

How to Take Foam Impression Box Casts

Clinical Resource | MM Podiatry & Orthotics

Overview

High-quality foam impressions are an excellent, accessible way to capture foot shape and position for bespoke orthoses, provided the technique is consistent and well documented.

1. Prepare the Environment and Materials

Set Up the Space

- Use a stable chair or plinth where the patient can sit comfortably with hips and knees at approximately 90°
- Ensure there is enough room in front of the chair for the foam boxes
- Have a pen/marker, tape measure, and your prescription form ready

Prepare the Materials

- Use foam impression boxes in good condition (no dents or previous impressions)
 - Check that the foam is evenly seated in the frame and free from cracks or contaminants
 - Label each box externally with patient/clinic identifiers and "Left/Right" before you start
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2. Prepare the Patient

- Ask the patient to remove shoes and socks and roll trousers above the ankles
 - Check the feet are clean and dry; remove excess creams/lotions if present
 - Briefly explain the process: it is painless, they will place the foot into the foam while you guide the position, and they should try to relax and not "push" down themselves
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3. Choose and Document the Capture Position

For most cases you will use a non-weight-bearing or lightly loaded seated position.

Standard Position (Recommended)

- Patient sits with hips and knees at approximately 90°, legs relaxed
- The foam box is placed on the floor or on a low step directly under the knee of the foot being cast
- You control the load through the foot (rather than asking the patient to step down with full force)

Documentation

On your prescription form, record:

- Position used (e.g., "seated, non-weight-bearing / lightly loaded")
 - Any deliberate corrections applied (e.g., "hindfoot guided towards neutral to tolerance")
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4. Position the Foot Over the Foam Box

- Place the foam box so the centre of the heel will land roughly in the rear third of the box, with enough room for all toes in the front

- Hold the patient's heel with one hand and forefoot with the other to guide alignment:
 - Foot roughly straight relative to the box (unless a specific rotation is intended)
 - Subtalar-neutral-inspired posture or your chosen reference position, without forcing extremes
 - Ask the patient to relax the leg and avoid actively pushing down
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5. Create the Impression

With the foot correctly aligned above the foam:

- Gently bring the heel into contact with the foam and press vertically down through the heel using your hand and/or a controlled pressure through the knee
- Once the heel is seated, continue to guide the forefoot so the metatarsal heads and toes sink into the foam

Aim For

- Heel, midfoot, and forefoot clearly imprinted
- Toes fully captured and separated (not overlapping), with nails not cutting through the foam surface

Avoid

- Excessive rocking or twisting while the foot is in the foam
- The patient actively "stamping" or pushing, which can distort the impression and drive the heel too deep

Hold the position for a few seconds, then gently lift the foot straight up out of the foam.

6. Check Impression Quality

Carefully inspect the impression before moving on:

- **Heel:** Clear, centred, with a defined cup region and no tearing
- **Arch:** Continuous contour along the medial arch; no obvious "steps" or sharp edges suggesting a sudden shift during capture

- **Forefoot and toes:** All metatarsal heads and toes clearly represented, not truncated by the edge of the box
- **Depth:** Foot sufficiently deep that contours are clear, but not so deep that the heel/toes are close to the bottom of the foam

If the impression is obviously distorted (e.g., twisted, too shallow, or with multiple heel outlines), repeat the capture in a new box.

7. Repeat for the Opposite Foot

- Position the second foam box in the same way and repeat the process, mirroring alignment and loading as closely as possible
 - Ensure the right and left boxes are clearly labelled and do not get swapped
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8. Label, Secure, and Document

Labelling

On the outside of each box, clearly write:

- Clinic ID and patient code (avoid full names in transit if possible)
- Side (Left / Right)
- Date of impression
- Any special notes (e.g., "high cavus," "significant valgus, partial correction only")

Documentation

In your clinical notes and on the prescription form, record:

- Position: "Seated, non-weight-bearing / lightly loaded foam impression"
 - Posture: e.g., "Foot guided towards subtalar-neutral-inspired position, within comfort"
 - Any limitations: e.g., "Patient unable to tolerate full correction due to pain"
 - Footwear the orthoses must fit (e.g., safety boots, walking shoes, football boots, dress shoes)
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9. Pack and Send to the Lab

- Replace the foam box lids securely to protect the impressions
 - Pack boxes in a sturdy outer carton with enough padding to prevent crushing in transit
 - Include a copy of the prescription form, or send it electronically while clearly cross-referencing the physical boxes (e.g., clinic and patient code)
 - Ensure boxes are oriented so impressions are not resting directly on the foam when stacked
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10. Link Impressions to a Clear Prescription

When we receive foam impressions, we still need your clinical reasoning to design appropriate orthoses. With each pair of boxes, please submit:

- Diagnosis and primary pain area(s)
- Key structural and functional findings (rearfoot/forefoot alignment, ROM limits, hypermobility, etc.)
- Activity level and footwear constraints
- Primary goals (e.g., "reduce morning heel pain," "support tibialis posterior for 6–8 km walking," "improve lateral stability for 5-a-side football")

This allows us to interpret the impression in context and propose a design that supports your treatment plan rather than simply reproducing the foot shape.

Need Help?

If you have questions about technique or impression quality, contact us before sending. We're happy to review photos or discuss specific cases.

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