axiom® MULTI LEVEL®

Anthogyr
A Straumann Group Brand

Innovation for surgical and prosthetic prognosis

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Clinical experiences

Single-unit restorations

Single-unit restorations

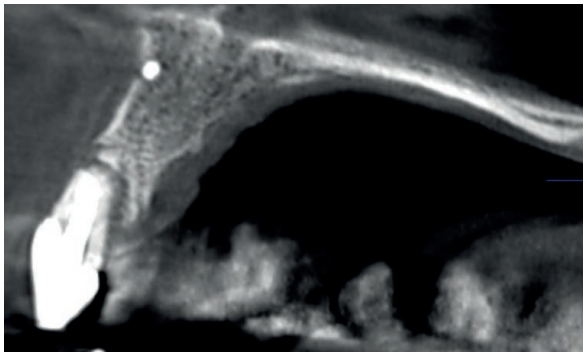
Extraction, implantation and immediate time-delay on central incisor AxIN® and the perfect positioning of the screw channel

Dr Claude AUTHELAIN, Mr Alain ARDIC

Case study

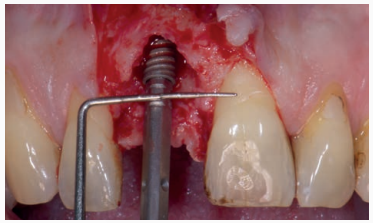
The patient comes in for a late consultation for a root fracture on tooth No. 11 (the trauma dates back to probably one month ago).

1. The clinical examination shows a great mobility of the tooth.

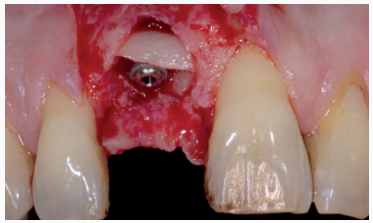


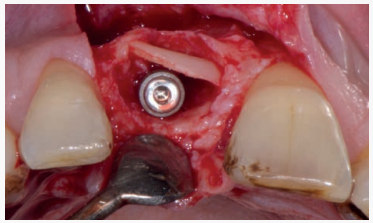
2. The CBCT shows a transversal fracture of the root with loss of vestibular cortexe.

3. Clinical debridement confirms the large bone loss in the vestibular area.

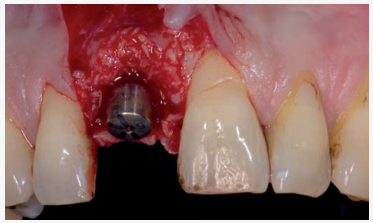


4. Nevertheless, it is possible to place an Axiom® BL, Bone Level, PX 3.4 mm diameter implant, but we'll have to manage the dehiscence.

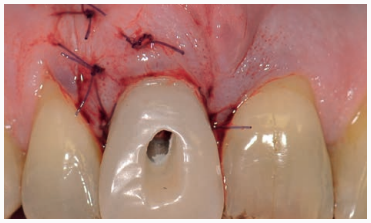




5 & **6**. A bone strip obtained from a small collection from the ramus bone is impacted in the alveolar site, previously mortised.

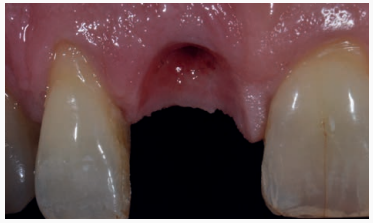


7. The space is filled with autogenous bone mash (ground).

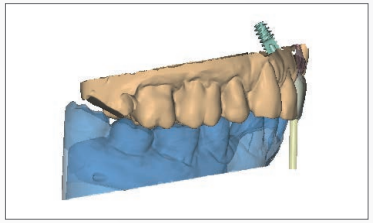


8. A temporary screwed crown is placed before obturation. In the techniques of immediate extraction-implantation in the anterior sector, the implant axis emerges almost systematically in the vestibular area.

9. Healing at 1 month.



10. Soft tissues at 6 months.



11. CAD modelling of the Simeda® prosthesis.

12. Placement of the crown on a Sina ML zirconia frame on AxIN® base. The possibility of adjusting the axis allows to make the screwed prosthesis.

16. Final smile.

Conclusion

The logic today would have an orientation as much as possible toward the screwed implant prosthesis. The AxIN® system allows the adjustment of the axes to 25°, which increases the field of indications of the screwed prosthesis and falls within the current trend.

13. Screw tightening at 25 N.cm with AxIN® ball wrench.

14. The AxIN® system allows to "bring back" the screw channels on the palatal side, sufficiently at a distance of the free edge to avoid any risk of its weakening.

15. Crown in place. Perfect aesthetic integration of the restoration.

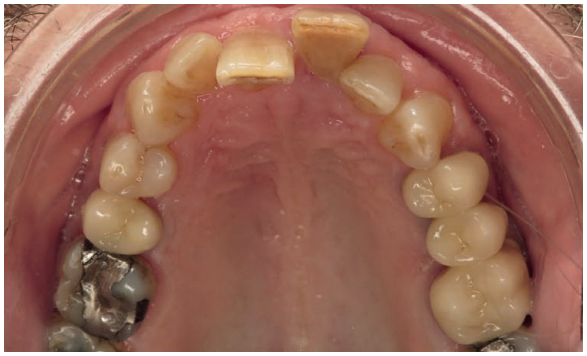
Rehabilitation of a central incisor in the maxillary with an AxIN® screw-retained single-unit tooth on Axiom® TL, Tissue Level implant

Dr Jonatan BELEY, Mr Jean-Marc ETIENNE

Case study

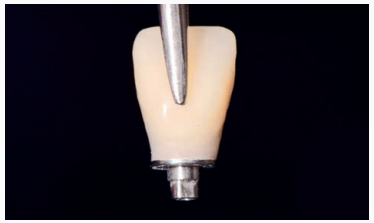
A 65-year-old patient comes in for a consultation for significant mobility of the left maxillary incisor.
Diagnosis of the endoperiodontal of tooth 21 with an occlusal trauma that caused a vestibuloversion and a major extrusion that bothers him when chewing and affects his quality of life.

1. Pre-operative smile.



2. Occlusal view before orthodontic treatment.

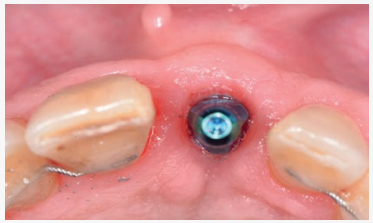
3. Occlusal view after orthodontic treatment, extraction of tooth 21 and application of a cosmetic transition veneer.



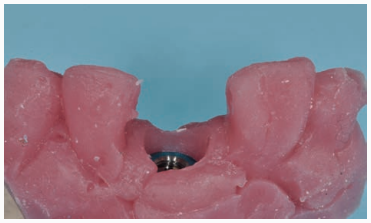
4. The soft tissues are shaped for the placement of a temporary screw-retained crown with straight channel. The emergence profile offered by the Axiom® TL, Tissue Level, R platform for a central incisor is interesting.

5. Intraoral view of the temporary crown.

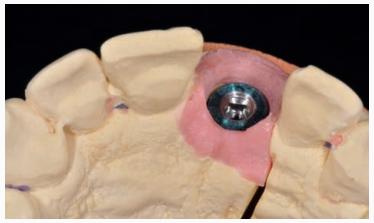
6. Axiom® TL, Tissue Level, implant in intraoral view.



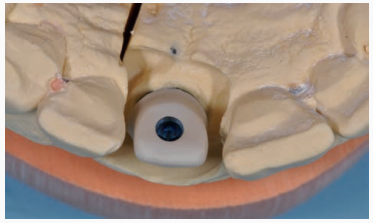
7. Impression of position by indexed pop-in. The vestibular contour is finally satisfactory after subsequent grafts of hard and soft tissues.



8. Impression of emergence profile created by the temporary crown.

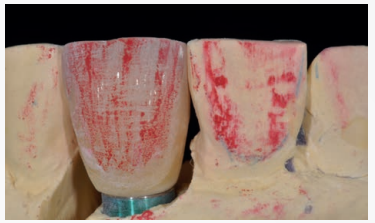


9. Master model and analogue.



10. Tooth machined on the model, in Sina Z zirconia.

11. Crown stratification.

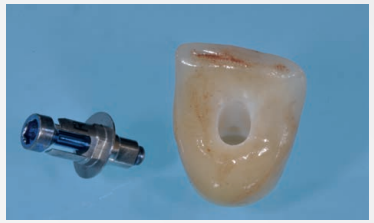


12. Crown stratification on laboratory base.

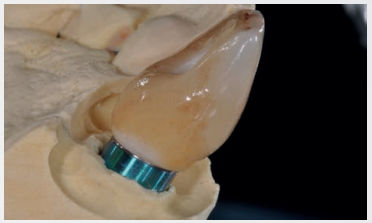
20. Final smile.

Conclusion

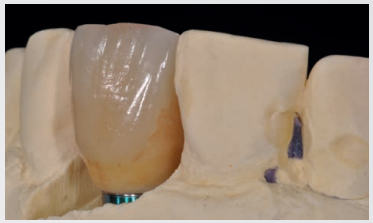
The choice of Axiom® TL, Tissue Level implant in this case has allowed the implant abutment interface to be moved more towards the crown, which is reassuring for patients with a history of periodontal disease. Additionally, the emergence profile of the R platform allows a natural transition. The innovation of the AxIN® base will have, for its part, allowed to reduce the diameter of the access channels to the screw, to place it in an optimal manner at the center of the palatal side and eliminates the presence of irritants (adhesive, cement) near the epithelium of the peri-implant junction.



13. Ceramic coated tooth on laboratory base.



14. Tooth customisation.



15. Tooth customisation.

16. Tooth assembly on the permanent base.

17. Profile view of the AxIN® screw-retained tooth with zirconia base.

18. Front view of the prosthesis.

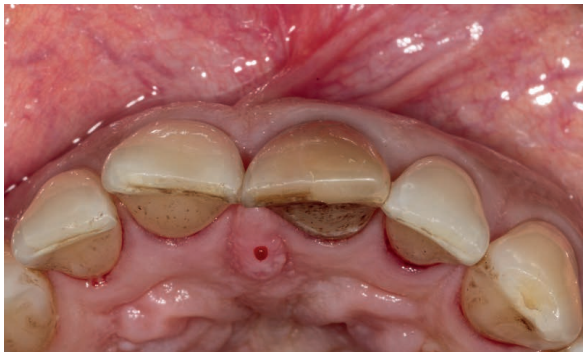
19. Occlusal view of the prosthesis. The reduction of the access channels reduces the quantity of composite resin required for the filling.

Rehabilitation of an upper central incisor with an AxIN® screw-retained tooth

Dr Philippe COLIN, Mr Fabio LEVRATTO

Case study

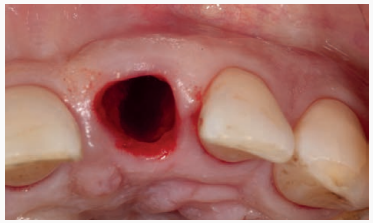
A 56-year-old female patient comes in for a consultation to have her upper left central incisor replaced with an implant. She no longer wants to keep her tooth, which is sensitive and has made her life difficult for a long time. The patient is in good health, a smoker of 15 cigarettes/day, with no acknowledged parafunctional signs. Treatment suggestion: immediate implant on 21 with immediate use except for occlusal load, final screw-retained crown with one veneer on 11 to realign this tooth and close the embrasures.



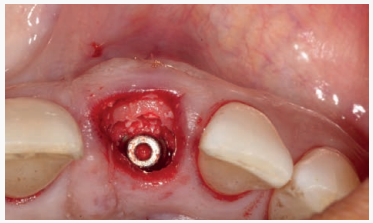
1 & **2**. Chronic periodontitis of medium intensity, with loss of attachment, without probing depth, average periodontal biotype, loss of taste buds, movement of 11 following a contact in propulsion with 42, sensitivity to percussion on 21, smile intentionally low and difficult to analyse due to the patient's reluctance.

3. Pre-operative X-ray.

4. Atraumatic extraction of 21.



5. Curettage of the alveolus (curette and round bur at slow speed under irrigation), drilling in palatal direction after probing the incisor canal.



6. The area is thickened with connective tissue collected at the tuberosity, particles of Bio-Oss® in the vestibular hiatus between the crest and the Axiom® BL, Bone Level PX implant 4 x 12 mm.

7. A temporary abutment measuring 5 mm in diameter with straight channel, height 2.5 mm is positioned on the implant, retouched in the mouth under spray and processing of the temporary using a silicone wrench.

8. Much attention is given the adjustment of the static and particularly the dynamic occlusion to avoid any propulsive contact and also to clean the abutment.

9. End of session X-ray.

10. Healing at 1 month. The concave, sufficiently high temporary abutment has allowed good stabilisation of the soft tissues.

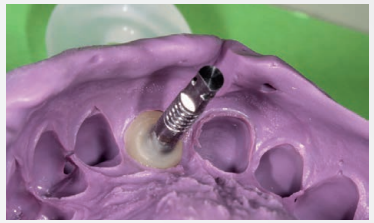
11. Situation 3 ½ months after placement. Tissue stabilisation is complete. The 11 – 12 gap is visible as is the receding gum of 21.

12. The preparation of 11 is conducted under the indications of a previously created mock-up: nearly inexistent in mesial and letting a range of dentine appear in distal, with penetration in the embrasures.

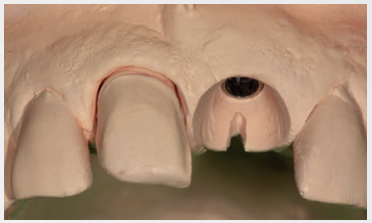
22. 2 months after the insertion. The patient accepts the result by rightly pointing out the slightly brighter appearance of the crown on 21. To correct this, the removal is simple, and the absence of adhesive cement between the AxIN® abutment and the crown facilitates the laboratory procedure. However, this would involve taking the crown off once again, which would disturb the adhesion of the soft tissues.

Conclusion

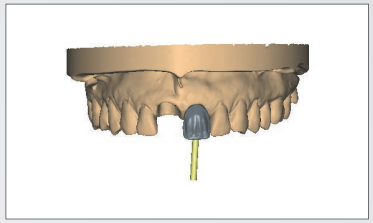
Although a screw-retained crown on an AxIN® base allows the angulation of the access channels to the abutment screw of 25°, it often happens that a few degrees of lingual angulation are necessary to avoid too close proximity with the free edge of an anterior single-unit crown. This solution lets us avoid the traditional cemented crown on abutment and generally increases the possibilities offered by the prosthesis screwed on implant that becomes the solution of choice when connecting a fixed prosthesis on an implant.



13. The shape of the outline of 21 is saved to personalise the impression coping, and the impression is taken with Impregum.

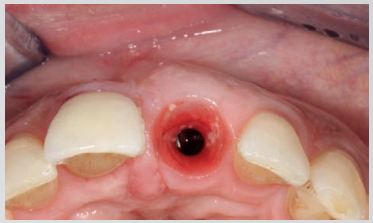


14. Working model.



15. Simeda® CAD modelling.

16. Base analogue + laboratory screw on the model.

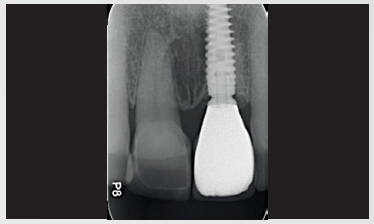


17. Appearance of peri-implant soft tissue after 3 ½ months of use, during the second unscrewing of the crown on the implant, and glueing of the veneer.

18. It's in full Sina ML zirconia and supplied with a Ø 4 mm and H 1.5 mm AxIN® base. The tooth is screwed at 25 N.cm. The occlusal conditions have led to reduce the distal angle of the veneer.

19. The Angulated Access has allowed an ideal emergence on the cingulum without overcontour and with an access orifice to the screw maintained at 2 mm.

20. View 2 months. The base has been selected to rise up the vestibular contour in order to increase the compression of soft tissues, but also to leave sufficient room for the vestibular stratification.



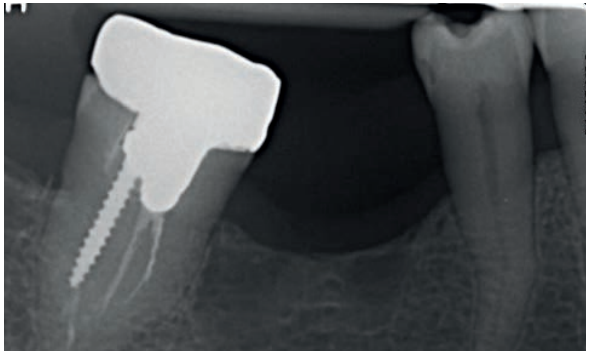
21. Final X-ray.

Single crown on an Axiom® TL, Tissue Level implant

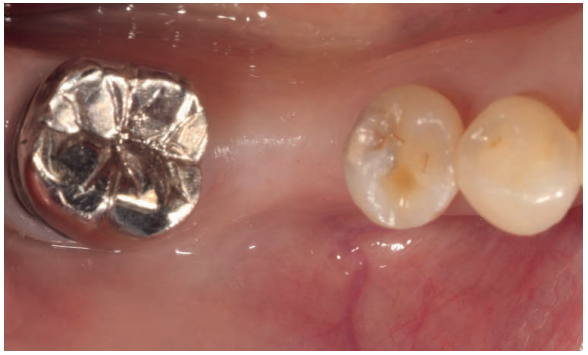
Dr Philippe COLIN, Mrs Zeliha SAHIN KARAKUS

Case study

A 65-year-old patient, in good health. 36 and 46 have been missing for many years. Treatment of sector IV is detailed.

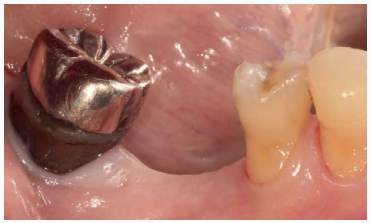


1. Pre-operative X-ray.

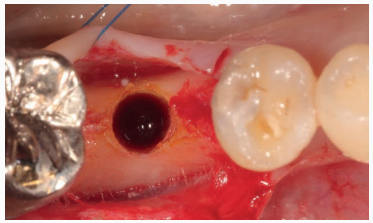


2. Pre-operative occlusal view.

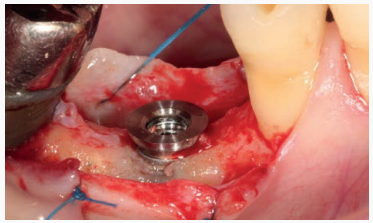
p.14



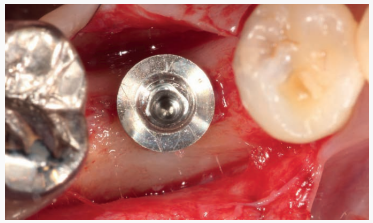
3. Pre-operative vestibular view.



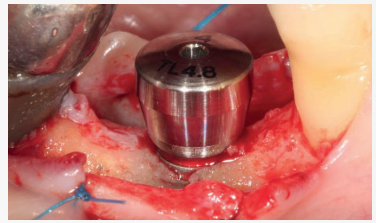
4. Drilling: medium to low bone density thickness of soft tissue 2 mm.



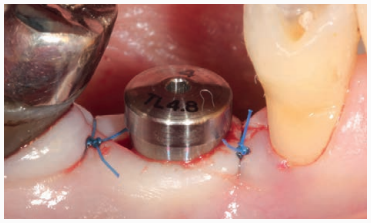
5. Axiom® TL, Tissue Level REG implant, 4.0 mm length 10 mm, R platform (4.8 mm), 1.5 mm neck height.



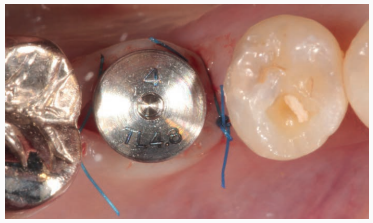
6. Positioning slightly sub-crestal to compensate for expected vestibular bone resorption.



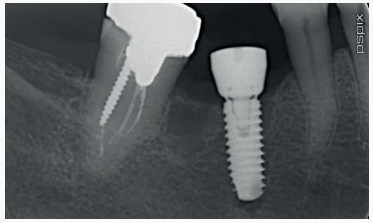
7. Healing screw flared to create an emergence profile. Note the vestibular bone thinness.



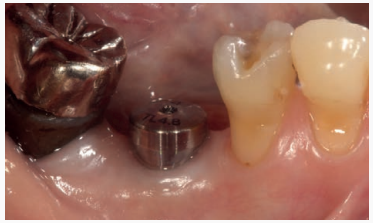
8. Suture.



9. Suture: occlusal view.

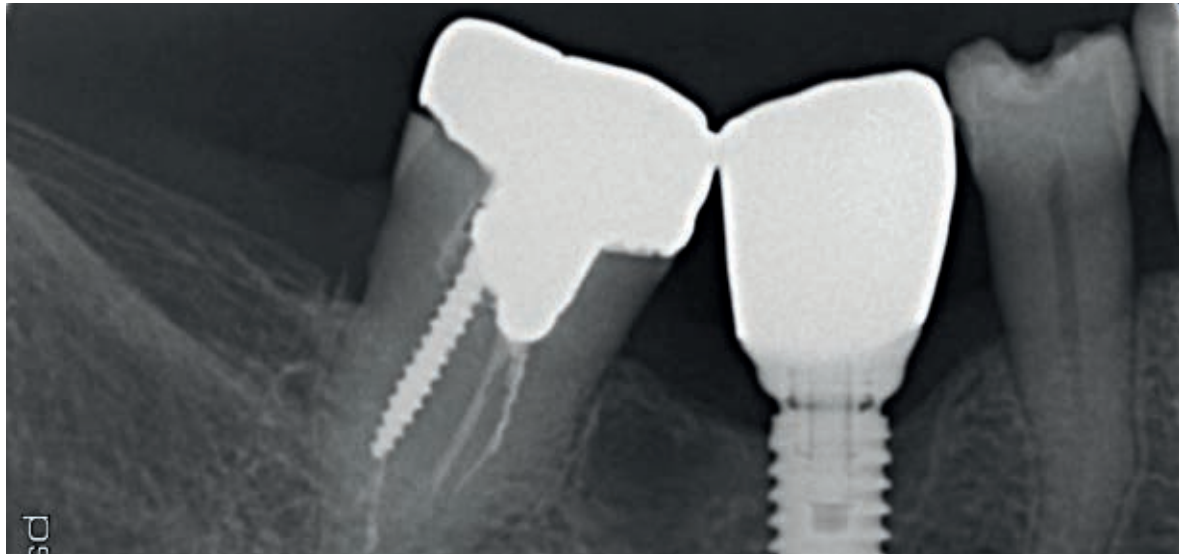


10. X-ray follow-up: healing screw in place.



11. Vestibular view at 3 months.

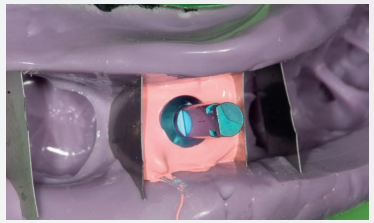
12. 3 months post-op, without the healing screw, while taking the impression with indexed pop-in transfer.



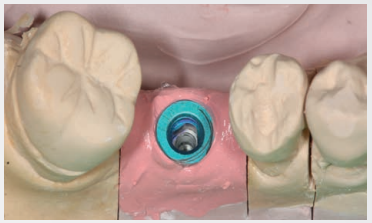
21. End of treatment X-ray. Bone remodelling estimated at 0.5 mm likely results from the initial thinness of the soft tissue.

Conclusion

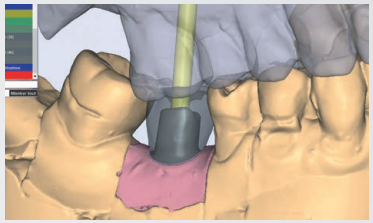
The use of a screw-retained crown on an Axiom® TL, Tissue Level implant prevents disruption to soft tissue adhesion during the impression and fitting phases. The crown, which can only be cleaned artisanally, is also connected at a distance from the bone crest. Due to its small diameter and composite covered Teflon sealing, the abutment screw access hole reduces the amount of bacteria that can enter, but even then, there is no effect on the bone level besides remodelling. In addition to these biological arguments, there is also the advantage of not using cement, which can cause severe harmful effects. The easier placement of a screw-retained crown on the Axiom® TL, Tissue Level implant and the reliability of its connection, without intermediate pieces other than the titanium abutment, make this single-unit solution a treatment to be considered, especially in posterior segments.



13. False gum and Axiom® TL, Tissue Level analogue. Segmenting with razor blades.



14. Plaster model and analogue - blue code - R platform (4.8 mm).



15. Design of the Simeda® prosthesis by CAD/CAM.

16. Soft tissue stability 5 months before connecting the crown.

17. Occlusal view of the crown. The diameter of the screw access channel is reduced to 2.1 mm.

18. Teflon is condensed in the screw access channel.

19. Composite completes the channel seal.

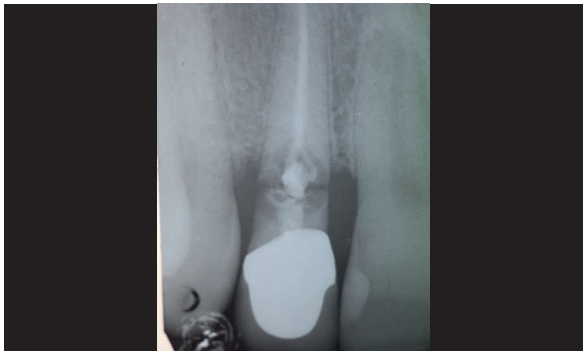
20. Vestibular aspect of the final Simeda® crown. It consists of a crown portion made from Sina Z zirconia cemented to a titanium base.

AxIN® case on an Axiom® BL, Bone Level PX implant placed immediately after extraction

Dr Egon Euwe, Mr Pasquale Palmieri

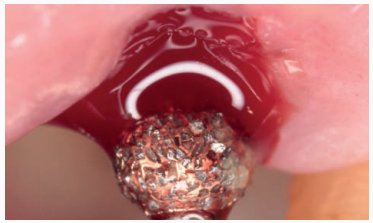
Case study

A 48-year-old man.

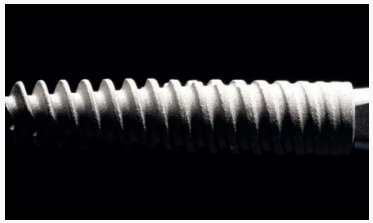


1 & **2**. Situation before the extraction of the patient's tooth.

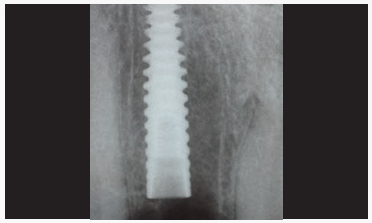
3. Atraumatic extraction.



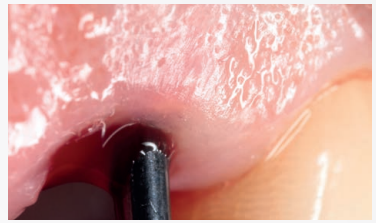
4. De-epithelialisation of the alveolar margins.



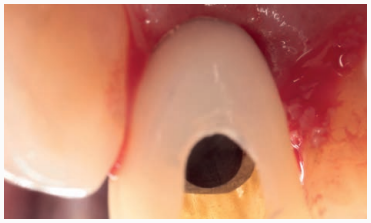
5. Axiom® BL, Bone Level, PX 16 x 3.4 mm.



6. Good vertical positioning.



7. Bio-Oss® in the oral space.

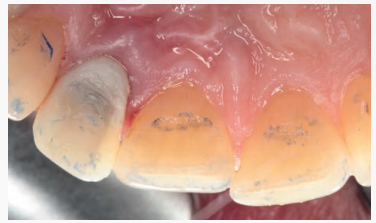


8.a. Preparation of the temporary prosthesis.

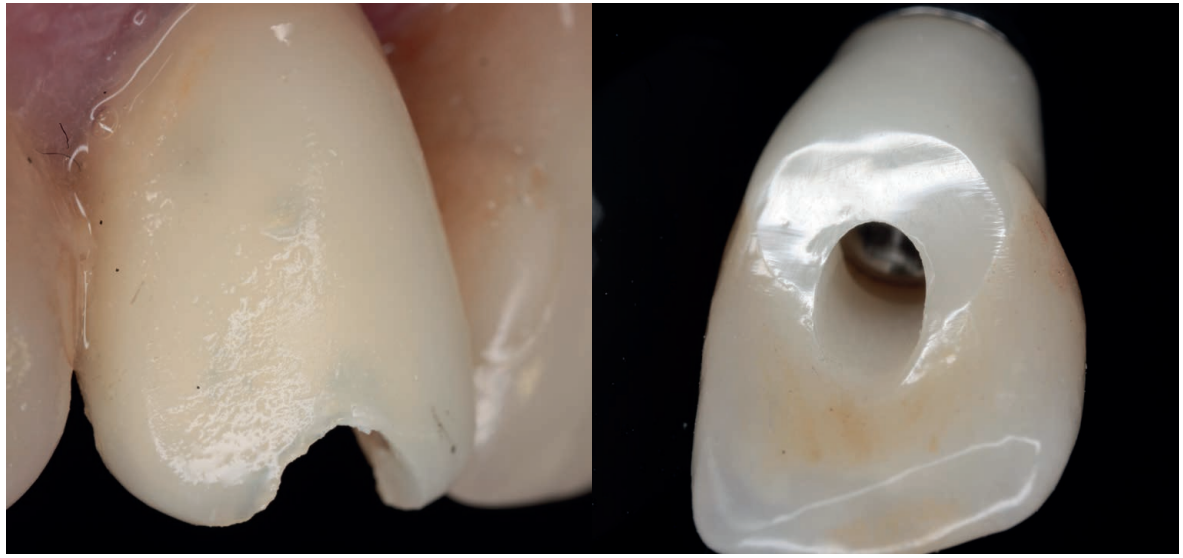
8.b. The screw channel of the temporary prosthesis falls into the free edge.

9. Occlusal view initial healing. Falls into the free edge.

10. Front view of initial healing.



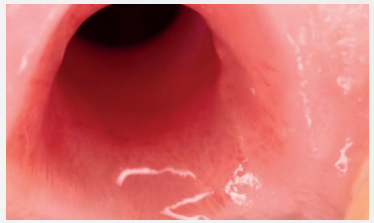
11. Occlusion check.



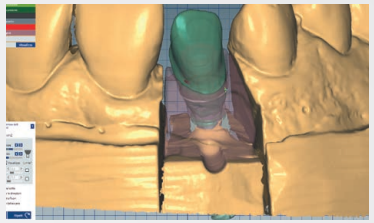
21. Temporary access with a straight channel versus access with AxIN® base.

Conclusion

This case shows a temporary prosthesis with a straight channel leading to an unfavourable access (in the free edge), which is effectively repositioned in a sturdier part of the restoration and with a very small hole thanks to the AxIN® permanent prosthesis. This is essential for relatively small teeth and with an overocclusion.



12. After connective tissue graft in the mouth (bag technique) and tissue stabilisation for 4 months.



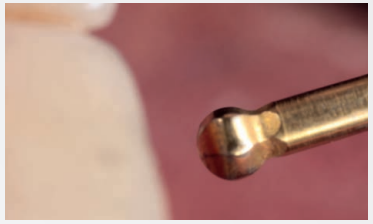
13. CAD design.

14. Sina T zirconia machined tooth, on AxIN® base.

15. Ceramic tooth on AxIN® base.

16. Prosthesis on the model.

17. Screwing of the permanent prosthesis at 25 N.cm torque.



18. The prosthesis is removed at the end of 2 weeks by routine temporary placement.

19. Occlusal joint.

20. Final result with 25 N.cm screwing torque.

Anterior aesthetic rehabilitation: the intake of AxIN®

Dr Christophe FORESTI, Mr Cyrille FERREIRA

Case study

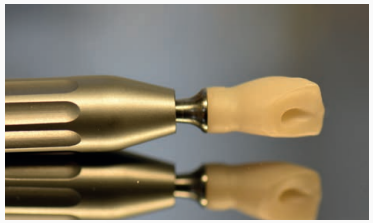
Mr B., aged 81, comes in following the fracture of his left maxillary central incisor, abutment of the mixed bridge dental implant fitted 21.(22).23.24.25.(26).27 made by his previous dentist about ten years ago. Taking into account the good condition of this prosthetic rehabilitation and the age of our patient, it is decided to leave 22 in extension and prepare a single-unit implant in place of his incisor. Following the extraction and filling of the infected site, a removable temporary prosthesis is fitted in the meantime to allow the area to heal.

p.18

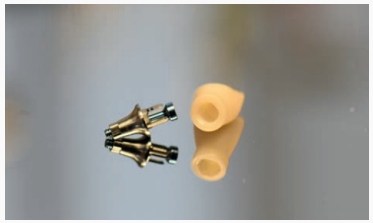
1. Sagittal view of the implant-prosthetic angulation.

2. Front view of transfer coping with impression ring.

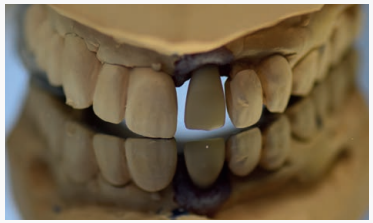
3. Sina T zirconia machined tooth.



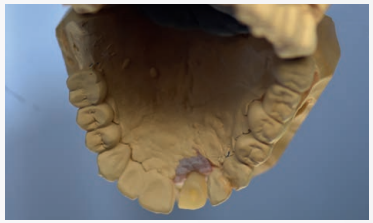
4. Tooth and AxIN® base assembly on manipulation wrench.



5. Laboratory base and machined tooth.



6. Homothetic machining of the infrastructure.



7. Compact design palatal screw channels.

8. Occlusal check in the laboratory.

9. Vestibular emergence profile.

10. Verification of ceramic transition angles palatal side on laboratory base.

11. Finished tooth, assembled on permanent base.

12. Slightly subgingival position of the healing screw.

17. Optimal tissue behaviour.

Conclusion

If the choice of a totally ceramic prosthesis is recommended within a previous rehabilitation in order to extend the aesthetic result, the use of the AxIN® screw-retained tooth also allows:

- to optimise the placement and the size of the screw channels
- to adopt perfectly compatible prosthetic components
- to be easily disassembled, which lets us obtain one of the most aesthetic results and, most importantly, completely scalable

13. Emergence profile allowing a slight deformation of the soft tissues.

14. Vestibular over-compression.

15. Palatal emergence.

16. Vestibular emergence.

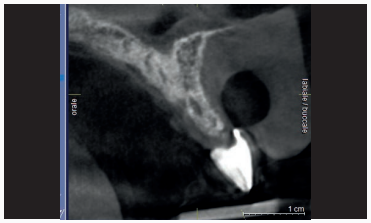
Features of a central incisor: hard tissues, soft tissues, prosthesis
AxIN®, the appearance of a natural tooth

Dr Patrice MARGOSSIAN, Mr Stevie PASQUIER
Mr Gilles PHILIP

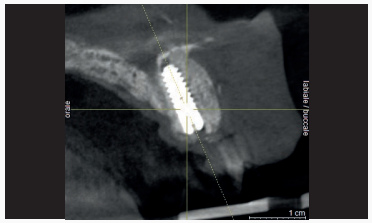
Case study

A 24-year-old patient, with absence of 11 following a traumatic avulsion in childhood.

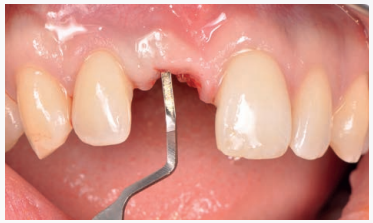
1, 2 & **3**. **Initial situation:** the photographic and scanner analysis shows a tissue flaw essentially horizontal, with a very marked concavity of the vestibular cortex.



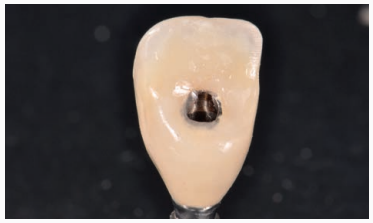
3.



4 & **5**. **Implant phase:** an approach in 2 surgical steps was selected to ensure the vestibular bone reconstruction. A cone shaped implant was stabilised at 40 N.cm. The vestibular concavity has naturally exposed a few spires of the implant body. A Guided Bone Regeneration associating a mixture of autogenous bone collected in the nasal spine and a xenograft was stabilised thanks to a pinned resorbable membrane. The time-delay is ensured by a commercial tooth simply glued to the adjacent teeth.



6 & **7**. **Tissue development:** the implant (Axiom® BL, Bone Level, PX) is activated at the end of 6 months. A connective graft collected at the tuberosity is tunnelled in vestibular in a bag made with a spoon blade (MJK).



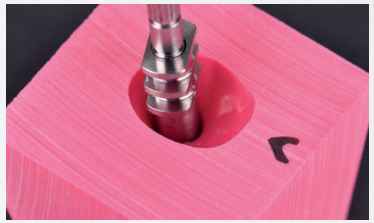
8, 9 & **10**. **Time-delay and shaping of the tissues:** the role of immediate time-delay is essential in shaping the tissues. The temporary restoration is therefore made directly by the solidification of a commercial tooth on a temporary straight titanium abutment which is screw retained on the implant.

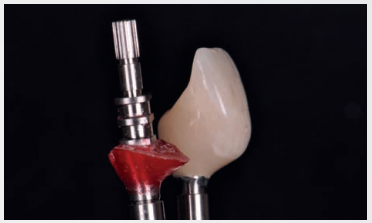
11 & **12**. The shapes of the contour adapted (concave in vestibular and convex in proximal) will allow to model the gingival cavity closest to the natural appearance by taking full advantage of tissue healing dynamics.

21. Final smile.

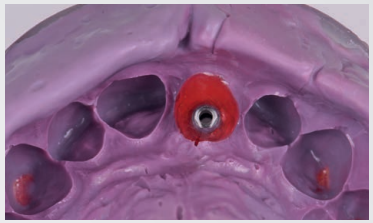
Conclusion

The making of a single-unit implant rehabilitation is always a challenge both from a surgical and a prosthetic standpoint. The goal is to restore a dento-gingival composition that is totally harmonious and with a natural appearance.



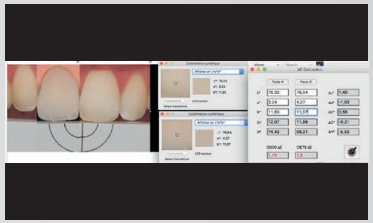


13 & **14**. Preparing the impression: the objective is to transfer to the laboratory the position of the implant and that of the peripheral soft tissues. The first step consists in preparing a customised coping that takes the shapes of the outline of the temporary restoration.



15. The impression is taken with an open tray technique with a polyether.

16. The aesthetic reference axes are directly marked on the model thanks to the Ditramax system and will serve as a guide for the vestibular shape.



17. The shade is taken with a digital approach (elab) with a virtual digital fitting.

18 à **20**. The final prosthesis is made with a new AxIN® screw-retained device. The aim is to screw-retain a single-unit Sina Z zirconia cap, taking advantage of the adjustment of an axis that is orientable to 25°. This allows a different approach vs the existing systems on the market because here the screw is inserted before clipping the cap on the lock of the titanium base. This results in saving material inside the access channels of the screw, thus offering the possibility of a more palatal positioning of the zirconia frame. The stratification of vestibular cosmetic ceramic thus ends up having more room, improving the aesthetic result.

AxIN® Angulated Temporary solution

Dr Patrice MARGOSSIAN, Mr Stevie PASQUIER
Mr Gilles PHILIP

Case study

A 32-year-old female patient lost her central incisor in an accident. A bone reconstruction has been made with a GBR at the same time as the placement of the implant. Here, we illustrate the gingival development and the preparation of a temporary screw-retained prosthesis on the day of the surgical phase 2.

1. Gingival situation on the day of implant phase 2.

2. Implant activation with a minimally invasive approach. A palatal connective graft is tunnelled to provide again a vestibular volume and thus increase the tissue thickness around the neck of the implant.

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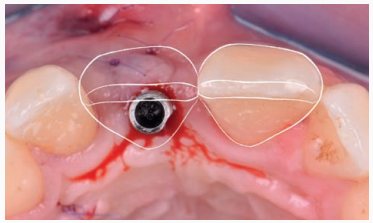
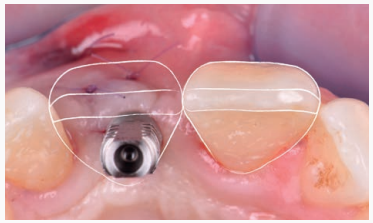
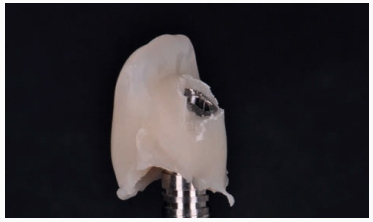
3. Choice of the temporary angulated component. 2 base diameters and 2 neck heights are available in order to best adapt to the anatomy of the tooth to replace and the penetration of the implant. 4 angulations are possible.





4 & **5**. Clinical comparison in occlusal view of a temporary component with angulation 0° and 10°. The position of the implant respects the natural anatomy by passing through the free edge of the tooth. The cingulate exit is ensured by the new AxIN® temporary prosthetic options. A 2.5 mm high and 4 mm wide base has been selected here.

6 & **7**. Reduction of the height of the component according to the patient's occlusal height available.



8 & **9**. The intraoral solidification only involves the supra-gingival portion by means of PMMA resin. The rest of the modelling is made extra-orally to avoid any chemical damage of the mucosal collar.

10, **11** & **12**. The transgingival contour shape is finished and polished to optimise the vestibular and proximal mucous response.

14. Clinical situation 15 days post-surgery.

Conclusion

The temporary angulated AxIN® component represents an extraordinary advancement in the field of cosmetic implantology. It allows a change of paradigm in the anterior tridimensional implant positioning. By being included in the general volume of the tooth it replaces, AxIN® has a true anatomical rationale. These new possibilities help ensure access to the screw is not visible in the palatal, while at the same time optimising the amount of stratification in vestibular and therefore the aesthetic result.

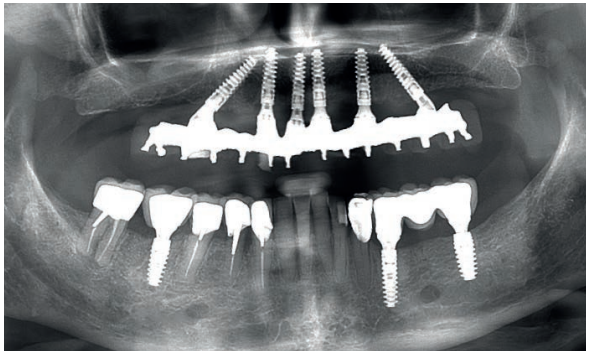
13. Clinical situation on the day of phase 2.

Single-unit restoration with Axiom® TL, Tissue Level

Dr Antoine MONIN, Mr Romain CIAFFOLONI

Case study

M[rs] M., age 65, came to the office for sharp, recurring pain on 44. Clinical exams and X-rays both showed an intraosseous root fracture. The proposed treatment plan was to extract the root and simultaneously insert an Axiom® TL, Tissue Level, PX implant. The implant was placed directly in the empty space without adding any biomaterial. The single-unit screw-retained prosthesis rehabilitation began 4 months after the operation.



1. Pre-operative X-ray.

2. Post-extraction site.

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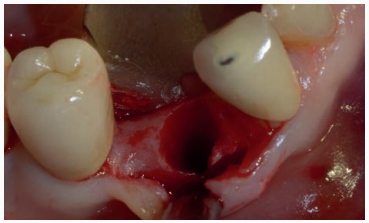
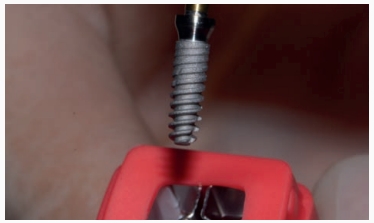
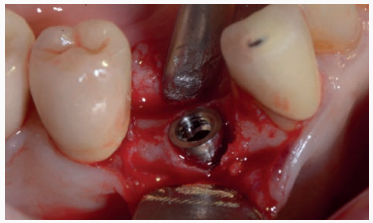


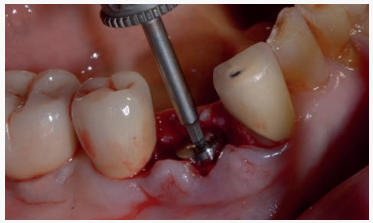
3. Post-extraction site and mini flap.



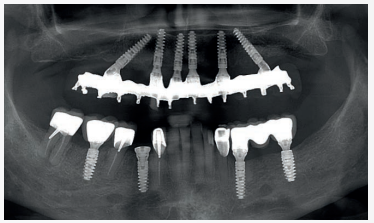
4. Axiom® TL, Tissue Level PX implant - Ø3.4 mm, length 8 mm, N platform (Ø4.0 mm) 2.5 mm neck height.



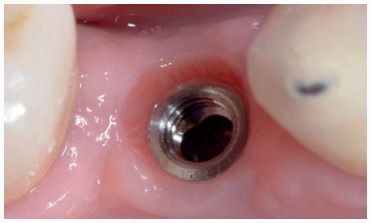
5. Implant in place.



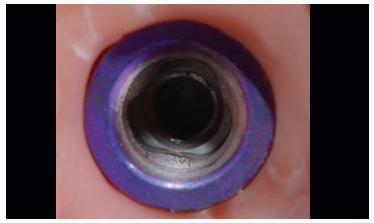
6. Placement of the healing screw (crown height 2 mm).



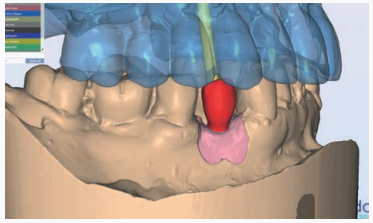
7. Post-operative follow-up X-ray.



8. Gum healing 4 months post-op.



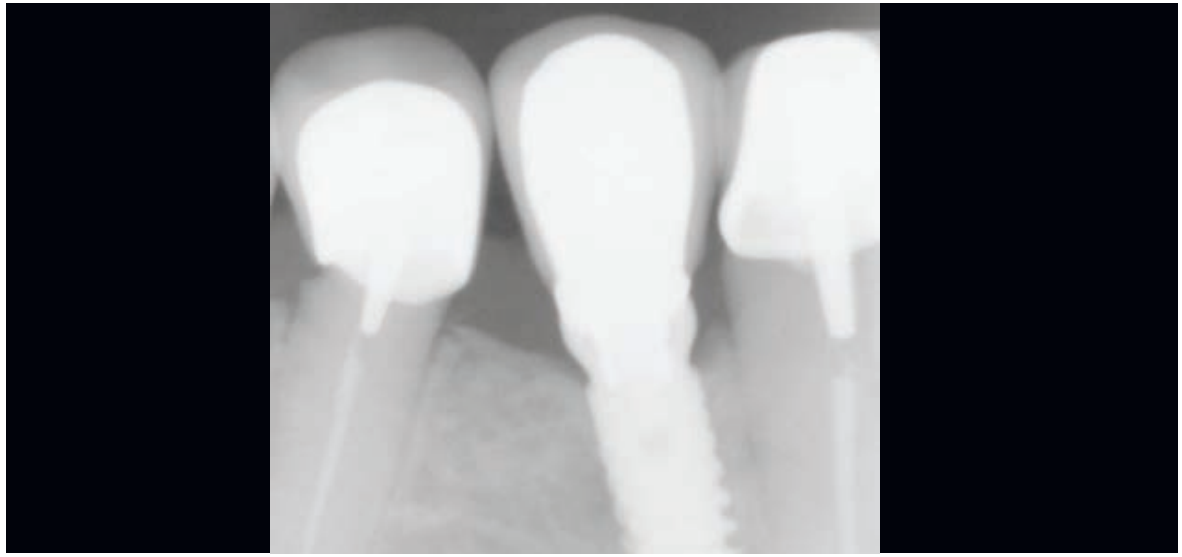
9. Analogue for Axiom® TL, Tissue Level implant (pink code) N platform = 4.0 mm.



10. Design of Simeda® prosthesis – Customised CoCr abutment.

11. Permanent prosthesis – Vestibular view.

12. Permanent prosthesis – Occlusal view.



17. Follow-up X-ray.

Conclusion

The use of an Axiom® TL, Tissue Level implant absolutely helps reduce prosthesis disassembly caused by the use of transgingival abutments, thus preserving the integrity of the peri-implant biological space, ensuring the longevity of our implant-supported prosthetic reconstructions. It should be noted that during one protocol of immediate extraction/implantation in an aesthetic sector, the expertise of the implant penetration has a key role in therapeutic success.

13. Permanent prosthesis – Palatal view.

14. Screw-retained crown.

15. Permanent crown – Occlusal view.

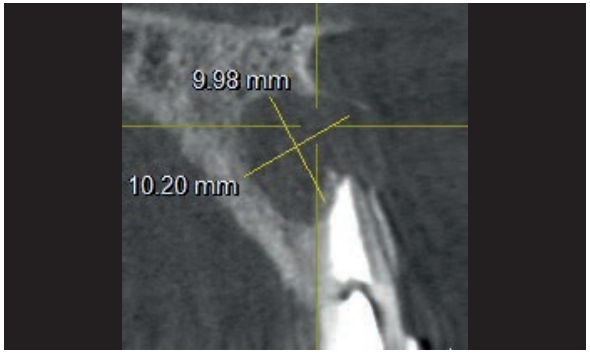
16. Permanent crown in place – Vestibular view.

Implant Axiom® BL, Bone Level, after avulsion of tooth 11 and cyst enucleation

Dr Nicolas RENOU, Dr Jean-Baptiste VERDINO
Mr Gilles GIORDANENGO

Case study

A 40-year-old male patient presenting with a large periapical cyst on 11 with vestibular invasion. The tooth avulsion, cyst enucleation, placement of an Axiom® BL, Bone Level, implant and bone filling were all performed in the same session. After 6 months' healing time, the AxIN® angulated screw-retained temporary prosthesis has been a solution of choice for the use and aesthetics of this implant.



1. Crown cut of 11 showing a sizeable cyst measuring 10 mm in diameter with vestibular bone invasion.

2. Initial situation.

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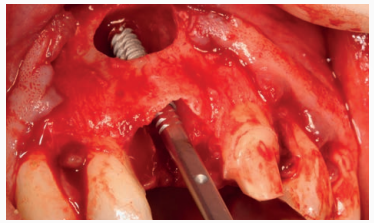
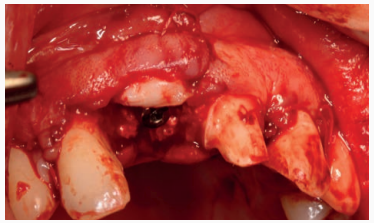


3. Placement of an Axiom® BL, Bone Level, implant after tooth avulsion and thorough site cleaning.

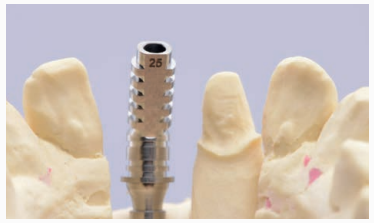


4. A bone filling and the placement of a vestibular connective graft have been performed.

5. Situation of healed implant after removal of the temporary tooth-supported tooth.

6. Profile view showing the vestibular axis of the implant.

7. Preparation of the gingival development.



8. Base + temporary angulated AxIN® cap set on the model.

9. Temporary prosthesis on the model.

10. Occlusal view of the temporary screw-retained AxIN® prosthesis.

11. Temporary AxIN® prosthesis with the base, screw and machined prosthesis.

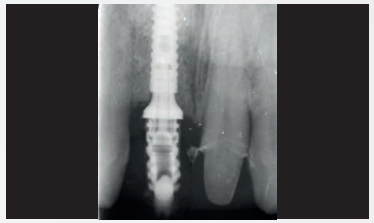
12. Screw tightening at 25 N.cm of the prosthesis with the Anthogyr ball screwdriver.

20. Final smile.

Conclusion

The use of this new AxIN® screw-retained temporary prosthesis can be a solution of choice with many advantages:

- Making a screw-retained single-unit temporary prosthesis that allows angulated tightening up to 25°
- Absence of glue that can contaminate the implant environment
- Accurate adjustment of prosthetic pieces and ease of use in the mouth bringing real comfort and a certain durability during the time-delay phase



13. Retro-alveolar X-ray, check of good adjustment of the prosthesis.

14. Intraoral view of the temporary prosthesis.

15. Prosthesis ceramisation.

16. Prosthesis ceramisation.

17. Permanent Sina ML Zirconia prosthesis on the model.

18. Permanent Sina ML zirconia prosthesis on the model.

19. Permanent prosthesis in the mouth, frontal view.

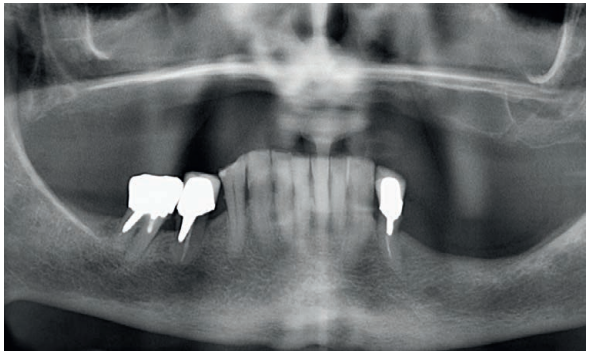
Plural restorations

Total maxillary restoration: provision of inLink® connection

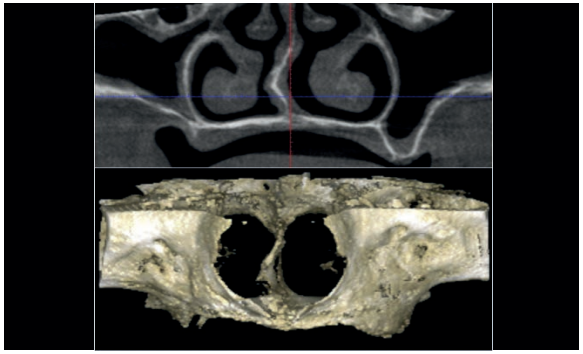
Dr Claude AUTHELAIN, Dr Issur OTTMUN-CHUND
Mr Alain ARDIC

Case study

A 65-year-old patient comes to consultation for total lack of retention of her total upper prosthesis which she has had redone several times. The clinical examinations, panoramic X-ray and CBCT show a very severe bone deficit associated with long-standing edentulation. The treatment plan will consist in a complete maxillary rehabilitation that will require a bilateral lifting of the maxillary sinus and a crest thickening.



1. Pre-operative panoramic X-ray.



2. CBCT showing the bone volume deficit.

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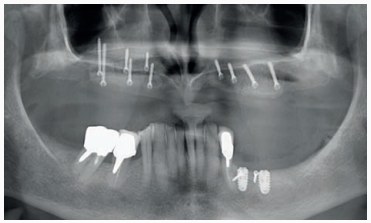
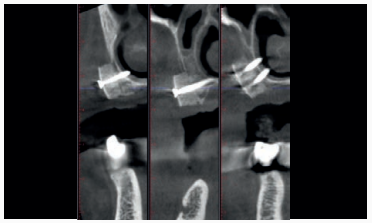
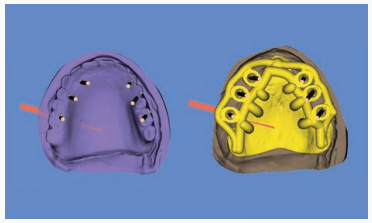


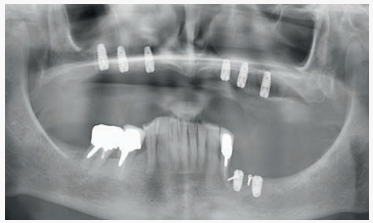
3. Double sinus floor elevation with allograft (Biobank®).



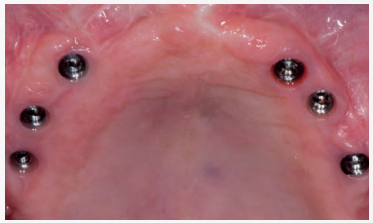
4. CBCT showing the crest thickening with blocks of synthetic bone allografts (Biobank®).



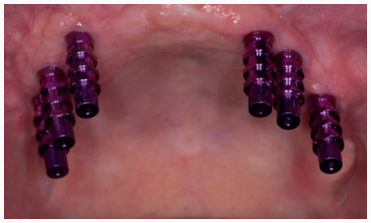
5. Digital planning of implant placement under guided surgery.



6. Follow-up panoramic X-ray: 6 Axiom® BL, Bone Level PX implants (3.5 x 8 mm).

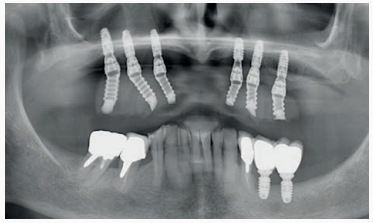


7. Healing 6 months post-op.



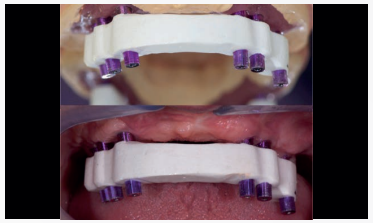
8. Impression for a temporary: transfers pick-up screwed onto inLink® abutments.

9. Temporary prosthesis: 2 locks have been placed to facilitate the placement of the prosthesis.



10. Follow-up X-ray of temporary prosthesis.

11. Temporary prosthesis in the mouth.



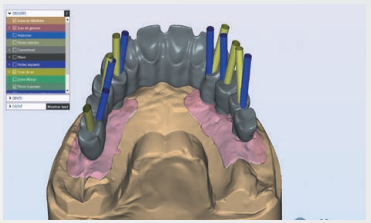
12. Plaster validation key for permanent prosthesis.

21. Final smile.

Conclusion

Despite the significant bone reconstruction, the implants had to be placed in a reduced volume and in axes that were not always ideal (especially for implants 12 and 14, Fig. 5). Thanks to the Angulated Access, the inLink® system allows the emergence channels to be placed in the prosthetic groove in order to reduce as much as possible the space taken by the prosthetic unit.

13. Wax model.



14. CAD concept image of the Simeda® zirconia frame. The yellow screw channels and the blue implant axes show the angulation of the screw channel.

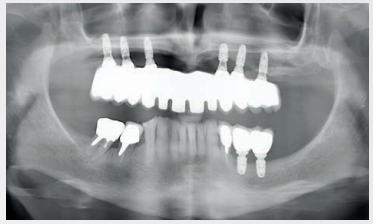
15. Sina ML zirconia frame, Simeda®.

16. Fitting locks put in.

17. Fitting the frame.

18. Zirconia ceramic bridge with complete stratification.

19. Permanent prosthesis in the mouth.



20. Follow-up panoramic X-ray of temporary prosthesis.

Advantages of the Axiom® Multi Level® solution in complete rehabilitations

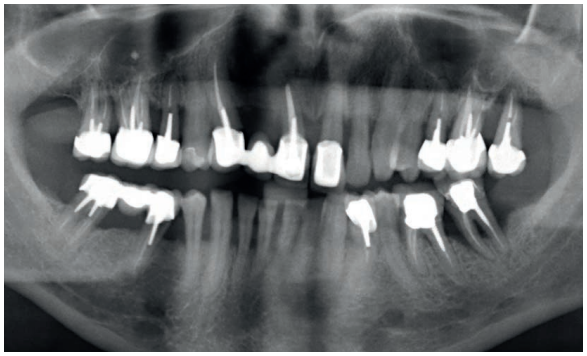
Dr Francis BAILLY, Mr Alexandre BIENFAIT

Case study

A 49-year-old patient presenting with high mobility and pain. The panoramic X-ray shows us a terminal stage of periodontal disease with tooth migration.

Initially, only the upper maxilla will be treated opting for an all-on-4, which requires a single procedure only and will be performed in 5 months' time.

1. Initial smile.



2. Pre-operative panoramic X-ray.

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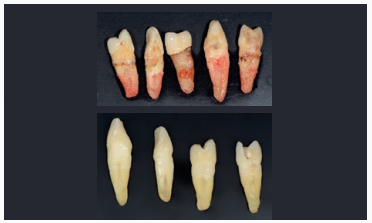
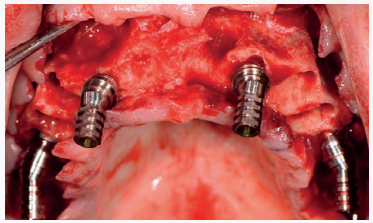
3. Initial clinical situation.

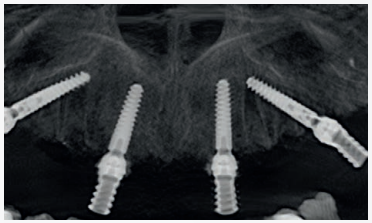


4. Use of Prof Itzhak BINDERMAN's Smart Dentin Grinder to obtain a powder of decontaminated particulate dentin mixed with APRF. 4 teeth are used to compensate the bone losses.

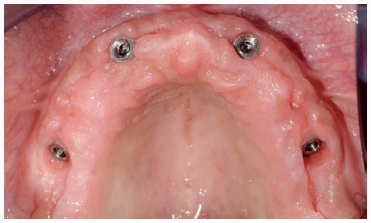
5. Mixture obtained from just 4 teeth.



6. Temporary 25° angulated abutments to follow the inclination of the implants. A temporary bridge is adapted on these abutments at the end of the procedure.



7. End of procedure panoramic X-ray – 2 inLink® abutments have been screwed onto Axiom® BL implants, Bone Level on distal and two Axiom® TL implants, Tissue Level have been placed in 12 and 22.



8. At 3 months, the gums look very good thanks to our autologous bone replacement material and APRF.

9. Once the gum levels are stabilised, we prefer to place 3.5 mm inLink® abutments (on the right) on the distal implants instead of the 2.5 mm abutments, thus facilitating the maintenance of the future bridge.

10. Clinical view with new abutments which are slightly supragingival.

11. The 360° rotation allows easy orientation of temporary abutments in order to optimise the emergence of access channels. The temporary bridge is installed on these new abutments.

12-13. Recalibration and aesthetic evaluation.

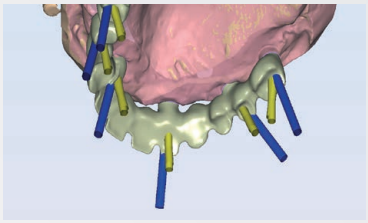
21_ Final smile.

Conclusion

For this type of indication, Axiom® Multi Level® has been particularly helpful:

- the inLink® connection with a fixation lock permits very important corrections of implant axes divergences and gives the option to angulate the screw channel up to 25° to choose the emergence of their access channels
- the 360° abutment rotation facilitates their placement during the surgical phase and the processing of the prosthetic part
- bridge handling is facilitated by the fixation locks integrated in the frame

13. Aesthetic evaluation.



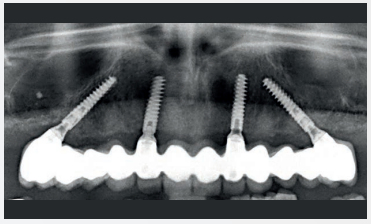
14. CAD concept image of the Simeda® frame: the screw channels in yellow and implant axes in blue show the angulation of the screw channels.

15-16. Simeda® ceramic bridge on titanium frame. Despite the sharp inclination of the implants, the screw channels for the locks emerge adequately without weakening the ceramic.

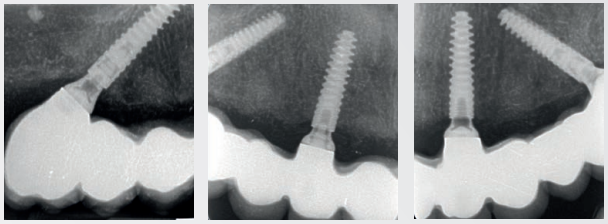
16. Ceramic bridge. A guiding lock is being used to aid its placement.

17. The ceramic bridge is placed.

18. Quality of gum health at 10 months.



19. Panoramic follow-up X-ray 10 months after implant placement.



20. Retro-alveolar X-ray follow-up 10 months after surgery. The bone tissue looks excellent.

Rehabilitation of a posterior maxilla with Axiom® BL Bone Level implants and inLink® abutments

Dr Reda BEN KIRAN, Mr Jean-Pierre CASU

Case study

A 51-year-old patient presenting with tooth 26 missing and teeth 24 and 25 badly deteriorated. The 3 Axiom® BL (Bone Level) implants PX were placed at the same time as the surgical extraction of the roots of 24 and 25 and the lateral sinus lift procedure. After 6 months of osseointegration, the 3 implants were uncovered and 6 weeks later, the healing screws were replaced with inLink® abutments. A screw-retained prosthesis was placed 4 weeks later.

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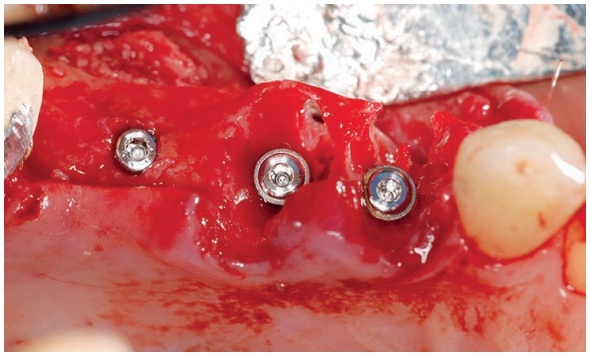
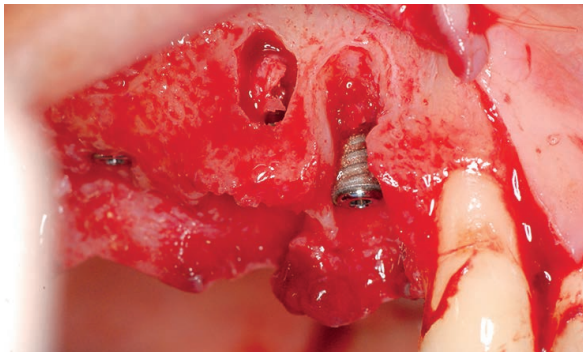


1. Placement of Axiom® BL (Bone Level) implants/PX in post-extraction and during lateral sinus lift.



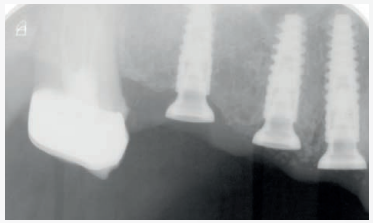
2. Bone loss in the vestibular area.

3. Bone filling.

4. 6 months later, during uncovering.

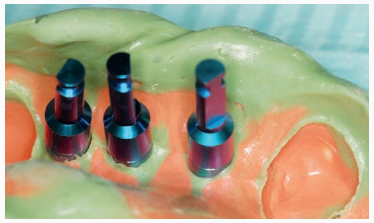
5. Uncovering of implants and placement of compact healing screws.

6. Placement of inLink® abutments (2.5 mm gingival height and 4.8 mm platform ø).

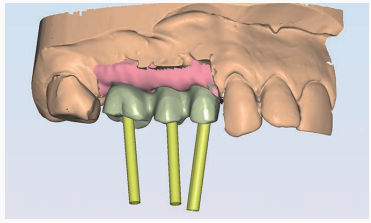


7. X-ray of inLink® abutments on the day of their placement.

8. Transfers in place during the impression.



9. Positioning the analogues in the impression.



10. CAD model of the Simeda® prosthesis, with 25° axis adaptation in 14. The screw channel was centered in the middle of the occlusal side of 14.

11. Final prosthesis ready for a first fitting.

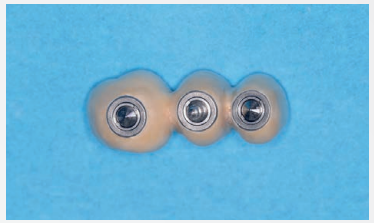
12-13. Final prosthesis, a guiding fixation lock was placed centrally to aid placement of the prosthesis.

18_ Removal of the prosthesis 6 weeks after placement. Excellent gum quality.

Conclusion

As bone filling was necessary when the implants were placed, the use of Axiom® BL implants, Bone Level was preferred to perform a 2 stage surgery. The compact design of the healing screws placed before the permanent prosthesis and the easy prosthetic stage thanks to the inLink® integrated lock system have been particularly appreciated.

The aesthetic result is very satisfactory.

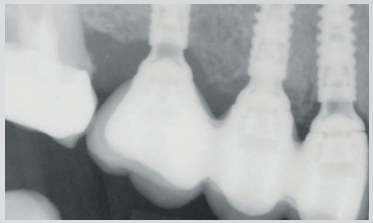


13. Final prosthesis and inLink® integrated lock system.

14. Placement of the final prosthesis simplified by the absence of screws.

15. Vestibular view of the final prosthesis in the mouth.

16. Occlusal view of the final prosthesis, screw channels closed.



17. Post-prosthetic X-ray.

Axiom® TL Tissue Level implants in posterior mandible

Dr Philippe BOGHANIM, Mr Pascal AUGÉ

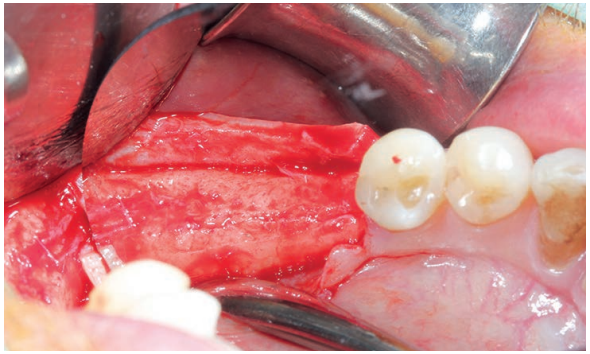
Case study

A 60-year-old patient presenting with bilateral edentulous posterior mandible.

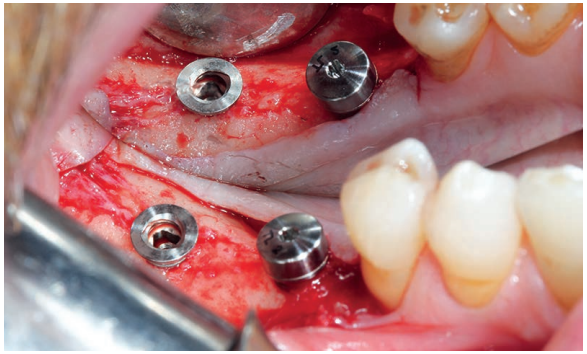
Four Axiom® TL implants, Tissue Level will be placed taking into account the low aesthetic impact at the collar of the mandibular molar region and of the good condition of the soft tissues.

The implants are placed in raw bone of adequate volume and intermediate density.
The prosthesis will start three months after the surgical phase.

p.36

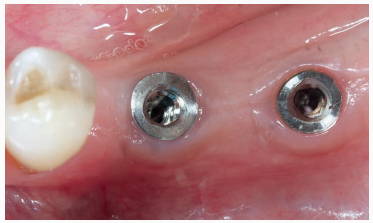


1. Opening the flap.



2. Placement of Axiom® TL implants, Tissue Level, platform 4.8 mm.

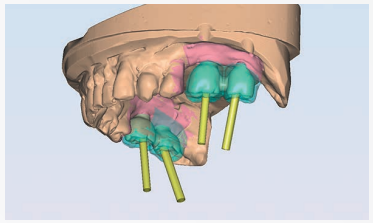
3. Situation 15 days after surgery.



4. Gum healing before impression.

5. 4.8 mm diameter transfers.

6. Plaster model.



7. CAD model of the two Simeda® prostheses.

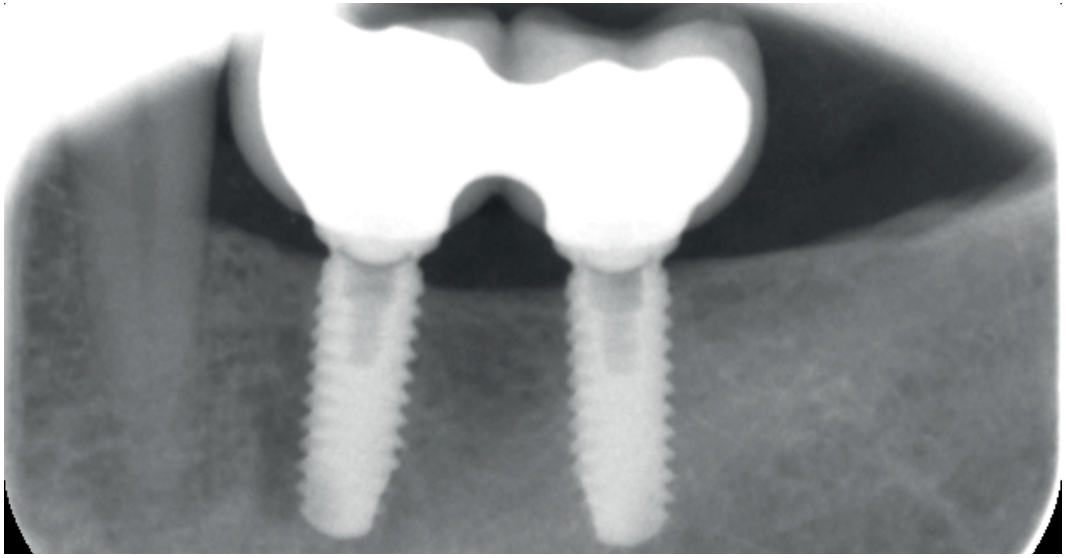
8. Fitting the frame.

9. Fitting the frame: occlusal view.

10. Final prosthesis and inLink® lock system.

11. Final situation: occlusal view.

12. Final situation.

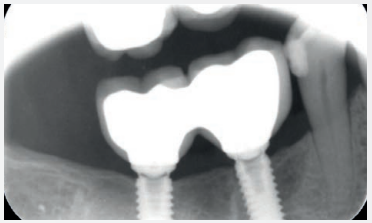


16. Follow-up X-ray 1 year after loading - Sector 3.

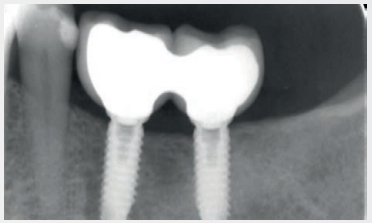
Conclusion

Axiom® TL (Tissue Level) implants promote the formation of the biological space as soon as the healing process starts, without ever delaying it during the prosthetic phases (removal of healing or temporary screws).

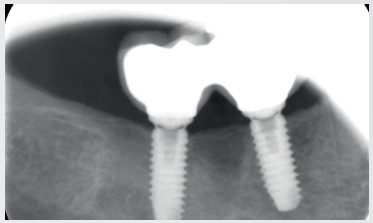
In this clinical situation, we observe that the peri-implant soft tissues and bone response are preserved: the surrounding gums are healthy and the bone level is perfect.



13. Post-loading follow-up X-ray - Sector 4.



14. Post-loading follow-up X-ray - Sector 3.



15. Follow-up X-ray 1 year after loading - Sector 4.

Bimaxillar partial restauration with Axiom BL®, Bone Level and Axiom TL®, Tissue Level

Dr Pierre BRUET, Mr Laurent DESABRES

Case study

Mrs A, with no significant medical history, comes to see us for complete fixed maxillary rehabilitation.

She currently wears a complete removable denture, totally unsatisfactory from an aesthetic and a functional perspective.

We propose the screw-retained bridge on 6 Axiom® TL (Tissue Level) implants using inLink® technology.

Considering the bone volume, we suggest loading the implants in 48 hours with a temporary fixed prosthesis.

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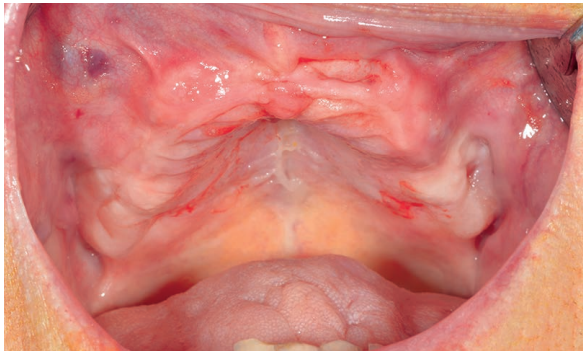
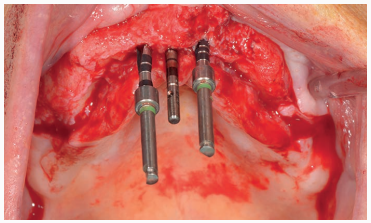
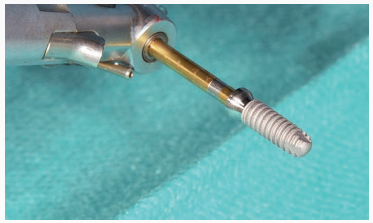
1. Pre-operative panoramic X-ray.



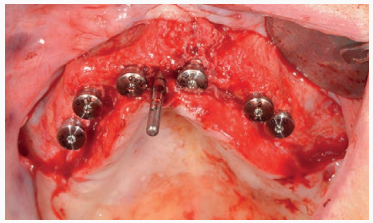
2. Pre-operative clinical situation.



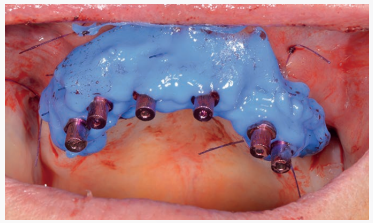
3. Checking parallelism.



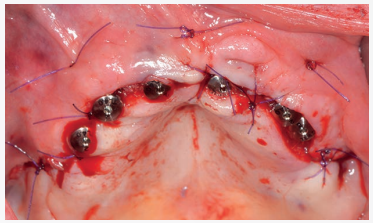
4. Axiom® TL (Tissue Level) implant.



5. Healing screw in place.

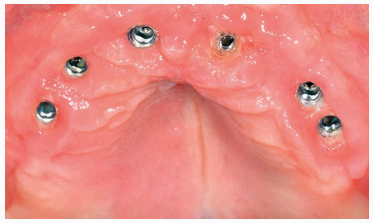


6. Luxabite to solidify transfers.

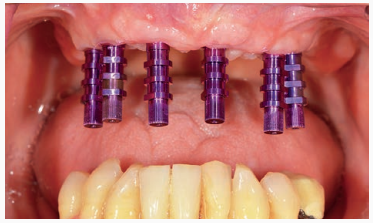


7. Healing screw in place after impression.

8. Temporary prosthesis, 3 guiding fixation locks have been inserted to aid placement.

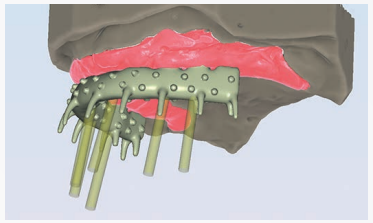


9. Follow-up 10 days later. Photo taken after removing the prosthesis.



10. Impression taken for permanent prosthesis (4.0 mm transfers).

11. Final situation: occlusal view.



12. CAD model of final prosthesis.

17- Patient's final smile.

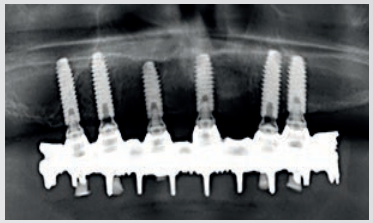
Conclusion

The placement of Axiom® TL (Tissue Level) implants has been a true advantage in the treatment of this patient, from a surgical standpoint, thanks to simplified protocols, and from a biological perspective, for the perfect healing obtained and the respect of the biological space.

13. Final prosthesis – 4 guiding locks have been inserted to aid placement of the prosthesis in the mouth.

14. Final prosthesis in the mouth.

15. Final prosthesis, palatal view. The screw channels are ideally placed, outside the occlusal contact points.



16. Panoramic X-ray, permanent prosthesis in the mouth.

Post-extraction upper arch with immediate loading and lower bridge with Axiom® TL, Tissue Level implants

Dr Paolo CALAMAI, Mr Duccio ZACCARELLI

Case study

Patient 44 with removable metal/ceramic upper arch natural tooth supported bridge. The clinical and radiographic investigation shows a decaying cavity and the presence of infection in all abutment elements of the upper bridge. The plan is as follows: complete upper avulsion with 6 post-extraction implants (Axiom® TL) and immediate loading through screw-retained dental prosthesis with metal reinforcement; in the fourth quadrant two implants (Axiom® TL) with mini GBR in Sausage Technique for partial edentulation; in the third quadrant the avulsion of a non-recoverable 37 and a new zirconia ceramic bridge from 34 to 36. After 3 months, the only submerged implant in the 1.6 area is uncovered, as it will not reach the 35 N.cm torque needed for immediate loading. Impression, preparation of the Simeda® frame from CAD CAM images, in-mouth testing and ceramic coating.

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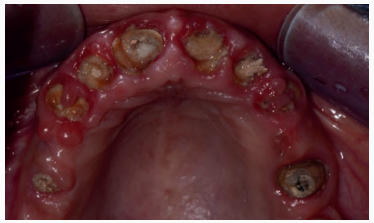
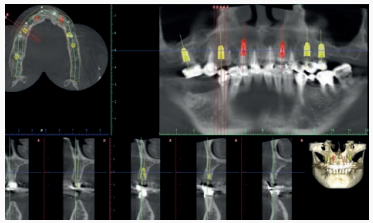
1. Initial smile.

2. Initial clinical situation.

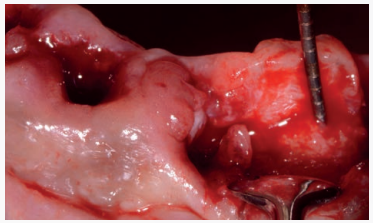
3. The upper arch showed all natural tooth supports worn out by caries with no longer recoverable dental granulomas.



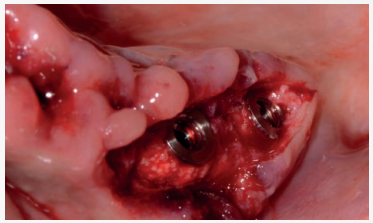
4. Occlusal vision.



5. CBCT design.

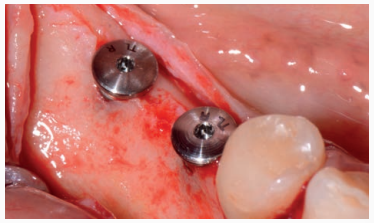


6. Complete upper restoration and measuring of soft tissues for choice of measurements of the collar heights and diameters of implant platforms.

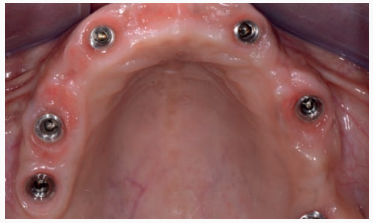


7. Axiom® TL, Tissue Level, implants post-extractions for immediate loading just for implant in area 16 did not reach the torque required (35 N.cm) for immediate loading.

8. Immediate loading 48 hours later for production of steel reinforced temporary bridge.



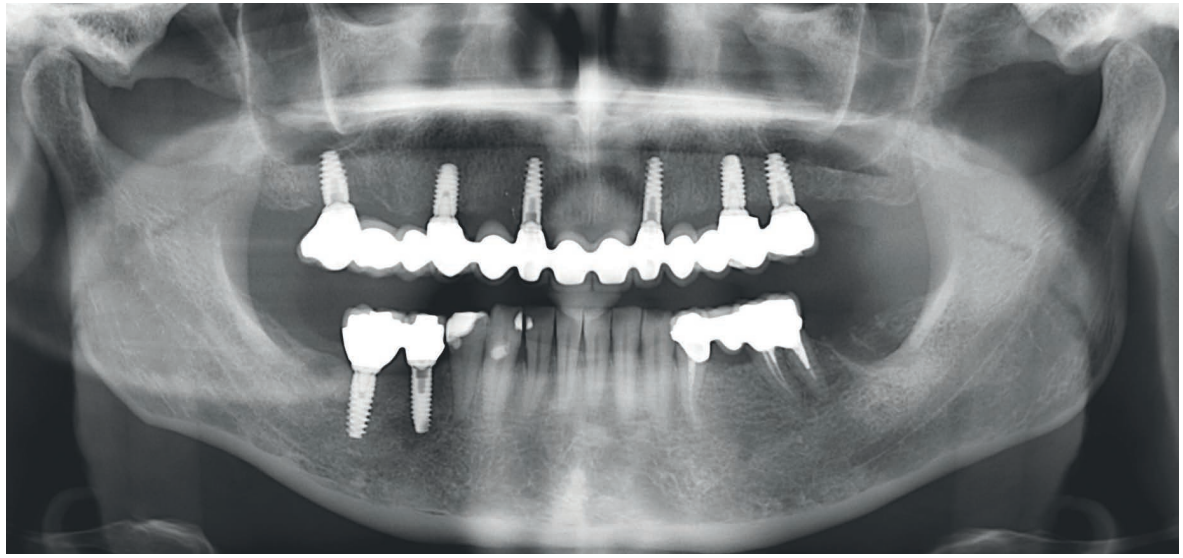
9. Lower fourth quadrant: partial edentulation resolved with two Axiom® TL, Tissue Level and simultaneously mini GBR in Sausage Technique to increase tissue volume.



10. Healing of upper arch tissue.

11. Lower healing screws.

12. Upper impression.



21. 1 year follow-up opt.

Conclusion

For this type of indications we could have benefitted from the typical advantages of the Axiom® Multi Level® system, and of Axiom® TL, Tissue Level, specifically: For Axiom® TL, Tissue Level, a smooth collar that widens the abutment-implant connection gap from the bone crest, preserving its resorption*. For Axiom® Multi Level®, the recovery of the misalignment through the ball wrench screwdriver that allows an angulated access to the tightening screws, which are also encapsulated within the structure. This has undoubtedly created an advantage by reducing the size of access channels, which are very small, facilitating also the clinician's intervention in the in-mouth testing stages.

**Implant-Abutment Connections: "A Review of Biologic Consequences and Peri-implantitis Implications" Yuya Sasada, DDS1/David L. Cochran, DDS, PhD2 Int J Oral MaxilloFac Implants 2017;32: 1296–1307. doi: 10.11607/jomi.5732.*

13. Lower impression.

14. Structure test and simulation of lower crowns with recording of heights.

15. Permanent prosthesis.

16. Assembly of finalised restoration.

17. Final right side view.

18. Final left side view.

19. Final upper occlusal view.

20. Final lower occlusal view.

Axiom® BL, Bone Level implant and inLink® abutment: relevance in extended rehabilitation

Dr Philippe COLIN, Mr Fabio LEVRATTO

Case study

A 53-year-old patient, in good health. Consultation following mobility of residual teeth.

Functional and Aesthetic requirement. Does not want a removable prosthesis.

Chronic severe periodontitis evolving in a strong prosthetic context on genetic predisposition with no significant risk factors.

A multidisciplinary treatment is proposed.

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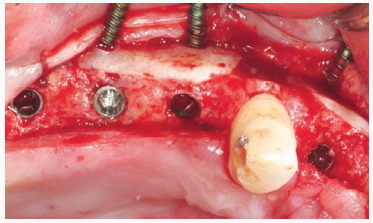
1. Situation at first consultation: Loss of posterior VD and absence of anterior contact with lingual interposition and protrusion.

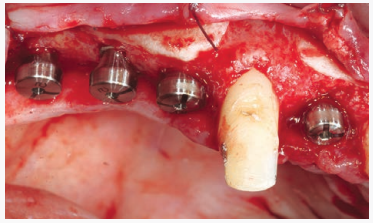
2. Pre-operative panoramic X-ray.

3. Wax model resulting from aesthetic analysis.

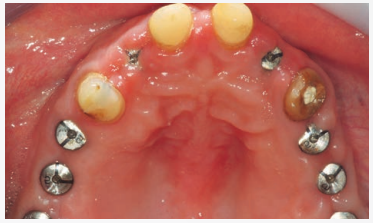
4. Insertion of a temporary bridge. This bridge allows the sinus lift grafts to heal and osseo-integration to develop naturally. It is based on 17, 13, 11, 21 and 23. Apart from 17, they will be extracted at the time of loading.



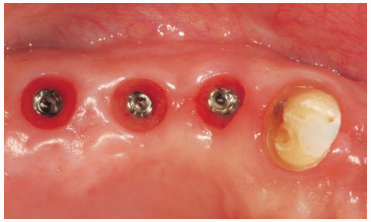
5. Axiom® BL (Bone Level)/PX implant in place in sector II. The cortical blocks are visible 6 months after the graft.



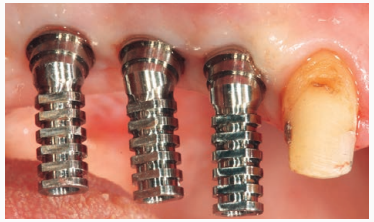
6. Healing screws sector II.



7. Healing screws 4 months after insertion.

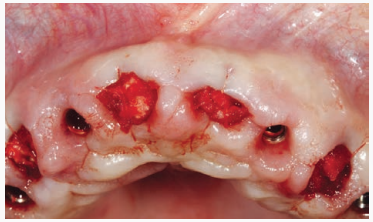


8. Condition of soft tissues upon placement of screws in sector II, just before insertion of inLink® abutments.



9. Temporary 25° angulated cylinders are selected to orient toward the palate the screw channels to the lock. A new temporary bridge will be designed. It will be the prototype of the permanent prosthesis.

10. Palatine emergence of the lock access channels in sector II. On 26, the angulation is not sufficient for a totally palatal emergence, and a right side occlusal emergence will be chosen for the permanent prosthesis.



11. Anterior inLink® abutment and alveolar management after extraction of incisives and canines.

12. Second temporary bridge on inLink® abutment.

22_ Our patient's smile at the end of treatment, developed over 2 years.

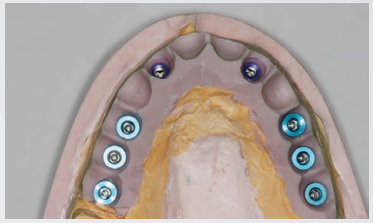
Conclusion

This multidisciplinary treatment has required close collaboration between the practitioner and the dental technician. The industry's constant innovations make some steps easier with reliable solutions.

Here, the placement of the inLink® connection with an angulated access channel allows the holes to be moved on the palatal sides, outside the functional occlusal areas. It's a real clinical progress once the implant path is vestibular.

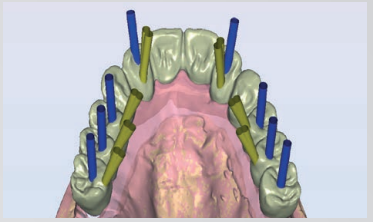
13. Final prosthesis – 4 guiding locks have been inserted to aid placement of the prosthesis in the mouth.

14. Final prosthesis in the mouth.



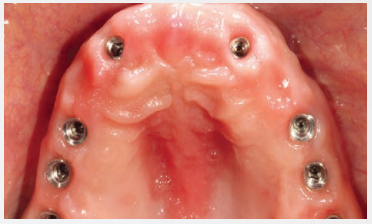
15. Final prosthesis, palatal view. The screw channels are ideally placed, outside the occlusal contact points.

16. Panoramic X-ray, permanent prosthesis in the mouth.



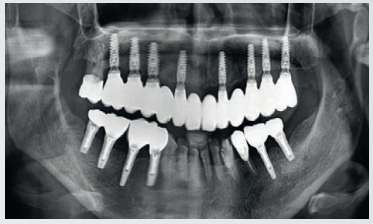
17. CAD concept image of the Simeda® frame: the screw channels in yellow and the implant axes in blue show the angulation of the screw channels.

18. Full Zirconia Simeda® bridge. The access channels to the locks are oriented toward the palate with a 25° angulation except on 12, 22 and 26.



19. Occlusal view of the inLink® abutments before bridge insertion.

20. Permanent bridge. Only the vestibular sides are enamelled. The palatal and occlusal sides are full Zirconia. This bridge represents the nearly identical copy of the provisional wax model.



21. A retroalveolar panoramic X-ray at the end of treatment confirms bone stability around the implant neck.

Immediate loading rehabilitation with Axiom® BL, Bone Level implants and inLink® abutments

Dr Leonardo DASSATTI, Mr Federico FOLEGATTI

Case study

A 75-year-old male patient affected by chronic adult periodontitis, in pharmacological treatment for hypertension and diabetes. Grade 3 mobility of the residual incisor group, from 33 to 42. Given the general medical history, the treatment plan includes the restoration of the lower arch and the preparation of an immediate total prosthesis.Next, the implant placement was planned with software and a surgical bite was prepared for the execution of flapless surgery. The plan included the placement of 6 implants in positions 36, 35, 33, 43, 45, 46 Axiom® BL, Bone Level connected to the immediate total prosthesis with inLink® abutments.

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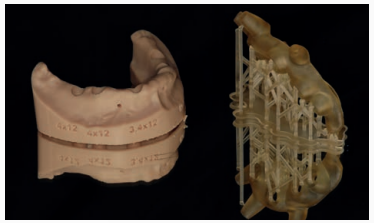
1. Initial case at the time of the first visit.

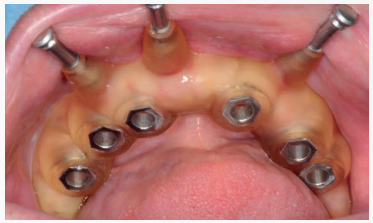
2. Pre-op view at the time of guided surgery planning.

3. View of planning software.

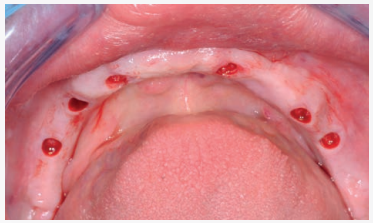


4. Laboratory master model and finalisation of the surgical template.

5. Surgical bite and immediate loading total prosthesis with flapless technique and inLink® abutment.

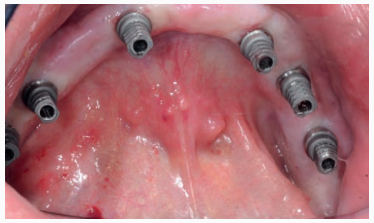


6. Anchoring of the surgical template via self-threading screws.



7. Inspection of the proper elimination of the supracrestal soft tissue with tissue punch over the implant sites.

8. Completion of surgical phase of the placement of six Axiom® BL, Bone Level implants.



9. The temporary stumps are screwed onto the inLink® abutments for anchoring the total lower prosthesis.

10. Inspection and finishing of the abutments for the implant-prosthetic connection.

11. Placement of inLink® abutments in the immediate prosthesis.

12. View of the occlusal table of the immediate prosthesis.

22_ The natural shapes and harmonious result are noticeable.

Conclusion

The possibility of being able to use inLink® abutments allows the transfer of the implant-prosthetic connection outside the tissue.The CAD-CAM Simeda® prosthesis with integrated locking and fast screw tightening of the prosthesis eliminates the continuous disconnection of the implant platform of the prosthetic components, keeping intact the seal of supracrestal fibres, to ensure the crestal bone stability over time.

13. Functional follow-ups of the anchored prosthesis.

14. View of the occlusion at the time of the patient's discharge.

15. Detail of soft tissue two months after functional loading.

16. Detail of the CAD-CAM bar for the Simeda® production.

17. Finalisation of the two prostheses, final check in articulation of the models.

18. Detail of the access channels to the inLink® connection of the permanent prosthesis.

19. Detailed care of the definition of the stages between the mucosa and the bar with anatomical profiles that simulate the progress of the natural tissue.

20. Total lower permanent implant-supported prosthesis with screws tightened at torque 25 N.cm and closure of access channels with composite.

21. Detail of wax tooth assembly and control of anatomical flap whilst respecting the underlying soft tissue.

Bone Level or Tissue Level implants? Bimaxillar partial restauration with Axiom® BL, Bone Level and Axiom® TL ,Tissue Level

Dr Loïc DAVID, Mr Jérôme OZENNE

Case study

A 67-year-old patient in good health.

Iatrogenic removable prostheses in the mouth.

Would like a comfortable, fixed oral rehabilitation.

The proposed treatment plan includes the placement of Axiom® BL (Bone Level) implants with Simplant® surgical guide on maxilla (bone increase graft with sinus lift refused) and Axiom® TL (Tissue Level) implant in mandible with immediate loading and functional reconstruction in the two sectors.

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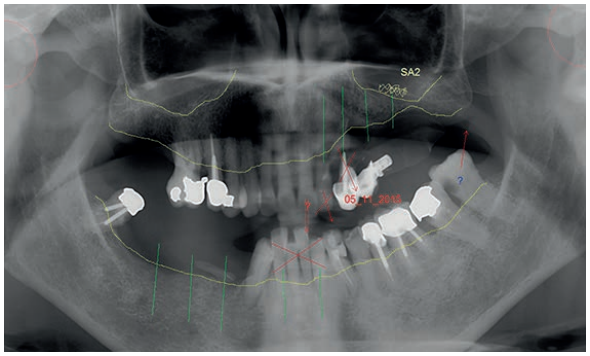
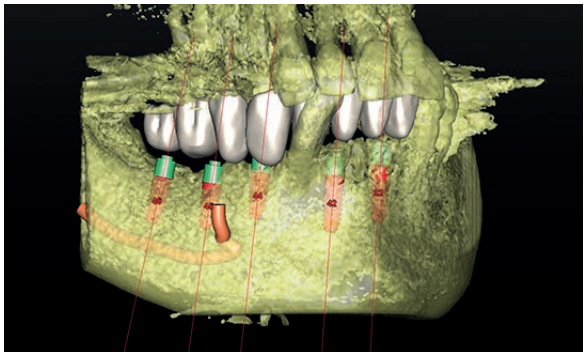
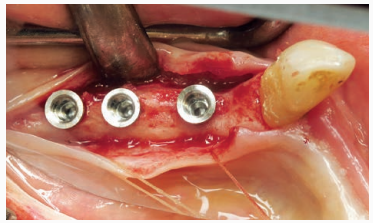


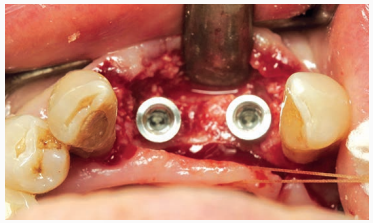
1. Pre-operative panoramic X-ray.



2. Implant projection (Simplant®).



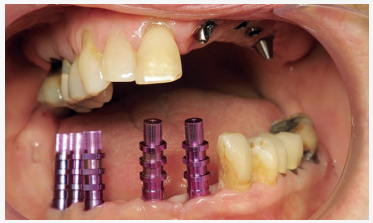
3. T0: pre-operative situation of Axiom® TL (Tissue Level) implants.



4. T0: pre-operative situation of Axiom® TL (Tissue Level) implants.

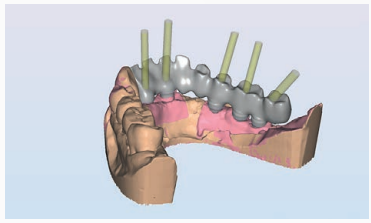
5. T0 + 48h: immediate loading (extraction of 43).

6. T0 + 4 months: healing.



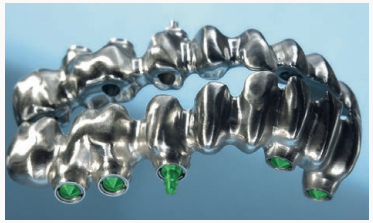
7. Transfers pick up Ø 4.0 mm.

8. Aesthetic recording (Ditramax®).



9. Simeda® CAD model.

10. Co-Cr frame (Simeda®).



11. Superstructure for fitting with inLink® fitting locks.

12. Fitting the superstructure with inLink® fitting locks.

21. Final smile.

Conclusion

The placement of bi-maxillary implants was carried out at the same time the impression was taken for the placement of the bridges in view of immediate loading.

We note a significant difference in the surgical and prosthetic execution time with Axiom® TL (Tissue Level) implants (mandible) and the new inLink® connection compared to the Axiom® BL (Bone Level) implants with Multi-Unit abutments (maxillary):

- better management of the surgical tray by the assistants
- simplified execution of prosthetic procedure by the prosthetic technician
- improved comfort for the patient and the practitioner, thanks to a faster procedure.

13. Fitting the Simeda® superstructure, molar sector.

14. Palatal view of the Simeda® superstructure in the mouth.

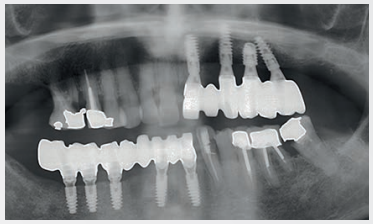
15. Fitting the superstructure, vestibular view of the incisive sector.

16. Fitting the superstructure, frontal view in occlusion.

17. Ceramic superstructure (Jérôme Ozenne dental lab).

18. Permanent inLink® fixing locks in place.

19. Functional prosthesis.



20. Panoramic X-ray after functional loading.

Anterior bridge on Axiom® TL, Tissue Level implant post - extraction of 2 failed implants and a fractured root

Dr Egon EUWE, Mr Pasquale PALMIERI

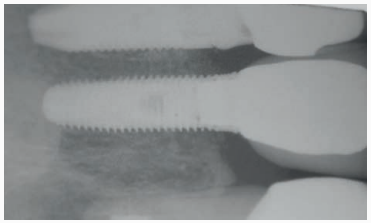
Case study

A 67-year-old patient with persistent and radiating pains has been rehabilitated with a zirconia bridge on two Axiom® TL, Tissue Level implants post-extraction of two problematic implants and a fractured root in the aesthetic area.

1. Initial situation.

2. Peri-implant tissue with inflammation, a ceramic coated abutment with mesially one entirely sanded side.

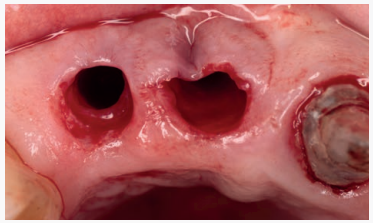
p.48



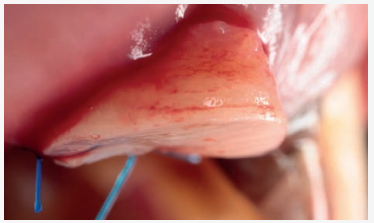
3. X-ray.

4. Non-optimal placement of implants. Excessively extended forward and with reduced inter-proximal space.

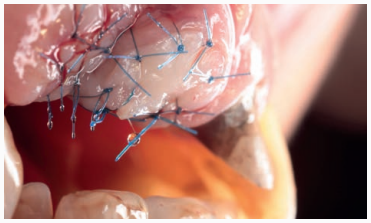
5. Extracted implant. Surface with cement retention and presence of bacteria.



6. Post-extraction alveolus of the two implants after cleansing and deepithelialization.

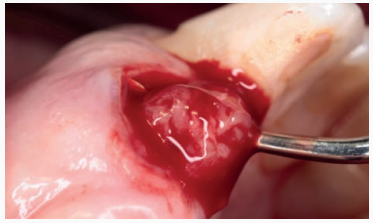


7. Graft to insert and fix in the post-extraction cavity.

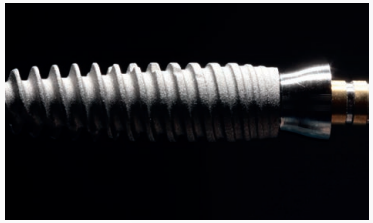


8. After the suture.

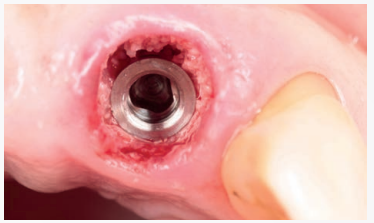
9. Problematic root, presence of root perforation fracture.



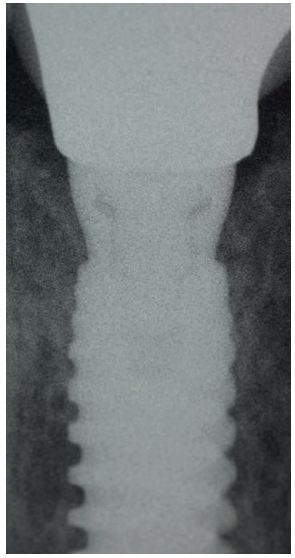
10. Removal of granulation tissue.



11. Position 21: Axiom® TL, Tissue Level, implant version PX 3.4x16 neck 2.5 mm.



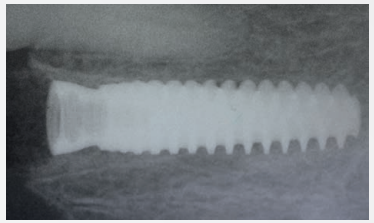
12. Position 12: immediate post-extraction positioning in the graft. (Bioss®).



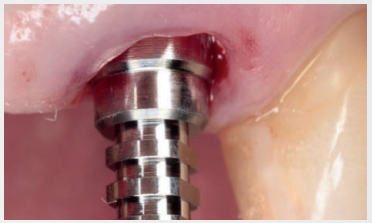
22. N22-Notice the crestal bone levels.

Conclusion

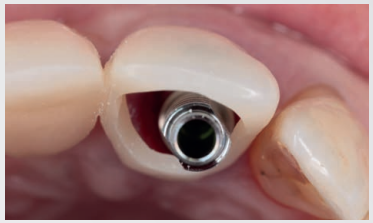
The final X-rays performed 3 months after the delivery of the prosthesis show the effectiveness of our approach at the tissue level and the biocompatibility of the process. This case shows clearly that the TL, Tissue Level, implants can be successfully used in the aesthetic area as well. A thick tissue and an adequate sub-crestal positioning of the rough portion of the implant are the key to success. I prefer the use of Axiom® TL, Tissue Level implants with the emergence of the portion of 2.5 mm high tissue neck, which, I believe, places the TL prosthetic platform in the "sweet spot": the best position biologically and aesthetically.



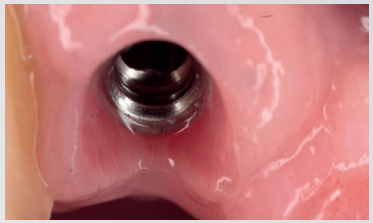
13. Insertion torque 40 N.cm.



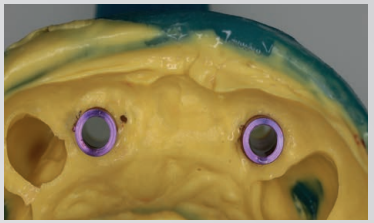
14. Temporary abutment (inLink®).



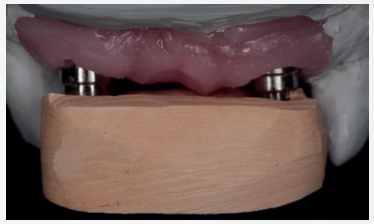
15. Temporary bridge.



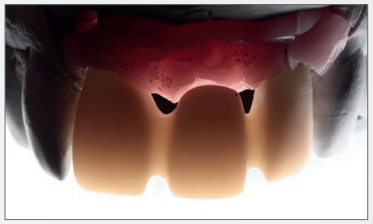
16. TL platform – tissue health and emergence profile.



17. Open tray impression.



18. Plaster key to check passivity.



19. Simeda® in zirconia structure.

20. Anterior bridge made by Dental technician Palmieri.

21. Final result.

Immediate loading with Axiom® Multi Level®

Dr Christophe FORESTI, Mr Cyrille FERREIRA

Case study

A female patient comes to consultation because she can no longer stand her removable mandibular prosthesis, though it is sufficiently stable thanks to a nice thickness of the vestibular ridge. 76-year-old, non-smoker, with no contraindications to implant surgery. The proposed plan consists of the placement of 8 implants (2 Axiom® BL, Bone Level implants and 6 Axiom® TL, Tissue Level implants) with immediate loading.

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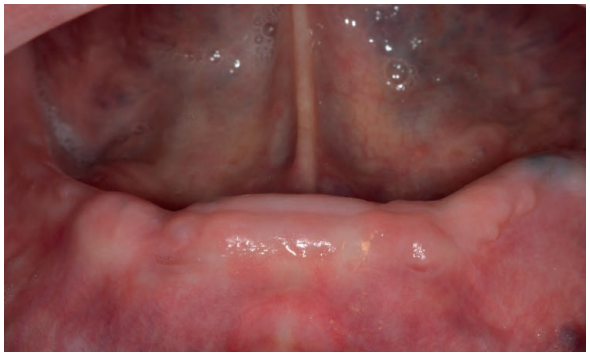
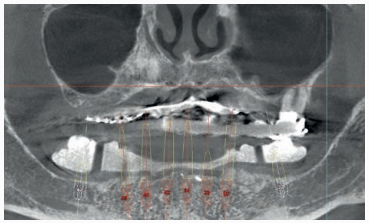
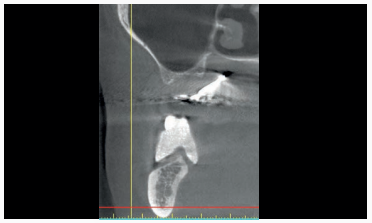


1. Vestibular ridge.

2. Old prosthesis.



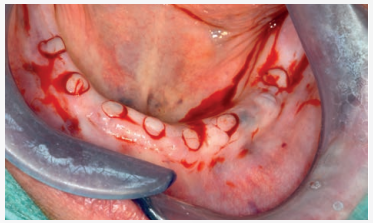
3. Implant planning.



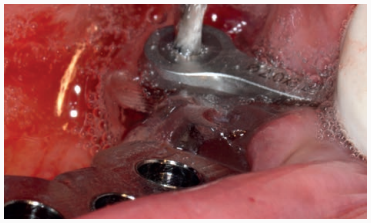
4. Triangular shape of the bone crest at 47.

5. Surgical guide.

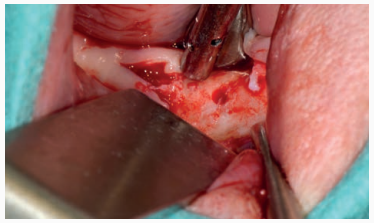
6. Gum operculisation.



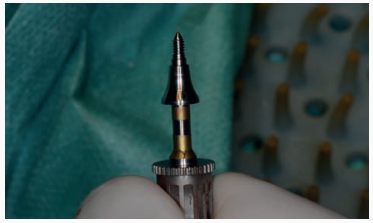
7. Gingival punches.



8. Pre-drilling in sector 37.

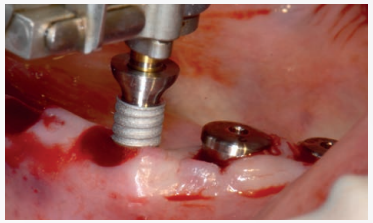


9. Correction with bone remodelling.

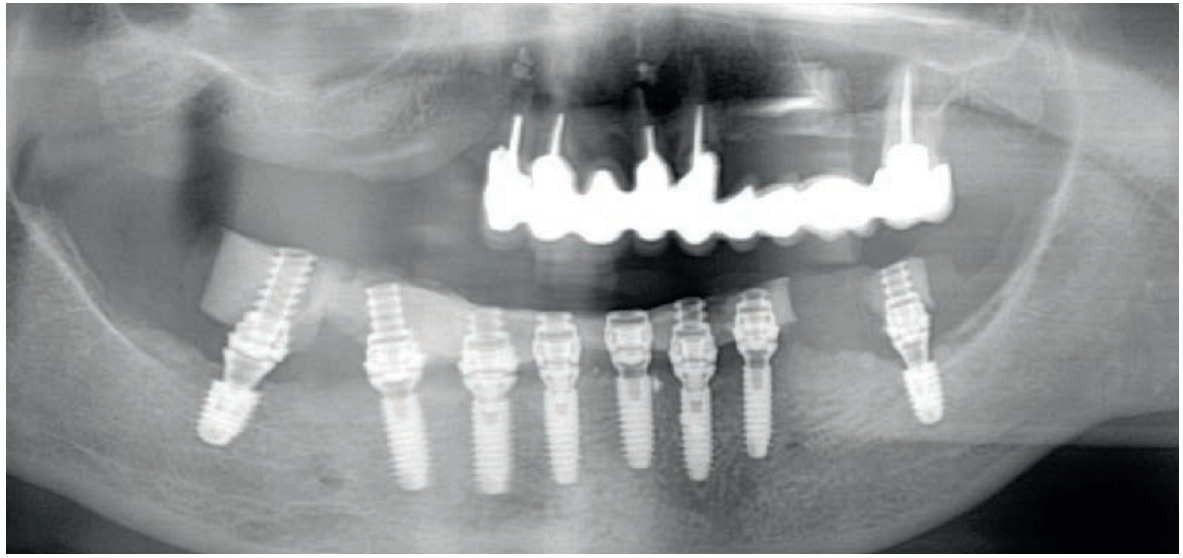


10. The primary stability obtained in 37 and 47 with Axiom® BL, Bone Level implants allows the immediate placing of inLink® abutments.

11. Transgingival Axiom® TL, Tissue Level, implant.



12. Placement of Axiom® TL, Tissue Level, implant in anterior areas.



21. Follow-up panoramic X-ray.

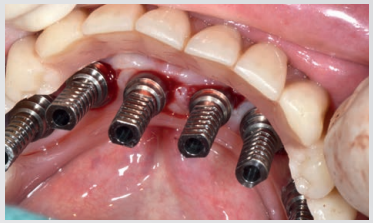
Conclusion

Immediate loading is today a well-established practice. However, to be able to obtain adequate primary stability, it can be interesting, as in the system used here, to be able to choose between different types of implant shapes and different types of ratio between periodontal structures and the implants (below crest or transgingival positioning). The angulation sometimes necessary according to the bone volume available occasionally can even initiate a parallelism problem. Apparently, this problem can be resolved in a simple way thanks to a lock type connection proposed in this system.

13. Temporary InLink® abutments in place.

14. The drilling channels are materialised on the plaster model under surgical guide.

15. The prosthesis is hollowed with respect to the marking.



16. Absence of interference between the abutments and the prosthesis.

17. The temporary abutments are secured to the prosthesis.

18. Cover and healing screw in place.

19. Temporary prosthesis seen from below, 3 guide locks have been placed in 21, 22 and 13 to facilitate the repositioning in the mouth.

20. Situation in the mouth.

Bimaxillary immediate loading with inLink® abutments

Dr Giuliano FRAGOLA, Mr Rafa POMBO

Case study

67 years old woman. The patient presents multiple dental absences, and she wants to replace her missing teeth with a non-removable solution. The patient wore a removable partial denture, that she stopped wearing due to the constant discomfort it caused.

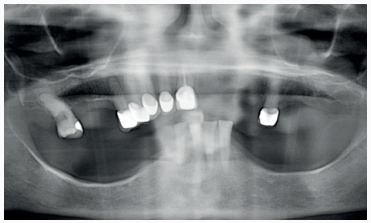
The treatment plan that was established, was extraction of the remaining teeth and subsequent placement of dental implants with bimaxillary immediate loading prostheses.

Axiom® BL, Bone Level PX implants were used in the mandible and in the maxilla. The distal implants were placed in an inclined position, following the All on Four protocol, for this a drill guide was used.

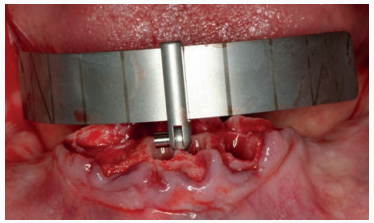
p.52

1. Frontal view.

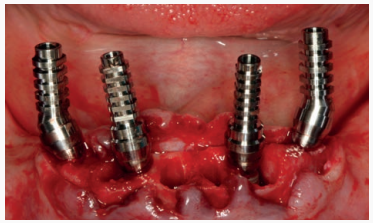
2. Midline assessment.



3. Initial panoramic X-ray.



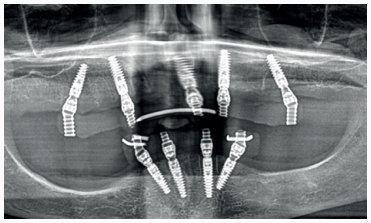
4. Guide of angulation of the initial perforations.



5. Provisional abutments on the implants.

6. Immediate loading the day of the surgery.

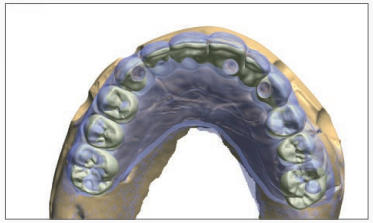
7. A month after the immediate loading.



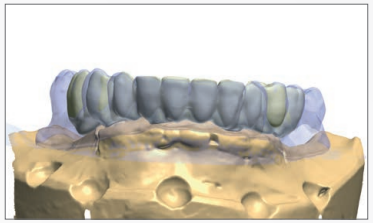
8. Control X-ray.

9. Impression transfers for perforated tray.

10. Teeth mounting in wax-up.



11. CAD design for the superior arcade, occlusal view.



12. CAD design for the inferior arcade, frontal view.

2. Final smile.

Conclusion

Being able to choose the inLink® abutment with his height on the same day of the surgery, to make a temporary or definitive prosthesis, gives great versatility to the Multi Level® system. The flat support surface facilitates the construction of the CAD-CAM restoration through Simeda® milling system with a precise adjustment and without tension in the placement.

The innovative anchoring system of the inLink® system, gives the product unlimited therapeutic alternatives, while favouring aesthetics by having a very small access hole for the application of corresponding tightening torque.

Anthogyr is synonymous with excellence at the surgical and restorative level.

13. Simeda® monolithic zirconia superior arcade, occlusal view.

14. Simeda® monolithic zirconia inferior arcade, frontal view.

15. Screwdriver in an angulated access for a posterior implant.

16. Ceramic makeup on cutback.

17. Characterisation of the superior arcade, lateral view.

18. Bimaxillary prostheses on the model, frontal view.

19. Finalised zirconia superior arcade, occlusal view.

20. Finalised zirconia inferior arcade, occlusal view.

21. Prostheses placed in the mouth, frontal view.

Total rehabilitation with Multi Level® system

Dr Carlos GARGALLO, Mr Rafa POMBO

Case study

Patient of 81 years, who goes to the clinic with generalised suppurating lesions due to advanced chronic periodontitis.

After radiological and aesthetic study, upper and lower implant-supported rehabilitation are proposed, previously the teeth have been sanitsed to reduce the bacterial load of the oral environment.

For the mandibula, a titanium thimble crown with individual crowns made of nanocomposite and ceramic is planned. For the maxilla, a metal-ceramic structure is indicated in three sections.

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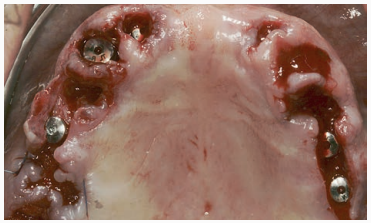
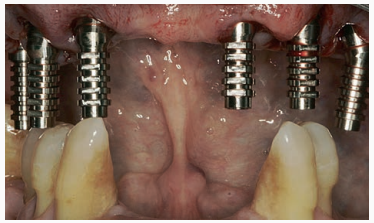
1. Initial situation.

2. Occlusal view before treatment.

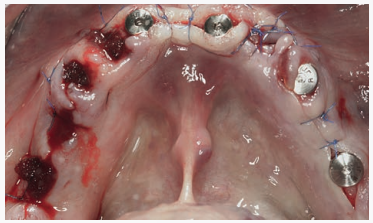


3. Occlusal view of maxillary surgery.

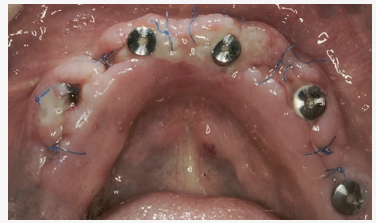


4. Temporary titanium abutments installed in the mouth.

5. Maxilla immediate loading.

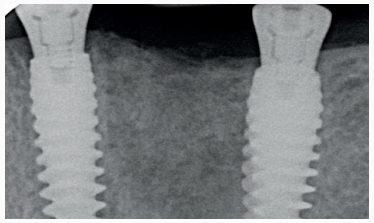


6. Occlusal view of mandibular surgery.



7. Occlusal view of the mandible 6 days after surgery.

8. Occlusal view of the gingival status.



9. Periapical X-ray of two of the Axiom® TL, Tissue Level PX implants placed in the mandible.

10. Inferior Axiom® TL, Tissue Level implants without healing screw.

11. Splinted pick up transfers.

12. Virtual design.

20. Patient's final smile.

Conclusion

The positioning of the sectorised upper prosthesis has been carried out without any type of problem. The adjustment has been perfect, as well as the tactile sensation of tightening and torque.

In any case, and admitting that the system with inLink® is sensitive to the technique and is not suitable for all clinicians, we can firmly state that the prosthesis performed is superior than standard prostheses using angulated Multi-Unit, with some minimal access channels compared to the previous one, and a very positive feedback that solves many of the mishaps and planning errors to which this type of case may be subject.

We strongly recommend that this system be applied as a rule in all plural screw-retained rehabilitation cases.

13. View of the titanium maxillary structure.

14. View of the titanium mandibular structure.

15. Cobalt Chrome structure on the model.

16. Maxilla Simeda® CoCr frame fitting.

17. Ceramization of the prosthesis.

18. Front view of the finished maxillary structure.

19. Occlusal view of the final prostheses in the mouth.

Total mandibular rehabilitation with Axiom® TL, Tissue Level implants

Dr Gian Battista GRECO, Mr Federico FOLEGATTI

Case study

The 57-year-old patient, ASA 1, wanted a non removable rehabilitation of the lower arch; the examination showed advanced periodontal disease and tooth mobility. The Cone Beam CT showed an adequate bone volume in the intraforaminal area and a bone density consistent with a treatment with immediate loading according to the all-on-four protocol. The permanent rehabilitation, executed with a Simeda®, was connected 5 months after the immediate load.

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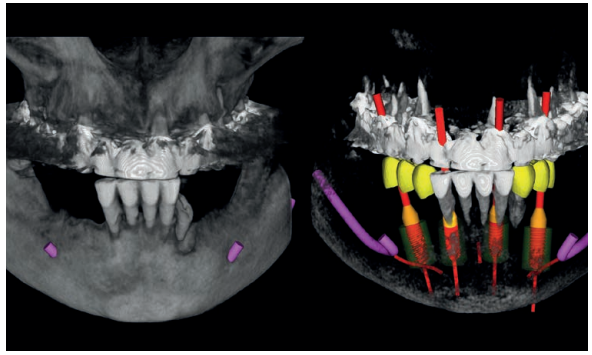
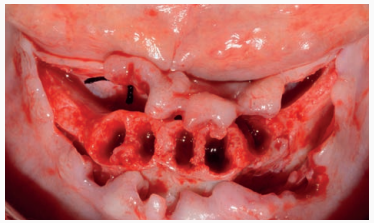


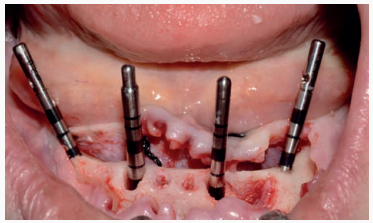
1. 3D rendering of the implant-prosthetic planning.

2. Clinical pre-op situation.

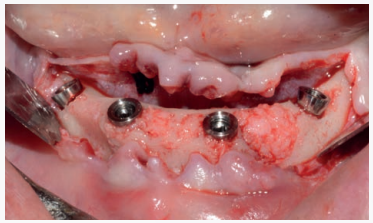
3. View of the mandible after avulsion of the residual elements.



4. Skeletonisation of the intraforaminal area.

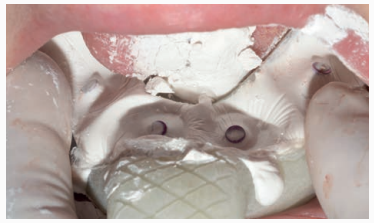


5. Crestal osteotomy; implant axis revealing pins.

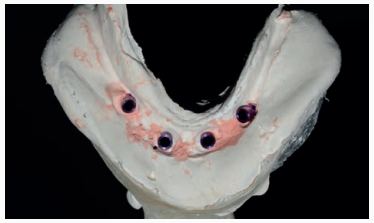


6. View of the Axiom® TL REG and PX implants; crest reconstruction with autologous bone.

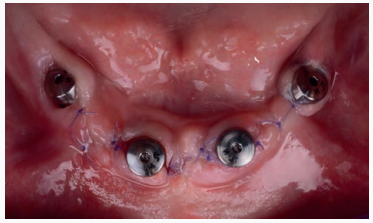
7. Resorbable suture 6/0; *transfer pick-up* connection.



8. Identification of implant position with impression plaster.



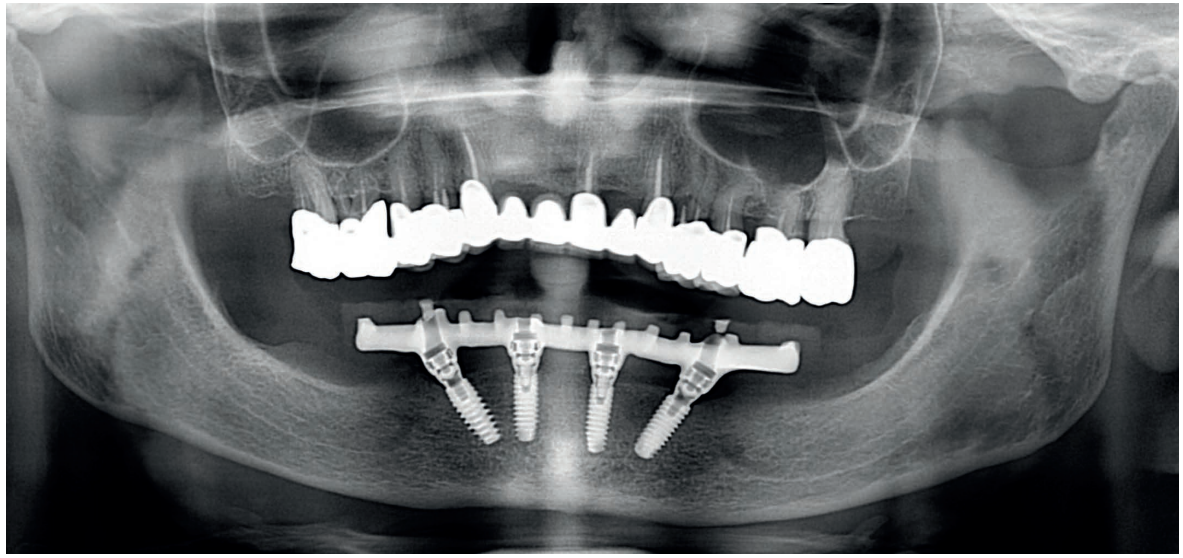
9. Pick-up transfers retained in the plaster impression.



10. Connection of healing abutments.

11. Identification of the intermaxillary relationship on the head of healing abutments.

12. Temporary device on model.

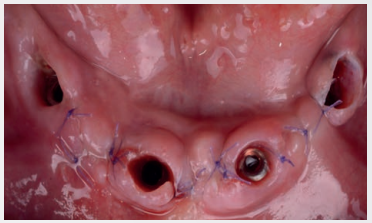


22_ Follow-up X-ray 5 months after implant placement.

Conclusion

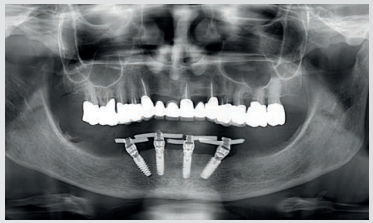
The full-arch mandibular rehabilitation in terminal denture with the inLink® TL system offers a number of advantages: the use of Multi-Unit (MUA) abutments are not used because the system allows the correction of misalignments up to 120°. Besides saving the prosthetic component, surgical time is also reduced, as bone interferences do not need removing to connect the MUA abutments. The advantage is that the crown shifting of the implant-prosthetic interface typical of the Axiom® Multi Level® systems.

13. Temporary device.

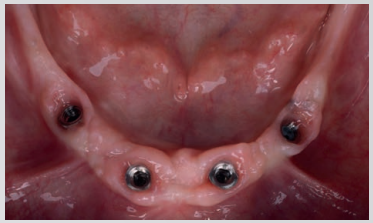


14. Disconnection of healing abutments 24 hours after surgery.

15. Connection of temporary device via the inLink® system.



16. Follow-up X-ray after immediate loading.



17. Tissue healing 4 months after implant placement.

18. Milled Cr-Cb structure, Simeda® systematic.

19. Permanent prosthetic device on master model.

20. Permanent prosthetic device.

21. Intraoral view of the permanent rehabilitation.

Bimaxillary flapless rehabilitation, with no soft tissue with Axiom® TL, Tissue Level implants

Dr Thomas GUILLAUMIN, Mr Philippe CAVELIUS

Case study

A 61-year-old patient in good health, but presenting with terminal periodontitis. She wishes to resume quickly a functional and aesthetic oral quality. A first pre-implant surgical phase involved the maxillary (sinus lift) to allow the placement of Axiom® TL (Tissue Level) implants in the posterior area. In the mandible, the edentulous posterior regions make the placement of implants impossible behind the mental foramina due to advanced vertical and lateral bone resorption. 5 Axiom® TL (Tissue Level) implants will be placed. The ones in the most posterior region will be sharply angulated to allow the passage of the mental nerve emerging as distally as possible.

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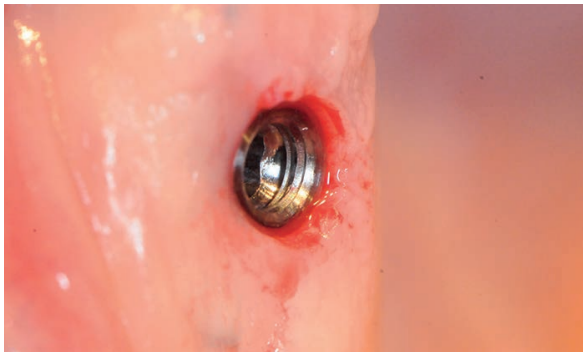
1. Initial situation of the mandible.

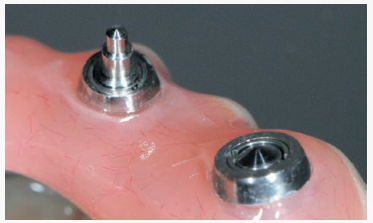


2. Axiom® TL (Tissue Level) implant neck placed at least 1 mm in subgingival tissue.

3. The sleeves are cut so as not to extend beyond the occlusal plane to allow the impression in occlusion.

4. Healing screws a few hours after the end of surgery. Maxillary surgery is performed entirely flapless, with the assistance of a surgical guide. Surgical consequences are minimal for the patient, both in terms of pain and of peri-implant tissue integrity.

5. The temporary prosthesis is produced using the temporary abutments immersed in resin. No dental extension is planned at this stage. In order to facilitate the placement of the prosthesis on the flat implant plates, two guiding locks are inserted from one to the other side on the prosthesis.

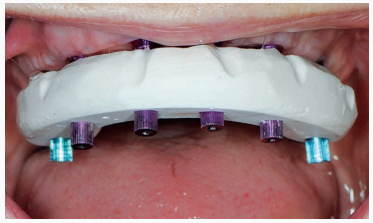


6. These inLink® locks, both regular and guiding, allow prosthesis manipulation without the risk of losing the screws. The system is tightened with a simple ¾ turn of the key. This operation becomes very quick and easy thanks to this new lock system.

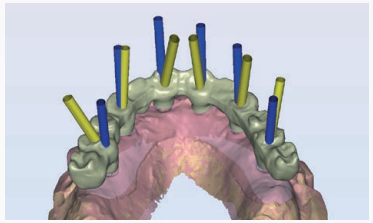
7. A few months later, after the healing phase, the temporary prosthesis is taken out and the impression transfers are put in place.

8. There are two plate diameters: 4.8 mm (blue) for the posterior regions and 4 mm (pink) for the regions with strong aesthetic impact.

9. Although tricky to use, the plaster impression remains for us the best to reproduce with accuracy the implant position.



10. The plaster keys are tested. If one is cracked, a new impression should be taken to ensure bridge passivity.



11. CAD concept image of the maxillary frame Simeda®: the screw channels in yellow and the implant axes in blue show the angulation of the screw channels.

12. Once the impressions are scanned by the laboratory. The two elements have been produced with high precision by Simeda®. The infrastructures are fitted in the mouth and the intermaxillary ratio is again recorded before the final ceramic assembly.

18. For the patient, the aesthetic and functional challenge has been overcome.

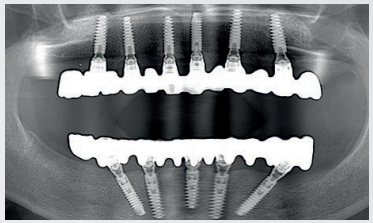
Conclusion

Axiom® TL (Tissue Level) implants placed with the flapless technique have allowed the preservation of the soft tissues and quick healing. Thanks to access channels, angulated at 25°, the screw channels have been placed perfectly on the prosthesis.

"I was attracted by the convenience of a screw-less prosthesis. The aesthetic result obtained with these two prostheses with no soft tissue is thoroughly satisfactory for the patient."

13. Occlusion must be adjusted accurately on the biscuit before its last firing and to allow the prosthetist to customise the shade with the patient.

14. Final prosthesis in the mouth: Axiom® TL (Tissue Level) implants enable perfect integration with bone and gum tissue.



15. Follow-up panoramic X-ray. Axiom® TL (Tissue Level) implants enable perfect integration with bone and gum tissue.

16. The emergence of the access channels could be optimised upstream, as axis adjustment of the prosthesis can be expected. The channels are further closed with composite.

17. Final appearance of the prosthesis which appears natural with no soft tissue.

Partial dental rehabilitation with Axiom® TL, Tissue Level implants

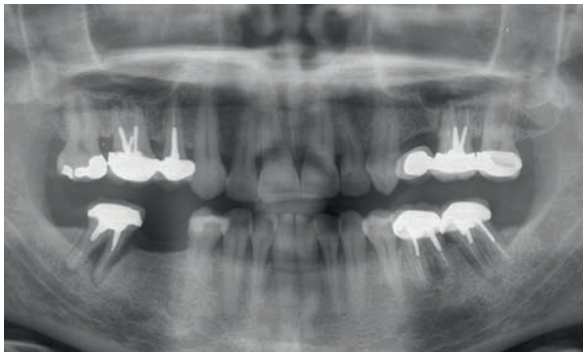
Dr Philippe HERAUD, Mr Frédéric FOURET

Case study

A 48-year-old female patient, a smoker, in good health.

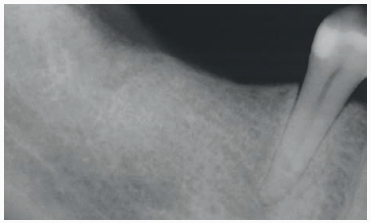
History of orthodontic treatment with avulsion of 14, 24 and 34.

p.60

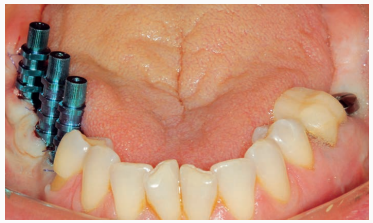


1-2. 36 present with an apical hotbed of infection. As an endodontic treatment attempt is a good prognosis, this option is preferred. 46 and 45 are missing. 25, missing, is replaced by a cantilever bridge 25-26-27. 16, 26 et 37 present with an apical hotbed of infection.

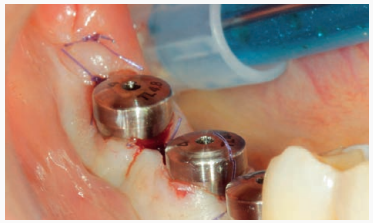
The endodontic treatment of these teeth is not a good prognosis. 47: presents with terminal iatrogenic periodontitis and an apical hotbed of infection. These 4 teeth will be extracted. In total, 7 teeth will be replaced.



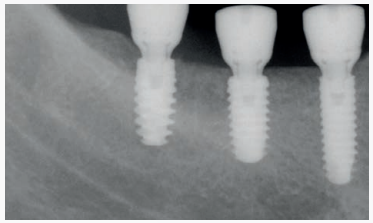
3. 10 weeks after extraction, the sites are properly healed.



4-5. The implant placement can then be performed in optimal conditions, with immediate restricted activation in the 4th quadrant with screw-retained solidified temporary prosthesis (Axiom® TL (Tissue Level) implants in 45 - 46 - 47).



The reduced primary stability of implant 26 that has required hours after the end of surgery. simultaneous sinus lift bone increase will not permit this option for 25 and 26.



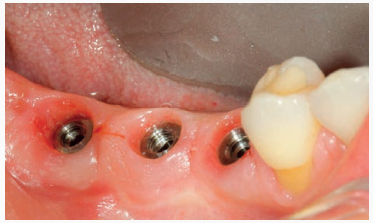
6. Post-operative follow-up X-ray.

7-8-9. Construction of 3 temporary elements solidified on temporary titanium abutments.

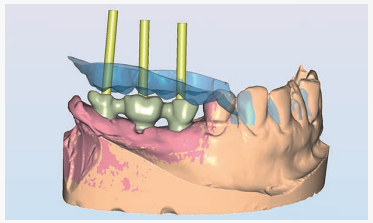
10. Occlusal view of the temporary prosthesis.

11. A guiding lock of the inLink® integrated system was placed in the centre to aid placement of the prosthesis.

12. Clinical appearance 14 days after surgery: occlusal view.



13. Clinical aspect 14 days after surgery: note the appearance of the peri-implant gum.



14. CAD model of the Simeda® frame.

18. Follow-up panoramic X-ray (OPG) 4 months after surgery.

Conclusion

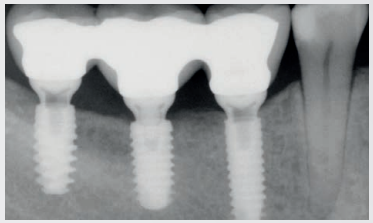
For the prosthetic treatment of this patient, initially planned with Axiom® BL (Bone Level) implants, we had the option of using Axiom® TL (Tissue Level) implants in the 4th quadrant. We can only be too happy we did.

The result was considered very satisfactory by the patient and the team, and the clinical and prosthetic procedures were simplified.

The ideal emergence profile of this new implant, the flexibility offered by the "customised" placement of the emergence of the prosthetic screw channels and the extreme safety of the biological area are the strengths of this new system, which from now on defines a new standard in multiple restorations of posterior sectors.

15. Final Zirconia-Ceramic prosthesis In place in the 4th posterior quadrant 10 weeks after surgery.

16. Final prosthesis, vestibular view.



17. Endo-local follow-up X-ray 10 weeks after surgery.

Immediate loading of the two arches on Axiom® Multi Level® with “single-model” technique

Dr Diego LONGHIN, Mr Luigino BENVEGNU

Case study

Despite their complexity, treatment plans with immediate loading are becoming increasingly frequent. In this case, the “single-model” technique has been adopted (Biscaro L., et al - Int J. P.R.D. 2009 Jun) which offers the possibility of accurately identifying and transferring all information useful to the dental technicians to prepare a prosthesis that would satisfy the aesthetic and especially the functionality requirements. Axiom® BL, Bone Level PX implants with inLink® abutments were used in the patient’s upper arch and Axiom® TL, Tissue Level REG were used in the mandible.

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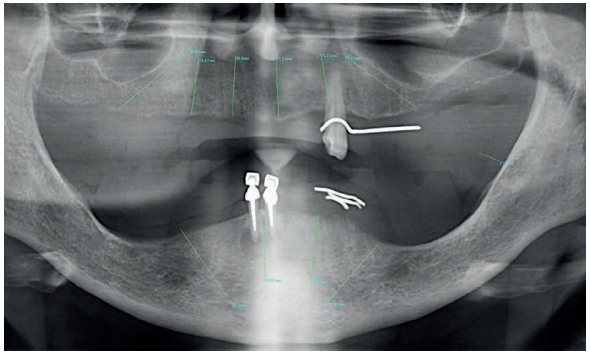


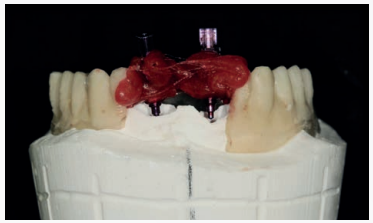
1. Initial X-ray.

2. Aesthetic evaluation.

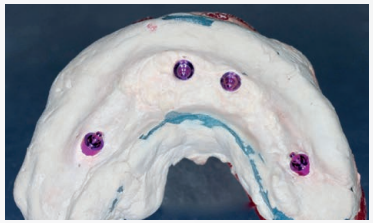
3. Tooth assembly to prepare a “data transfer template”.

4. Evaluation of data transfer template with the antagonist.

5. Surgery.



6. Insertion of the first two analogues in the single model.



7a. Plaster impression.

7b. Plaster impression.

8. Prosthesis finalisation.

9a. Finished prostheses.

9b. Finished prostheses.

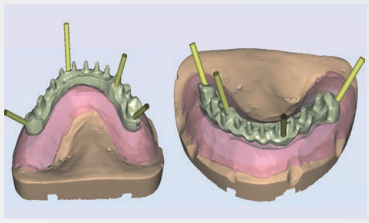
10. Insertion of prosthesis in the mouth.

18. Aesthetic view of the prostheses.

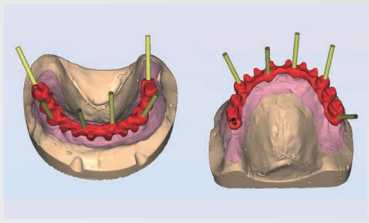
Conclusion

The Axiom® Multi Level® implants truly show their advantages when used with the single-model immediate loading technique. The flat prosthetic connection, present on the Axiom® TL and Axiom® BL implants with inLink® abutment helps exaggerate inclinations in order to avoid anatomical structures, e.g. the paranasal sinus and the emergence of the lower alveolar nerve. This allows the elimination of prosthetic extensions, and at the same time the loading stress is redistributed on the entire arch. The transmucosal design of the Axiom® TL implants allows the creation of an extremely durable connective seal with the highest respect for the biological width. The positive aspects also include the reduced diameter of the prosthetic access channel, with the possibility of angulating it to 25°, the tightening screw set at 25 N.cm and the transmucosal component already included in the Axiom® TL implant, which sensibly reduces costs for the patient as well.

11. Prostheses in central occlusion.

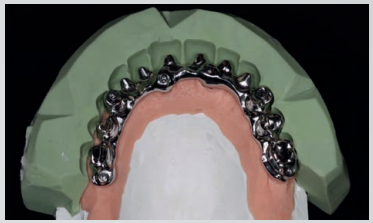


12. CAD study of permanent prosthesis.



13. CAD study of permanent prosthesis.

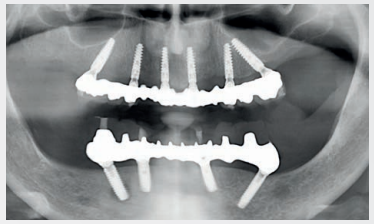
14a. Milled maxillary structure.



14b. Milled mandibular structure.

15a. Evaluation of inter-arch spaces with the structures in place.

15b. Evaluation of inter-arch spaces with the structures in place.



16. X-ray evaluation of matching structures and implants.

17. View of the permanent prostheses in the mouth.

Use of Axiom® BL Bone Level implants and of inLink® abutments in a total upper and lower rehabilitation

Dr Andrea LUCIANI
Mr Massimo MOTISI, Mr Giuseppe EMANUELE

Case study

For periodontal reasons, all elements are extracted except 16, 13 and 22 in order to support a temporary prosthesis. Six implants are inserted in the mandibular arch, loaded within 48 hours with a temporary PMMA and CrCo structure prosthesis. The upper implants are integrated, the residual elements are extracted and a temporary non-removable implant-supported prosthesis is inserted. Finalisation includes 2 metal and ceramic prostheses, after using resin prototypes in order to verify the correct intermaxillary alignment and the correct perioral tissue alignments.

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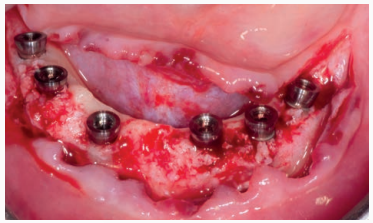
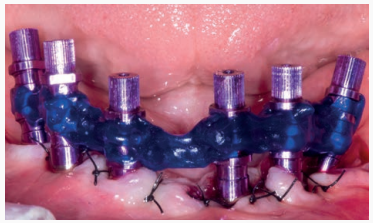
1. Pre-op frontal photograph.

2. Pre-op smile.

3. First temporary prosthesis in the upper arch, supported by elements 16, 13 and 22.



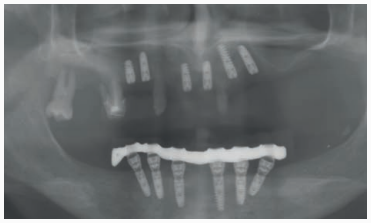
4. Insertion of Axiom® BL, Bone Level implants and connection of inLink® abutments.



5. Intra-op impression registering.

6. Lower temporary prosthesis with immediate loading.

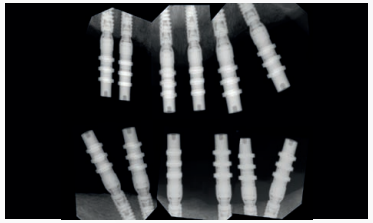
7. First temporary rehabilitation.



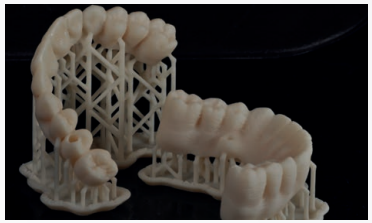
8. Implant insertion follow-up X-ray.

9. Second upper temporary prosthesis, implant-supported.

10. Smile with the second upper temporary prosthesis.



11. Follow-up X-ray of alignment of transfers for final impressions.



12. Printed prototypes.

22_ Smile with permanent prostheses.

Conclusion

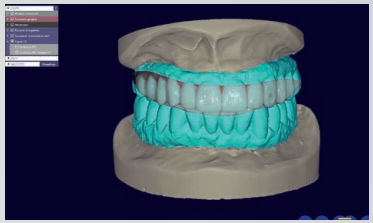
The use of inLink® abutments has enabled the bypassing of problems of implant misalignment, thereby obtaining a distancing of the implanto-prosthetic connection from the crestal bone area and reducing the risk of bone resorption, especially in a patient with previous periodontal disease. The use of virtual model alignment has allowed to keep the correct intermaxillary relation, and the pre-view with prototypes has allowed the required aesthetic and functional adjustments even before preparing the structures.

13. Evaluation of intermaxillary relations with prototypes.

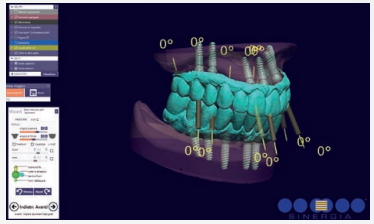
14. Phonetic evaluation and tissue support with the prototypes.

15. Aesthetic evaluation with the prototypes.

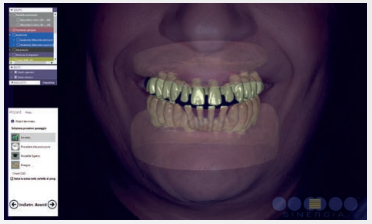
16. Creation of mask for virtual waxing adjustment.



17. Transfer of mask on virtual waxing.



18. Correction of prosthetic screw insertion axes, after aligning master models and correcting virtual waxing according to the created mask.



19. CAD drawing of the structures.

20. Simeda® CrCo structure.

21.Delivery of permanent metal and ceramic prostheses.

Mandibular arch with immediate loading on 4 Axiom® TL, Tissue Level intraforaminal implants with inLink® abutments

Dr Federico MANDELLI, Mr Stefano ROTA

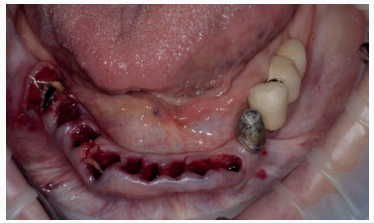
Case study

A 62-year-old patient, with no significant medical conditions, came in for consultation on a solution for her lower arch, which had been rehabilitated fifteen years before with a combination implant and tooth supported non-removable prosthesis. The dental elements displayed deep cavities and the implants suppuration. With the patient, it was decided to proceed with the restoration of the lower arch and the insertion of four interforaminal implants. Just after the surgical phase, the patient was discharged with an immediate loading prosthesis.

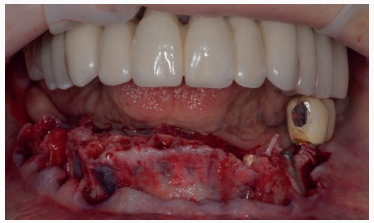
p.66

1. Initial X-ray.

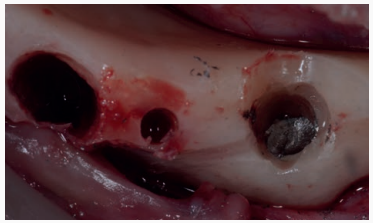
2. Clinical view of the initial situation.



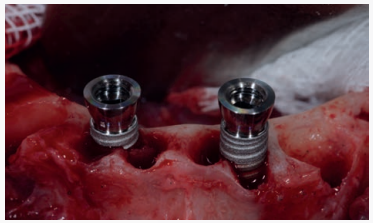
3. Restoration of natural elements.



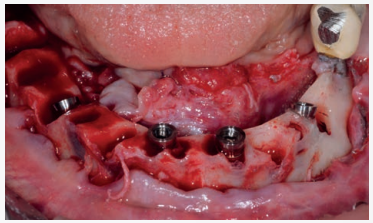
4. The lower left molar, implant supported, was initially kept to facilitate the rebasing of the temporary prosthesis.



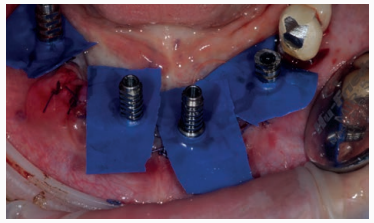
5. The longest implant was buried about 1 cm below the bone level, with the intention of submerging it to prevent excessive bone demolition.



6. Lower temporary prosthesis with insertion of Axiom® TL, Tissue Level REG implants.



7. Final implant position.



8. Temporary titanium cylinders, tightened. The wound is protected with a rubber dam.

9. Immediate temporary prosthesis rebased and refined.

10. Frontal view at patient's discharge.

11. Occlusal view at patient's discharge.

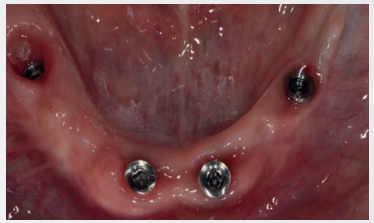
12. After three months of healing, the tissue appears to be healthy.

22_ Front view.

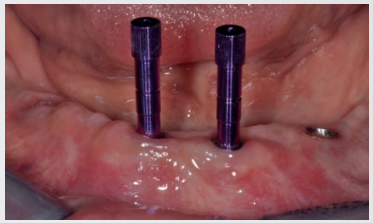
Conclusion

By using Axiom® TL, Tissue Level implants, there was no need to use abutments to correct the angulation. The insertion axes have been corrected with the systematic Axiom® Multi Level®, made possible by digital and engineering techniques applied to dentistry.

13. Before finalising the case, the vertical size is increased; the digital impression is taken in this new mandibular position.



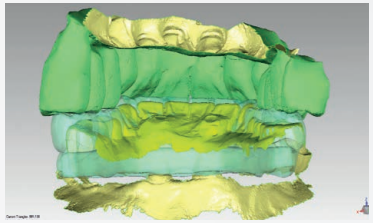
14. Intraoral view after removing the temporary prosthesis.



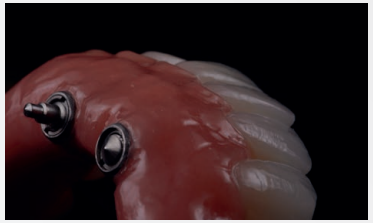
15. Positioning of two guide screws for the registration of the virtual articulator.

16. Test of the bar before finalisation.

17. Test and functionalisation of the definitive PMMA milled project.



18. CAD view of the definitive project: the temporary prosthesis can be seen against the light.



19. Prosthetic screws pre-inserted in the final restoration.

20. Final restoration made from nanoceramic composite material.

21. Appearance of mucosas at the time of delivery.

Total upper and lower rehabilitation with immediate loading on inLink® abutments

Dr José-Luis PADRÓS, Corus Garbident Dental Lab

Case study

Patient with advanced periodontal disease, mobility and dental absences to which exodontia of the remnant teeth is proposed, immediate placement of Axiom® TL, Tissue Level implants in the posterior sector and Axiom® BL, Bone Level with inLink® abutments in the anterior area. In the same session, immediate upper and lower screwed prostheses are adapted. We follow in all the case a complete digital flow, with digital smile design, intraoral scanning, 3D radiology, elaboration of surgical guides and prostheses designed and milled by CAD-CAM technology. After 6 months, provisional prostheses will be replaced by definitive ones.

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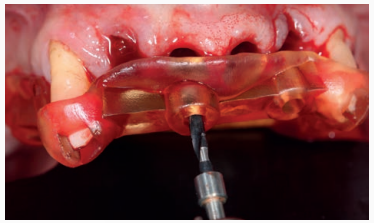
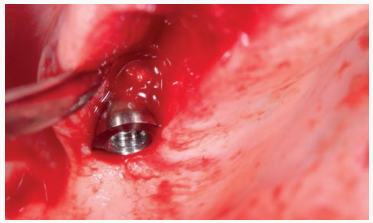
1. Pre-operative X-ray.

2. Initial smile.

3. Initial situation.



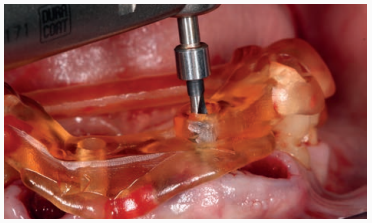
4. Maxillary drilling through the guide.



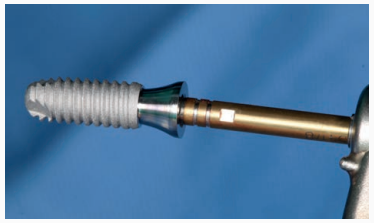
5. Axiom® TL, Tissue Level sub gingival placement.

6. Provisional abutments.

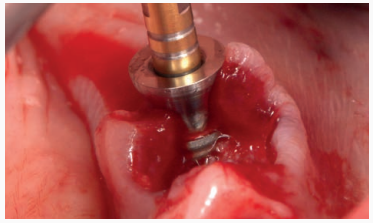
7. Maxillary provisional prosthesis.



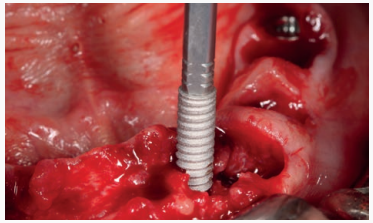
8. Mandibular drilling through the guide.



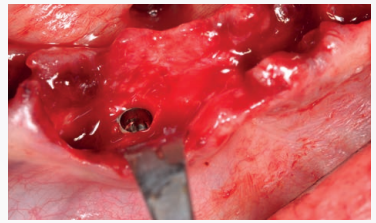
9. Axiom® TL, Tissue Level implant.



10. Axiom® TL, Tissue level placement.



11. Axiom® BL, Bone Level placement.

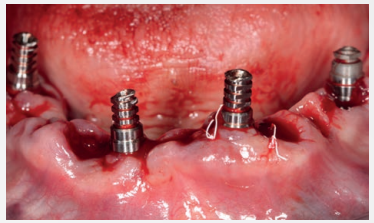


12. Subcrestal placement of Axiom® BL, Bone Level.

22. Patient's final smile.

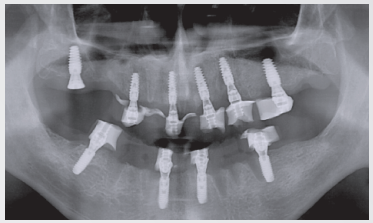
Conclusion

The Multi Level® - inLink® system allows us to realise screwed prostheses on implants with a maximum respect to the biological sealing of the gum. The inclusion of the fixation screws in the prostheses greatly facilitates the work of the clinician, allows the use of larger diameter screws than conventional multi-implant abutments and generates narrow and angulated access holes, with adequate emergency. All in all, a practical system, well designed and comfortable to work with.



13. Provisional abutments in the maxilla.

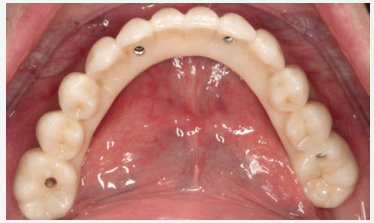
14. Immediate placement of the provisional prosthesis.



15. Control panoramic X-ray of the provisional prosthesis.

16. Provisional smile.

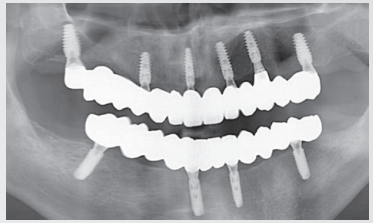
17. Superior permanent prosthesis in zirconia.



18. Inferior permanent prosthesis in zirconia.

19. The system allows the prosthesis to be screwed through angulated and small diameter access holes. When the screws are included in the prosthesis, the placement is very comfortable for the clinician.

20. Excellent response of soft tissues. The connection between implant and prosthesis occurs close to the gingival margin, allowing maximum respect for the biological seal of the gum.



21. Panormic X-ray control of the definitive prosthesis.

Partial rehabilitation on Axiom® TL, Tissue Level, implants with immediate loading

Dr Sergio SALINA, Mr Federico FOLEGATTI

Case study

A 59-year-old male patient with chronic mild periodontitis and subject to parafunction (bruxism). The patient is in second skeletal class and second Deep Bite dental class.

After initial non-surgical periodontal preparation, we proceeded to the avulsion of 48 and the restoration of elements 46 and 45 lost by the patient over 30 years before.

Following the temporary prosthesis with almost immediate loading we proceeded to the definitive rehabilitation with a Cr-Co screw-retained structure.

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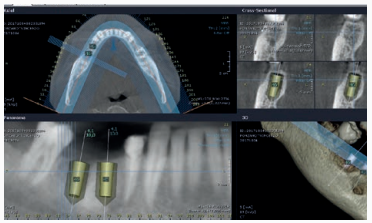
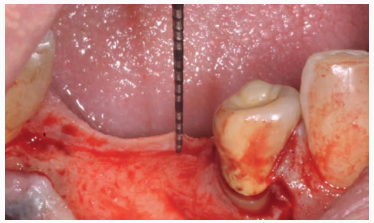
1. Intermaxillary space reduced with evident amalgam tattoo.

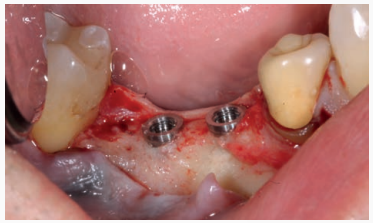
2. Transversal contraction of the edentulatated saddle.



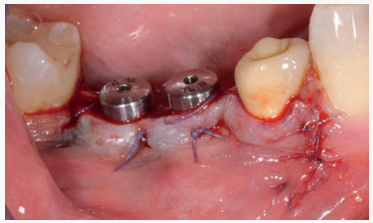
3. Digital planning of implants.



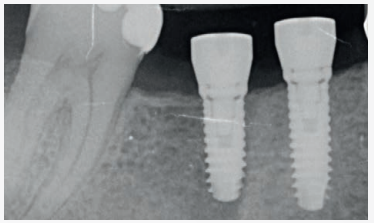
4. Vestibular flap with evaluation of the keratinized gingival thickening (1.5 mm) for the proper choice of the implants' transmucosal portion.



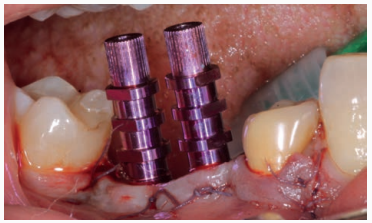
5. Insertion of two Axiom® TL, Tissue Level REG implants with torque above 40 Ncm. In position 46: diam. 4.0 x 8.0 mm and in position 45: diam 4.0 x 10 mm.



6. Closure of flaps with resorbable 5-0 suture and healing screw connected to the implants.

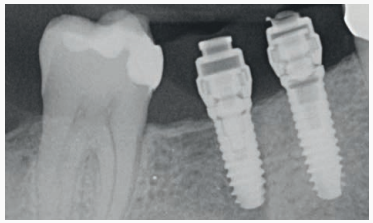


7. X-ray of Axiom® TL, Tissue Level implants with fitted healing screws.



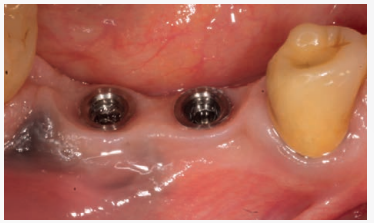
8. Insertion of impression transfer, after a few minutes of stabilisation of flaps through the healing screws.

9. Situation 48 hours after surgery.



10. X-ray at the time of prosthetic loading 48 hours after surgery: notice the detail of the temporary abutments with inLink® block sunk in the temporary structure.

11. Insertion at 48 hours of the temporary bridge reinforced with glass fibres connected with inLink® lock screws tightened to 25 N.cm to the Axiom® TL, Tissue Level, implants.



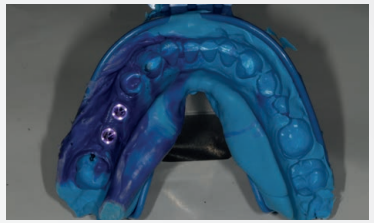
12. 90 days after the surgery, the peri-implant soft tissue appears well defined and also the amount of keratinized mucosa is adequate to allow the permanent prosthetic rehabilitation procedures.

19. Occlusal relation with antagonist elements.

Conclusion

The surgical procedure adopted in this edentulated saddle has permitted a low invasive approach and the maximisation of the keratinised gum that, along with the implant placement system, allowed the use of a temporary prosthesis with virtually immediate loading (48 hours). The procedure was definitely simplified in all its operative phases by the innovative Axiom® Multi Level® system. Especially the connection that requires just 2 screw turns of the inLink® lock to the implants makes the procedures extremely fast.The permanent prosthetic phases are precise and reliable thanks to the Cr-Co structure produced by Simeda®.

Despite an unsightly amalgam tattoo and a crown no longer aesthetically viable in position 44, the permanent bridge appears well integrated with the soft tissue and thus satisfying both aesthetically and functionally.



13. Having removed the temporary bridge, the final impression was taken. In the laboratory, the impression was developed and digitalised to then perform the digital modelling of the final prosthesis.

14. Structure prepared with Simeda®, tested and refined on the model: detail of the inLink® blocks not yet connected to the structure.

15. Clinical testing of the Cr-Co structure produced by Simeda®.

16. Ceramic coated bridge with connected inLink® blocks.

17. X-ray follow-up at the time of positioning the permanent prosthesis 120 days later.

18. The prosthetic rehabilitation tightened to 25 N.cm appears well integrated with soft tissue despite the amalgam tattoo and a crown no longer aesthetically adequate in position 44.

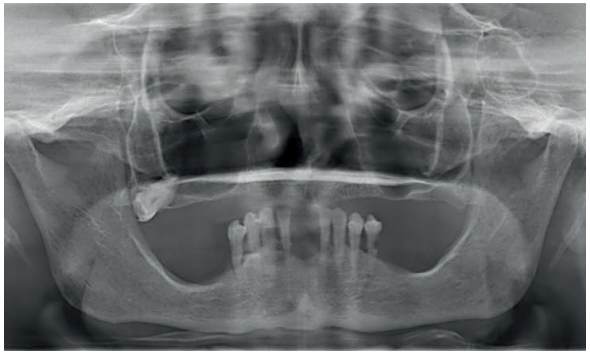
Immediate loading in total eduntulous with Axiom® TL, Tissue Level implants

Dr Jean-Baptiste VERDINO
Mr Jean-Michel MOAL, Mr Gilles GIORDANENGO

Contexte

A 64-year-old female, with no dental history, eduntulous for over 10 years, is not wearing her full denture.

The opposite arch is restored with a conventional fixed prosthesis.



1. Presence of bone in the premaxillary bone [Bedrossian zones 1 and 2] - indication for All-on-4 type of restoration with angulated implants along the anterior sinus wall.

2. Edentulous arch.

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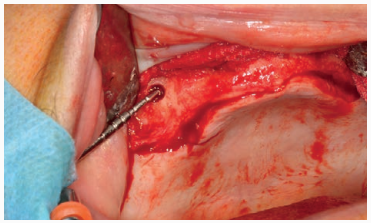
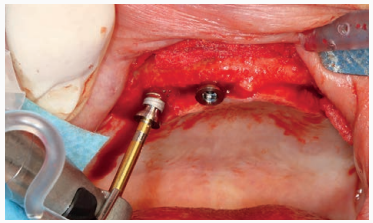
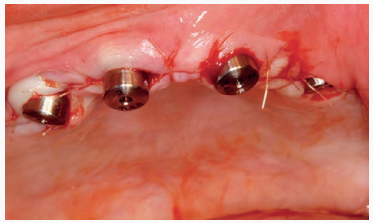


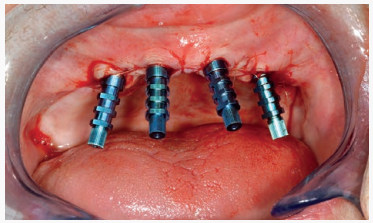
3. Identification of the wall of the sinus wall for placement of the distal implant.



4. Placement of the Axiom® TL (Tissue Level) implant, distal angulated.

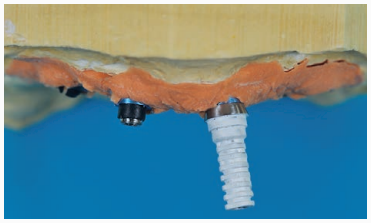


5. Sutures around the healing abutments.

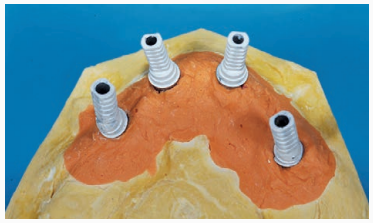


6. Transfers in place ready for the post-surgical impression to produce the immediate prosthesis.

7. Plaster impression, which ensures precision and passivity.

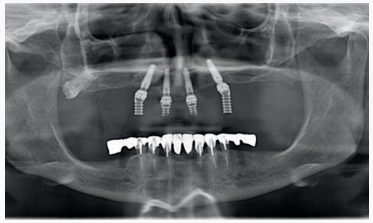


8. Temporary abutments: they are covered with a layer of silane and opaque to improve the adhesion of the resin and therefore the solidity of the temporary bridge.

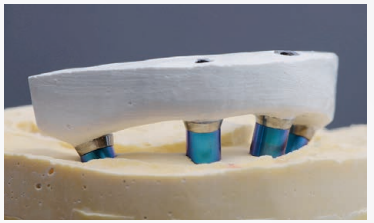


9. Angulated abutments are used for the posterior implants.

10. Immediate screw-retained prosthesis polished.



11. Post-operative panoramic X-ray follow-up.

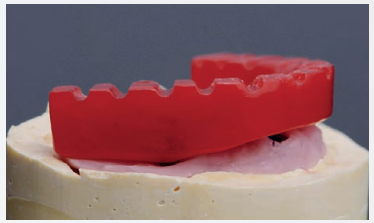


12. Production of a final bridge after 4 months' healing period: model is inspected to make a validation key.

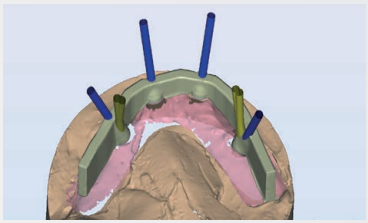
22_ Smiling again, with no palate or glue for the first time in over 10 years.

Conclusion

The use of the new Axiom® TL (Tissue Level) implants in this case has had many advantages: the inLink® connection allows the adjustment of extreme axial differences between the two implants, eliminating the need for placement of an intermediate angulated abutment. The laboratory components simplify the production of the immediate prosthesis and the inLink® integrated locking system with guiding locks allows easier insertion. All this, along with complete Simeda® CAD-CAM technology, ensures a highly reliable product.



13. Wax impression of the screw-retained occlusion.

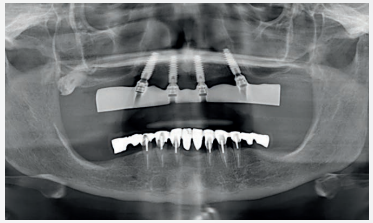


14. CAD concept image of the Simeda® maxillary frame. In the posterior sector, the screw channels in yellow and the implant axes in blue show the angulation of the screw channels.

15. Simeda® titanium frame and integrated fitting locks.

16. Final bridge with soft tissue and composite teeth.

17. Bottom surface view, note the gum-titanium contact and the "gaps" to facilitate the use of brushes for better hygiene.



18. Panoramic X-ray with final bridge.

19-20. Intrabuccal view of the finished bridge.

20. Occlusal view of the final bridge.

21. Easier use of brushes.

Acknowledgments

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- Active member of the "European Academy of Esthetic Dentistry"

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- More than twenty years' experience in implantology, in pre- and peri-implant surgery and implant prostheses, with a number of university diplomas and training at various scientific societies

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- Graduate in Dentistry at Complutense University
- Master Implantology periodontics and oral rehabilitation
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- Doctor of Dental Surgery, Nancy, 2000
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ACKNOWLEDGMENTS

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Awarded best dental
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Cavelius
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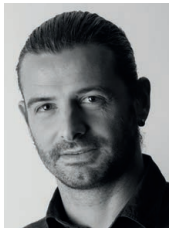
Dental Laboratories



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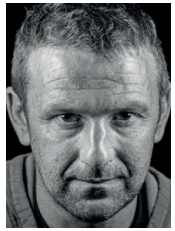

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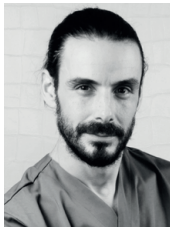

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