# ethoss Grow Stronger\_

Volume 3

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Male 51 years old Non-smoker

Case referred from endodontist. LR6 fractured root with bone loss – atraumatic extraction – no socket preservation – CBCT 3/12 and implant planning – implant placement and bone grafting to replace lost bone volume – restored screw retained crown 3/12 post surgery

Case from Dr Ronak Patel & Dr Rohan Sahdev, United Kingdom





 LR6 sudden deep mid buccal pocket and inflammation suggesting root fracture



2. PA showing root fracture and furcal bone



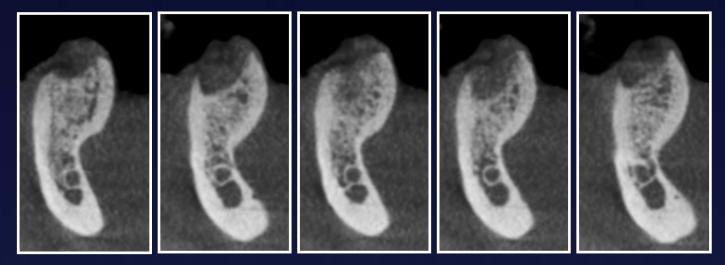
3. Extraction recommended and atraumatic extraction with crown removal and sectioning of roots



4. Haemostatic collagen sponge to prevent soft tissue ingress and optimise healing



5. Healed ridge 3 months post extraction – buccal bone defect

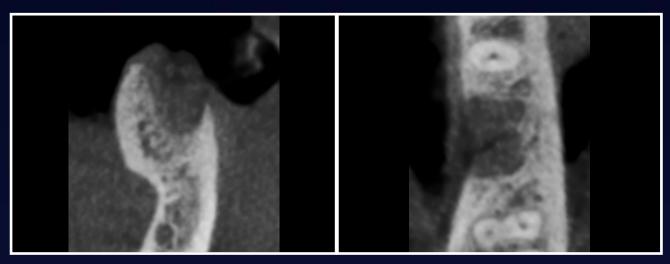


6. CBCT taken for implant planning showing bone loss bucally

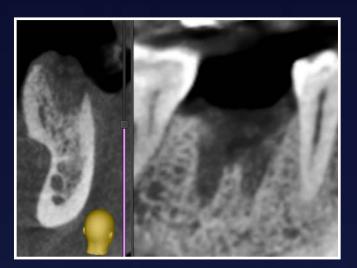


7. Implant placement and EthOss® bone grafting material, healing abutment placed

## **Early-Delayed Lower Molar Placement**



8. CBCT shows buccal bone loss



9. CBCT shows buccal bone loss



10. Healing 2 weeks post placement



11. Healing 3 months post placement – crown scan appointment



12. Soft tissue healing and buccal bone volume restored



13. Screw retained crown placed – healed bone architecture restored around implant



14. LR6 space restored with implant and screw retained crown – immediate post fitting. Probe used around margins of implant crown to address blanching of soft tissue

Female 32 years old Non-smoker

Patient with 8mm periodontal pocket in tooth 41, bleeding and suppuration on probing, normal pulp test, in the CT scan we can see cemental tears on tooth 31, vertical and horizontal bone loss and lingual gingival reccesion.

Case from Dr Andres Eslava, Colombia



Dr Andres Eslava



1. Suppuration on probing



2. Bleeding on probing – 8mm periodontal pocket



3. Granulation tissue associated with cemental tear



4. Periodontal attachment loss, vertical and horizontal bone loss



5. Methylene blue to check cemental tears.



6. After removal of cemental tears



7. EthOss® bone grafting material mixing



8. Oclussal view of the defect



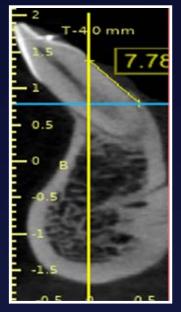
9. Filling the defect with EthOss® bone grafting material



10. Complete filling of the defect and thickening of the lingual bony wall



11. Sutured



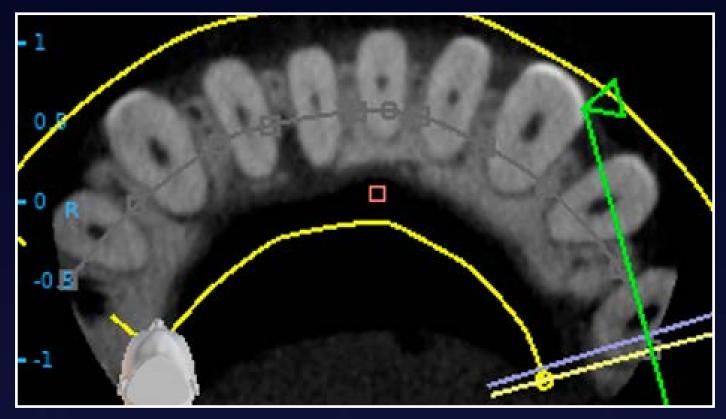
12. Initial situation



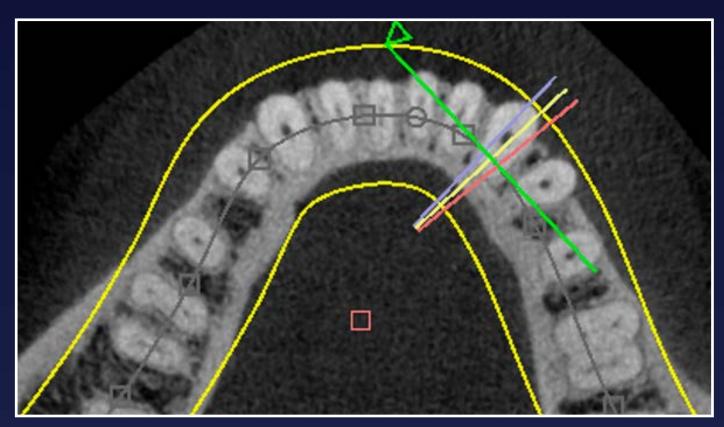
13. Final situation 3 years later



14. Final situation 3 years later



15. Initial CT scan



16. Final CT scan 3 years later

Female 72 years old Non-smoker

UL6 severe bone loss from periodontal disease. Extraction, socket preservation and onlay graft, periosteal release to achieve primary closure. 3/12 later closed sinus lift, placement and GBR. EthOss for CSL and GBR. Restored 3/12 later

Case from Dr Andrew Fish, Jersey



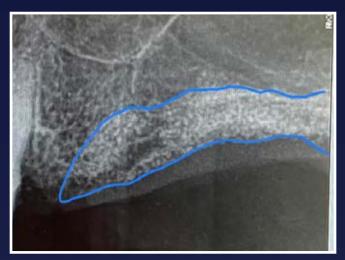
Dr Andrew Fish



1. Initial situation showing bone loss



2. Tooth extracted – 12 weeks later



3. Radiograph after extraction showing new bone after onlay graft



 Site degranulated and Southern ITT 6 x 8 mm placed

## Socket Preservation with 3 Year Follow-up



5. EthOss® bone grafting material placed



6. Sutured closed



7. Radiograph immediatly post placement – closed sinus lift and GBR



8. 12 weeks post placement at fitting of final crown



9. Radiograph 3 years post fit

Male 65 years old Non-smoker

Replace missing lower central incisors with a single implant.

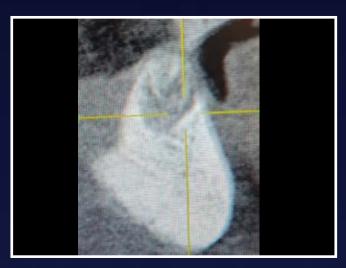
Case from Dr Nick Kulkarni, Australia



Tr Nick Kulkarni



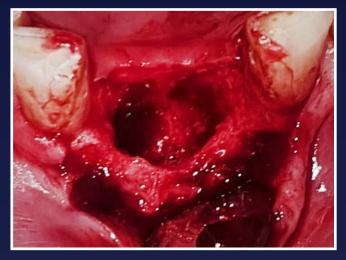
 Pre-op. Case was referred. Extractions were done 6 weeks prior



2. Pre-op scan. No attempt at curettage was done during extraction



3. CBCT frontal view



4. After degranulation

## **Lower Anterior Bone Defect**



5. Granulation tissue with remnants of GP



6. Implant placement. 35NCM insertion torque



7. EthOss® bone grafting material placement



8. Immediate post-op



9. Healing 8 weeks post placement



10. Soft tissue cuff. Ridge width maintained

## **Lower Anterior Bone Defect**



11. Open tray impression coping



12. Confirmation of seating of impression coping and graft maturation



13. Seating of prosthetics. Screw retained with good access for hygiene



14. Final PA showing graft maturation and seating of prosthetics

# CROW YOUR KNOWLEDGE

Female 56 years old Non-smoker

Failed root canal therapy LR6

Extraction of root remains of LR6 - immediate implant with bone regeneration using EthOss bone graft.

Case from Dr Natalia Parada Gonzalez, Colombia



Dr Natalia Parada Gonzalez



1. Initial X-ray



2. Initial condition



3. Extraction



4. Flap raised

# **Immediate Replacement of Lower Molar**



5. Implant placed after degranulation



6. EthOss® bone grafting material placed



7. Sutured closed



8. Post surgery radiograph



9. Radiograph 3 months post placement



10. Second surgical phase



# **Immediate Replacement of Lower Molar**



11. Bone regeneration with EthOss®



12. Implant exposure



13. Suturing trans-mucosal



14. 20 days later – soft tissue healing



15. Soft tissue



16. Fitted crown

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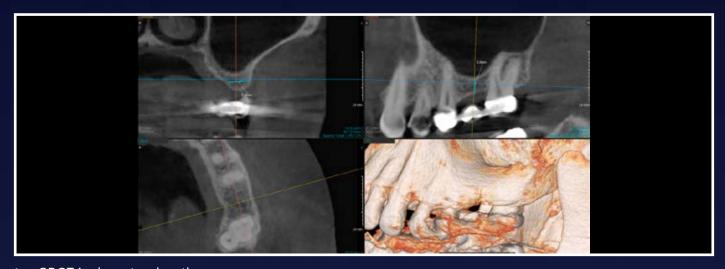
Female 57 years old Non-smoker Bruxist

The patient had a fractured old bridge in second quadrant. They desired a better solution for the missing tooth. The treatment proposed was a crestal sinus-lift with simultaneous implant placement.

Case from Dr Fabio Magistroni, Italy



Dr Fabio Magistroni



1. CBCT is done to plan the surgery



2. Evaluating the site before the surgery



3. Raising the flap

## **Crestal Sinus Lift with Simultaneous Implant Placement**



4. Drilling until 1mm before below sinus bony floor



5. Lifting the cortical bone with manual osteotome



6. Ready for grafting with EthOss® bone grafting material



7. Wet mix placed for a better fill of the sinus floor. 0.5cc EthOss® divided for a lift of 4mm



8. Implant placed, torque is 30NCM



9. Site covered with the remains of EthOss® bone grafting material to thicken the mucosa above

## **Crestal Sinus Lift with Simultaneous Implant Placement**



10. Suturing is done with non-absorbable polypropylene



11. Radiograph showing the implant in place with a nice dome of EthOss above



12. 12 weeks healing



13. Roll-flap is done to thicken the buccal mucosa. A low healing screw is placed



14. 10 days healing, ready for impression



15. Detail of the mucosa: still healing but very thick tissue is forming

## **Crestal Sinus Lift with Simultaneous Implant Placement**



16. Another week of healing, delivery day



3 separate crowns, stained zirconia.
 Noticeable tissue compression



18. Side view, notice the keratinized mucosa around the implant



19. 4 months post first surgery. The original graft is indistinguishable from the original bone level

Male 47 years old Non-smoker

Failed apicectomy 12 years ago. Tooth has been intermittently painful with labial swelling. Patient has large incisive foramen

Case from Dr Dominic O'Hooley, United Kingdom



**>** □ Dominic O'Hooley



1. Initial situation



2. Showing ridge form



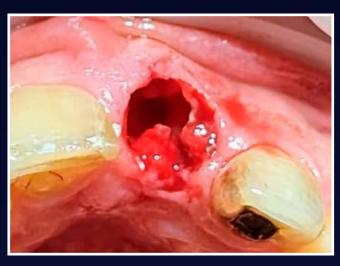
3. CT slice showing extent of defect



4. CT render showing tooth not in bone



5. CT slice showing proposed implant placement



6. Tooth removed large granuloma visible



7. Flap raised to view defect



8. Post defect degranulation – Versah Drill used to create osteotomy



9. Straumann BLX implant placed



10. Showing depth of placement



11. Showing emergence angle to avoid incisive foramen



12. Showing emergence angle to avoid incisive foramen



13. First tranche of EthOss® bone grafting material placed



14. Showing emergence angle to allow screw



15. Showing need for second tranche of EthOss® bone grafting material



16. Try in of shell crown



17. Second tranche of EthOss® bone grafting material placed post fitting shell crown



18. Sutured post shell crown fitting



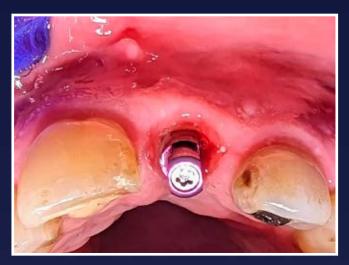
19. Immediate post placement radiograph



20. 8 week review



21. Showing ridge form at 8 weeks post placement



22. Showing impression coping 12 weeks post placement



24. Gingival collar



25. Permanent crown fitted



25. Collar at 12 weeks post placement

# GROW YOUR KNOWLEDGE



Female 23 years old Non-smoker

Agenetic lower incisors. Earlier orthodontic treatment closed the gap to one incisor and was closed with a Maryland bridge. The patient was told by two implantologists, because of the lack of bone, putting an implant in was impossible. The incisors never grown, so there was 1mm narrow ridge lingual, but there was ample mandibular bone, 4mm lower.

Case from Dr Willem Baas, Netherlands



Dr Willem Baas



1. Pre-op radiograph



2. Initial situation



3. Flap raised



4. Site degranulated ready for implant placement

# **Lower Anterior Delayed Placement**



5. Implant and PDS 2.0 suture tenting technique used to augment bone horizontally



6. Cover screw



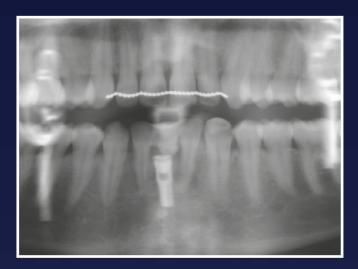
7. EthOss® bone grafting material placed



8. Sutured closed



9. Provisional restoration



10. Post-op radiograph



11. 5 months post placement - final restoration



12. Radiograph 5 months post placement

# CROWYOUR EXPERIISE



Female 69 years old Non-smoker Type 2 diabetic

Extraction – a month of waiting – implants, bone regeneration and immediate loading – three months of waiting – impression and delivery of monolithic crowns

Case from Dr Dario Tuscano, Italy



Dr Dario Tuscano



1. Initial radiograph



2. Front view

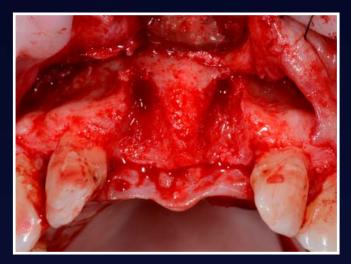


3. Front view one month post extraction



4. Occlusal photo one month post extraction

## **Upper Anterior Early-Delayed Placement with Immediate Loading**



5. Frontal view after flap elevation



6. Occlusal view after flap elevation



7. Template in position



8. Osteocondensation with magnetodynamic tools



9. Implants inserted



10. Implants inserted – occlusal view

## **Upper Anterior Early-Delayed Placement with Immediate Loading**



11. Temporary abutments



12. Bone regeneration – EthOss® bone grafting material placed



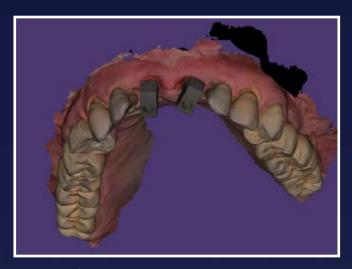
13. Collagen sponge around the emergences



14. Three months post bone regeneration



15. Occlusal view



16. Digital impression

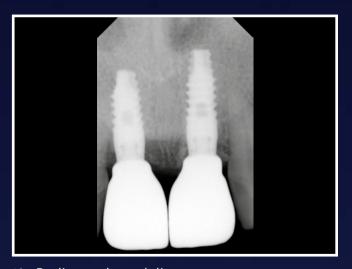
## **Upper Anterior Early-Delayed Placement with Immediate Loading**



17. Delivery of monolithic crowns



18. Delivery of monolithic crowns



19. Radiograph on delivery



20. Before and after

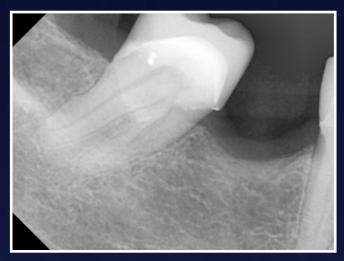
Female 53 years old Non-smoker

The case was planned for a single implant to support a screw retained implant crown at the lower right first molar (#46). Concurrent implant with horizontal bone grafting was planned using EthOss and PDS 2.0 sutures for tenting effect.

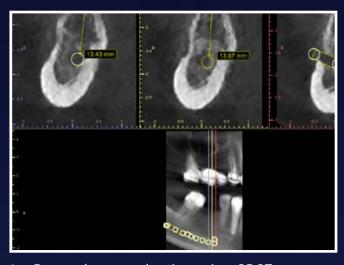
Case from Dr Sheng Zhang, New Zealand



Dr Sheng Zhang



 Pre-op situation. Crown requires replacement and tooth requires treatment



2. Pre-op bone evaluation using CBCT



3. Image of the 46 edentulous ridge prior to implant placement



4. PA radiograph showing osteotomy preparation

#### **Delayed Placement Lower Molar**



5. TRI Vent 4.7x8mm placed. Deficient buccal bone. PDS 2.0 sutures for tenting effect



6. PA radiograph showing implant in place



7. EthOss® bone grafting material placed with initial wet mix and dry mix over the top



PA radiograph showing implant and EthOss in place



 Healed site three months post implant placement. Note the lack of attached keratinized tissue



10. A free gingival graft taken with an 8mm tissue punch from the palate

## **Delayed Placement Lower Molar**



11. A buccal sliding flap with free gingival graft secured at site with the healing abutment



12. Healing 4 weeks post placement uncovering surgery and soft tissue augmentation



13. 2 weeks later – upsized healing abutment to5x5mm. Patient is now ready for restoration



14. Final PA radiograph of the implant, integrated EthOss bone graft and 5x5mm healing abutment

# CROWYOUR EXPERIISE



Female Non-smoker 62 years old

Failed post crown - Crown is loose and pus present when gingiva pressed on the buccal aspect. Decided to remove the root and immediately place with a Southern Implants Inverta Co-axis Implant.

Case from Dr Michael Tang, Scotland



Dr Michael Tang



1. Failed UR1 post crown



2. Crown removed. Subgingival fracture



3. Occlusal view of the retained root



4. Root carefully removed

## **Upper Anterior Immediate Placement and Load**



5. Osteotomy prepared - EthOss® bone grafting material placed into buccal aspect



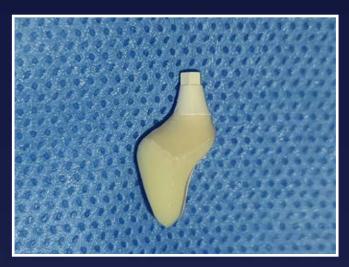
6. Implant and healing abutment placed. Jump gap fill with EthOss® bone grafting material



7. Healing abutment removed



8. Starting to make temporary crown using PEEK cylinder



9. Temporary crown polished



10. Temporary crown fitted

## **Upper Anterior Immediate Placement and Load**



11. Occlusal view immediately post fitting



12. Radiograph at placement. Note how much graft was used to fill the mesial aspect



13. Final crown restored by referring dentist



14. Radiograph taken immediately post fit of crown. Look at the bone mesial and distal to the implant

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Female
75 years old
Non-smoker
Pre diabetic, cardiovascular disease, blood
thinner (Marcoumar)

CBCT and scan (Primescan) fully digital planning, extraction of 42–32, immediate implants 42 and 32 plus augmentation 41 and 31. Guided surgery, PMMA provisional bridge, scan during surgery after insertion of implants, definitive bridge after 4 months.

Case from Dr Marco Schwan, Switzerland



■ Dr Marco Schwan



1. CBCT planning phase



2. Pre-op



3. Atraumatic extraction



4. Guided Surgery

#### **Immediate Implant Placement Lower Anterior**



5. Implants (Primetaper 3.6x11) in place



6. Scan bodies before application of EthOss® bone grafting material



7. EthOss bone grafting material augmentation



8. Temporary abutments inserted



9. PMMA Provisonal – filling the voids with composite



10. Temporary bridge



## **Immediate Implant Placement Lower Anterior**



11. PMMA seated post-op



12. One week post-op



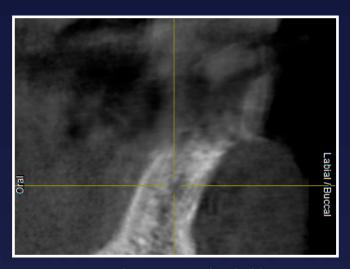
13. One week post-op



14. OPG post-op



15. CBCT 3 months region 42



16. CBCT 3 months region 31, healed bone

## **Immediate Implant Placement Lower Anterior**



16. Inadequate hygiene



17. Soft tissue with good volume - 4 months post surgery



18. Soft tissue occlusal view, because of inadequate hygiene some superficial inflammation



19. Final bridge seated

Female 58 years old Non-smoker

Allergies: Penicillin allergy

UL1 carefully extracted using luxators and forceps. Debridement using lucas curette and EthOss degranulation burs. R2 guide tried – good fit. Megagen AnyRidge 3.5 x 13 mm implant placed with high torque and ISQ 71 EthOss bone graft 1cc placed.

Case from Dr Jiten Vaghela, United Kingdom



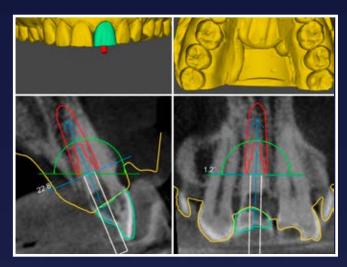
> Dr Jiten Vaghela



Pre-op smile view



2. Pre-op PA radiograph



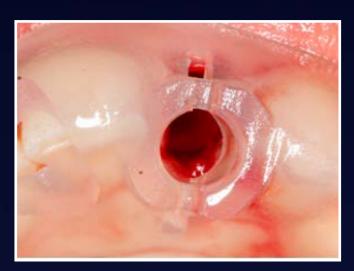
3. R2GATE plan



4. Pre-op occlusal view



5. Post-extraction socket



6. R2 Guide in place



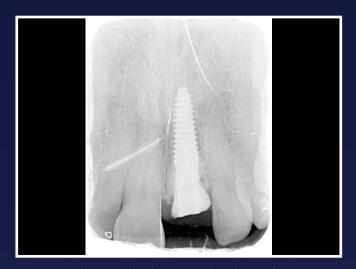
7. Fully guided implant placement



8. Jump gap grafting with EthOss® bone grafting material



9. Custom healing abutment fitted – occlusal view



10. PA radiograph of custom healing abutment



11. 3 months post placement – custom impression post frontal view



12. PA radiograph Impression



13. Gingival healing around custom healing abutment



14. Soft tissue at crown fit



15. 4 weeks later – crown fit occlusal view



16. Crown screw access restored



17. PA radiograph crown fit



18. Crown fit lateral view



19. Post-op lateral view



20. Initial radiograph vs final radiograph 4 months post placement

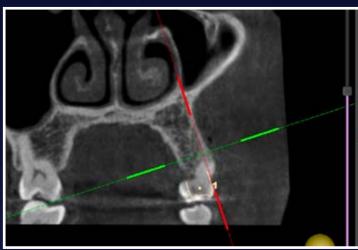
Female 30 years old Non smoker

Immediate placement of tissue level implant, bone regeneration using 0.5cc of EthOss and FGG/CTG graft. Temporary crown made of composite and retained on temporary titanium abutment.

Case from Dr Jakub Batycki, United Kingdom



**>** ■ Dr Jakub Batycki





1. Pre-op CBCT

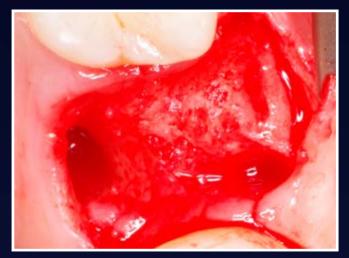


2. Pre-op



3. Site post atraumatic extraction

#### Molar Placement Synergy with EthOss and CTG Graft



4. Preparation of CTG recipient site



5. Confirming implant position prior to EthOss® bone graft application



6. Implant placed in prosthetically favourable position



EthOss® bone graft set after 4 minutes of moderate compression



8. EthOss® and FGG-CTG pocket graft synergy



9. Suturing of graft – PTFE suture – 5–0 cerflon



# Molar Placement Synergy with EthOss and CTG Graft



10. Review 7 days following procedure



11. 14 weeks review of temporary crown



12. Soft tissue 14 weeks post-op



13. Soft tissue – EthOss® up regulates neo vascularization



14. Soft tissue prior to final fit



15. Placement of definitive restoration. Silver plug sealer





16. Fit of definitive restoration



17. Radiograph immediately following procedure



18. Radiograph 15 weeks following the procedure

Female 43 years old Non smoker

The patient complains of mobility d14 and pain when biting.

Diagnosis: d14 vertical root crack Treatment plan: Extraction and immediate implant placement with individual healing abutment.

Case from Dr Gita Zommerfelde Antipina, Latvia



Dr Gita Zommerfelde Antipina



1. Initial situation before extraction



2. Initial situation before extraction



3. Post extraction



4. The alveolar socket after degranulation under microscope

#### Immediate Placement Delayed Load in the Maxillary Premolar Region



5. Surgical guide is used



6. Implant placed and socket is grafted with EthOss® dental bone graft



7. Intraoral radiograph after implant placement



8. Individual healing abutment



Intraoral radiograph with individual healing abutment



10. Individual healing abutment 4 months postop



#### Immediate Placement Delayed Load in the Maxillary Premolar Region



 Intraoral radiograph with individual healing abutment and provisional PMMA Meryling 4 months post-op



12. 4 month post-op soft tissue healing



13. Scan abutment and soft tissue contour



14. Intraoral X-ray with scan abutment



15. Zr ultra polished crown follow contours



16. Zr crown after delivery



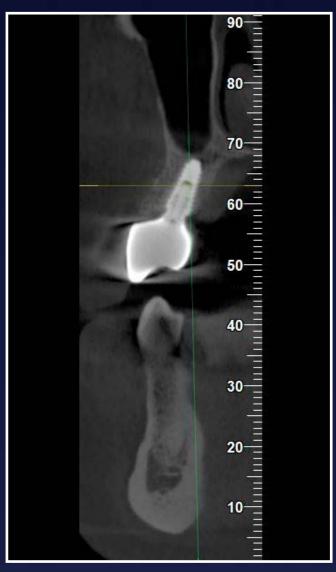
## Immediate Placement Delayed Load in the Maxillary Premolar Region



17. Zr crown after delivery



18. Intraoral radiograph after Zr crown delivery



19. 1 year follow-up CPCT cross section - excellent new bone bucally and lingually



# With special thanks to all our contributors

Dr Andres Eslava

Dr Andrew Fish

Dr Dario Tuscano

Dr Dominic O'Hooley

Dr Fabio Magistroni

Dr Jakub Batycki

Dr Gita Zommerfelde Antipina

Dr Jiten Vaghela

Dr Marco Schwan

Dr Michael Tang

Dr Natalia Gonzalez

Dr Nick Kulkarni

Dr Peter Fairbairn

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Dr Ronak Patel

Dr Sheng Zhang

Dr Willem Baas

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