

Replacing an old bridge with a new restoration supported by implants and XGATE Dental V-Type abutments

First, let's get acquainted with the doctor:



Dr. Dmitry Oleynikov

With twenty years of clinical experience, he has specialized in implantology and complex prosthodontic restorations for over four years.

Workplace: **Almaty, Kazakhstan**

The case was provided by two-time Kazakhstan Endodontic Champion, Dr. Dmitry Oleynikov. This clinical case is of interest due to the elegant solution that allowed for the preservation of vital tooth roots and the restoration of the dentition using a screw-retained prosthesis.

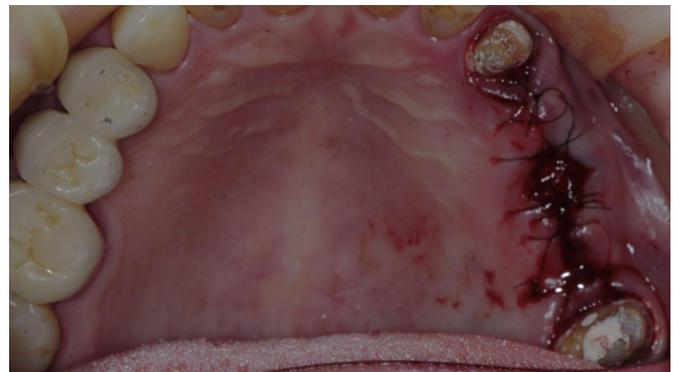
A digital protocol was utilized for surgical planning and prosthesis fabrication. This approach enabled a superior aesthetic result and ensured a tight soft tissue seal against the prosthesis surface—a result that would have been difficult to achieve without **XGATE V-Type** multi-unit abutments.

Initial clinical situation

The patient presented with complications related to a PFM bridge supported by teeth 13, 15, and 17. The root of tooth 15 was compromised, causing pain and severe discomfort for the patient.

Treatment plan and its stages

The old PFM bridge was removed, followed by the extraction of the root remnants of tooth 15.



Three Straumann BL implants with a standard conical connection were placed in positions 14, 15, and 16. Notably, a short implant was selected for position 16 to avoid penetrating the maxillary sinus and perforating the Schneiderian membrane (see radiograph below).

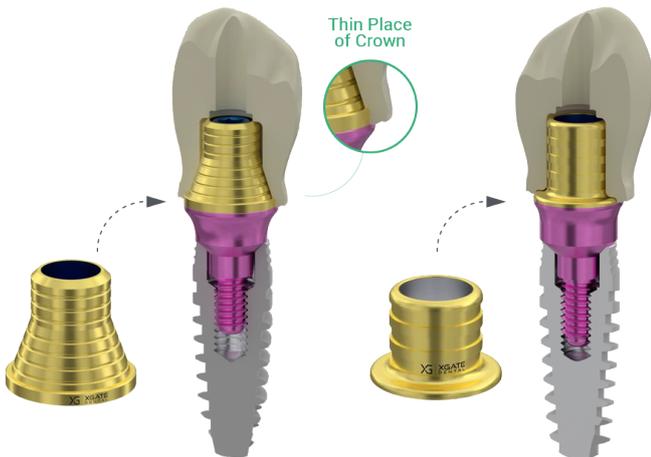


Restorations in the posterior region are subject to high functional loads; using three implants ensures optimal load distribution, favoring a positive long-term prognosis.

The prosthesis was fabricated from zirconia using CAD/CAM technology.

Practitioners will be particularly interested in the choice of multi-unit abutments: **V-Type from the German brand XGATE**. Please note the profile height and sleeve design in the illustration below.

Small cone provides more space for the restoration material



On the left is a classic multi-unit abutment with a standard cone; on the right is the **MUA V-Type** with an ultra-low profile. This design allows for increased material thickness at the base of the restoration, enhancing strength and ensuring a smooth emergence profile favorable for soft tissue attachment.

In addition, the **MUA V-Type** sleeve connection offers increased stability compared to classic multi-unit abutments. This is due to the larger contact surface area between the sleeve and the abutment base: while a classic MUA has a contact area of 6 mm², the **V-Type** offers 10 mm².

Screw passive Main connection between Sleeve and top side of Multi-Unit



The illustration shows **V-Type** multi-unit abutments prior to the prosthetic stage: two abutments with a height of 2mm and one abutment with a height of 0.5 mm.



Teeth 13 and 17 remained vital; therefore, crowns were fabricated for these prepared teeth.



The screw-retained zirconia bridge and the crowns on teeth 13 and 17 show a precise fit, as seen in the photo below.



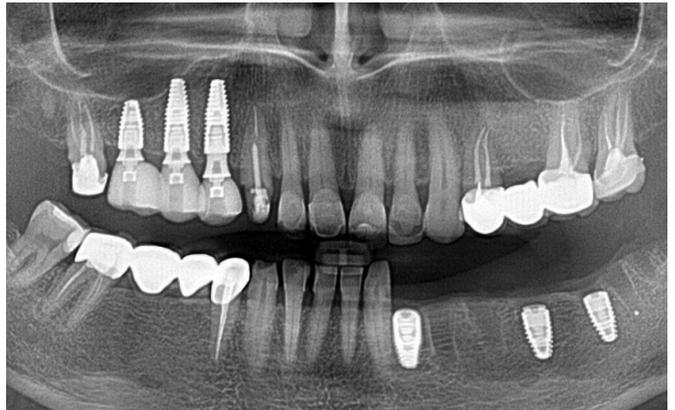
The completed restoration, with sealed screw access holes, is aesthetically pleasing and anatomically correct. Masticatory function is fully restored, and the patient is completely satisfied with the result.



The gingival contour around the prosthesis is well-defined; the papillae completely fill the embrasures, and a band of attached keratinized gingiva is clearly visualized and anatomically correct.



The radiograph confirms the integrity of the restoration; marginal bone levels around the implants remain stable.



We hope you found this clinical case interesting

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