

Use of MOLDCARE Cushions in the Immobilisation of

Extremities

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Challenge

It was apparent almost immediately upon receiving our Orfit Extremities Solution boards that the sole use of thermoplastic masks applied to the leg would not only be uncomfortable for the patient but would not immobilize the limb adequately for any type of acceptable radical treatment.

At first, we attempted to use Vac-bags but had problems making them narrow enough to allow the thermoplastic masks to clip into the board either side of the leg or arm. We also knew we would somehow need to lock the bag to the board to prevent it sliding out of position. The Mould Room attempted to manufacture several different locking designs, some in conjunction with an existing lok-bar, but none seemed particularly practical.

Our Solution

We had recently begun using 20cm x 25cm and 20cm x 34cm Moldcare cushions to aid comfort and improve immobilisation of our VMAT head and neck patients and it was suggested we use these under limbs in much the same manner. This worked very well and vastly improved reported patient comfort and we could tell immobilisation would similarly be enhanced. However, we still had the issue of the cushions sliding around on the board. To remedy this the Mould Room manufactured pieces of 5mm thick rectangular Perspex that had two holes drilled in them that matched the hole spacing on the board. These holes were then countersunk so they would take clip fasteners almost identical to the ones used to clip the Orfit thermoplastics to the board. On top of the Perspex rectangle were glued additional narrow pieces of Perspex to form a cross. We found that if these rectangular devices were then clipped into the baseboard, where we planned to afterward place the Moldcare cushions, they acted as a very serviceable mechanism for holding the cushions in place. Since then

we have found that it possible to dispense with the Perspex entirely and just use two or three clip fasteners plugged directly into the board. This seems to do the job just as well and means less work for the Mould Room. However, the fasteners we purchased from OSL did not perfectly hold in the board unless a 1mm spacer was placed between the male and female parts of the clip fastener.

The positions of all clips are of course recorded in the set-up instructions.

It is also worth pointing out that whenever the leg bridge is employed a Moldcare cushion is placed on the corner of the bridge, positioned under the bent knee. This cushion does not require any clips to hold it in place as it is formed not just around the back of the knee but also around the edges of the leg bridge corner, thereby making it “self-locking”.

Conclusion

We now always use Moldcare cushions for all our limb immobilisation when using the Orfit Extremities Board and / or Leg Bridge. We have found the patient is much more comfortable and therefore much more likely to remain still throughout their treatment. Similarly, the reproducibility has become excellent and we rarely require moves of more than 1 - 2mm.

Of course, it is very important that all set up instructions be rigorously annotated with as many photos as possible. It also can help if the Mould Room staff are available to attend the treatment machine on the first day of treatment to assist and advise although with familiarity this is becoming less necessary.