

MANUFACTURING OF A SOCKET

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1 SOCKET

- shape - contact with the stump
 - determines the comfort
 - determines the control over the prosthesis
 - determines the suspension of the prosthesis

- suspension of the prosthesis
 - Vacuum realised with a liner+pump
 - mechanical fixation system ie shuttle lock
 - creating a vacuum by the use of unidirectional valve
 - main objective is avoiding a pistonage

2 .taking mesures

- Using a scanner > 3D manufacturing of a positive mould in different materials (foam,wood..)
- Making a plaster mold
 - needs a manual correction
 - plaster positive mould

3. Placing of dummies

- Avoid right angles
- Avoid the weak places like cut outs, windows
- Avoid connection points a the level of mechanical elements

4. Insulation of the positive mould

- If possible let your mould dry
- Insulate with a varnish (based on acryl)
- Forsee air channels (instead of fabric)
- Apply a thin layer of demoulding silicone
- Forsee a fabric from the air channels till the central vacuum hole of the vacuum plate

5. Positioning of the mould on the vacuum plate

- Put it the centre of the plate (tube must be positioned by manufacturing the positive)
- Place positive in a vertical position (forsee a high border and square proximal surface of you're mould)
- Don't forget the fabric to the suction hole

6. Preparation of the thermoplastic sheet

- Remove the plastic foil (protection against scratches and moisture)
- Place your sheet in the moulding frame (inside covered with a teflon sheet or talcum powder)
- Place the frame in the oven
- Activate at the right temperature
- Let the ' bubble ' form
- Let it drop for about 10 to 15 cm
- Take in account the heating delay

7. MOULDING THE SOCKET

- Retrieve the frame from the oven
- Turn the bubble upside down (convex side up)
- Position your plastic against your mould accordingly to the lenght of the sides
- Let the material drape against your mould.
- If necessary assist the material until it reaches the proximal border of the socket
- don't rotate the plastic
- don't pull to fast
- Turn the vacuum very slowly on (0,2 bar)
- Assist the plastic to conform well
- Let cool down (24h if possible)

8. Remove the formed socket

- Cut out at the top level of the socket.
- Remove the dummies
- Remove from your positive or break this out

9. Finishing

Use a grinder with rolls sanding paper (grain 40-80)

Use a polishing brush (max 1500 rpm)

Finish manually with waterproof sanding paper (500-1200)

Or use silicone cones

Or reheat the edges with a heatgun

Fix the connecting parts (plexigum m354)

Reinforce with synthetic bands for longer trials

10 .Montage et essayage

THANK YOU

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