Traditionally either a custom tray is used, or more commonly, a stock tray is modified with holes on the occlusal to allow the long pins of the open tray impression heads to project through the tray. This can be a challenge as slight rotation right or left can make it difficult since the pins too easily project through the holes. Hager developed the Mira tray, which is a stock tray with a clear film over the occlusal so that upon insertion, as the practitioner presses the tray apically, the pins pierce the film and make capture of the impression more easily.

Fig. 1: For illustrative purposes the technique will be demonstrated on a model.

Fig. 2: Open tray impression heads are inserted in the implants. As can be seen the implants will be captured and pins will come through the film without tray modification.

Fig. 3: A putty PVS is mixed and placed into the tray. I prefer to use putty in tubs as this allows me to alter the base-to-catalyst ration to decrease set time verses cartridges that are stuck at the manufacturers’ 1:1 ratio. Also we want a stiff material so that upon set, the impression heads cannot move and affect the accuracy of the final model.

Fig. 4: A medium body PVS is injected only on the gingival aspect of the impression heads so that no voids result from the putty and capture the detail of the gingiva.

Fig. 5: The Mira tray previously filled with PVS putty is inserted and pressed apically.

Fig. 6: When fully inserted the pins should pierce the trays film and held in place until setting of the impression material.

Fig. 7: Upon removal of the pins, the tray is removed intra-orally and our open tray impression is ready to be sent to the lab.
Open tray impressions are more accurate than closed tray when adjacent implants are being recorded and this technique simplifies the process. The Hager Mira tray is available through any dental supplier.

Hi Greg, Nice to see your work on Dentaltown. Others will soon see why it’s nice to have someone of your caliber on this forum.

Sheldon

Please explain why open trays are better. I do not understand. Closed trays are in and out. Open trays are difficult to use and have to stay in the mouth way too long as you struggle to unscrew the transfer abutments with limited VOD, especially with multiple implants. Is it true that the open trays are more popular in Europe than the USA?

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Over 6 million people use Sesame to communicate with their dental providers.
My conclusion stated: Open tray impressions are more accurate than closed tray when adjacent implants are being recorded and this technique simplifies the process. The Hager Mira tray is available through any dental supplier.

The reason open tray is more accurate than closed is that you have to reinsert the head perfectly into the impression, which means that a softer impression material needs to be used to allow reinsertion than the stiffer material if the head remains in the impression. Also verification stents cannot be used and captured in the impression. Plus, if the head is off by even half a degree rotationally it throws the position off affecting the prosthetic result made on the model. How is removing a long pin harder or more time consuming than taking the entire head out? It takes about 30 seconds to remove each long pin, not an excessive amount of time for the impression to remain intra-orally.

Only time I use closed tray is in limited VDO in posterior when I don’t have the clearance to insert and remove the longer open tray heads.

Yes, in Europe, open trays are the dominant technique.