

CASTING METHODS & SPECIALTY FOOTWEAR

CHAPTER 12

WRAP CASTING



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Mr. Murray never abandoned plaster casting. He did a lot of investigations and did accept what I will refer to as, a gauze and plaster shell technique, that he could make up on site. He would lay out the gauze and sprinkle plaster on it. Then, he would wet it before applying and shaping.

I found a medical grade plaster bandage material of high quality in the 1980's called Gypsona®. Other brands of plaster bandages don't compare for this application. I have found this brand so easy and good to work with, that I don't make my own homemade bandages like Mr. Murray did.

I found how to manipulate this plaster bandage material to make it fold and refold. It will produce a nice natural opening and seam with very little distortion. I refer to this manipulation as "opening and refolding a set of butterfly wings". It is so simple. The Gypsona® plaster bandage material (Extra Fast Setting Plaster of Paris) is available through Medical Products, Inc. in Ripley, MS. (800-638-0489).

Wrap casting doesn't produce the fine detail on the surface as plaster casting, but it does a good job of capturing the form and measurements if it is used correctly. Wrap casting has been my preferred method of casting for about thirty years. It is easier on the caster, easier on the customer, and it doesn't burn the skin. It is a lot cleaner, faster and can be used in all applications when the plaster method will not work.

Wrap casting is the method of choice for the elderly, those with mental conditions, those with medical conditions and those with physical conditions. The whole system is so portable, it can be done almost anywhere. And, it is so easy to take one cast for a pair of shoes and then another cast for a pair of boots or vice versa within a very short time.

All the same prerequisites of posture and alignment still apply. The wrap casting method will allow for many more position alternatives in order to cast the non-normal physical alignments. It does not have the limitations of the liquid characteristics of plaster, which can interfere with the most advantageous and/or desired set up position. One big advantage of the wrap casting method is that the "opening and refolding of the butterfly wings" eliminates cast cutting and/or the use of multiple removable pieces. Those removable pieces can easily become misaligned during the reuniting process, or just come apart during the pour up.

This wrap casting method eliminates a whole lot of problems and produces very acceptable results. I have had a very high success rate with this "butterfly wings" wrap casting method. I now use this system for all my casting because it works so well.

The wrap casting method uses a combination of different density materials to take the place of the pan of sand. As pictured in this chapter, my first choice for overall effectiveness was a 13"X6.5"X.75" base pad of medium density Plastazote®, topped with a 9.5"X6.5"X.75" piece of soft density Plastazote® tapered to 0" at the location of the ball of foot as a heel wedge, covered by 1" of soft upholstery foam and a dental bib.

After 10 years, I changed to a 3.5"X6.5"X.25" medium Plastazote® tapered to 0" at the location of ball of foot as a toe wedge, covered by 13.5"X6.5"X.75" of soft upholstery foam, covered by a 13.5"X6.5"X.25" medium density Plastazote®, then covered by 1 or 2 layers of soft upholstery foam and a dental bib. This improved the knee to ankle to foot alignment for the customer and results in a better cast.



1 The feet are inspected and aligned on the base pads. The top foam is easily replaceable when it gets dirty with plaster. The layers underneath usually stay clean for a long time. Always use a dental bib on top of the upper foam.



2 Cream or dish washing soap is applied so the hair doesn't stick to plaster shell. It usually doesn't, but better to be safe and the soap helps in the final foot washing.



3 The dental bib is placed under left foot. Not shown is the creaming of the right foot.



4 The dental bib is placed under the right foot.



5 The right foot is positioned and the base pads are moved to produce the proper alignment at knee, ankle, and foot.



6 The leg holding strap has been put on and the alignment is rechecked. Notice that this person supinates (rolls out or rolls laterally) the feet although the leg alignment is good. Some muscles from hips to feet are too tight.



7 The use of less soft padding under the feet may or may not help. Widening the feet apart or bringing the knees together is another possibility. Sometimes we just have to work with the body imperfections and do the best we can.



8 Recheck the alignment from the side. Note that the heel is behind the knee. This is approximate normal body standing and includes the angle of the heel wedge. It also contributes to a snugger fit at the heel and ankle.



9 The caster is putting on latex or vinyl gloves. This can be done before picture #1. Not mentioned at picture #1 was that then was a good time to pick up each foot and look at the underside. We can learn a lot by looking at the bottom.



10 The caster is laying out the 6"X5yd roll of Gypsona®S according to the length of the foot and making 5 layers.



11 The Gypsona®S is being cut off the roll. The 5 layers have been made by just folding back and forth.



12 The second stack of 5 layers is being cut off the roll.



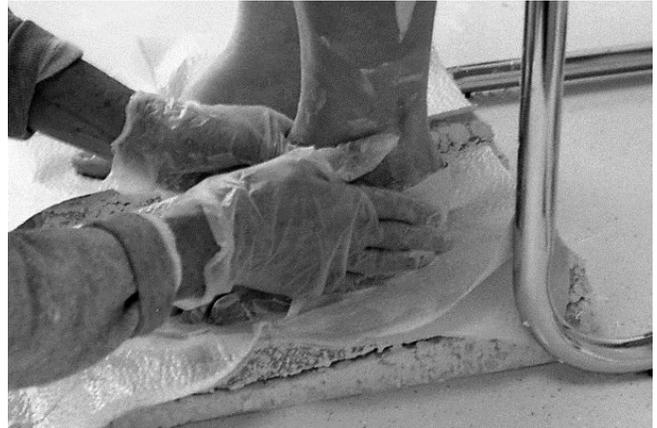
13 The plaster bandage is run through some warm water. Then take two fingers (the first and second) and run the wet material between the fingers to let the excess water drip down into bowl. Do this to the right and left half of bandage.



14 The customer is asked to lift the foot. The plaster bandage is laid under the foot on top of the dental bib and the caster lowers the foot onto the plaster bandage.



15 The caster aligns and adjusts the foot to the proper position.



16 The caster starts at the back of the foot and carefully brings the plaster bandage up and around the foot. Shape and mold the plaster bandage to the form of the foot. Take out the air bubbles.



17 The caster cuts off any unwanted materials in front of the toes and along the sides. Sometimes a cut is needed at the arch so the bandage will conform better.



18 The caster can go under the toes and push up if more pyramid or crest is desired underneath. This was an old Murray requirement, but I do not feel it is necessary for most people.



19 The side view of finished bottom of plaster cast. Notice rounded shape at heel. Please look at picture 24 and 25 to see how the arch was molded to fit the customer's foot.



20 The plaster bandage for right foot is run through warm water and drained.



21 The plaster bandage has been placed under right foot. Caster is bringing up bandage material around heel.



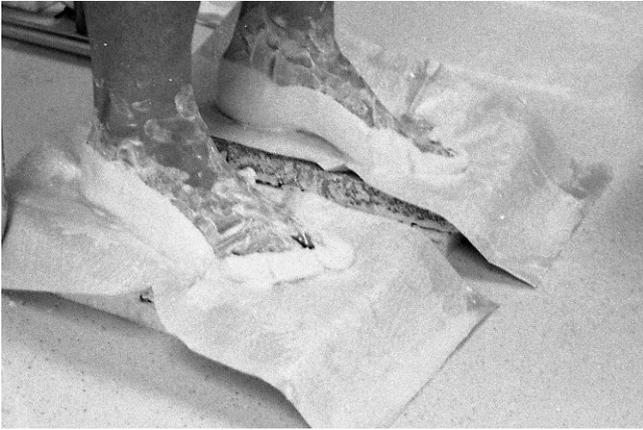
22 Caster is bringing up plaster bandage around ankle.



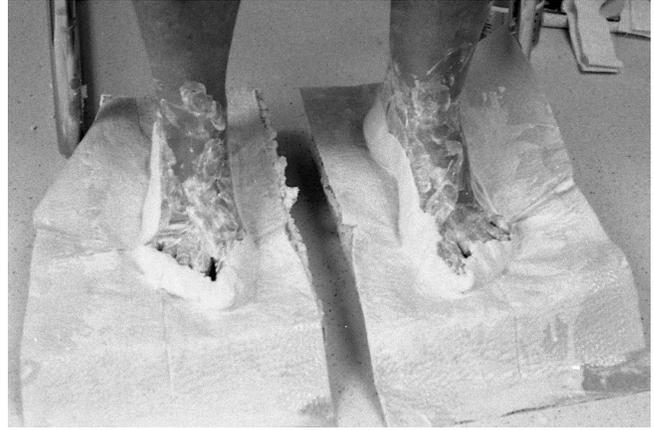
23 Caster is cutting off excess bandage at toes.



24 Caster is working plaster bandage under, around and up over the ends of toes.



25 Finished view of the bottom of plaster cast.



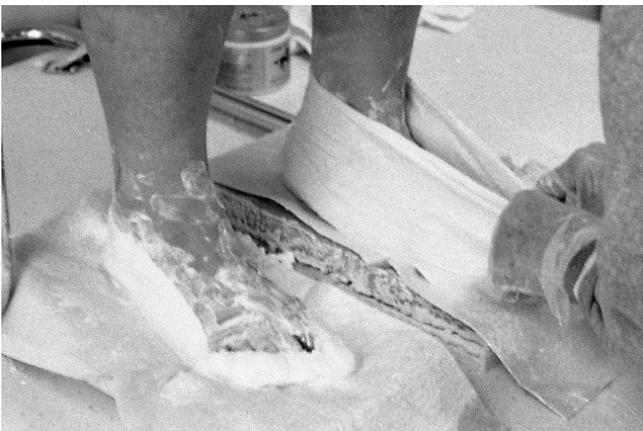
26 Front view.



27 Gypsona®S 5"X30" splints (extra fast setting) come packaged in 5 layers to a group. That is exactly the way we recommend it to be used for good shaping and proper strength of the cast. Caster is cutting off excess length for later use.



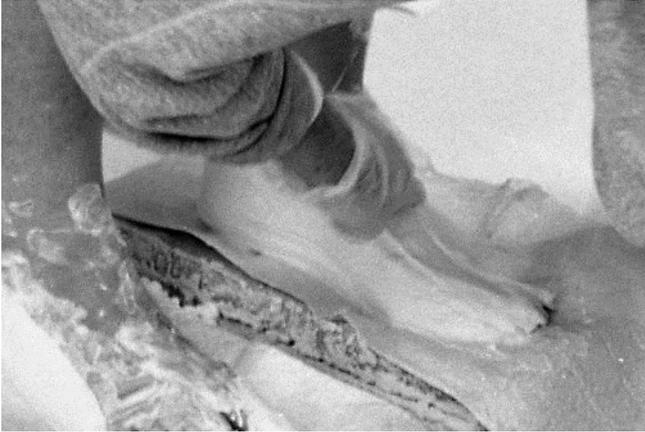
28 Plaster splint material is being wetted and drained.



29 The center of plaster splints goes at back of heel and the two ends are brought forward.



30 The caster is folding over the excess splint material at the center seam.



31 Caster is working the center seam together.



32 Ditto.



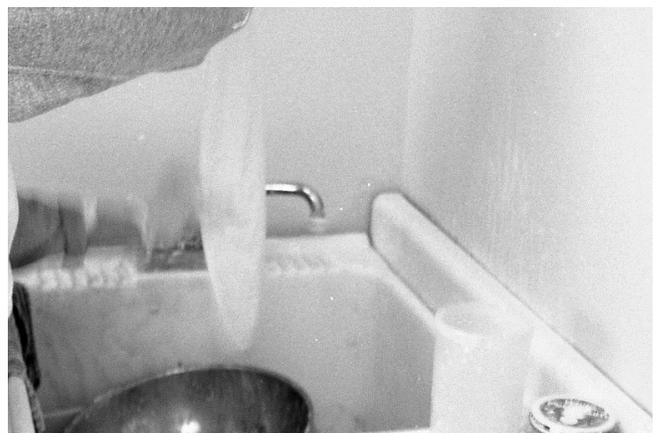
33 Caster is nipping the fold over to bring up a nice collar in front.



34 Notice how the cast has been squared on top of the ankle.



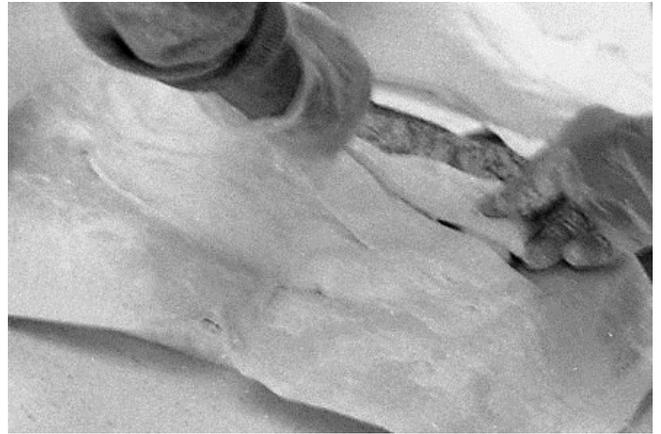
35 Another front view.



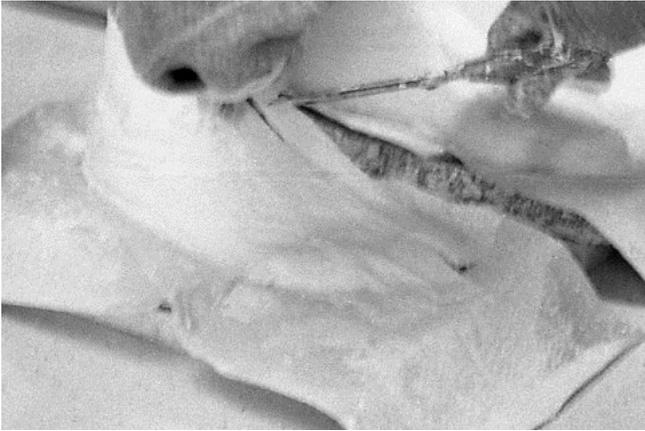
36 The plaster splint material for the right foot is wetted and drained.



37 The top of cast is being formed.



38 The caster is working the center seam.



39 Ditto.



40 The caster is cutting off excess material at toes.



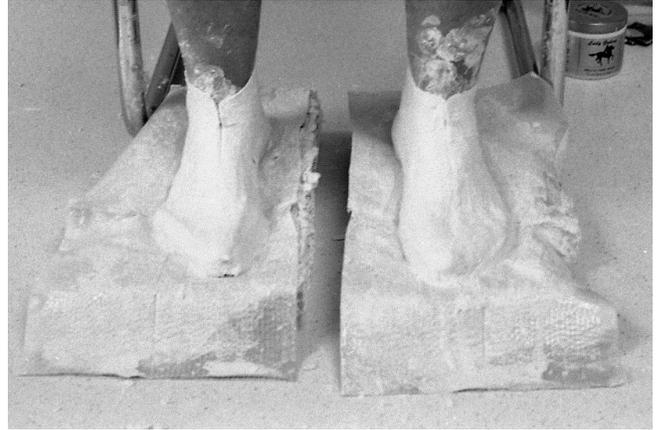
41 The caster is making the upper cast mold to the arch and bottom cast.



42 The caster is working the wet plaster splint material to get a good form around the front without air bubbles or voids. A good cast is one that takes the exact shape and size of the foot. Don't be sloppy and don't rush. Do very nice work!



43 View of the finished cast.



44 The caster and customer must wait for the plaster cast to start setting up. It needs to start feeling firm but not yet stiff.



45 The plaster cast of left foot is being tested by the caster. If it doesn't want to hold its shape, wait.



46 Notice how the plaster cast has just enough firmness to hold its shape.



47 The caster opens the "wings" of the plaster cast.



48 The customer is asked to gently lift the heel or pick up the foot. The caster holds and/or removes the cast from the foot.



49 The foot is coming out of the cast.



50 The "butterfly wings" are folded back into place by the caster. If all has been done correctly, there is almost no distortion of the cast.



51 Rubber bands are placed around the cast as it dries.



52 The customer's name is written with an indelible pencil.



53 The "butterfly wings" of the right foot are opened.



54 The right foot is being removed from the cast.



55 The "butterfly wings" are folded back together again.



56 Rubber bands are used to hold the cast seam together.



57 The customer's name is written on the cast.



58 The caster performs the religious act of washing the feet.



59 The feet are dried.



60 The Murrays' foot powder is sprinkled on and then spread nice and evenly to absorb any leftover moisture on the feet so socks can slip on easily. We only do this for customers who want it.



61 The finished cast must now dry two to four hours before being poured up with plaster.



62 Ditto. The excess plaster splints from picture 27 can be used to cover the center seam and bottom under front of toe box so the liquid plaster will not seep out of the seams during the pour up.

Did you see how easy the wrap cast is to create?

The wrap cast is virtually free of major problems. The wrap cast is easy on the person being casted.

However, there are two aspects of the wrap cast that need to be re-emphasized:

- 1) Proper alignment and posture of the person being cast is so important. And, the feet should be lightly on the pads. Full body weight or pushing down into the pads is not good.
- 2) The caster must really use their hands to patiently and carefully mold the wet plaster splinting material to make it conform to the foot. Use gentle, loving pressure to caress the plaster material to the shape of the person's foot.

Quality casting is the goal!

And, always consider the comfort and safety of the customer from the beginning to the end of the process.