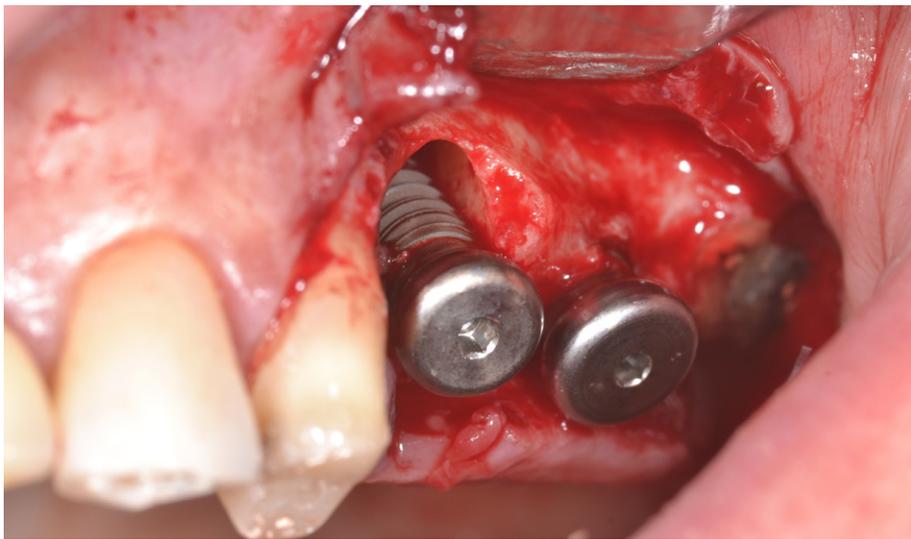


## Immediate implant placement in compromised posterior maxillary region with CONELOG<sup>®</sup> PROGRESSIVE-LINE



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# Immediate implant placement in compromised posterior maxillary region with CONELOG® PROGRESSIVE-LINE

» The option of immediate placement first of all allows for the reduction in surgical procedures. But a treatment plan including immediate placement of implants does not only make it attractive to the patient due to less visits, it also has its psychological advantages: there is no need to face the prospect of waiting months for an extraction site to heal followed by an additional time for the implant to osseointegrate like in the delayed healing « [1].

The right choice of implant system may help to overcome some of potential disadvantages such as difficulty obtaining primary stability and difficulty in preparing the osteotomy due to bur movement (chatter) on the walls of the extraction site [1].

If dentists do the right clinical considerations when selecting patient and implant for immediate placement treatment they can profit from this positive attitude of their patients and expand treatment options of their dental practice.

## Clinical Case

The patient, 67 years old, male, nonsmoker and with no general diseases, presents with the upper left posterior region severely compromised. His first need was to be able to chew on that side because he lost an old fixed bridge 25-27 detached at restaurant during a dinner. The clinical examination showed a fractured amalgam restoration on tooth 24, a root fracture on tooth 25 which had been undergoing endodontic treatment previously and the tooth 27 was fractured at root level (Fig. 1, 2). The radiological examination confirmed that 25 and 27 were hopeless teeth and 24 was restorable by endodontic treatment and prosthetic rehabilitation.

The clinical examination, CBCT examination, and planning suggested to place two implants in 25 and 26 sites and to carefully extract 27 because of its proximity to the maxillary sinus with an inflammatory process. After oral hygiene and dental hygiene instructions, tooth 24 was treated endodontically and a core was built up using glass fibers posts and reinforced composite material. As provisional – and purely for esthetic reasons- a provisional on tooth 24 with not functional reinforced cantilever was produced.

In one surgical session the tooth 25 was carefully extracted and replaced immediately with a PROGRESSIVE-LINE implant, in region 26 another PL implant was placed. At tooth 27 a root grinding, below bone level, was done to allow soft tissues to grow-over the tooth roots, allowing their better soft tissue management at post extraction phase of the root remnants one month later [2] and avoiding the risk of a bucco-sinusal communication.

After a transgingival healing of 4 month the posterior region was restored with three zirconia-ceramic crowns.



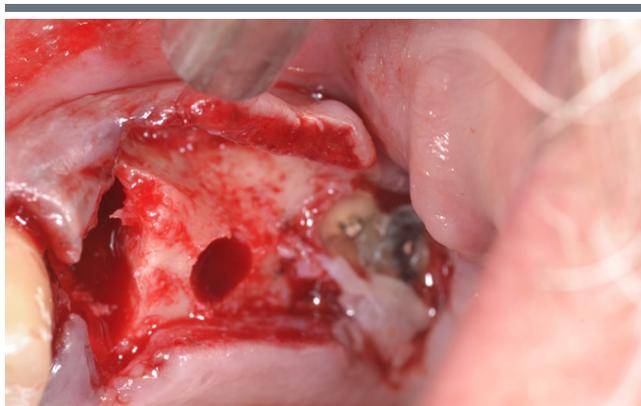
**1. and 2.** Initial occlusal view of the clinical situation. The soft tissue is in very good shape, the underlying bone seems to be only lightly reduced in the vestibular area; the abscessed root remnants release pus around tooth 27.



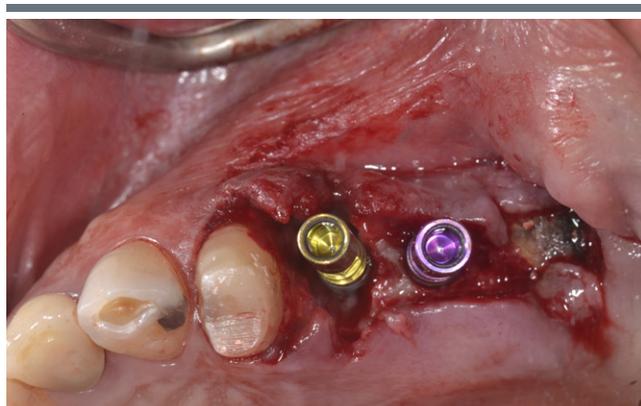
**3.** Radiological situs and planning of implant position with Simplant dental planning software (Dentsply Sirona). The huge bone defect region 27, provoking the sinus inflammation is clearly visible, meanwhile region 24 and 25 seem not to be affected. Between tooth 24 and 27 the bone is slightly resorbed on the buccal side, resulting in a slight concavity.



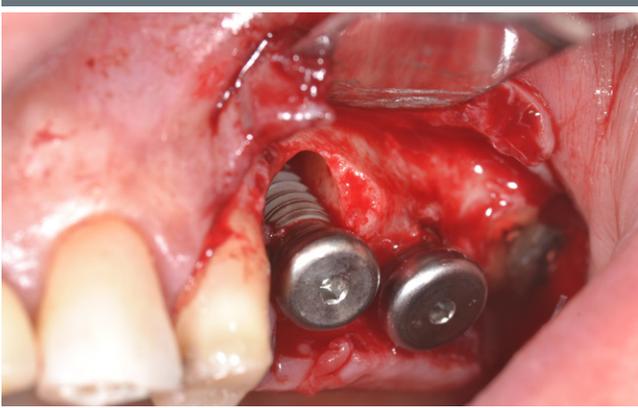
**4.** Provisionalisation on tooth 24 with cantilever out of occlusion.



**5.** After local anesthesia, without vasoconstrictor – to not reduce vascularization and to start as soon as possible the healing phase– a mucoperiosteal flap was raised and tooth was removed using Piezosurgery® (MECTRON SPA, Carasco (GE), Italy) as atraumatic as possible. Implant bed preparation for PROGRESSIVE-LINE implants was done without template, free hand.



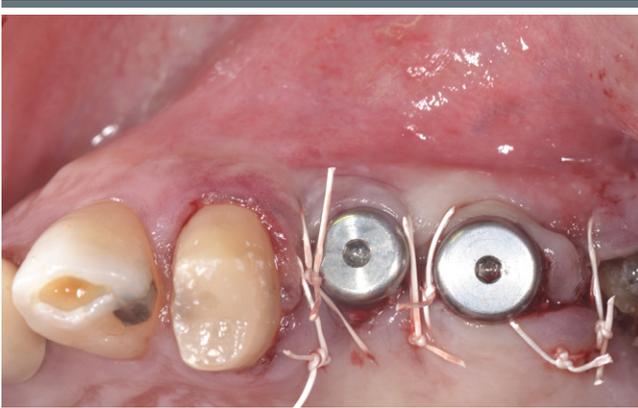
**6.** The hybrid body design and the thread geometry gave the implants in region 24 and 25 an excellent primary stability (ITV 45N and 50N, respectively, and ISQ 71 and 82, respectively).



7. Two 4mm wide body gingiva former were inserted for transgingival healing. Clearly visible is the lack of buccal bone region 25, still resulting in high primary stability.



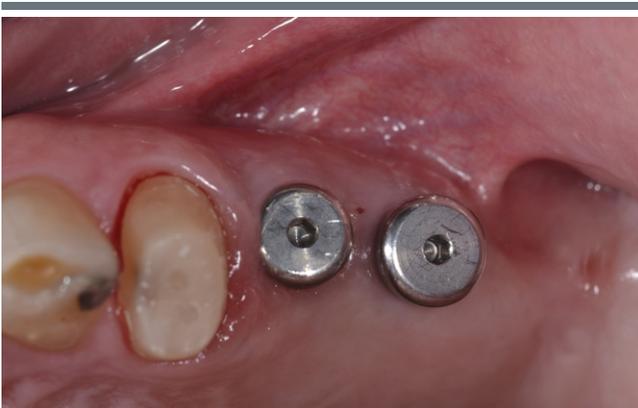
8. The vestibular bone defect was grafted with MinerOss XP (CAMLOG/BioHorizons).



9. Wound closure with simple interrupted PTFE sutures. (Biotex® Non-Resorbable 4/0 monofilament, PURGO BIOLOGICS).



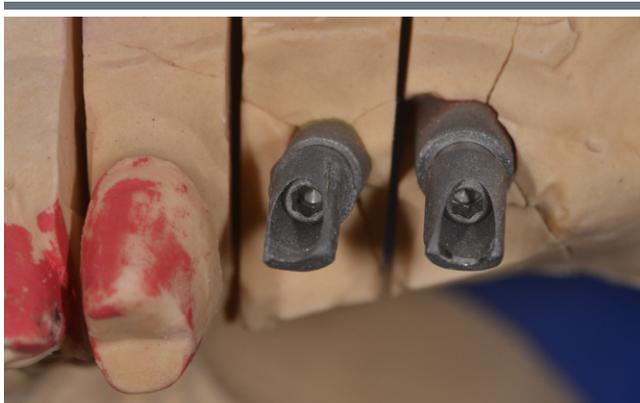
10. An X-Ray was taken after surgery, at one month, and at four months.



11. Gingiva formers in place. After 4 months of healing the ISQ was 79 for the implant regio 25 and 82 for the implant regio 26.



12. and 13. The impression was taken using closed tray technique with a polyvinylsiloxane-based impression material (3M-ESPE Imprint, Germany).



14. ILb: 15° abutments, milled with a conicity of 5° to obtain a good retention and stability. The surface was successively sandblasted.

15. Abutment in place, screwed by a torque of 25N. The abutment was placed only when we cemented the final crown.



16. View of the zirconia-ceramic crowns which were manufactured using Zirconia Zircodent Multilayer 1200 (Orodent, Verona Italy) and GC Initial Ceramic. Tooth 24 was prepared as individual crown, the crowns to restore 25 and 26 were linked together.

17. Ceramic restoration at day of cementation on the implants with water-soluble eugenol free cement (GC Freegenol Temporary GC).

### Conclusion

The current immediate placement case was achieved by thorough planning and using an implant which is able to deliver high primary stability even in compromised clinical situations. The advantages in using the PROGRESSIVE-LINE implant are biological (abrasive-blasted, acid-etched Promote® surface that allows a rapid osteoblast adhesion and proliferation), mechanical (hybrid body design, buttress threads for a better transmission of the forces to the bone), and esthetical (conical connection for an excellent tissue stability for longtime). The excellent cutting ability [3] of the 4-fluted form drills of the PROGRESSIVE-LINE system help to precisely prepare the implant bed slightly palatally to the original position of the tooth without deviation.

Like this immediate placement is an advantageous treatment for patient and dentist, delivering esthetic results and longtime stability.

### References

[1] Bholá M, Neely AL, Kolhatkar S. Immediate Implant Placement: Clinical Decisions, Advantages, and Disadvantages. J Prostodont. 2008;17(7): 576-81. doi:10.1111/j.1532-849x.2008.00359.x

[2] Gluckman H, Salama M, Du Toit J. Partial Extraction Therapies (PET) part 1: Maintaining alveolar ridge contour at pontic and immediate implant sites. Int J Periodontics Restorative Dent. 2016;36(5):681-87. doi:10.11607/prd.2783

[3] Internal documentation of international prelaunch.

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