

Ankle/Hindfoot/ Midfoot Fusions

Image courtesy of Wright Medical



What it is

The foot has 3 subdivisions:

- Forefoot: front part of the foot, including toes. This bears half of the body's weight.
- Midfoot: the foot's arch that serves as a "shock absorber". This is connected to the forefoot and the hindfoot by muscles and the plantar fascia (arch ligament).
- Hindfoot: rear part of the foot including the heel. This links the midfoot to the ankle.

The midfoot and hindfoot together are sometimes referred to as the tarsus as they consist of 7 tarsal bones. The ankle is the joint between the tarsus and the lower leg.

Fusions of the ankle, hindfoot or midfoot correct some common problems such as arthritis and foot deformity. With a fusion, the surgeon removes damaged cartilage, then positions the bones correctly and fixes them in this position using metal screws or staples.

When it's necessary

Fusion is often performed when an ankle joint becomes worn out and painful. It is a common treatment for advanced ankle arthritis in young patients. Midfoot fusion aims to fix structural damage, typically arthritis within the midfoot region that causes pain. Hindfoot fusions, likewise, aim to reconnect and realign damaged bones or joints.

Surgical treatment

The precise procedure depends on the nature of the problem:

- With ankle fusions, the surgeon removes the worn out portion of the joint. The bones are then fixed together with metal screws and plates that hold the bones in a solid position while your body permanently fuses (or welds) them together so that they become one single bone. Essentially, an ankle fusion lets the tibia grow together or fuse with the talus, the second largest of the tarsal bones.
- Midfoot fusions seek to remedy structural damage to the small bones in the mid-portion of your foot, and arthritis, by setting your bones in their correct position and allowing them to fuse solidly. This eliminates movement and, thus, pain.
- Hindfoot fusions can include a subtalar fusion (between the talus and heel bone), a talonavicular fusion and/or a calcaneocuboid fusion. When all three joints are involved in one surgical setting, this is called a 'triple' fusion.



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Recovery

After midfoot, hindfoot or ankle fusion:

- Your leg will be wrapped in a padded plaster cast. Keep your cast dry! If the cast gets wet, the skin underneath stays damp and can become mouldy and smelly. To keep your cast dry in the shower, enclose it in a plastic bag, or buy a special cast protector. If the cast and the underlying dressing get wet, contact your surgeon's office or go to your nearest emergency department to get your cast checked.
- You will be instructed on caring for your cast.
- You will not be permitted to bear any weight on your foot for several weeks.
- Watch for complications. Alert your surgeon or visit an emergency room if you experience pain that does not subside with prescribed medication, swelling that worsens (or the cast becomes too tight and you notice loss of colour in your toes), and/or have a fever higher than 38°C or 101°F.

Your cast will be removed after 2 weeks and replaced with a new cast. You will not be permitted to bear weight on your foot until sufficient healing has occurred and the fusion is progressing nicely, which usually takes 8-12 weeks.

Your surgeon will take x-rays to see if the bones are fusing. As the fusion grows stronger, you will begin to put more weight on your foot when walking. By gradually starting to bear weight on the foot and with the help of physiotherapy, you will build up your mobility and strength. Full recovery can take 10-12 months. You might face some loss of mobility, depending on the joints that have been fused, so it's important to discuss your recovery expectations with your surgeon well in advance.

For more information: The Canadian Orthopaedic Foundation provides a free booklet, *Foot & Ankle Surgery – Planning For Your Best Results*, which outlines general preparations, complications monitoring, a diary of progress and more. Visit www.movepainfree.org to download your free copy.

