



MICHAEL DAVID SCHERER, DMD, MS, FACP

Dr. Scherer is a full-time private practice prosthodontist in Sonora, CA, and an Assistant Clinical Professor at Loma Linda University. He has published articles related to implant dentistry and digital technology with a special emphasis on implant overdentures.

Dr. Scherer's involvement in digital implant dentistry has led him to develop and utilize new technology with CAD/CAM surgical systems and outside-the-box radiographic imaging concepts. Dr. Scherer also maintains four YouTube channels—"LearnLOCATOR," "LearnLODI," "LearnSATURNO," and "The 3D Dentist"—focusing on standard and narrow diameter dental implant procedures and digital dentistry.



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CASE PRESENTATION

Implant-Retained Overdenture Using a Contemporary Attachment System

A healthy 60-year-old female presented with a loose mandibular removable partial denture and was concerned about the mobility of her remaining mandibular teeth. She was referred to our office after being told that she doesn't have good bone for dental implants and heard that we do implant overdentures for challenging patients.

A CBCT scan of the patient was made using cotton rolls for occlusal and soft-tissue separation to enhance the radiographic visualization of the mandibular partial denture. Four 3.7mm x 13mm implants (Legacy 3, Implant Direct) were planned in dental implant planning software (Invivo, Anatomage). Her removable partial denture was duplicated in clear acrylic resin, and proposed implant positions were marked according to the CBCT plan, creating an in-office surgical guide based on the CBCT scan. Based on her bone volume, nonparallel implant placement was required to properly ensure sufficient bone surrounding the proposed implants. The patient was anesthetized, minor ridge recontouring performed, osteotomies prepared, and implants (Legacy 3, Implant Direct) were placed. Teeth

were added to her removable partial denture and a soft reliner (CHAIRSIDE Soft, Zest Anchors) was placed to aide in transitional healing of her mandibular ridge.

After 6 weeks of healing, the patient returned for abutment placement. Healing abutments were removed and the implant platforms were measured with a periodontal instrument. LOCATOR R-Tx abutments (Zest Anchors) were placed on each implant with soft-tissue cuff heights matching the tissue height measurements. Using a conventional .050" hex driver, each abutment was placed and torqued to 30Ncm. Denture housings were placed on top of each implant, and recesses in the denture were fabricated using specialized burs specifically designed for overdentures (Denture Prep & Polish Kit, Zest Anchors). A reliner impression was made using fast-acting medium viscosity PVS impression material (CHAIRSIDE Monophase, Zest Anchors). The denture was relined in the laboratory, and the patient returned later in the same day for attachment procedures.

The abutment housings were connected to the denture the same day using an overdenture

attachment material (CHAIRSIDE Attachment Processing Material, Zest Anchors). The LOCATOR R-Tx black processing male inserts were removed and definitive inserts were placed. The patient returned for routine follow-up visits and reported

a tremendous amount of satisfaction with her final prosthesis. The abutment angulation presented a challenge in this case; however, the LOCATOR R-Tx abutments permitted a tremendous amount of flexibility for the angulation.



Figure 1—The patient presented with a loose mandibular removable partial denture and periodontally compromised teeth.



Figures 2—Examination of the mandibular ridge shows adequate keratinized soft tissues and firm alveolar support; however, she has significant undercuts and ridge angulation that precludes the placement of parallel implants.

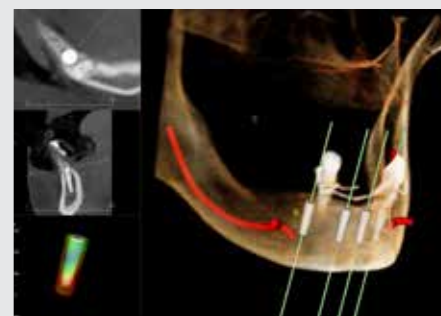


Figure 3—Four 3.7mm x 13mm implants (Legacy 3, Implant Direct) planned in CBCT software (Invivo, Anatomage).



Figure 4—The removable partial denture was duplicated into clear acrylic resin and sequential osteotomies were prepared with the assistance of the surgical guide.



Figure 5—Implants were placed and high insertion torque achieved. Healing abutments were placed and a soft-liner (CHAIRSIDE Soft Reline, Zest Anchors) was placed in the mandibular prosthesis.



Figure 6—After 6 weeks of integration healing, healing abutments were removed and Zest LOCATOR R-Tx abutments were placed onto the implants.



Figure 7—After radiographs confirming complete seating of abutments, each was torqued to 30Ncm.



Figure 8—The LOCATOR R-Tx housings were placed onto each abutment and recesses were created within the underside of the denture using specialized overdenture preparation burs (Denture Prep & Polish Kit, Zest Anchors).



Figure 9—A closed-bite reline impression was made using fast-setting PVS impression material (CHAIRSIDE VPS Monophase, Zest Anchors). The relined denture was sent to the laboratory for a same-day reline.



Figure 10—The patient returned later in the day and the LOCATOR R-Tx abutment housings were attached to the denture using a chairside processing resin (CHAIRSIDE Attachment Processing Material, Zest Anchors).



Figure 11—After removing the LOCATOR R-Tx black processing inserts, final light-retention inserts were placed in the housings within the denture. The denture was placed on the alveolar ridge, activating the abutments and prosthetic stability and comfort were confirmed.



Figure 12—Final appearance of the mandibular arch with implants and LOCATOR R-Tx abutments.