

**Conditions:**

35 years old woman with breakage of palatal cusp of the second premolar at the bone level after root canal treatment



*initial*

**Classification:**

Before procedure precise diagnostic of the conditions was considered. CT scans soft tissue thickness and bite relationships were evaluated.

Additionally, The impression was taken to create a temporary restoration

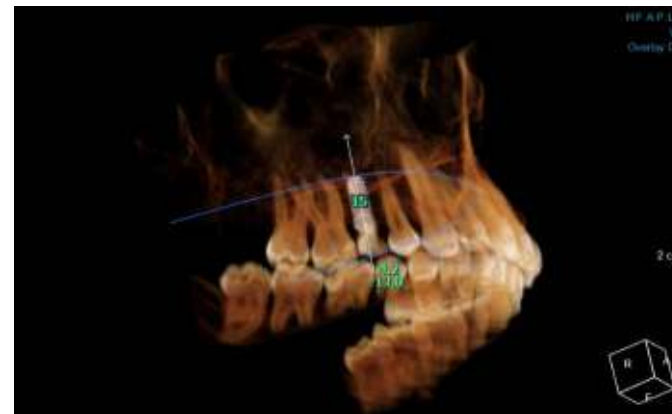
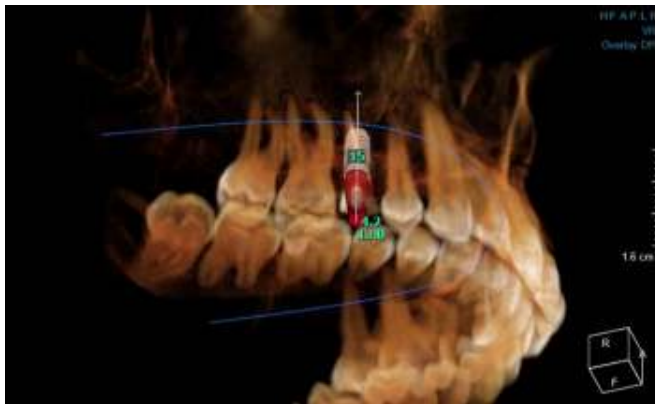


The surgery began with a careful extraction of the damaged tooth .

*Extraction Site*



The intact extraction socket is mandatory to continue the procedure.  
The implant size and drilling sequence should be adapted to individual socket dimensions and implant parameters



Additionally, according to the CT scans, implant length chosen was appropriate to achieve bicortical stabilization of the implant. The initial position of the implant long axis is about 45 degrees

*Implant Insertion 1*



*Implant Insertion 2*



subsequently during the placement final angulation  
reached a value of 15 degrees

*Final Hex Positioning*



Vertical implant position should respect the dimensions of the biological width.  
The gap between the implant and the buccal wall of the extraction socket was filled with bovine bone material

*Final Implant Position*





For temporary restoration the standard titanium abutment of 15 degrees was used (according to the paraguide).  
After trimming to the individual bite relationships

*Abutment Matching*



*Abutment Trimming 1*



*Abutment Trimming 2*





The composite crown was mounted using self curing composite and registration key

*Immediate Restoration*



*X-Ray 1 After Procedure*



*After Procedure*

The following pictures show clinical conditions after the procedure of 4, 10, 18 days of the healing period

*4 days*



*10 days*

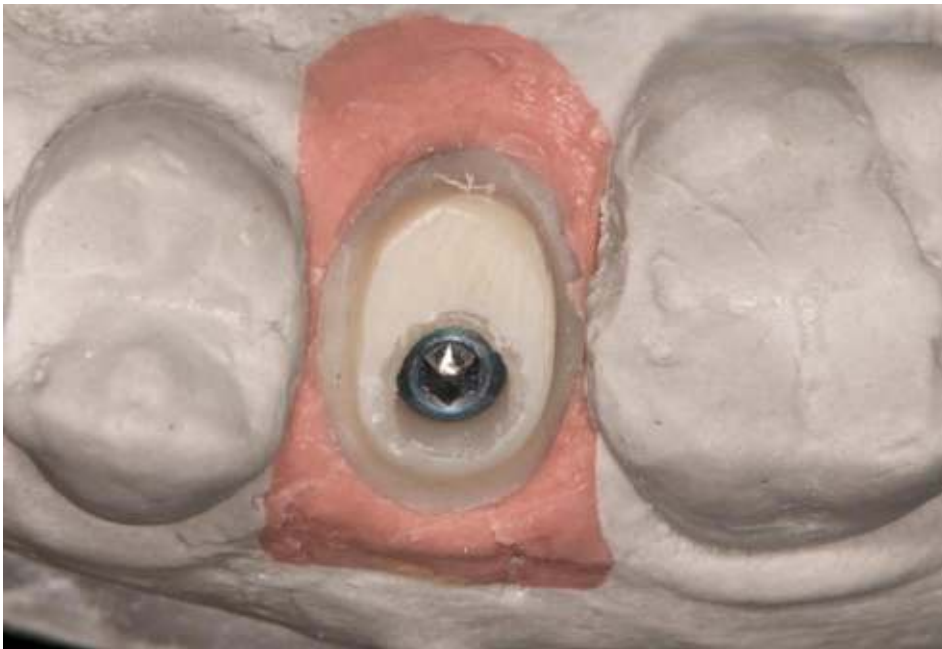


*18 days*



*Restoration*

After 6 month of healing the impression was taken for the final restoration. In the beginning the composite customized abutment was created to copy the unique shape of the emergency profile achieved during the healing period.



*Final Restoration*

Next the composite abutment was mounted to the implant to check its shape and soft tissue behavior. Then the composite abutment was copied to the zirconium oxide abutment and zirconium oxide superstructure was created for future ceramic crown.

*Abutment*



*Superstructure Combo*



*Superstructure*



*Final Restoration*

Prosthetic procedure finished with cementation of ceramic crown and the control x-ray

*Customized Abutment*



*Final*



*Final -2*



*X-Ray*

