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The Implant Overdenture

To paraphrase the real estate industry: “Locator, Locator, Locator”. There’s nothing like them, and I’ve tried them all, from cast bars with Hader or Ackermann clips, ball overdenture abutment heads, Dalla Bonas and o-rings. Locators are simple, effective, and very retentive. However, one important point needs to be well understood: If you can’t make a good denture without implants, you shouldn’t be making a denture with implants.



No implant will ever replace sound, prosthodontic principles. All dentures need to adequately cover the supporting tissues and have a functional centric occlusion at a comfortable vertical dimension of occlusion.



With that being said, two osseointegrated implants placed in the anterior maxilla or mandible in approximately the position of the missing cuspids can be restored with Locator abutments to provide the patient with excellent retention and stability.



The Locator abutments are gold in color and are referred to as the “female” portion of the system. The “males” are the colored nylon inserts that offer retention values of 1.5, 3, and 4.5 lbs. A metal housing embedded in the denture base retains the males. The abutments are manufactured by Zest Anchors (www.zestanchors.com) for 50 different implant companies and their various implant designs. You should have no trouble finding a

Locator to fit whatever implant you are attempting to restore. Abutment heads are available in tissue collar heights of 0mm to 6mm and the collar need only just clear the gingival crest. The end result is a very low profile abutment (plus male components) of 2.5 mm for non-hexed implants and 3.25mm for externally hexed implants. This compares very favorably to the 4.5mm to 7mm range of other currently available implant abutments.

How many do you need? As far as I'm concerned, two are plenty. Beyond that, you get into broken fingernails. These attachments can be too retentive.



To place abutments and seat and remove male attachments, use the gold colored Female Triangular Seating Tool pictured at left along with the Male Seating and Removal Tool. After seating and tightening the abutment, use a torque wrench set to 20 N/cm or insert the shank of a straight handpiece bur into the hole in the side of the Triangular Seating Tool

and turn an additional 45 degrees (1/8 to 1/4 turn).



Direct or indirect, how do you want to attach the male housings to the denture? With the indirect method, you'll need to transfer the abutment's position to the master cast using an impression post or impression coping and a very stiff impression material. At the same time and with the same impression material the final impression for the denture base is made. Consistently achieving good results for both procedures can be difficult to accomplish. For this reason, I would suggest concentrating on making the best impression for the denture base and using the direct method for attaching the males to the finished denture at the time of delivery.

After the finished denture has been tried in and adjusted for a comfortable fit and good function, cold-cure acrylic can be used to secure the male housings to the denture base. Light-cured resins are difficult to fully cure beneath a denture and when fully cured, too brittle, thus allowing the male housings to break free. A fast setting, cold-cure, pink repair resin is the ideal material of choice.

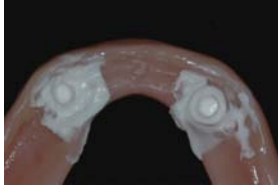


The silver male housings come from the manufacturer with a black processing male inserted within the housing. The processing male is designed to provide a slight amount of vertical travel to accommodate the compression of soft tissue under the denture base. **For any procedure that involves resetting or replacing a male housing (i.e. reline/rebase), a black processing male must be used in all Locator male housings in the denture....extra black males can be ordered from the supplier.**

Along with the male housing, comes a white washer or "skirt" that prevents the cold-cure resin from entering the gingival crevice during the bonding procedure. Slip the ring



over the abutment head and snap the male into place. The housings are now ready to be attached to the denture. To allow for this, room must be made within the denture base so that the male housings do not contact any part of the denture when it is fully seated.



Use GC Fit Checker to make certain that a sufficient amount of acrylic has been removed from the denture base. No contact between the denture base and the metal housing should show in the white silicone paste.

The amount of Fit Checker used to fill the hole will give an indication as to the amount of acrylic resin that will be needed to bond the male housing to the denture base.



Use a 701 straight handpiece bur to punch a vent hole in the external surface of the denture base to allow for escape of excess acrylic. Wet the base acrylic with monomer and inject enough pink cold-cure repair resin to just under fill the hole. Seat the denture over the dry male housings and guide the patient into centric occlusion.



Once the acrylic has set, and the denture has been removed from the mouth, use the Male Seating and Removal Tool to remove the black processing male from its housing.

Remove any excess acrylic from the intaglio surface of the denture and from the exterior of the vent hole.



Small bulges of acrylic may need to be added to the exterior surface of the denture facial to the location of the male housings to assist the patient in removal of the prosthesis.

What color male is placed into the metal housing depends on how much retention you need. I always start with blue, the lightest, and it generally proves to be adequate. If you have an unusually long denture anteriorly-posteriorly, additional retention may be needed in the form of a pink or clear male. The same is true if the abutments are closer together than the cuspid position.



Excessively angled abutments may require the use of extended range males. These are nylon inserts in which the center nipple of nylon has been removed. The green male has 3 to 4 lbs. of retention, the orange male 2 lbs., the red male has 1.5 lbs., and the gray male 1 lb.



Use the Male Seating and Removal Tool to snap the nylon inserts into the male housing and deliver the denture. These attachments have proven to be so dependable and low-maintenance that I routinely replace o-ring abutments with Locator abutments in one short visit as shown below:



The Locator abutments can also be used in a variety of partial denture configurations, often negating the need for precision attachments.

Instead of having to restore the terminal abutments with precision attachment crowns, Locator abutments placed to their distal will suffice for the necessary retention of a clasplless partial denture:



As pictured below, Locator abutments can provide increased retention and anterior support in the difficult to restore Class IV partial denture.



The possibilities are infinite and only limited by your imagination and the patient's bone.

Maginnis the Dentist

