Robert Kreyer, CDT

Processing Locators TO OVERDENTURES

Create value to your processing technique with Locator implant-retained overdentures.

Locator attachments for implant-retained overdentures can be direct processed when a clinician seats the overdenture and processes the attachments intraorally. However, the indirect technique offers the advantage of the overdenture attachments processed by the technologist in the dental laboratory on model analogs with a continuous-press injection system.

In a short article such as this, it is not possible to show and discuss the entire technique from impression to definitive overdenture. So I decided to concentrate on a critical segment of this process, which, when done properly, can contribute to long-term success of your implant-retained overdenture prosthetic product.

THE SITUATION

The three basic processing options for processing Locator attachments are conventional press-packing compression, single-shot injection, and microwave. Using conventional press-packing processing methods, the acrylic resin is pressed against the Locator processing caps as the denture base material fills up the negative space in the flasks. The conventional processing technique does not eliminate porosity in the acrylic, and polymerization shrinkage or distortion is still a factor, thus decreasing adaptation.

The highest technology for denture base acrylic resin is continuous-press injection technology such as the SR-Ivocap System (Ivoclar Vivadent). Using continuous-press injection, the acrylic resin base material is pressed against the titanium processing caps throughout the entire curing cycle. Continuous-press injection eliminates porosity and polymerization shrinkage during processing, which increases adaptation

LOCATOR ATTACHMENT PROCESSING

Fig. A Occlusal view of mandibular edentulous model with Locator female 4-mm analogs.

Fig. B Occlusal view of mandibular edentulous model with Locator titanium male processing cap seated on female analogs.

Fig. C Labial view of Locator male processing cap with white blockout spacer on mandibular edentulous model before processing.

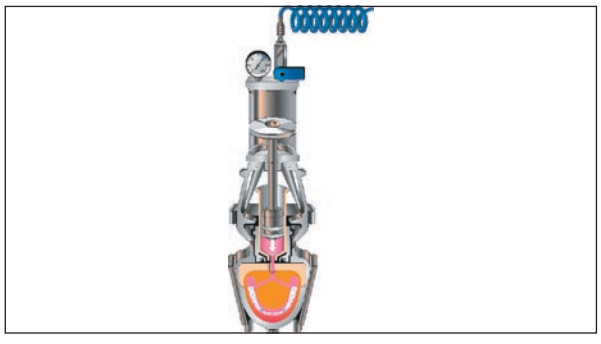

Fig. D Illustration of an Ivocap injector and flask using continuous-press technology for acrylic resin processing. The acrylic resin is pressed into the mold under 6-bar air pressure.

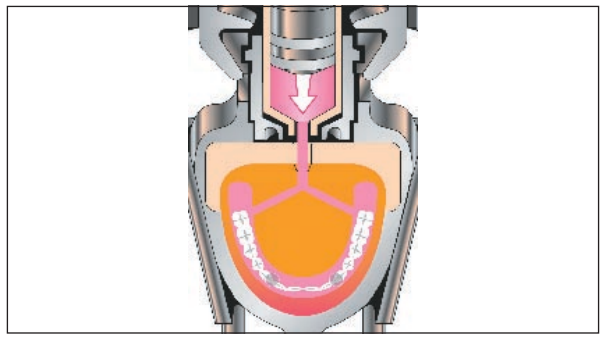

Fig. E Close-up illustration of Injector showing flow of resin through sprues to denture base and Locator titanium processing caps.

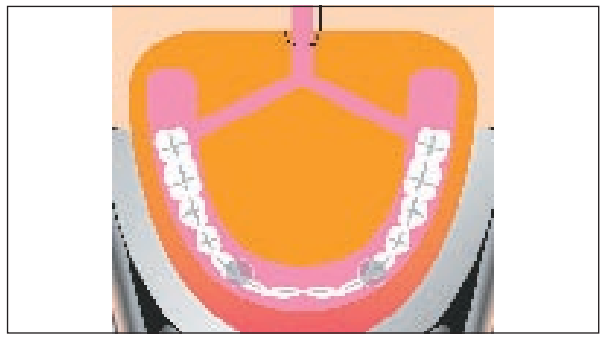

Fig. F Note the titanium housings in areas 23 and 26 as acrylic resin is continuously pressed around housing.

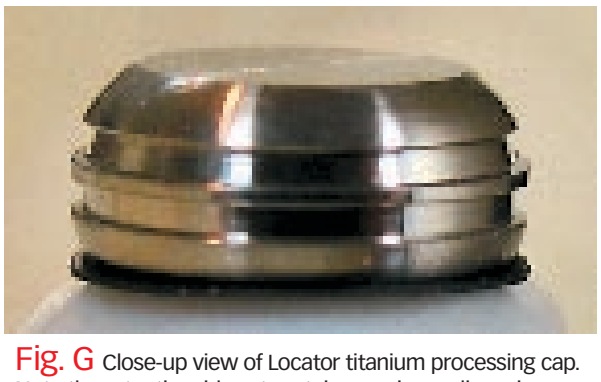

Fig. G Close-up view of Locator titanium processing cap. Note the retentive ridges to retain caps in acrylic resin.

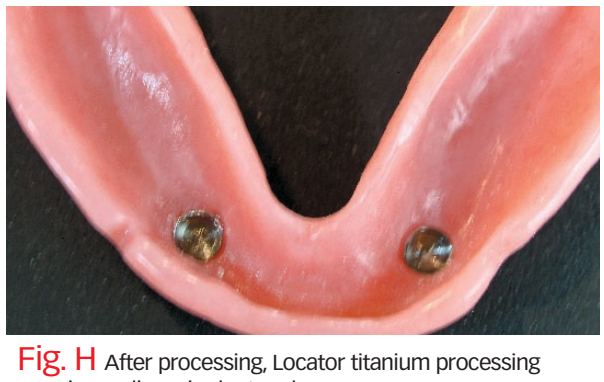

Fig. H After processing, Locator titanium processing caps in acrylic resin denture base.

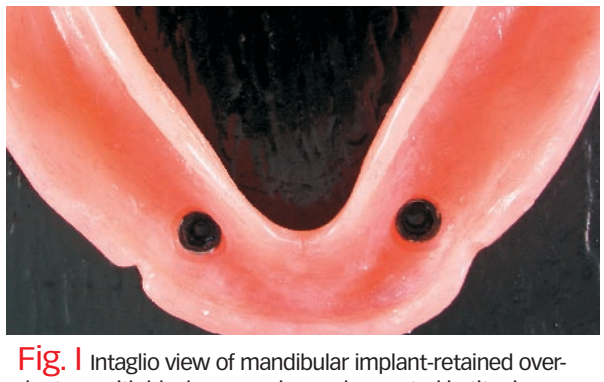

Fig. I Intaglio view of mandibular implant-retained overdenture with black processing males seated in titanium caps.

to mucosal surface and titanium Locator attachment housings.

If an intimate adaptation does not exist between the processing caps and acrylic resin, then the titanium caps that house the replacement males can move within the base and become loose. Acrylic resin that is porous and not dense will absorb oral fluids over a period of time and contribute to a weakening of the acrylic-titanium relationship.

Adding value to your prosthetic product includes perfecting techniques, using high-quality materials, and a systematic approach with high-tech equipment.

THE SOLUTION

Using model analogs **(Fig. A)** enables the technologist to seat Locator titanium processing caps and set teeth exactly around these caps **(Figs. B and C)**. If model analogs are not used, and the denture teeth are set arbitrarily around implant sites, these teeth could be in the way when using a clinical direct processing technique after the overdenture is processed.

The implant-retained overdenture is waxed, invested, and sprued in Ivocap flasks **(Fig. D)**. The denture base acrylic resin is pressed into the mold, and material flow is guided by sprues **(Fig. E)**. As the material is continuously pressed into the mold during the curing cycle, polymer particles are densely compacted, which increases resin-to-titanium adaptation **(Fig. F)**.

The Locator titanium processing caps have external retentive rings that allow for a secure mechanical retention during denture base acrylic resin processing **(Fig. G)**. During processing, the greater adaptation between titanium external retentive rings and processed acrylic resin lessens the chance of attachment housing movement.

After processing the overdenture base material, there should be an intimate relationship between titanium processing caps and acrylic resin **(Fig. H)**.

Fig. I shows the processed overdenture base with black processing males ready to try-in to verify fit.

CONCLUSION

When you process acrylic resin to a Locator attachment titanium cap, visualize the flow of resin as it adapts to these titanium external retentive rings. The acrylic resin must intimately engage these retentive rings to achieve a secure attachment to overdenture base relationship. The continuous-press injection technology with the SR-Ivocap System will compact the polymer particles around the titanium processing cap while eliminating the chance of porosity in the overdenture base. lab

Web Extra

Robert Kreyer, CDT, offers an expanded look at the various attachments available for prosthesis processing as well as their applications. Visit us at **www.dlpmagazine.com**.