

TOTAL CONTACT CAST (TCC)

Total Contact Casting (TCC): The Gold Standard of Care For Diabetic Foot Ulcers and Charcot Foot

Research has shown that the “total contact cast” is a casting technique that is used to heal diabetic foot ulcers and shows healing rates of about 90% in 6-8 weeks. The total contact cast closely conforms to the exact shape of the foot – creating a chamber just right for healing. It works by redistributing weight off your foot ulcer so it can heal.

What does it mean to be the Gold Standard?

It means that most experts agree that Total Contact Casting (TCC) is the best method to achieve proper off-loading. This is based on a large amount of evidence that demonstrates that Total Contact Casting (TCC) helps heal diabetic foot ulcers and an acute Charcot Foot.

How serious is a foot ulcer or Charcot Foot?

An untreated foot ulcer can lead to bone infection and even amputation of the foot or entire lower leg. Early and effective management of the wound is the safest route to preventing complications. Early diagnoses and off-loading of an acute Charcot Foot can prevent permanent foot deformities.

How does a Total Contact Cast help?

A TCC is in “total contact” with the foot and lower leg to redistribute weight away from the wound. It allows for healing even while walking.

By conforming to your natural leg size and shape, Total Contact Casting (TCC) mechanically helps to do 3 things:

- reduce shearing forces which happen with your normal stride;
- remove a propulsive phase of gait and keep your ankle at a 90-degree angle; and
- decrease pressure in the forefoot by approx.69% and decrease heel pressure by approx.45%.

Who is the Total Contact Cast for?

Typically, it is used for patients being treated for diabetic foot ulcers, Charcot neuroarthropathy and post-operative surgical site protection.

How long will you have to wear a TCC?

This depends on several factors. After the first cast has been applied, it is generally changed in 3-4 days to do a wound check. Following casts are normally weekly but may be more frequent depending on your wound's behavior. For Charcot Foot, the cast is normally worn for a total of 4-8 weeks, with cast changes every 2-3 weeks in-between for x-rays, temperature checks and foot assessments.

Once your wound is closed, it is recommended to wear a cast for up to one more month before transitioning to custom footwear to help prevent reoccurrence of the ulcer/Charcot.

Instructions to ensure best results:

- Avoid activities too vigorous or that could damage the cast.
- Walk as little as possible.
- Elevate your leg above heart level if the cast feels too tight.
- Keep the cast dry.
- Avoid getting dirt, sand or other foreign objects under the cast, as they may cause skin irritation or damage.
- Avoid driving, unless the cast is on your left leg and you have an automatic transmission.
- Wear the cast shoe for more stability and to avoid slipping.

Precautions and Contraindications

The Total Contact Cast System should be recommended and supervised by a physician or licensed healthcare provider who is normally a Wound Care Specialist or a nurse with Advanced Specialty in Orthopedics.

If the circulation is not adequate for healing, the wound is infected or involves deeper structures (tendon, joint capsule, or exposed bone) a TCC should not be applied.

The cast should be removed, and the wound reassessed prior to reapplication in all the following circumstances:

- If the cast is "loose" or "rubbing" or "pistoning" or if the cast is causing pain
- If you develop a fever, chills, nausea, or vomiting or if the cast gets wet.
- If you have unrelieved edema, numbness, tingling or abnormal pain, foul smell or drainage coming out of the cast.
- If you or your healthcare provider has other cause for concern, such as claustrophobia.