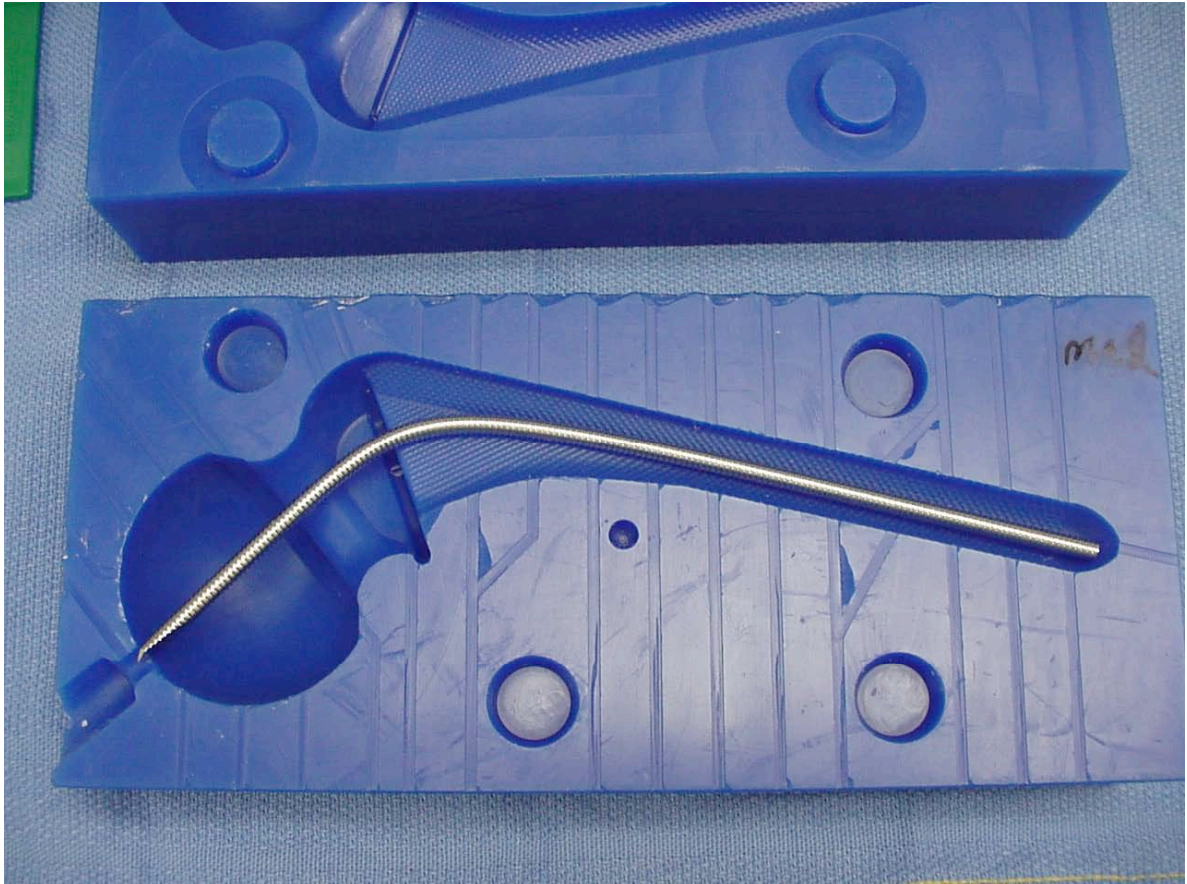
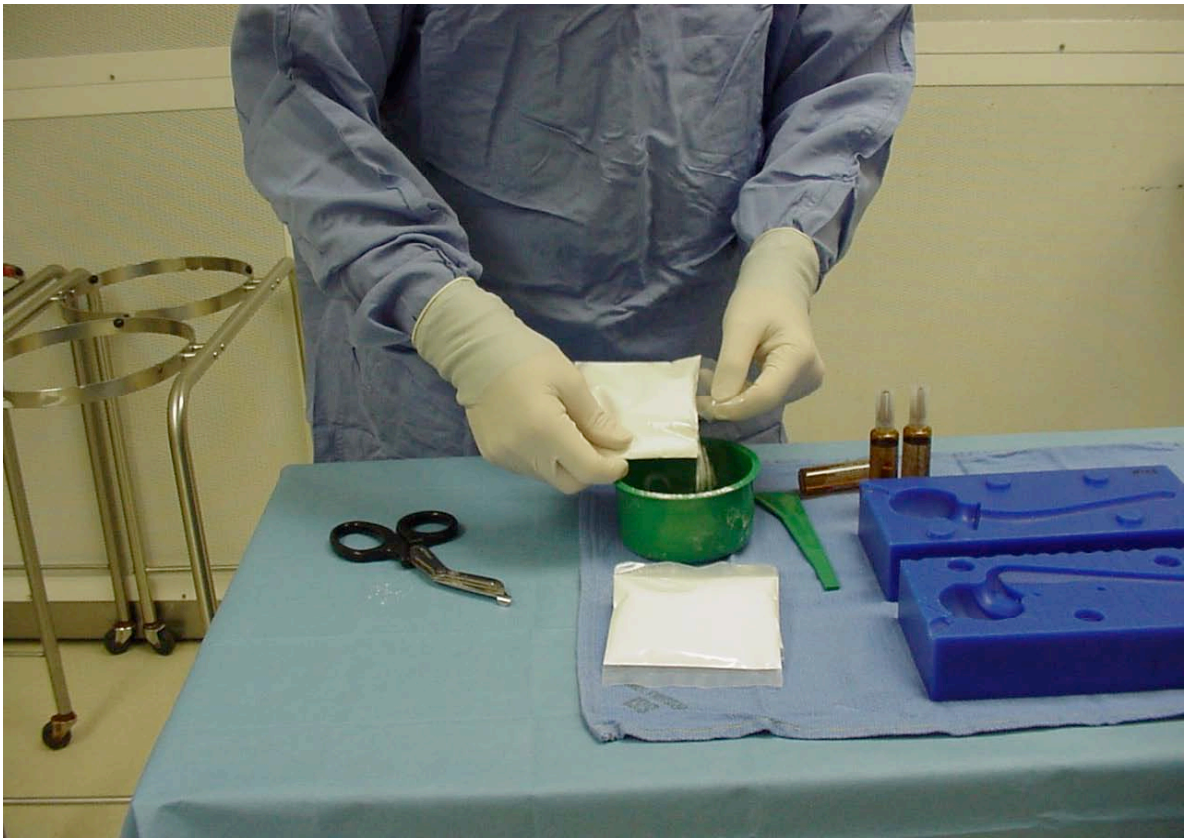




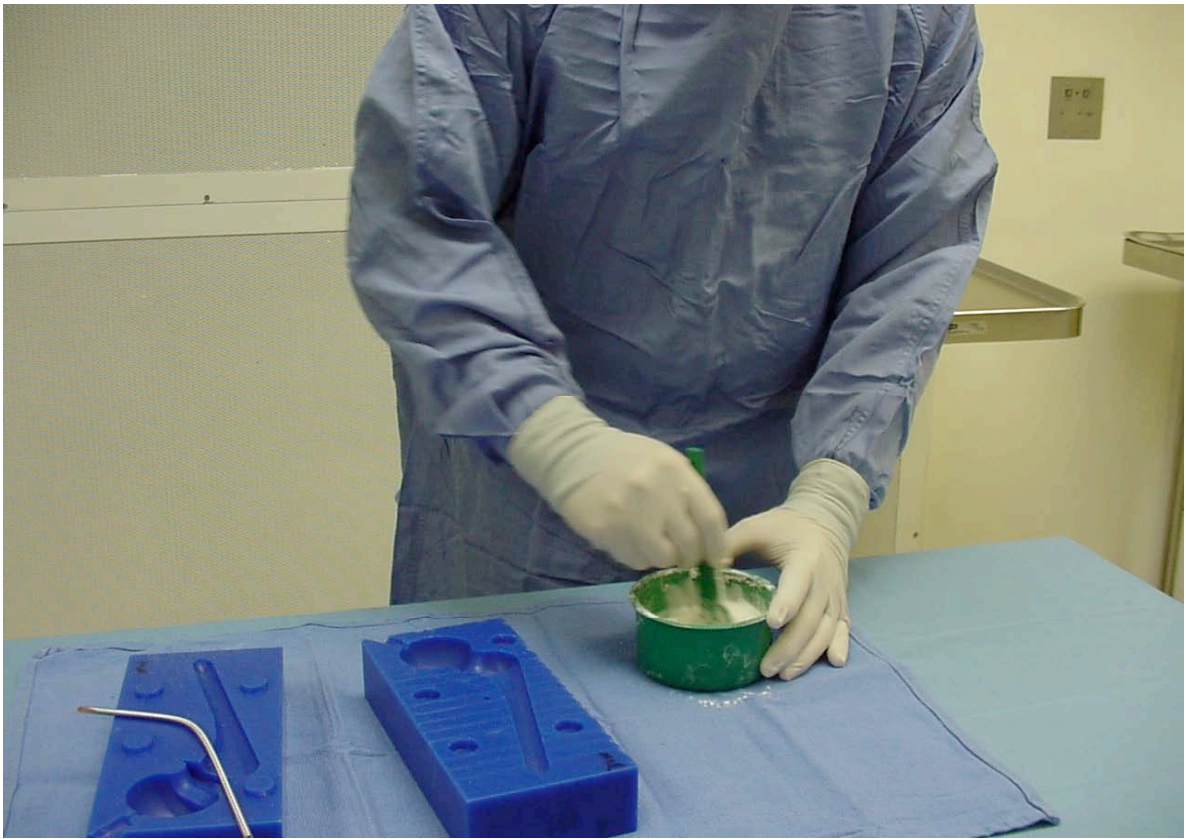
Collect everything needed to prepare the spacer. You will need cement, a mixing bowl and spatula, the mold itself and antibiotic powder. The literature would suggest the use of Tobramycin, 1.2 grams per batch of cement. We recommend 3 batches of cement for the Small spacer , 4 batches of cement for the Medium and 5 batches for the Large. You will also need a Large Threaded Steinmann Pin.



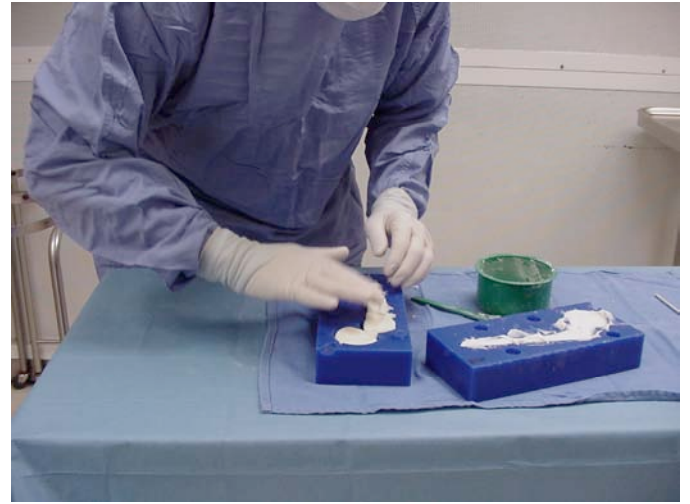
Take the Large Steinmann Pin and bend it so it matches the angle of the mold. Ideally it should touch the bottom of the mold. This is used for increased strength and it should help to retrieve the mold if a fracture of the stem should occur. Once it is matching the shape of the mold, set it aside for later.



Now prepare your cement in the regular way, adding the antibiotics at the discretion of the surgeon. It should be noted that the FDA does not condone the use of antibiotics with bone cement at this time. Using centrifuge mixing is not necessary, but it theoretically will increase the strength of the cement, thereby extending the life of the spacer.



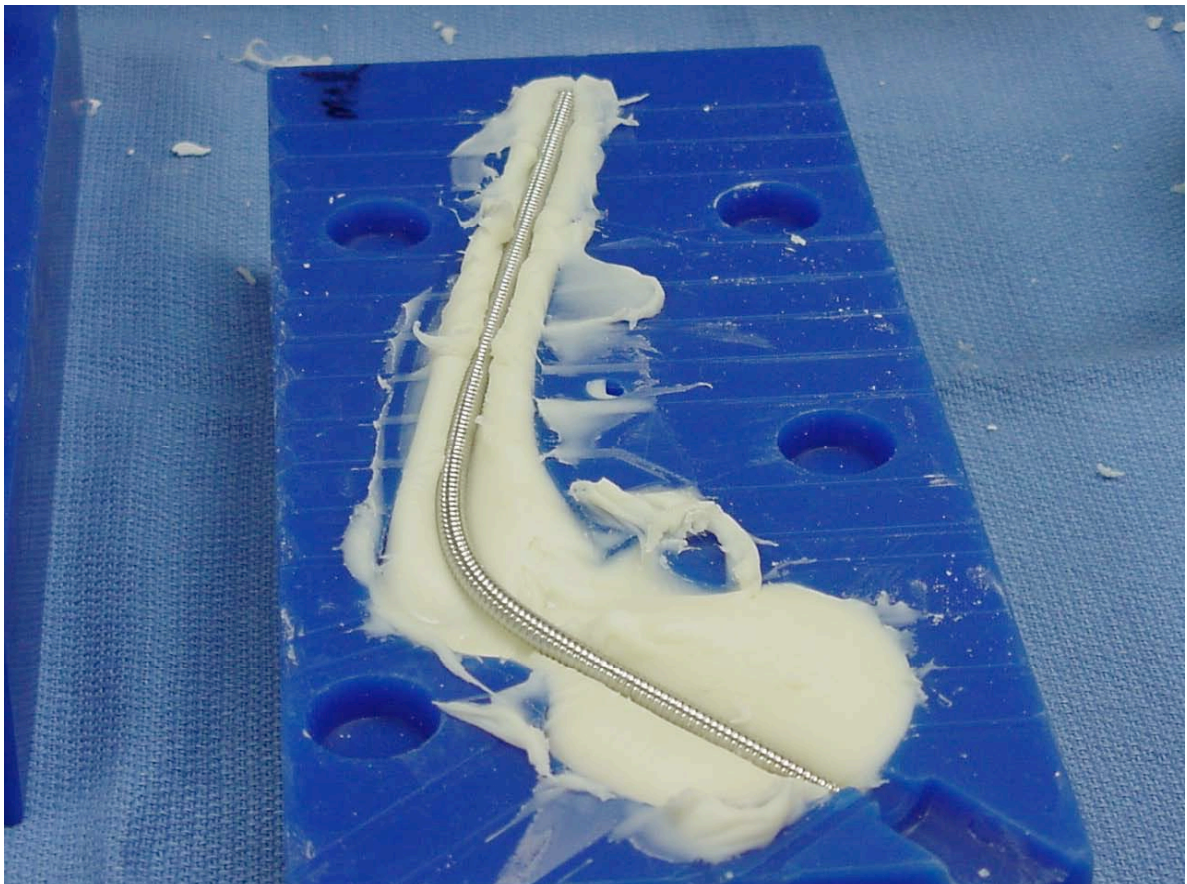
Mix the cement until it is in a doughy state, not sticking to your gloves.

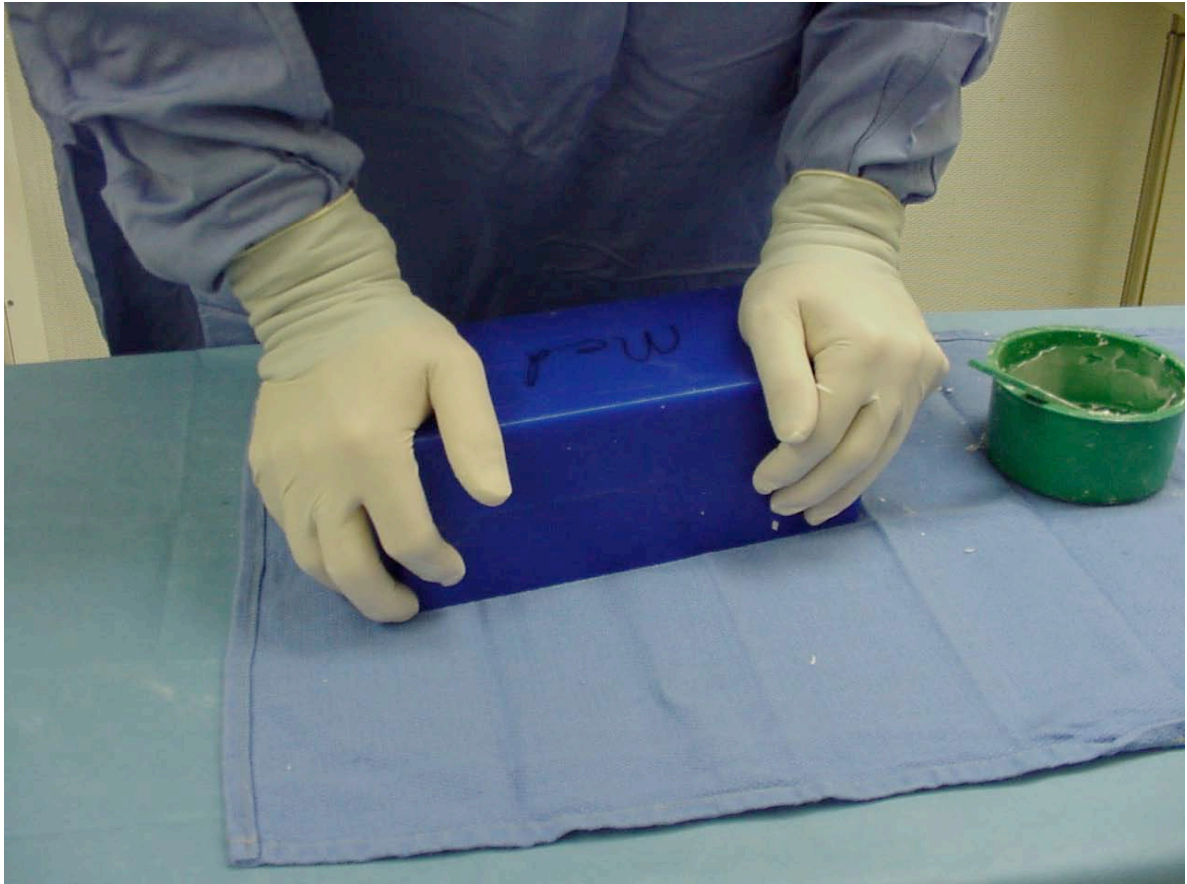


Using the spatula, apply cement to each half of the mold, filling all spaces completely. A little overflow is acceptable, as the design of the mold will remove any excess as “flash” which will flow out of the main cavity of the mold. This will be trimmed off the mold at the end.

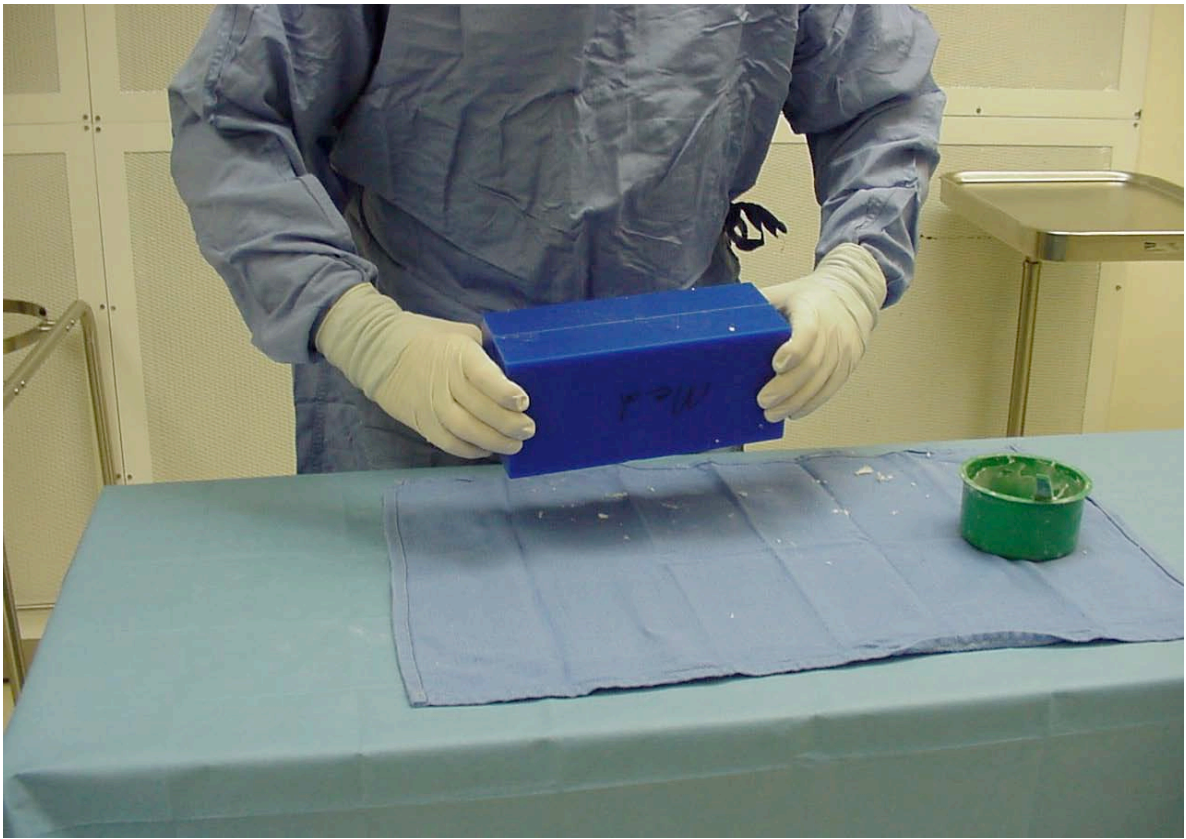


Take the Steinmann pin and lay it on one half of the mold. Center it as best as possible. If it is short, make sure that the distal end is touching the bottom of the mold. Do not worry if it does not completely reach the acetabular articulation.

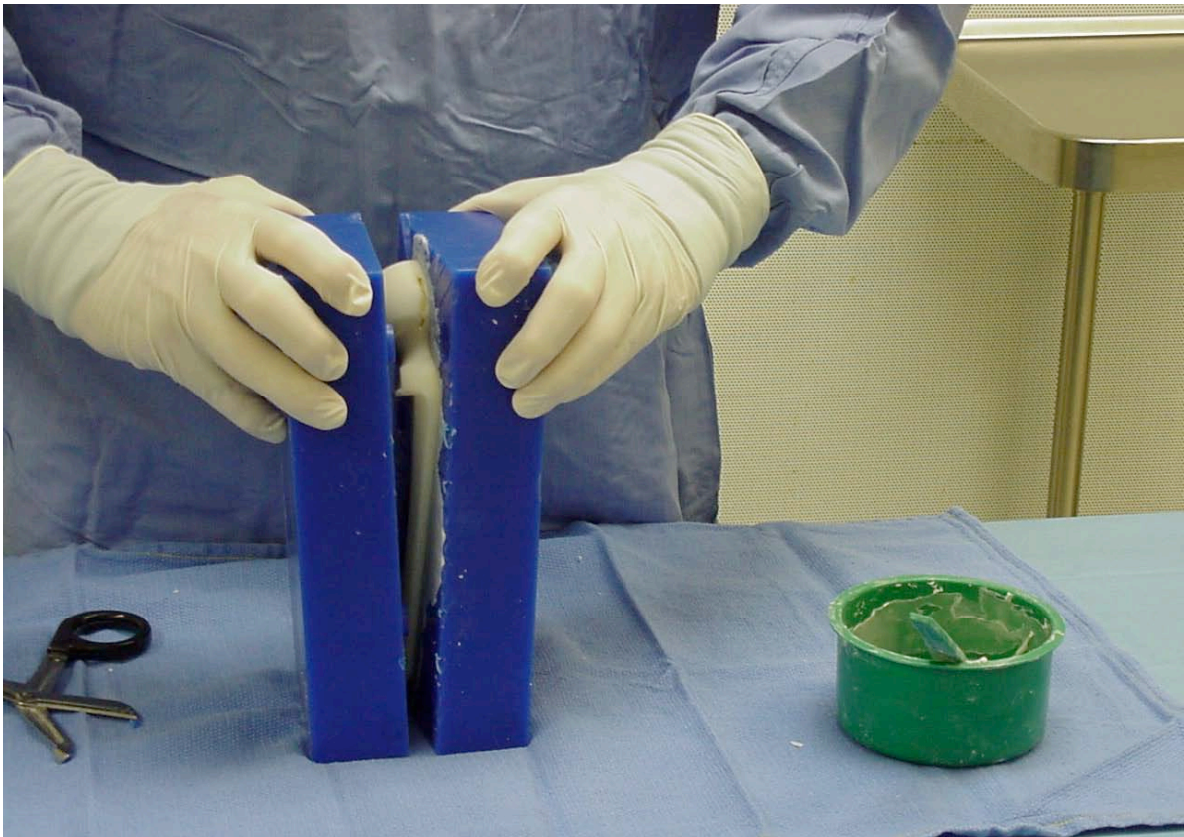




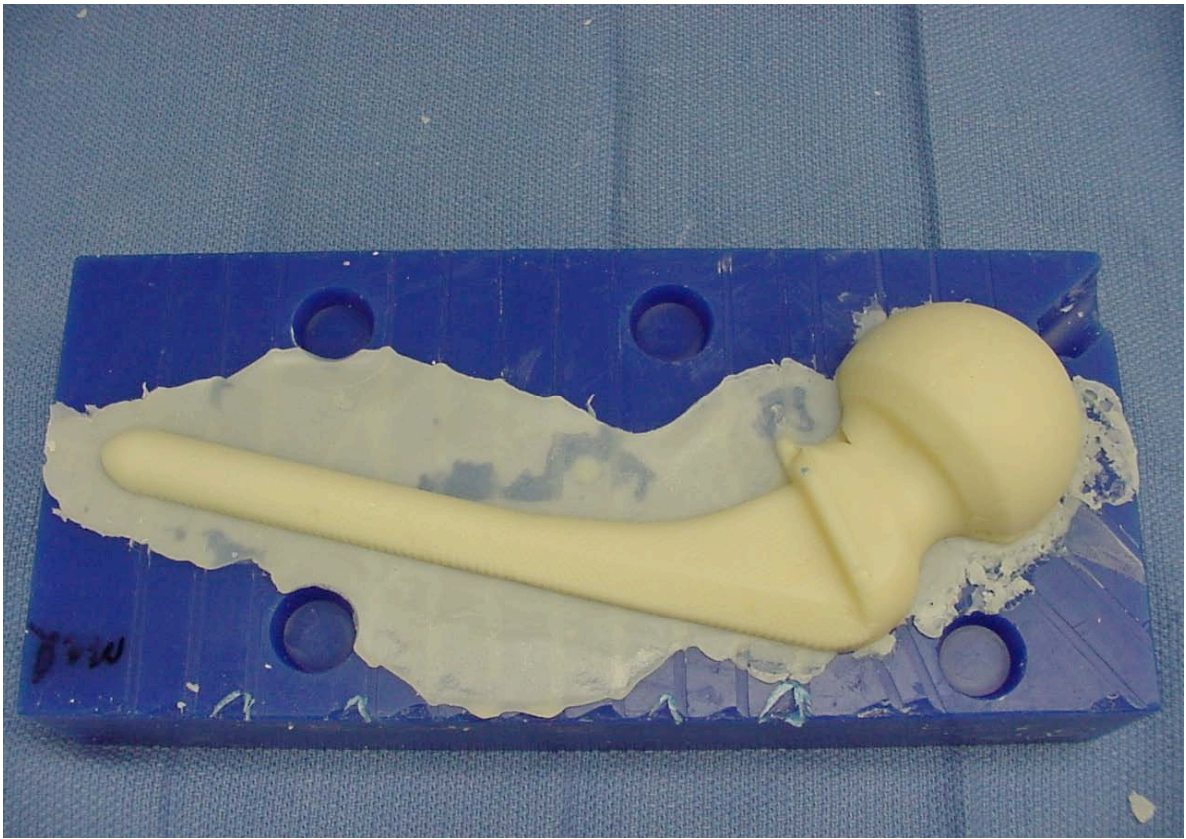
Close the halves together and apply considerable force to completely oppose each half. Use of bodyweight is usually required. If you see some cement oozing out from the sides or the overflow valve, this is acceptable.



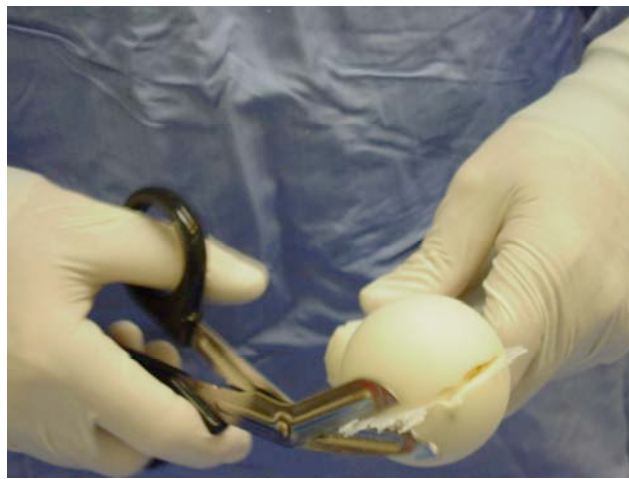
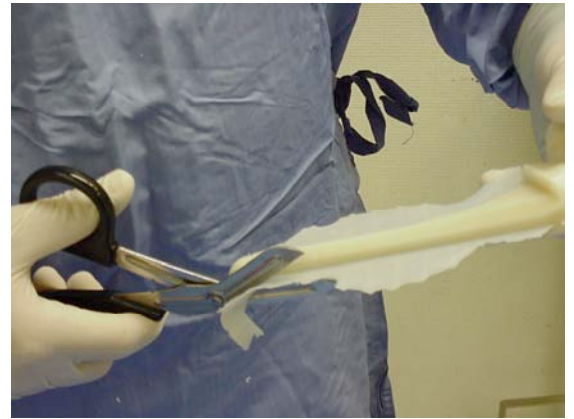
Using a “rotisserie” type process is recommended to keep the Steinmann pin from sinking to one side or the other. Every 15-30 seconds, rotate the mold halves, by simply turning over the mold.



It is extremely important that you wait until the cement is fully hardened. If you remove the spacer from the mold before it is hard, it will deform and not fit the canal for which it had been prepared. This will cause problems with insertion and removal. Give the cement plenty of time to harden, remembering that the antibiotics will most likely cause the cement to take more time to set up. It may require some force to pry apart the mold halves. The use of osteotomes works best.



This is the typical appearance of the spacer upon removal. The excess material around the stem is called “flash”.



Take the spacer out of the mold, and use a pair of scissors to trim the flash away from the spacer. If you have even more excess cement, you will have a portion of cement extending from the acetabular articulation that looks like a top knot. This is shown on the next page. This can simply be snapped off with your fingers or pliers, and any rough edges that concern you can be smoothed down with a rasp or a burr.



Typical appearance of the top knot. This can easily be removed by hand, bending it to the side.



Appearance of the Spacer after preparation, ready for implantation.