PÄR-OLOV ÖSTMAN, DDS, PHD, MD

Dr. Östman received his dental degree from the University of Umeå, Sweden. He holds a PhD from the Department of Biomaterials, Institute for Surgical Sciences, Sahlgrenska Academy, Göteborg University, Göteborg, Sweden. At present, he is a Visiting Professor in the Department of Periodontology and Oral Implantology, Dental School, University Hospital, Faculty of Medicine and Health Sciences, University of Ghent, Belgium; Visiting Professor, Dental School, University Hospital, James Cook University, Townsville, Australia, and is in a private practice in Falun, Sweden. He has authored several articles both in oral pathology and implantatology and has lectured extensively in implant dentistry during the last 15 years.

CASE PRESENTATION

Treatment with Full Arch-Supported Bridge

A 52-year-old female presented with hopeless dentition because of severe periodontal problems in the maxilla. She was healthy with no contraindication for implant surgery, although she had severe anxiety toward dental treatment.

All teeth were extracted and a removable full upper prosthesis was delivered during healing. The mandible was treated with a full-arch tooth-supported bridge. After three months of healing, implants were installed in a one-stage surgical protocol.

After soft-tissue healing, the full upper prosthesis was converted into a fixed LOCATOR F-Tx (Zest Dental Solutions) temporary prosthesis. Soft-tissue height was measured for appropriate length of the abutment, and the spherical F-Tx abutments were mounted and tightened. The F-Tx abutment system is a novel fixed prosthetic method with a spherical abutment and a denture attachment that is retained in the abutment with PEEK retentive balls, eliminating the need for prosthetic screws and dental cement. Because the abutment is spherical, the housing can be angulated up to 20°, which provides implant angulation flexibility and optimal housing alignment.

After healing time of three months, an impression was taken for a definitive CNC milled titanium/acrylic fixed F-Tx prosthesis. A soft-tissue stone model was made with F-Tx analogs. The position of the attachment was picked up with an index silicone material. The denture was ground out with a specially designed drill for housing the attachments.

The denture was filled with a dual-cure composite material. A small amount was also placed on the attachments, securing proper fixation of the attachments into the denture. After light-curing and an additional five minutes of seating with the patient biting in light occlusion, the denture was snapped off.

The denture attachment was snapped on and scanned for the Ti framework. The Denture Attachment housing was fixed to the framework with CHAIRSIDE Attachment Processing Material (Zest Dental Solutions), and the Ti/Acrylic fixed prosthesis was completed.

Figure 1—After initial soft-tissue healing with a removable prosthesis and healing abutments, the patient returned to the office for converting the removable prosthesis to a fixed temporary implant-supported prosthesis.

Figure 2—Soft-tissue height was measured for appropriate length of the abutment. The spherical F-Tx abutments were mounted and tightened to 20 Ncm. The abutments come sterile and the container comes with all necessary parts to fabricate a temporary fixed prosthesis.

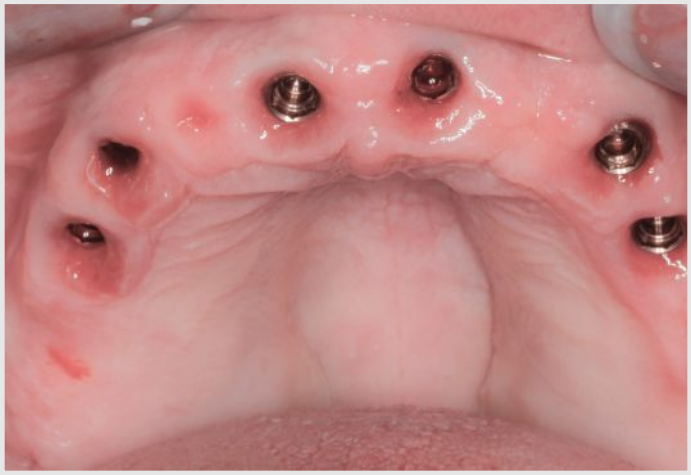

Figure 3—All abutments in place. Depending on preference, the abutment can be placed in different heights. The shorter the abutment height deep in the soft tissue, the more difficult it is to pick up the denture attachment housing. The ideal position is having the most prominent part of the abutment sphere in line with the soft-tissue border.

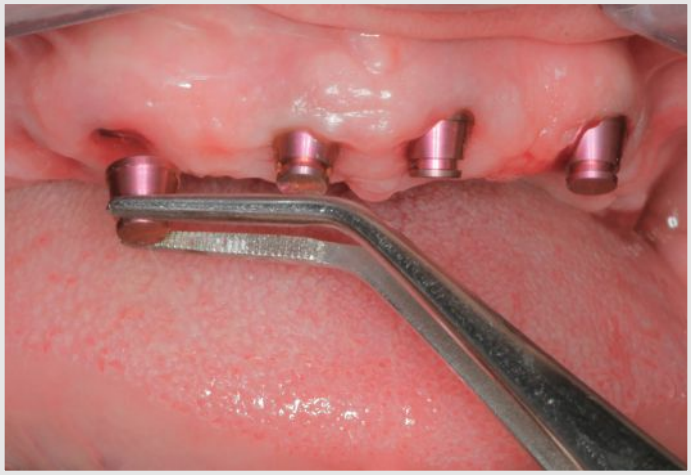

Figure 4—The denture attachment housing was snapped onto the abutment with the black processing ball mounted.

Figure 5—The denture attachment housing was then aligned to parallel position.

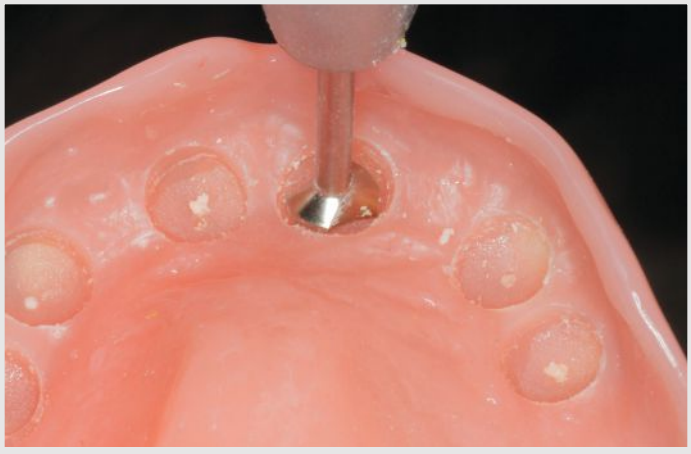

Figure 6—With an index silicone material, the position of the attachment was picked up. The denture was ground out with a specially designed drill for housing the attachments. Before fixation of the attachments, the denture was tried in to verify the fit.

Figure 7—The denture was filled with a composite material. A small amount was also placed on the attachments, securing proper fixation of the attachments into the denture.

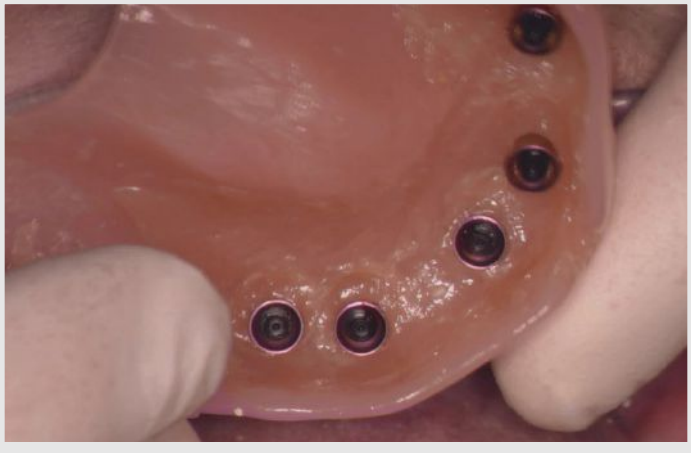

Figure 8—After light-curing and an additional five minutes of seating with the patient biting in light occlusion, the denture was snapped off. Additional composite material was applied around the attachments for secure fixation.

Figure 9—The palatal flange as well as the buccal were cut off. The denture was trimmed and polished. It is recommended not to extend the cantilever more than 1:1 AP-spread.

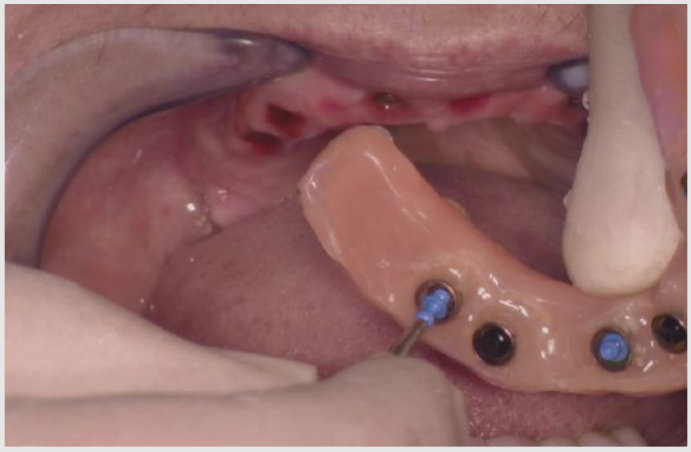

Figure 10—After the denture was trimmed and polished and occlusion was checked, the black processing ball was removed and replaced with low, medium, or high retentive balls. In this case, low retentive balls were used.

Figure 11—The fixed temporary prosthesis was snapped on, and the patient was instructed in oral hygiene care.

Figure 12—Three-month postoperative, the temporary prosthesis was removed and a definitive CNC milled Ti/acrylic implant-supported prosthesis was delivered. This photo shows 2.5-year follow-up.

GO-TO PRODUCTS USED IN THIS CASE

LOCATOR F-TX

Fixed for the patient, yet easily removed by the clinician, LOCATOR F-Tx is a simplified, time-saving fixed attachment system for full-arch restorations with no compromise to prosthesis strength or esthetics. Optimized for efficiency and time savings at the chairside compared to conventional screw-retained systems, LOCATOR F-Tx features a "snap-in" attachment that eliminates the potential for subgingival cement or the need for retaining screws.

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CHAIRSIDE ATTACHMENT PROCESSING MATERIAL

CHAIRSIDE Attachment Processing Material was designed for ease of use and predictability when processing attachments into full and partial overdentures, using either a chairside or laboratory procedure. Clinician input contributed to a formulation that has the most-sought-after handling characteristics, which require no primer, and is self-curing—all at a reduced cost per case.

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