob's bunions

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Bunions are a common problem in patients with diabetes, particularly those who have neuropathy. A proactive approach in tackling correctable factors will help to ensure patients with bunions keep walking comfortably.

## Case history

Bob is 58 years old and obese (his height is 175 cm and weight 81.4 kg, so his body mass index is 31.2 kg/m<sup>2</sup>). He has moderate bunions on his feet (Figure 1), and in the past two years these have been painful enough at times to restrict his walking program.

Apart from mild hypertension for the past eight years (controlled with an ACE inhibitor) and type 2 diabetes for the past six years (moderately controlled by trying to eat less and walk more; HbA<sub>1c</sub> 7% to 8%), Bob is generally healthy. The only other medication he takes is low dose aspirin (enteric coated 100 mg/day).

Bob's father also had bunions, for which he had surgery; one bunion resolved but the other one deteriorated.

Bob has also noticed increasing cramping of his calf muscles. He has found it more comfortable, and has self-selected, to wear a shoe with a built-up heel to reduce the cramping. He has normal foot pulses and sensation in his feet. He uses a pumice stone to remove the callus that builds up over the first metatarsal heads and has started to wear very soft shoes that don't rub his bunions.

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Figure 1. The bunion on Bob's right foot.

## Questions to consider

- Why has Bob developed bunions?
- What factors should you assess?
- How should Bob's bunions be managed and future problems reduced?
- How should Bob's progress be monitored?

## Why bunions have developed

The main reason that Bob has developed bunions is his flattened foot type and the rounded shape of his first metatarsophalangeal joints (rounded joints are less

stable than normal, square-shaped joints). It is likely that his father also had these features. With time, Bob's feet have developed flatter, longitudinal arches, partly because of his intrinsic foot structure and partly because of his gait. Flattening the arch changes the loading of the foot. This

**Table. Checklist for patients with bunions**

Factor	Points to note
Familial	Round first metatarsophalangeal joints, short first metatarsal (Morton's foot) and flat feet are predisposing factors to bunion development.
Age	Juvenile bunions are usually due to unstable first metatarsophalangeal joints, ligament laxity and/or family foot type.
Foot structure	Flat feet put increased forces on the first metatarsophalangeal joints and encourage the bunion deformity.
Calf length	In addition to bunions, tight calves are associated with Achilles tendon, heel pain and leg cramps.
Bunion size	Larger bunions rub on shoes but are not always painful.
Discomfort	Discomfort may be constant or felt only with particular shoes, and may limit activity.
Footwear style	Pointed shoes push the great toe laterally and increase the bunion prominence.
Heel height of footwear	The higher the heel, the more load on and flexion of the first metatarsophalangeal joints.
Diabetes	If the patient has neuropathy, callus forms more easily because discomfort from pressure is not perceived. Address all aggravating factors to reduce bunion development and offload an existing bump.

becomes self-reinforcing since the load concentrates on the medial side, further flattening the arch. Loading is also being changed by his tight calves, which reduce flexion at the ankles and increase load on the medial forefoot, particularly over the first metatarsophalangeal joint.

### Factors that should be assessed

The factors that should be assessed in any patient with bunions are summarised in the Table.

### Managing Bob's bunions and reducing future problems

Bob's bunions are now troublesome enough to stop him from walking. In turn, this affects control of his blood glucose, blood pressure and weight. As mentioned above, the main aggravating factors for his bunions are his flat feet, the shape of his first metatarsophalangeal joints and his tight calves (hence his need for built-up heels to avoid cramps). We can't alter Bob's inherited foot type or the fact that he already has sizeable bunions. However, the other factors that make his feet less functional and cause him discomfort can easily be addressed.

- **Flat feet.** Bob should wear well-designed, supportive orthotics to offload the medial side of the foot and the first metatarsophalangeal joint.<sup>1</sup>
- **Tight calves.** Calf stretches (gastrocnemius and soleus groups) are effective at increasing ankle range and reducing first metatarsophalangeal joint loading.<sup>2</sup>
- **Footwear.** Footwear should be selected to incorporate appropriate orthotics and accommodate the bunions without pressure, and be suitable for regular walking.<sup>3</sup> Orthotics may need to be customised for each individual foot, or generic versions may be used if they are effective for the particular patient concerned. Once the calf muscles are adequately stretched, the need to incorporate a heel raise or higher shoe heel will be eliminated and these muscles can work at normal functional

length. Athletic footwear bought off the shelf is often very useful to incorporate varying foot shapes, and provides good width and support. This type of footwear is usually acceptable for people to wear, encourages exercise and can avoid the need for more expensive customised footwear.

If the bunions cannot be adequately accommodated in footwear or continue to progress and become painful despite the measures noted above, it is wise to consult with an experienced surgeon who specialises in bunion surgery.

### Monitoring progress

Bob's progress can be monitored by assessment of his foot pain, calf length, callus build up and walking distance. He may also lose some weight and reduce his blood pressure (and possibly his medication).

### Summary

It is important to work through the bunion checklist (see Table) as soon as you see a patient with bunions. Don't wait for patients to complain that their bunions are painful. Be proactive and work with a podiatrist to tackle the correctable factors; keep people like Bob walking and comfortable. MT

### References

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