KO Casting Summary

Non-weight bearing; full extension; dorsiflex toes; length must be at least one inch longer top and bottom than the length of brace being ordered; plaster or synthetic; mark landmarks on stockinette with indelible pencil; position cutting strip down POSTERIOR aspect of the leg; wrap at least two layers thick; write patient's name on cast.

Cast non-weight bearing with the patient's leg in full extension. Cast length must exceed the length of the brace you are ordering by a minimum of one inch at each end. Apply stockinette and place a cutting strip or tubing down the posterior aspect of the leg. Mark all landmarks with indelible pencil. Use elastic plaster for the first wrap as it captures the contour of the limb. An additional three layers of standard rigid plaster should follow. If you use synthetic casting material, the cast should be wrapped at least two layers thick. Lightly compress the M-L dimensions of the patient's leg. Cut cast off from the posterior aspect of the leg to avoid interference with the brace trim lines. Write the patient's name and your office phone number on the cast. Let the cast dry adequately and use packing material to avoid distortion or damage during shipping.

Note: Townsend grades each cast. Cast that receive a "D" or "F" rating may be rejected to avoid fabrication of a brace that will not fit and/or function properly.

BK Casting Summary

The Townsend Full Shell BK Orthosis is designed to fit directly over your patients prosthetic socket. The thigh and tibial shell will integrate with any conventional or vacuum suspension system. All protocol must be followed as an intimate fit is imperative for proper function and acceptance by your patient.

1. Cast your patient, fit your test socket, and then laminate your definitive socket with adaptors as needed.

2. Complete your dynamic alignment as necessary and finalize all adjustments that need to be completed.

3. Add plastic wrap over your patients entire prosthesis. This includes the shoe, pylon, adaptors, gel liners, and suspension sleeves.

4. Add a stockinette and a cut strip to the prosthesis. If you are ordering an anterior tibial shell, the cut strip MUST be on the posterior of the socket. If you are ordering a posterior calf shell, the cut strip MUST be on the anterior of the socket. Cut strips on the same side of the distal shell will result in a poor fit.

5. Use elastic plaster or hybrid casting tape only. Do not use standard plaster or fiberglass casting rolls.

6. Wrap your cast from the four hole or distal adaptor to three inches above your thigh shell length. Once you have wrapped your cast, you must stand the patient. The patient MUST stand in the same position that you completed your dynamic alignment in.

7. Once the cast has hardened, mark the MTP, MPT, and tibial crest on the OUTSIDE of the cast. This will help isolate proper knee center during modification and alignment.

8. Make a single line down your cut strip and add hash marks down this line. Remove your cast and secure with staples to ensure proper alignment.

9. Allow cast to fully dry before shipping in a well padded box.

Alternative Devices

Custom Configuration System (CCS): The Custom Configuration System is an exciting alternative to casting, complex measuring devices, and expensive digital leg scanners. The CCS makes it possible to use a cell phone camera (or digital camera) and Townsend's proprietary CCS devices to take photos and measurements that can be transmitted by Email to Townsend. Our fabrication team configures this information to accurately replicate the contours and dimensions of each patient's leg.

The CCS incorporates unique tools and processes that are interesting and technically impressive to patients. Using this system, you can save time and money — and achieve the fit quality and patient satisfaction you demand. Eliminating the time it takes to ship Townsend a cast also means the brace can get into production and be completed several days faster.

The CCS can be used as a substitute for casting when ordering Premier Series ligament and OA braces, and Rebel Series ligament and OA braces. Contact your Townsend representative or download information from our web site: www.TownsendDesign.com

Casting Summary:

There are many techniques to take a cast impression based off experience, training and daily practice demands. It is critical when casting for a Townsend Design AFO or KAFO, that an accurate semi weight bearing impression is provided for accurate fabrication. Before casting it is imperative to evaluate the patient's coronal and sagittal range of motion of the ankle, knee and hip. It is important to observe the patient standing and walking to determine the most accurate positioning needed to capture proper knee, ankle and foot alignment. When casting, it is important to focus on transverse and coronal planes. When cutting and correcting negative impressions it is easy to correct sagittal alignment with little cast distortion. Correcting transverse and coronal deviations will distort the cast and patient's anatomy.

KAFO and KO with Lateral Extension:

- The Townsend Design preferred casting method for a KAFO or KO lateral extension will be a two-part casting technique to ensure proper fit and alignment.
- Apply two layers of stockinet. The stockinet must extend past the toes and up to the perineum.
- Apply a cut strip between the two layers. If the KAFO or KO has a posterior calf band, it is acceptable to have the cut strip anterior from proximal to distal. If the KAFO or KO has a pretibial band, the cut strip must snake from anterior foot and ankle to the lateral side of the calf and up to the trochanter.
- Identify and mark the Achilles tendon, 1st and 5th metatarsal head apex, navicular, base of the 5th metatarsal, medial and lateral malleoli, neck of the fibula, knee center and any area for concern.
- Position the patient with the foot on a casting stand, floor or any flat stable surface. Attempt to have the hip, knee and foot at 90 degrees for optimal alignment of the AFO cast.
- Use fiberglass, synthetic or hybrid casting tape to wrap the patient from the tibial tubercle past the end of the toes. Please do not use plaster to cast the patient. It is important not to cast higher than mid-calf.
- After applying the casting tape, exert downward pressure on the knee with one hand and the dorsum of the foot with the other hand. While applying downward pressure, ensure the knee is in the correct coronal plane and the foot and ankle is positioned in the correct toe out as well as the correct transverse and coronal plane.
- Once the AFO has hardened, extend the knee to the functional position needed. It is important to ensure you capture the correct coronal alignment. The patient will need to shift near the edge of the seat to prevent flattening of the thigh and increasing the M/L of the cast.
- Cast the patient starting 2" below the edge of the AFO cast. Ensure there are 2-3 wraps at the area to provide a solid transition. Continue the cast proximally to two inches out of the perineum. The proximal edge of the cast must be 2" above the desired height of the orthosis.
- Once the AFO has hardened, extend the knee to the functional position needed. It is important to ensure you capture the correct coronal alignment. The patient will need to shift near the edge of the seat to prevent flattening of the thigh which will increase the M/L of the cast.
- Remove the cast mold from the patient, remove all stockinette from inside the cast mold and remark all landmarks.
- Staple the cast mold utilizing the hash marks for accurate realignment of the cast.
- Apply one roll of plaster or casting tape around the two-part transition to ensure they do not shift or separate during shipping.
- Fill out the appropriate order forms and provide all measurements indicated.
- Ensure the cast mold has fully cured and is not wet. Place in a well-padded box for shipping.

AFO/Premier Ankle:

- Apply two layers of stockinet. The stockinet must extend past the toes and up to knee center.
- Apply a cut strip between the two layers. If the AFO has a posterior band, it is acceptable to have the cut strip anterior from proximal to distal. If the AFO has a pretibial band, the cut strip must snake from anterior foot and ankle to the medial side of the calf and medial knee condyle.
- Identify and mark the Achilles tendon, 1st and 5th metatarsal head apex, navicular, base of the 5th metatarsal, medial and lateral malleoli, neck of the fibula and any area for concern.
- Position the patient with the foot on a casting stand, floor or any flat stable surface. Attempt to have the hip, knee and foot at 90 degrees for optimal alignment.
- Use fiberglass, synthetic or hybrid casting tape to wrap the patient from the tibial tubercle past the end of the toes. Please do not use plaster to cast the patient.
- After applying the casting tape, exert downward pressure on the knee with one hand and the dorsum of the foot with the other hand. While applying downward pressure, ensure the knee is in the correct coronal plane and the foot and ankle is positioned in the correct toe out as well as the correct transverse and coronal plane.
- Once the AFO has hardened, extend the knee to the functional position needed. It is important to ensure you capture the correct coronal alignment.
- Remove the cast mold from the patient, remove all stockinette from inside the cast mold and remark all landmarks.
- Staple the cast mold utilizing the hash marks for accurate realignment of the cast.
- Fill out the appropriate order form and provide all measurements indicated.
- Ensure the cast mold has fully cured and is not wet. Place in a well-padded box for shipping.