CLINICAL CASE

Nobel Biocare™

Step-by-step digitally planned esthetic restoration

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Serbia

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Patient
Female, 43

Clinical situation
loose frontal incisor, bit dislocated over time

Diagnosis
vertical root fracture with cast metal post and PFM crown on upper left central incisor

Surgical solution
NobelActive® NP

Restorative solution
Temporary: Temporary Snap Abutment and TempShell
Final: NobelProcera® ASC Abutment with e.max Ceram veneering and thin feldspatic veneers on 12,11, 22 FDI

Surgery date
Dec 10 / 2016

Final prosthetic delivery
Jun 21 / 2017

Total treatment time
6 months

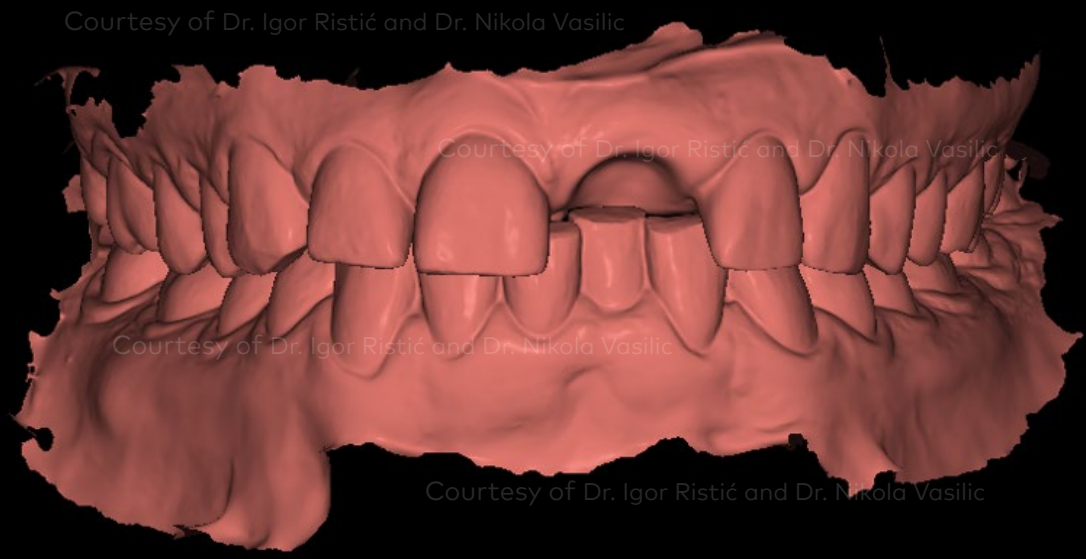
Patient with vertically fractured root of an upper central incisor underwent digital planning and immediate narrow platform implant placement in the fresh extraction socket. Connective tissue graft was made to achieve optimal result.

Visible dislocation of upper left central incisor, creating esthetic and functional problems

Intraoral pre-treatment situation

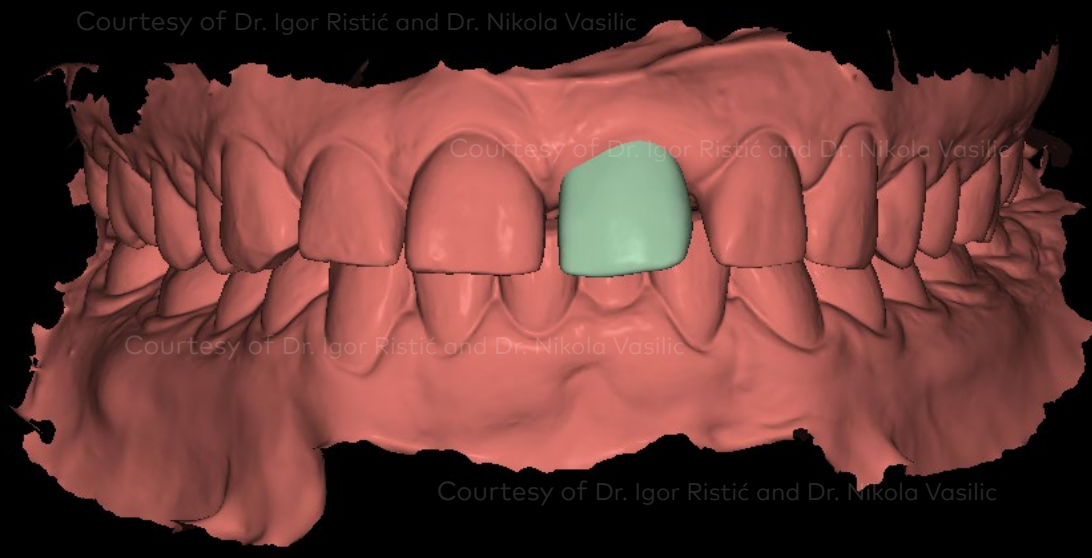
Intraoral pre-treatment situation - lateral view

(CB)CT image of the full arch

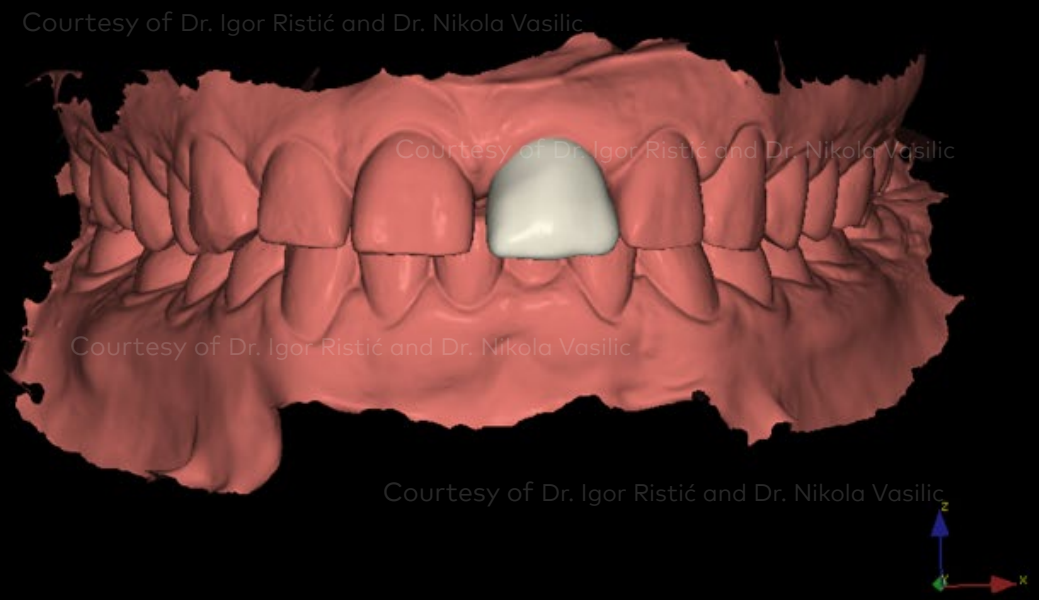


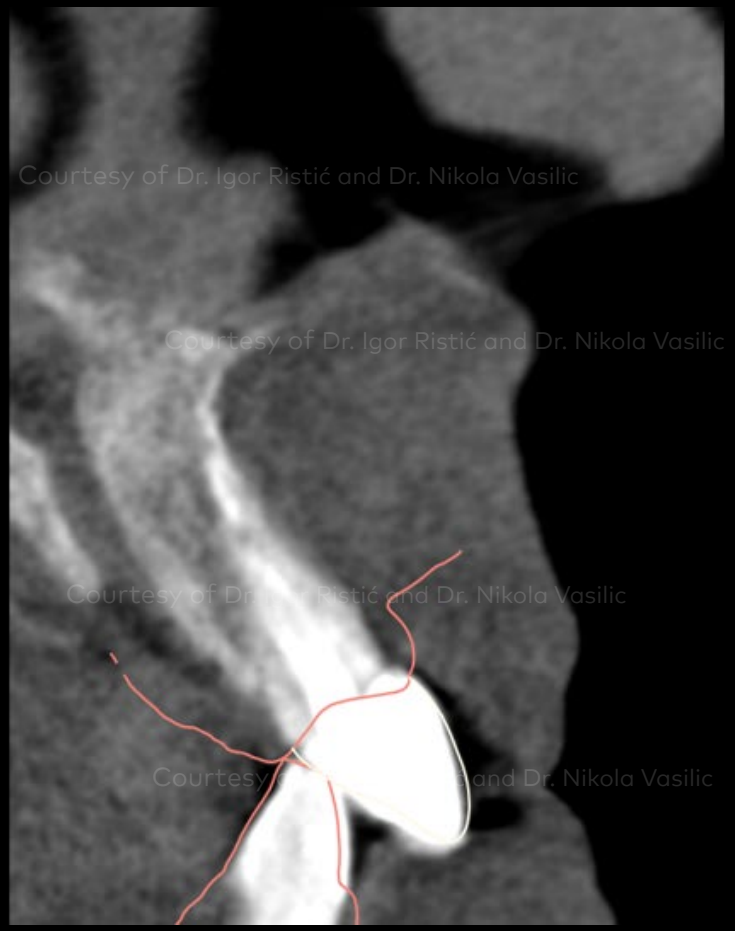
Bimaxillary intraoral scan with digitally removed upper-left central incisor

SmartFusion of a (CB)CT scan and intraoral scans in NobelClinician® software

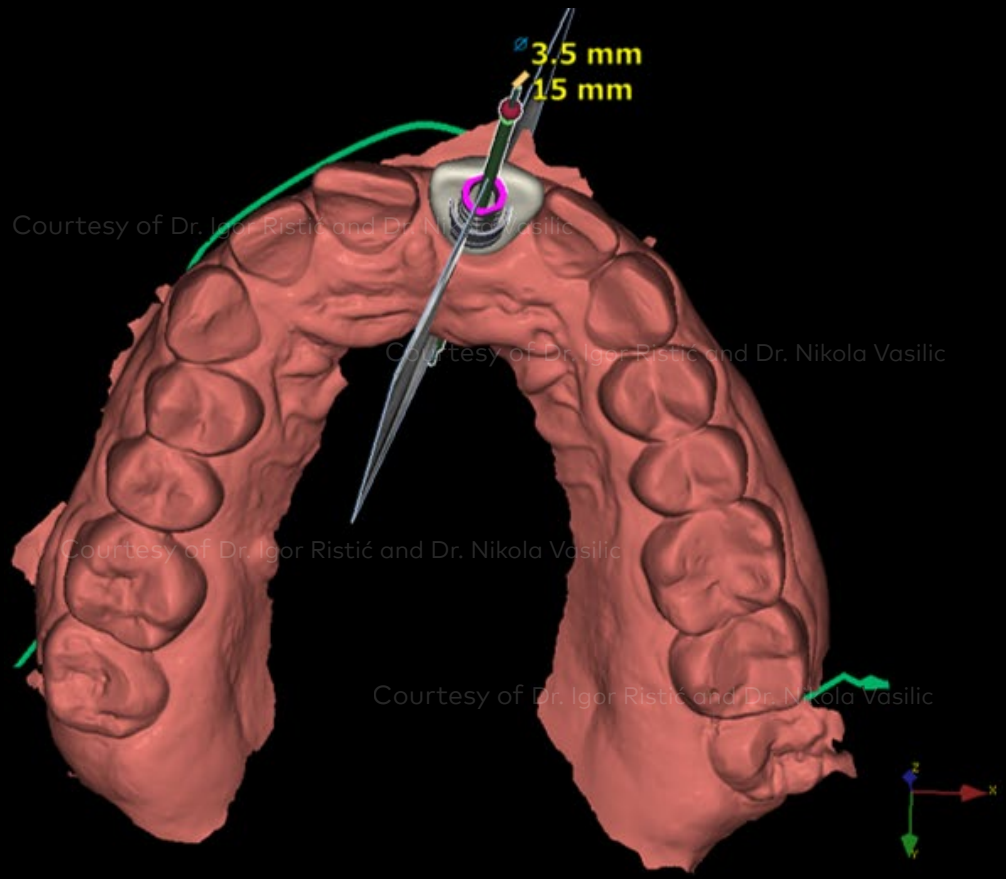


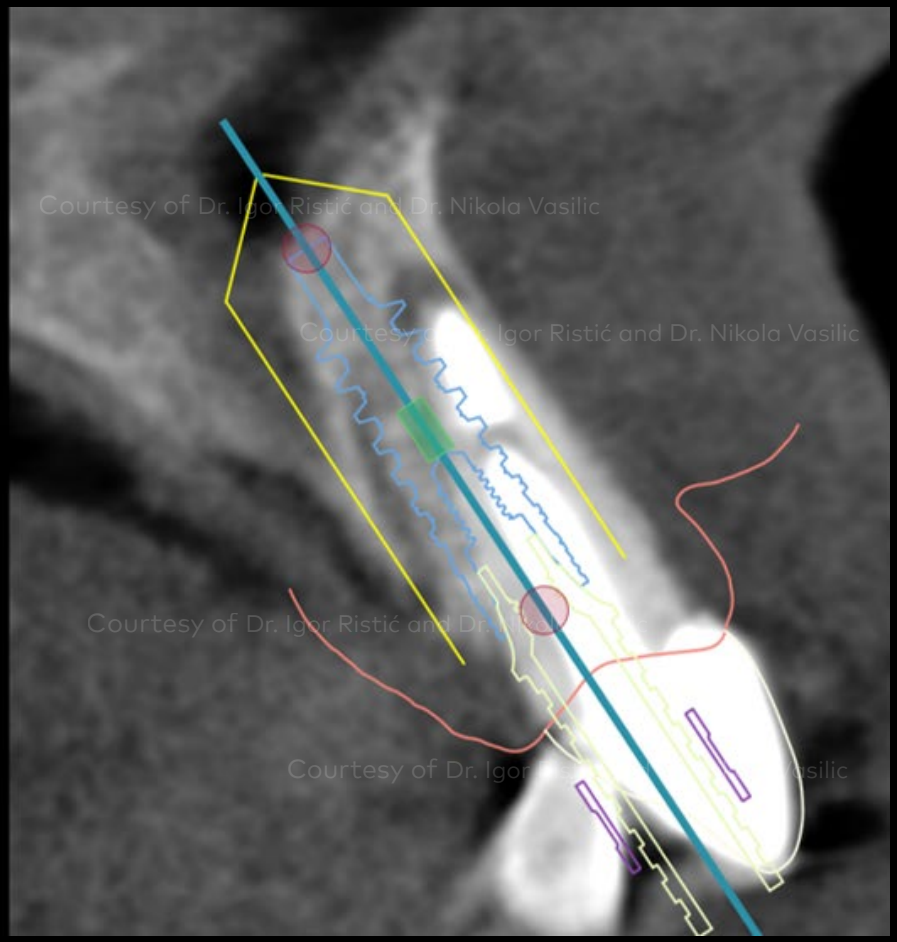
SmartSetup – a digital wax-up proposed by the sofware of upper left central incisor in NobelClinician® software



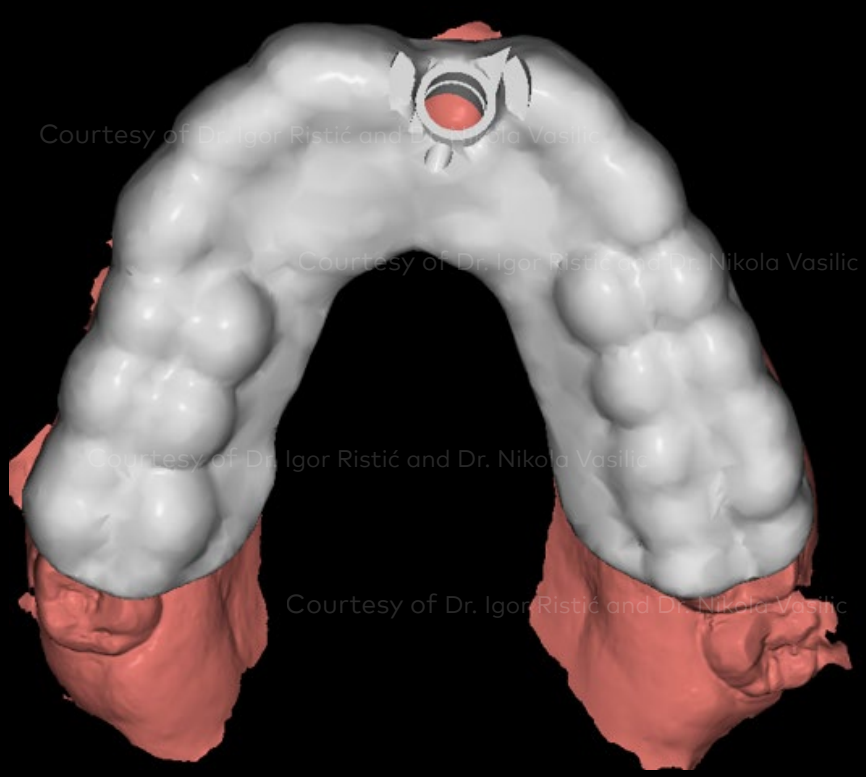


Analysis of sagittal aspect of tooth, soft tissues and bone



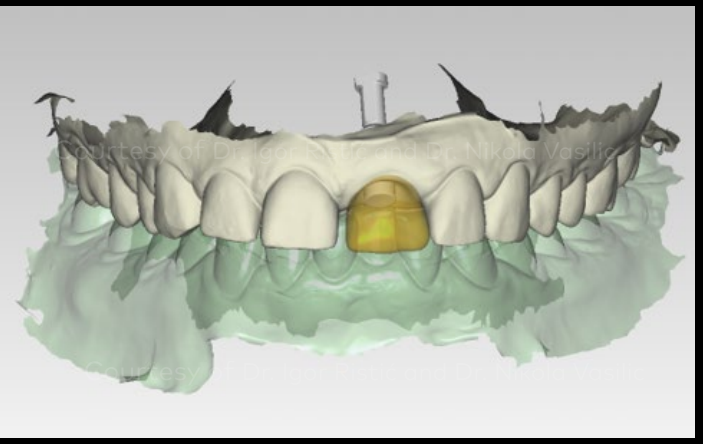


Digital position of implant in planning phase, Temporary Snap Abutment included

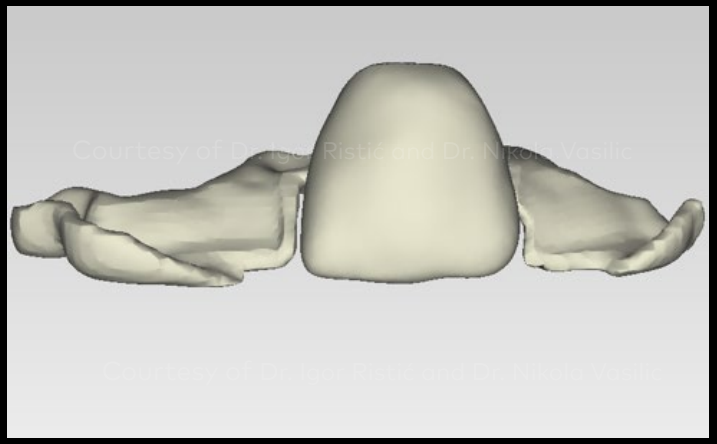


Digital design of surgical template in NobelClinician® software

Printed NobelGuide® template ready for surgical procedure



Digitally designed TempShell in DTX Studio™ design software

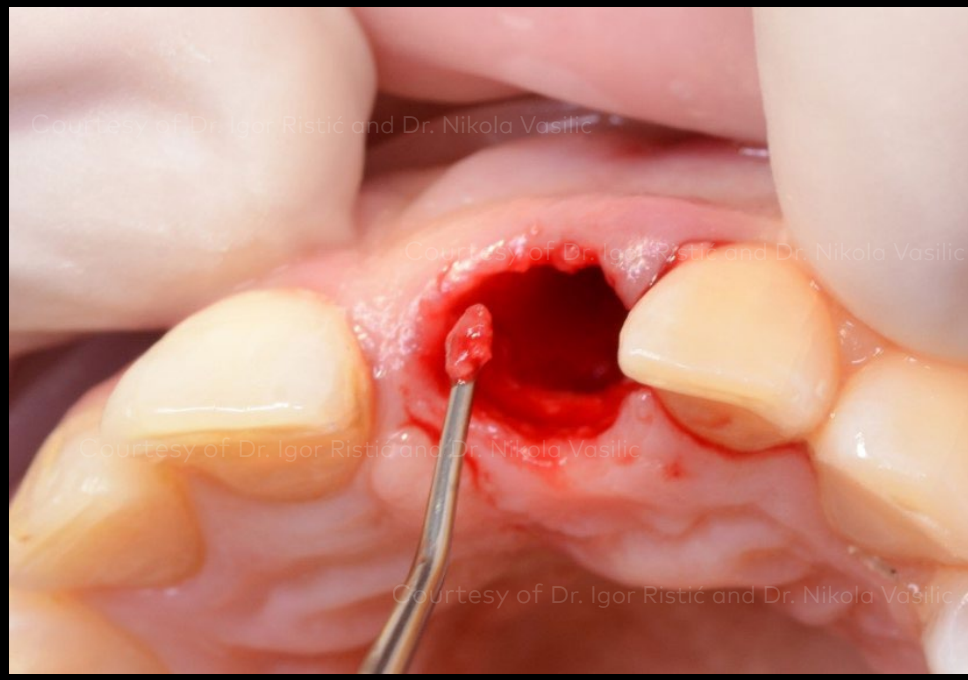


TempShell milled in local dental laboratory, made from PMMA

Intrasulcular incision

Forceps adapted to the crown for efficient luxation of the tooth

Atraumatic removal of the remaining root structures



Cleaning up of the alveolar socket, removing all granulation tissues

Try-in of the surgical template intraorally – occlusal view

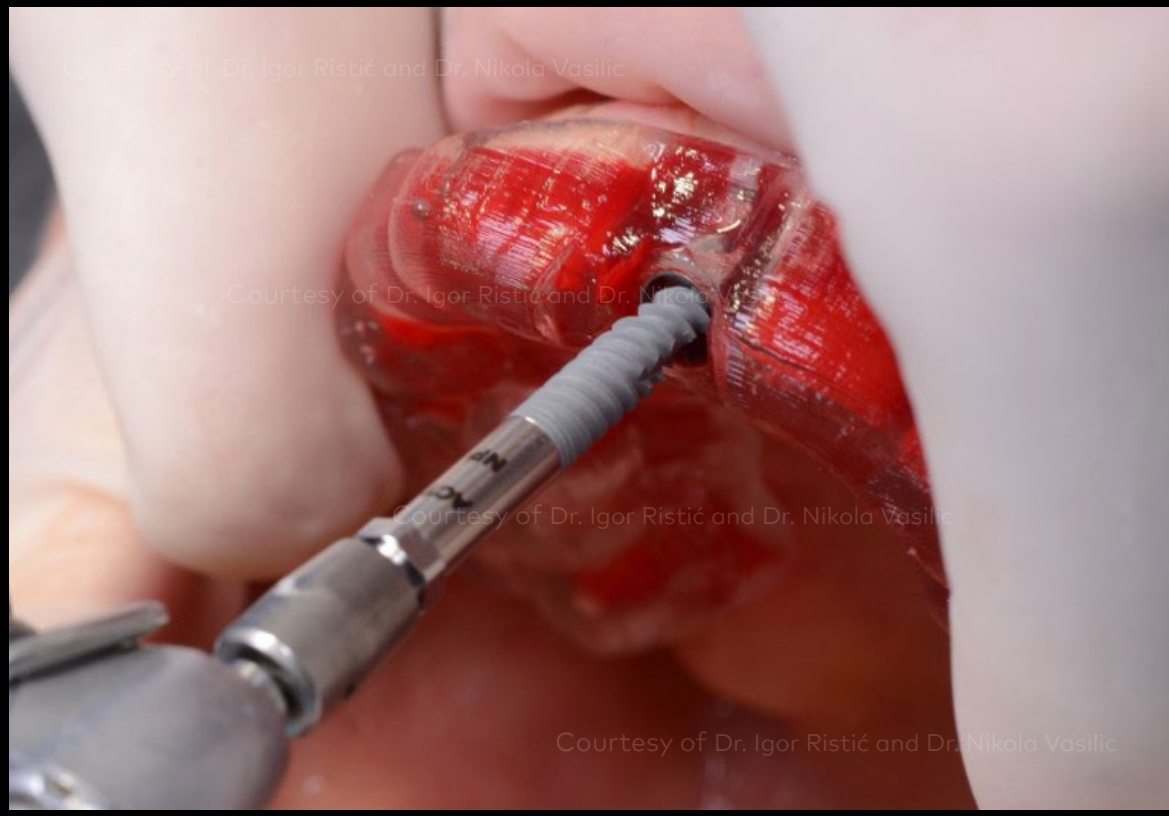
Try-in of the surgical template intraorally – frontal view

Guided Twist Drill (10+) 7-13 mm, Ø 2 mm

Initial drilling using Guided Twist Drill*

* As this was a case with immediate implant placement in an extraction site, the Screw Tap was not used, due to the size of the alveolar socket

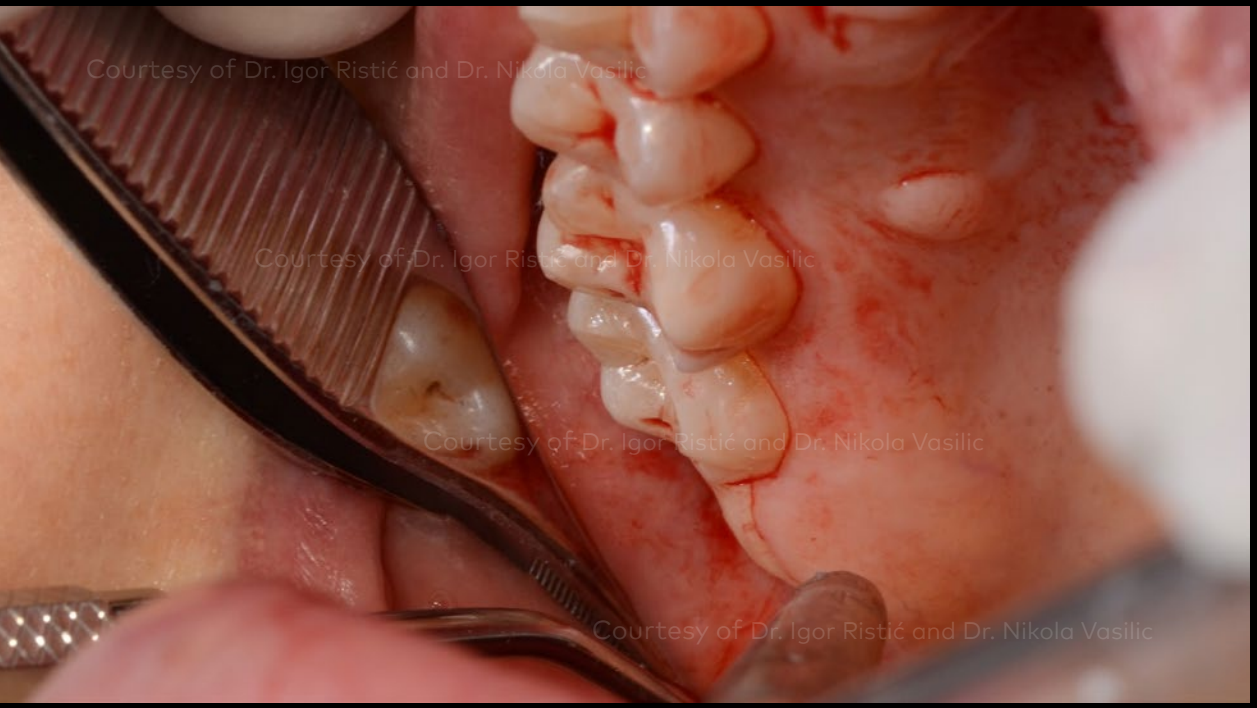
NobelActive® NP 15mm



Implant insertion using the NobelGuide® surgical template

Final implant positioning

Verification of implant position according to the surgical template



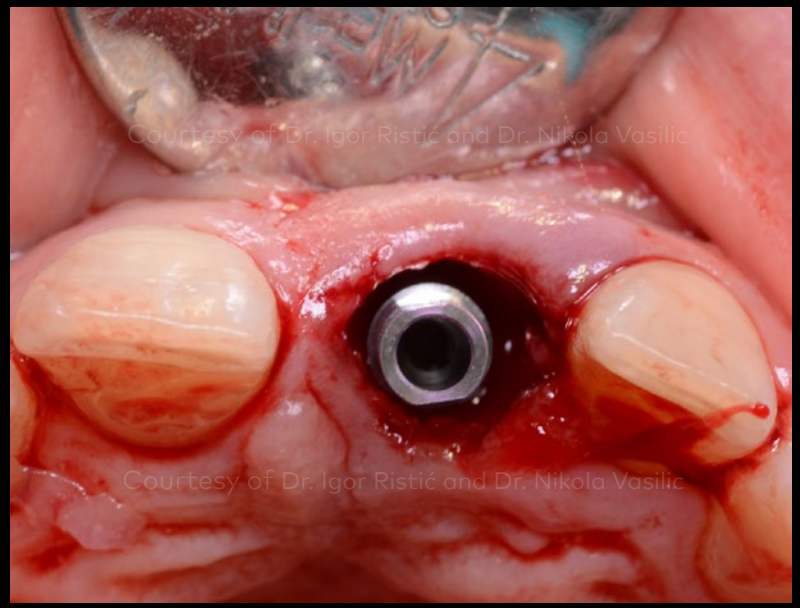
Harvesting of the connective tissue graft from tuberosity

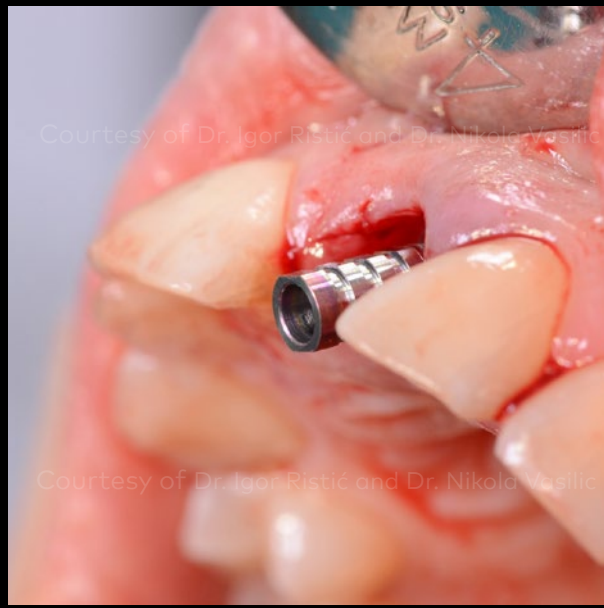
Connective tissue graft

Try-in of the TempShell – vestibular view

Try-in of the TempShell – vestibular view

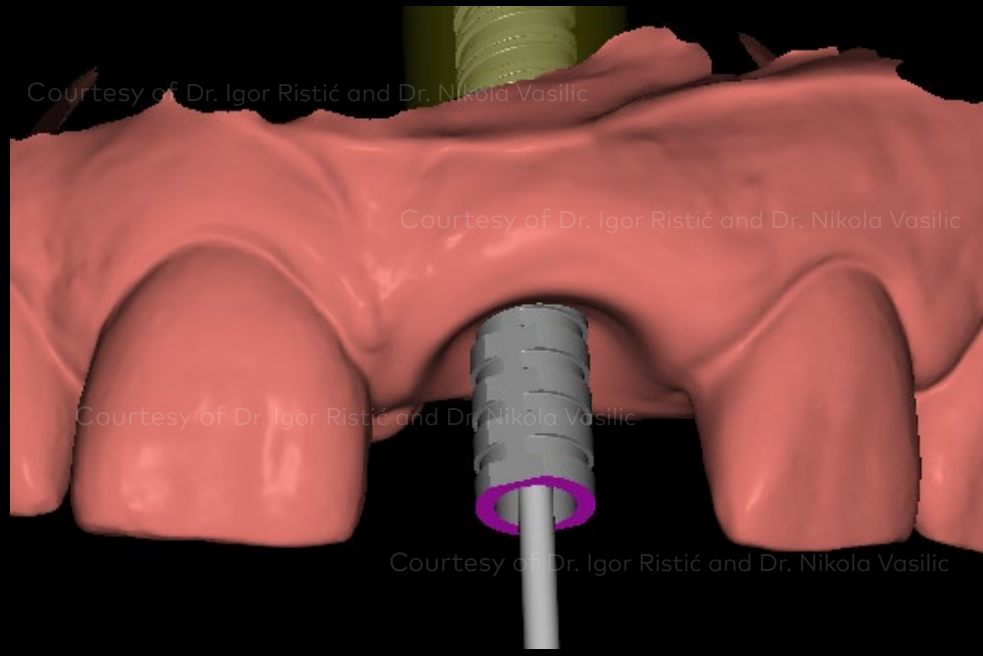
Extraoral picture of the Temporary Snap Abutment





Intraoral pictures after the Temporary Snap Abutment try-in

Intraoral position of Temporary Snap Abutment is as previously planned



Planning position of Temporary Snap Abutment

Shortening of the Temporary Snap Abutment

Loading of light cure material for TempShell relining

Positioning of the TempShell

Light curing and setting in place of TempShell on the Temporary Snap Abutment

Temporary Snap Abutment in TempShell after polymerization in right position

Extraoral final contouring of emergence profile on temporary crown

Finishing and polishing of emergence profile

Removing wings for final placement of TempShell

Finalizing Temporary Snap Abutment for fixation

Drilling the screw access hole with Apical Drill

Widening the screw access hole with a diamond burr

Placing of temporary crown

Torque value is 15 Ncm for Temporary Snap Abutment

Immediate postoperative situation with temporary crown

Soft tissue final re-shaping prior to impression procedure

Minimal preparation of surrounding teeth

Individualized impression coping prior to impression procedure

NobelProcera® ASC Abutment and veneers on model

Restorations on model, palatal view

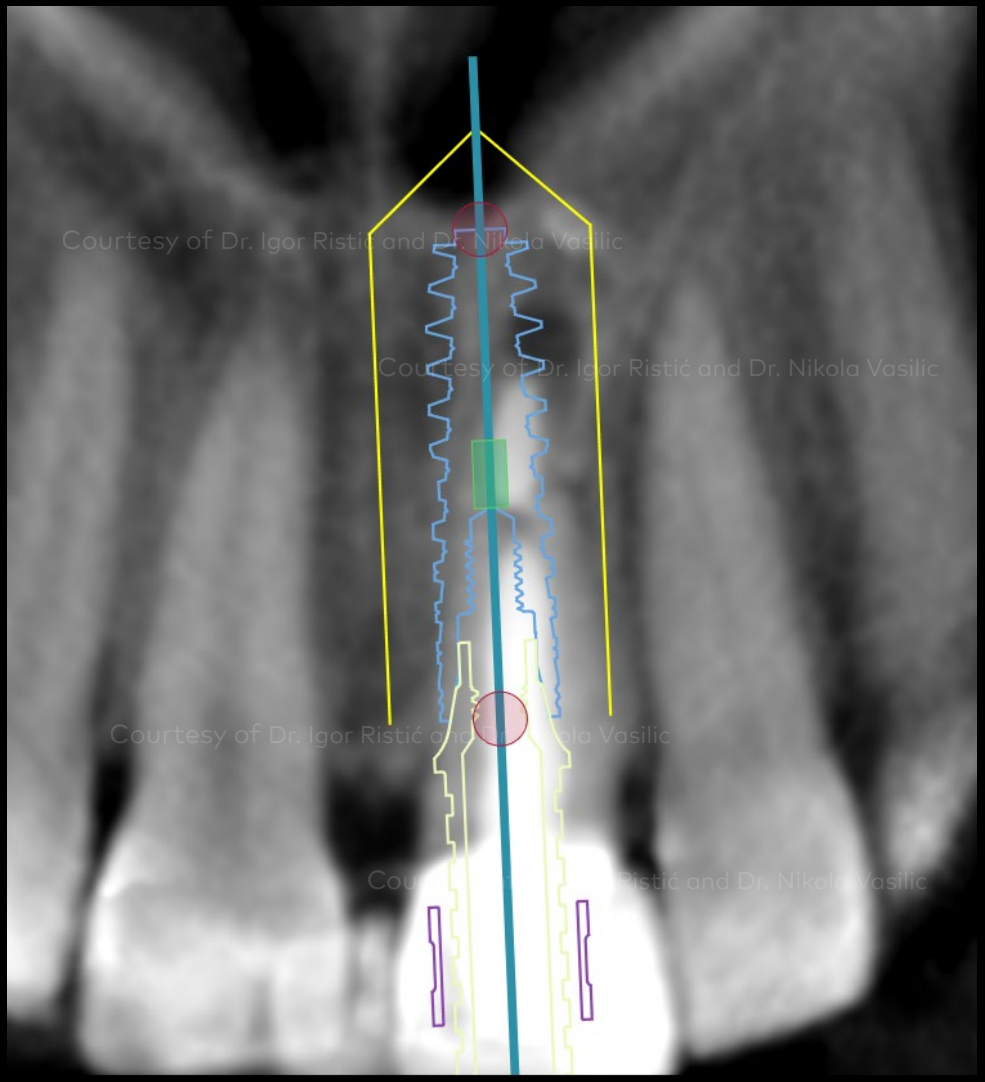
Individualized NobelProcera® ASC Abutment in zirconia veneered with e.max Ceram

Final torque of Individualized NobelProcera® ASC Abutment is 35 Ncm

Implant restoration immediately after tightening

Rest of the restorations bonded on teeth. Screw access hole filled with Teflon™ and light cured composite

Postoperative intraoral X-ray



Superimpositioning of the digital planning as previously done in NobelClinician® software

Mock-up for finalization of the treatment. Veneers on upper central right and lateral incisors and upper left lateral incisor and canine are planned

Intraoral view of the mock-up

Lateral mock-up view

Intraoral view of finished NobelProcera® ASC Abutment

Perfect blend of restorative materials with natural tissues, immediate postoperative photo

X-ray with implant and restoration after final prosthetic delivery

Final smile of the satisfied patient

Case courtesy of Igor Ristić and Nikola Vasilic