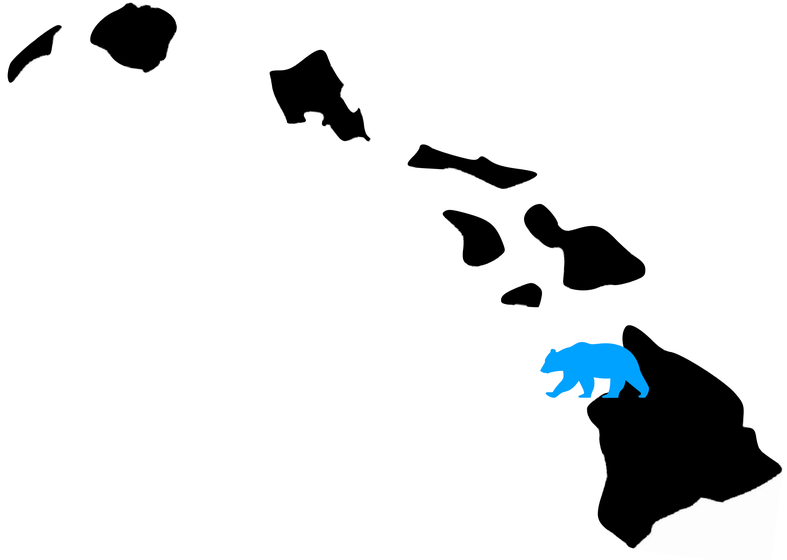
Techniques for Optimizing predictability of implant restorations in the esthetic zone.

Anatomically-Driven Transmucosal Approach

Yair Whiteman DMD

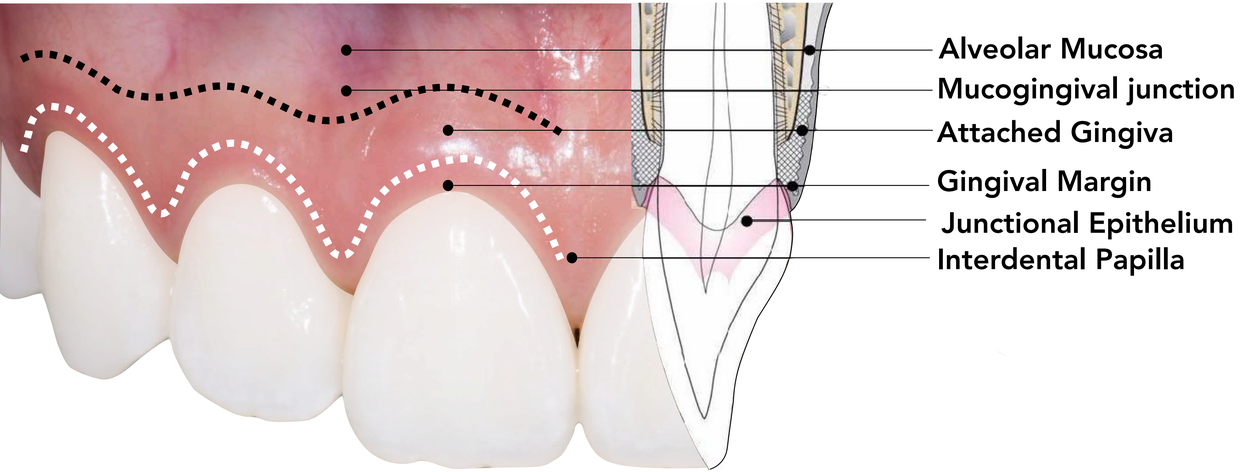


UCLA Dentistry
Center for Esthetic Dentistry

Techniques for Optimizing predictability of implant restorations in the esthetic zone.

1. Esthetic considerations: what are we looking for?
2. Esthetic considerations: what should we watch-out for?
3. Planning for predictable outcome: implant placement and provisional considerations
4. Anatomically Driven Transmucosal Approach: utilizing tooth anatomy for prototypes and final restorations.
5. A scenario base Anatomically Driven workflow
6. Sequencing and strategy for predictable esthetic outcome.

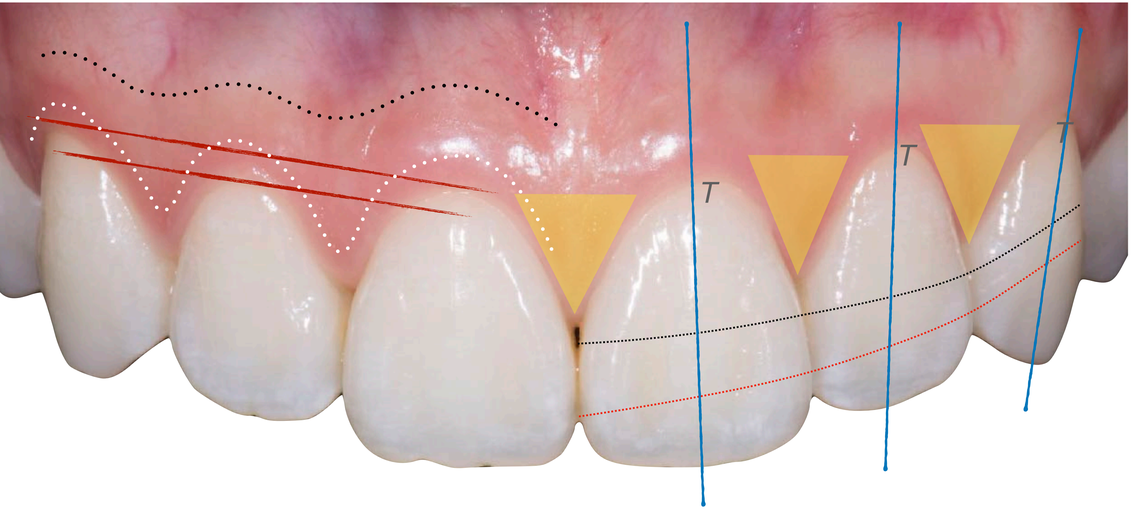
1. Esthetic considerations | what are we looking for?



Gingiva | Gingiva Tooth transition | Tooth

1. Firm and resilient attached gingiva
2. Tightly adapted gingival margin
3. Coral colored, pink color
4. Stippling and gingival grooves
5. Volume
6. Gingival margin and Gingival grooves

1. Esthetic considerations | what are we looking for?



Gingiva | Gingiva Tooth transition | Tooth

1. Gingival level and Gingival architecture
2. Zenith position
3. Interdental Papillae

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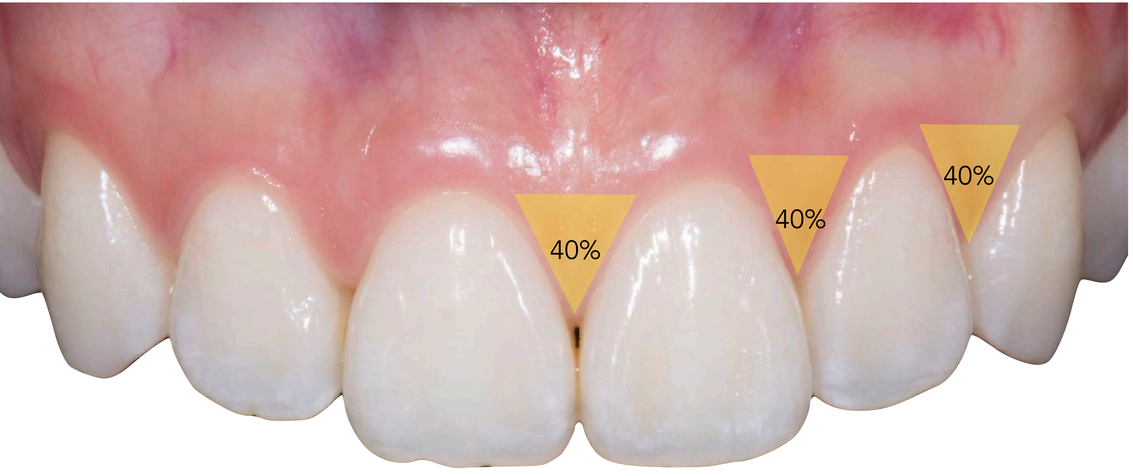

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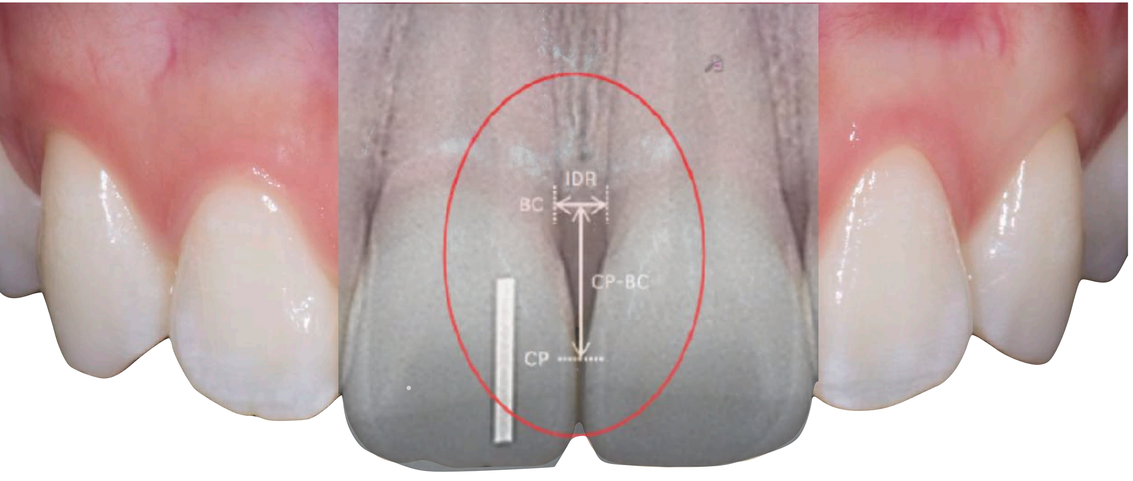

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Table 2 Salama et al[12] classification of predicted height of interdental papillae

Class	Restorative environment	Proximity limitations	Vertical soft tissue limitations
1	Tooth-tooth	1.0 mm	5.0 mm
2	Tooth-pontic	N/A	6.5 mm
3	Pontic-pontic	N/A	6.0 mm
4	Tooth-implant	1.5 mm	4.5 mm
5	Implant-pontic	N/A	5.5 mm
6	Implant-implant	3.0 mm	3.5 mm

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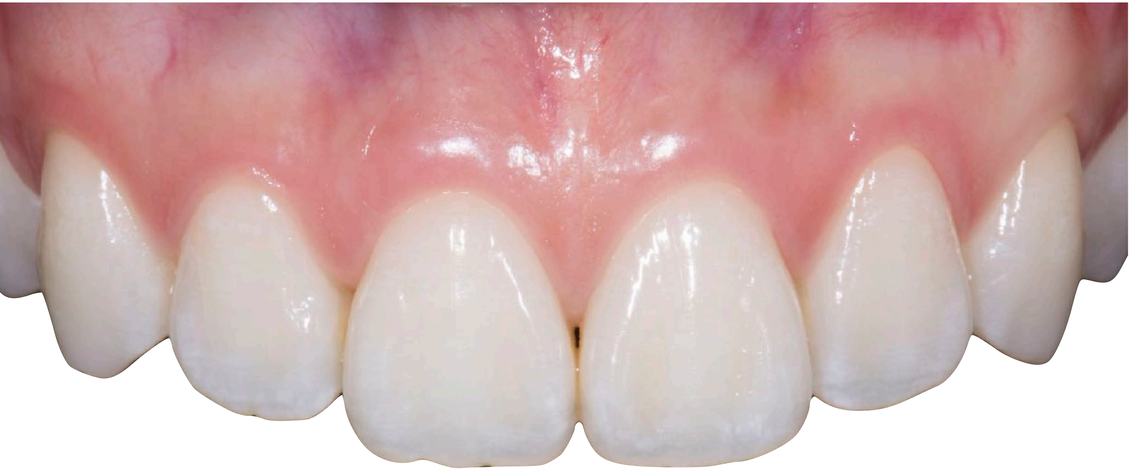

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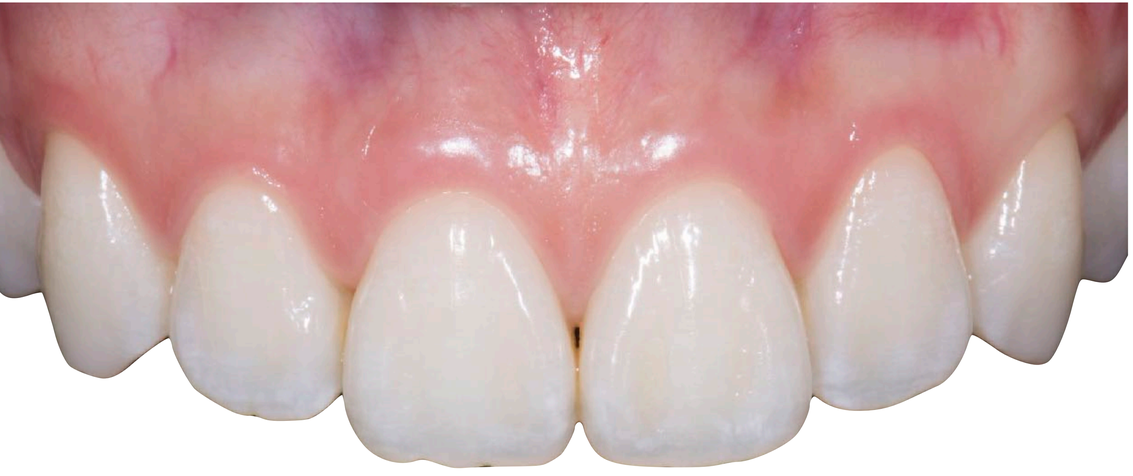

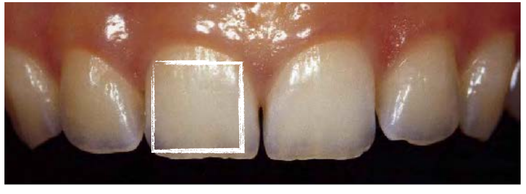

Gingiva|Gingiva Tooth transition|Tooth

1. Tooth shape (square, oval, triangle)
2. Outline, contours, line angles and Characterization
3. Tooth position and angulation
4. Relative tooth dimension and proportion
5. Relative teeth proportions
6. Incisal plane

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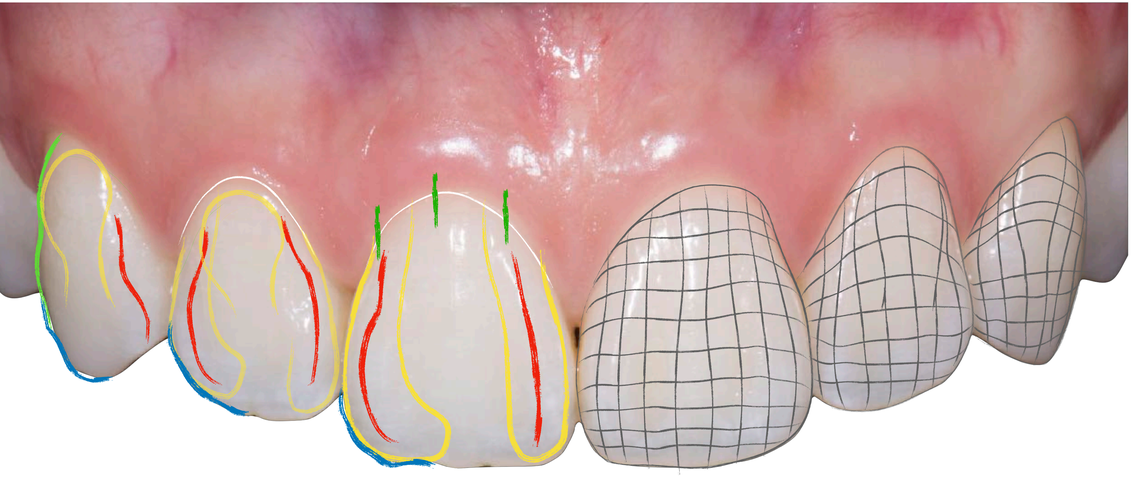

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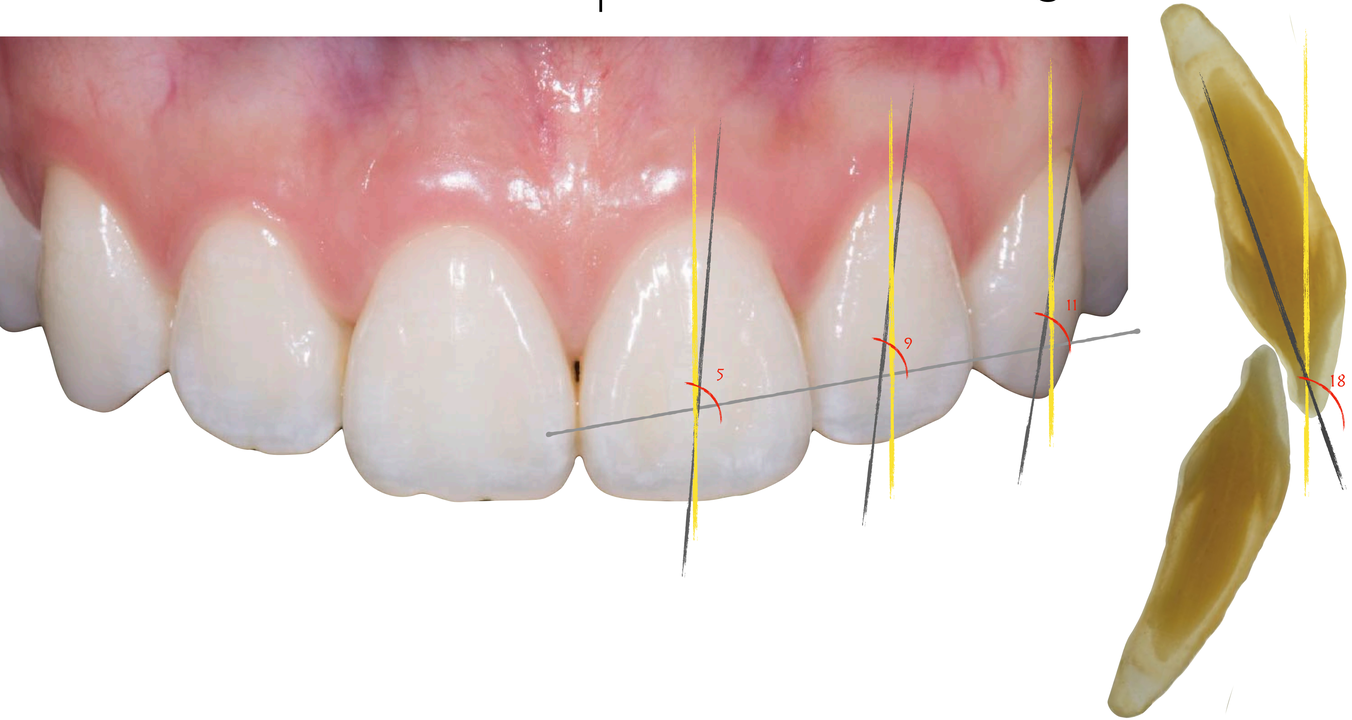

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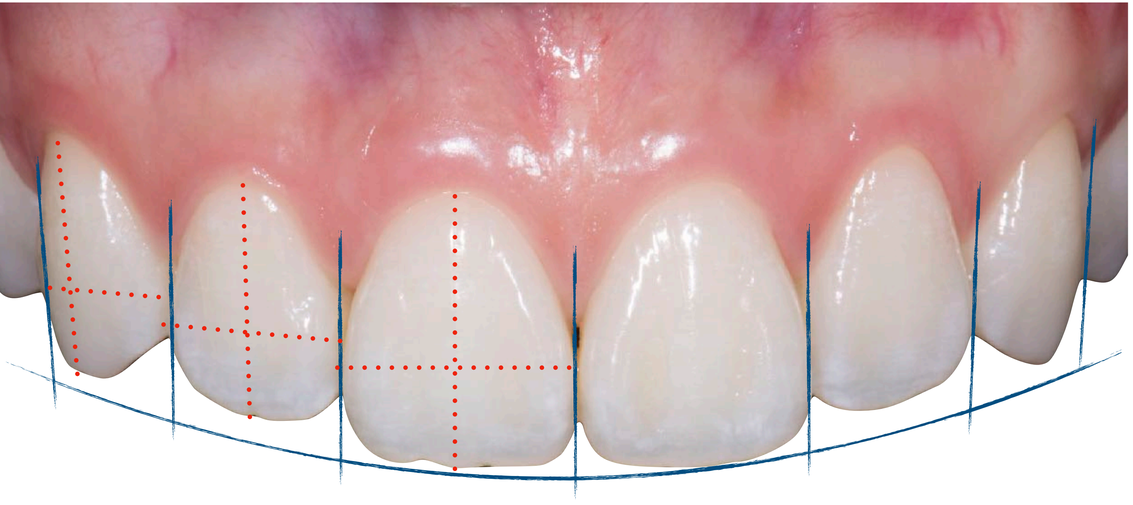

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2. Esthetic considerations|what should we watch out for?

Site analysis:

a. Lip position

b. Gingival bio-type

c. Alveolar Bone anatomy

  i. Relative tooth position to the bone.

  ii.Height and thickness of buccal plate.

d.Position and axis of adjacent teeth

Bauser D, Belser C. Optimizing Esthetics for Implant Restorations in the Anterior Maxilla: Anatomic and Surgical Considerations

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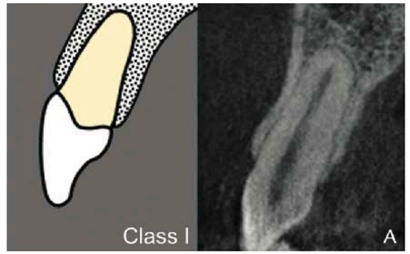
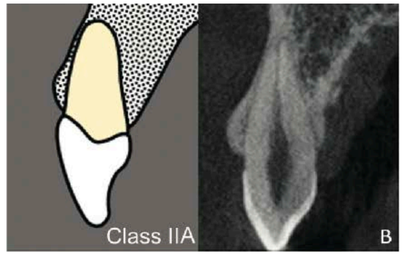
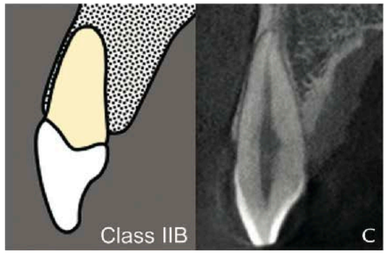


Centrally positioned within ridge



Retroclined with thick buccal plate



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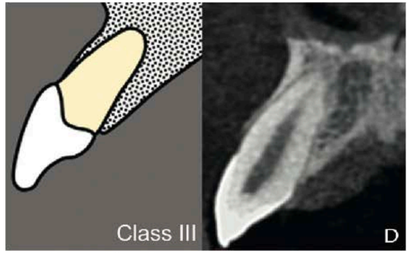
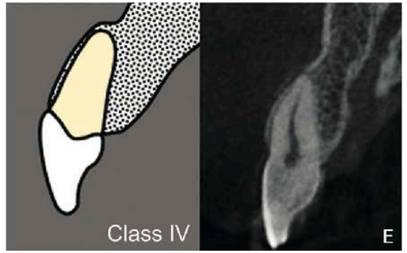
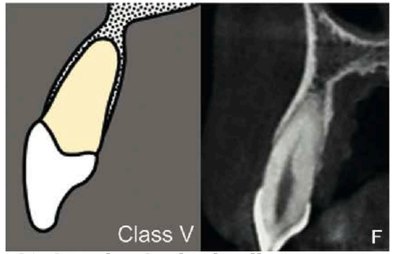


Tooth proclined



Tooth outside the facial bone envelope



Thin buccal and palatal walls

Howard Gluckman Et-Al Radial plane tooth position and bone wall dimensions in the anterior maxilla: A CBCT classification for immediate implant placement, Journal of Prosthetic Dentistry · November 2017

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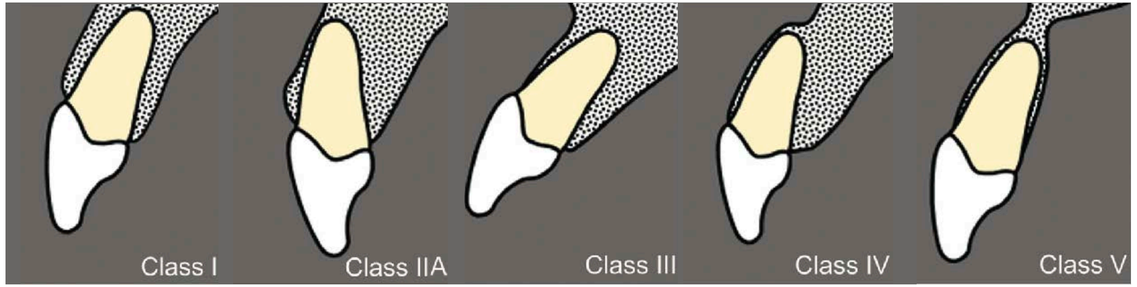

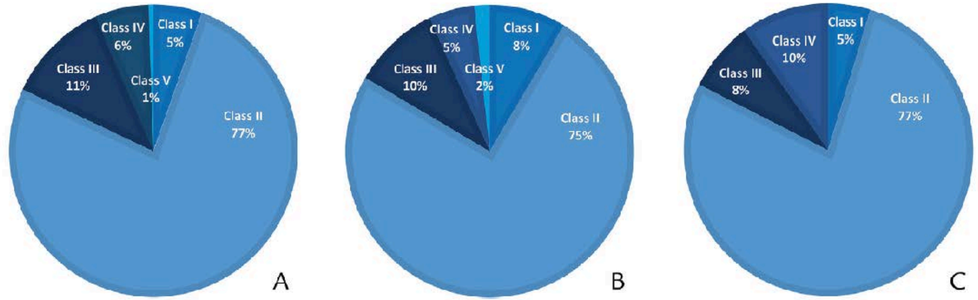

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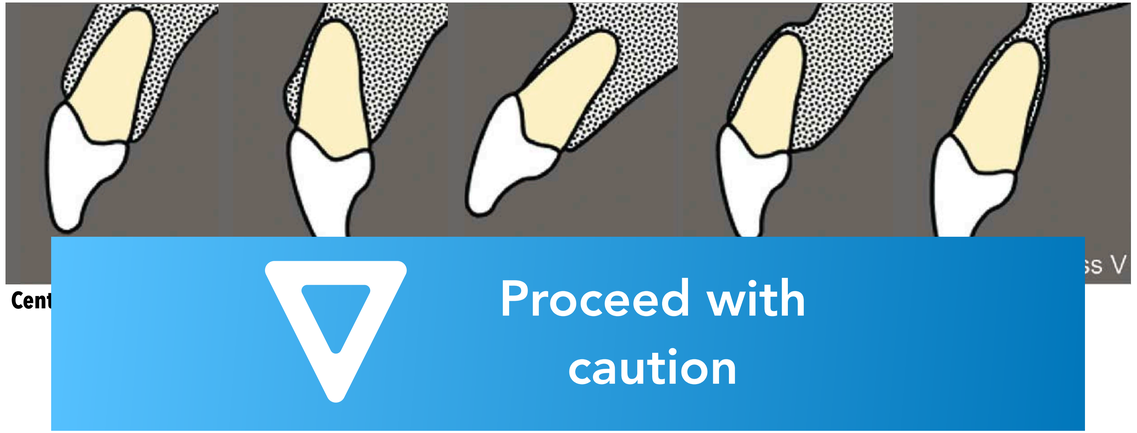

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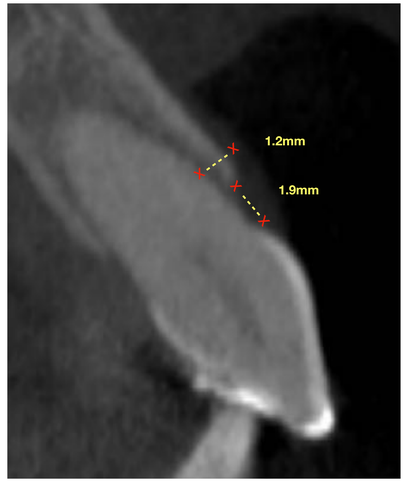

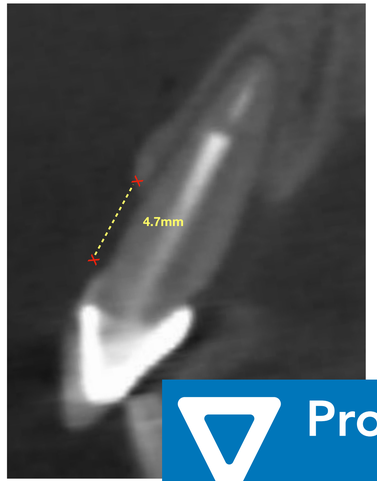

Proceed with caution

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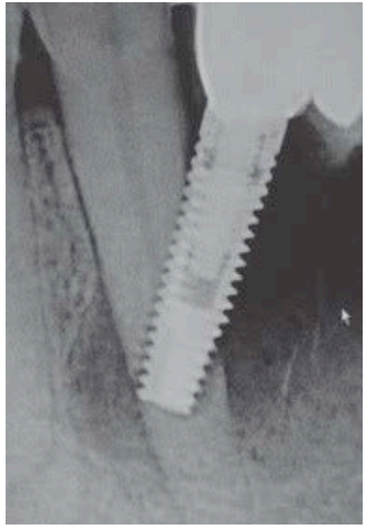

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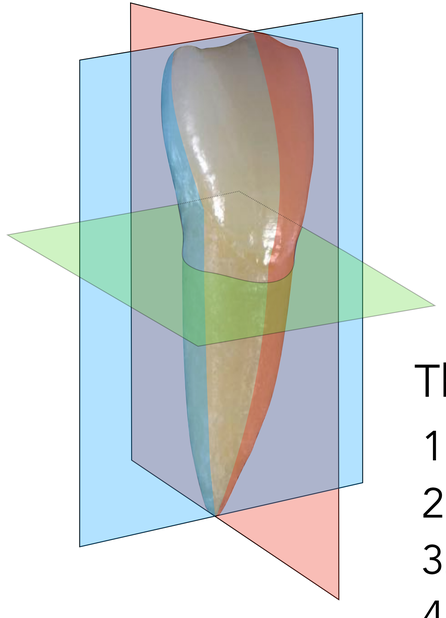

The comfort zone…

1.Mesio-distal dimension; 1.5mm from adjacent teeth (3.0mm from adjacent implant)
2. Facial osseous crest (3.0-4.0mm from free gingival margin)
3. Interproximal (4.5mm from contact point)
4. Orofacial dimension: 1.0mm palatal to emergence of adjacent teeth

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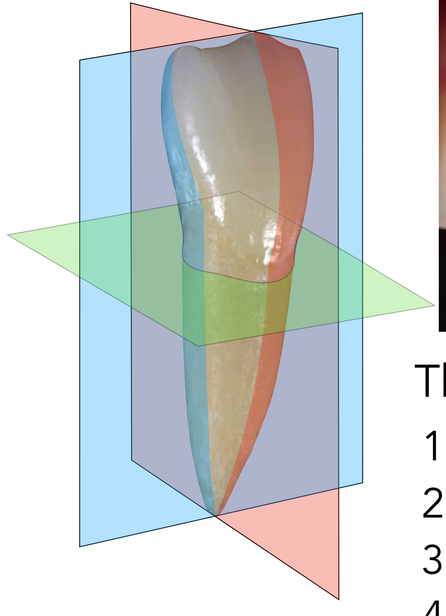

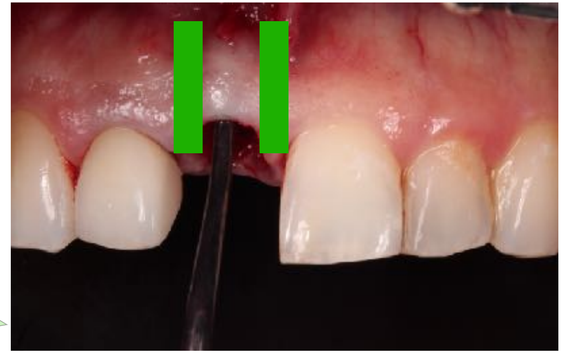

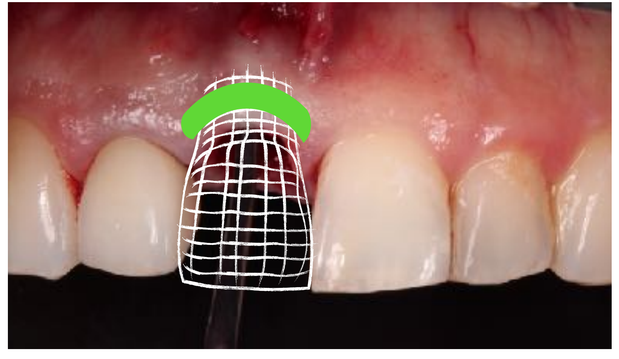

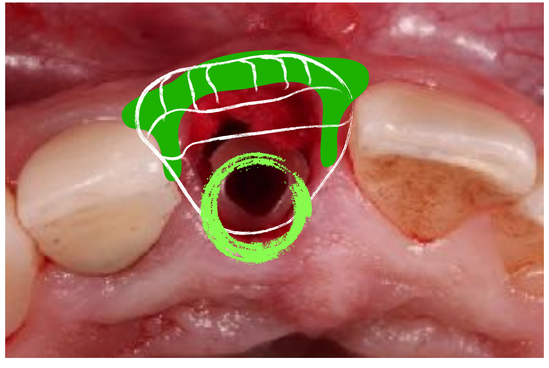

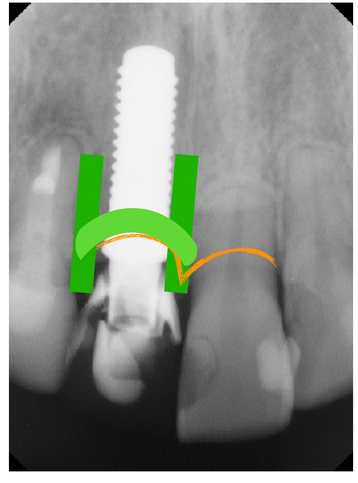

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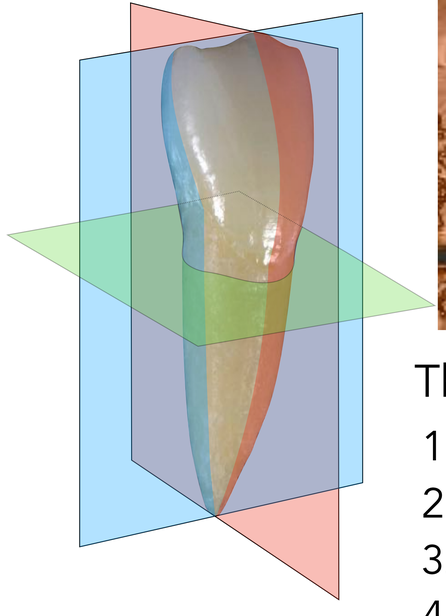

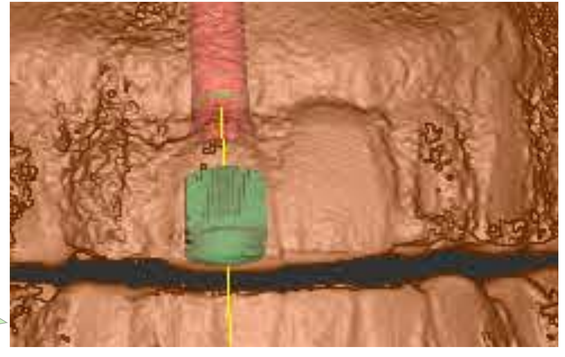

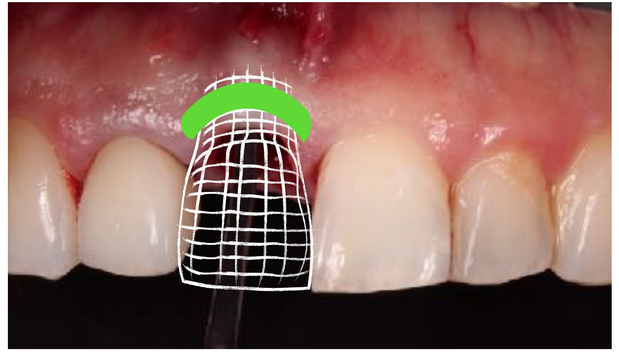

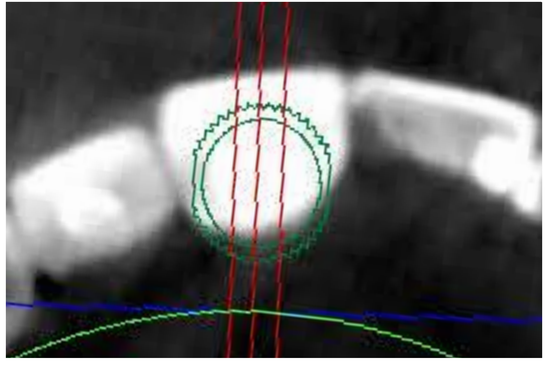

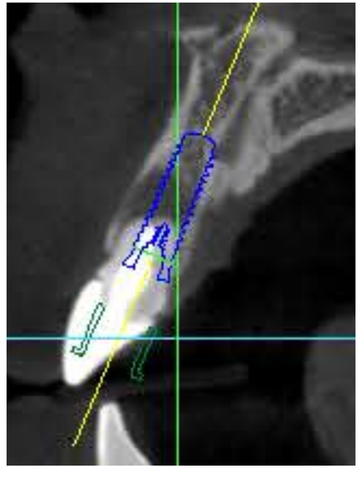

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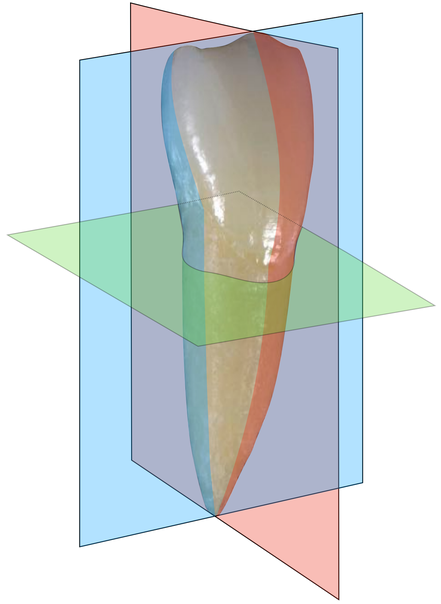
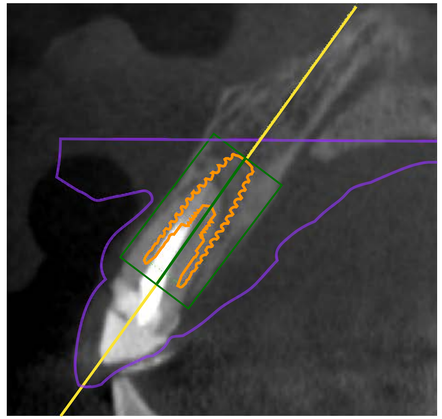
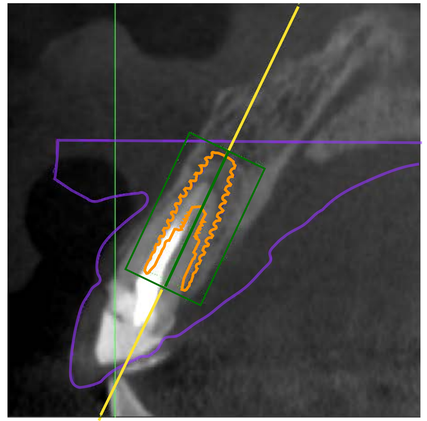
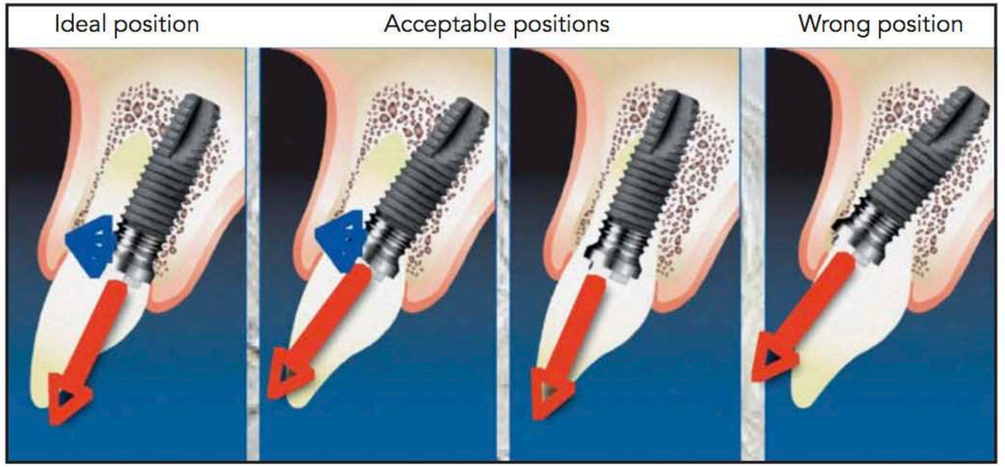
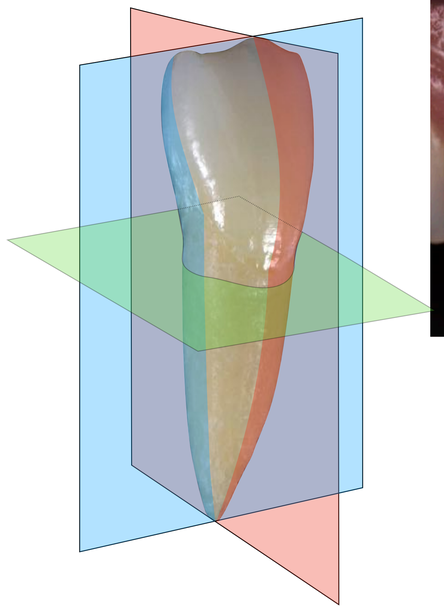








3. Planning for predictable outcome: Implant placement considerations



3. Planning for predictable outcome: Provisional considerations

Removable

Attached

Implant supported

3. Planning for predictable outcome: Provisional considerations

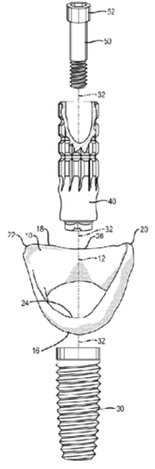
Immediate implant placement + (Immediate) Provisional + Favorable Transmucosal contour → Increased predictability

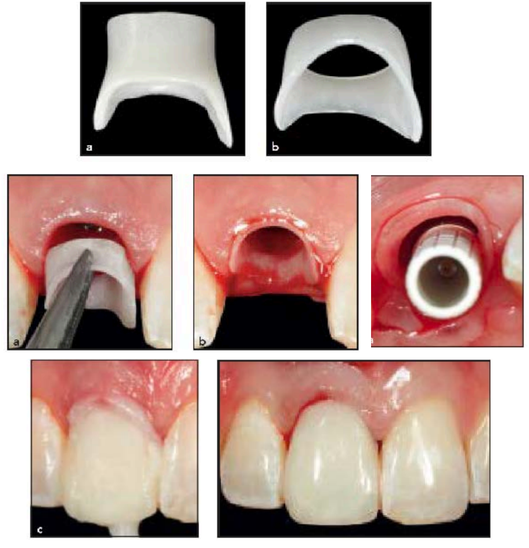
Block: “Support of the gingival margin with a provisional at the time of tooth extraction and implant placement preserved 1 mm more facial gingival margin position compared with the delayed group.

Trimpou:“Simulation of the exact dimension of the lost tooth, especially on the cervical part of the new provisional restoration, is expected to preserve all relevant information and allows the design of a natural looking emergence profile.

Stephen J. Chu et-al Flapless Postextraction Socket Implant Placement, Part 2: The Effects of Bone Grafting and Provisional Restoration on Peri-implant Soft Tissue Height and Thickness A Retrospective StudyInt J Periodontics & Restorative Dent 2014, 35
Block MS et al Prospective evaluation of immediate and delayed provisional single tooth restorations.J Oral Maxillofac Surg. 2009 Nov.11 :89-107
Chu S. A Novel Prosthetic Device and Method for Guided Tissue Preservation of Immediate Post extraction Socket Implants. (Int J Periodontics Restorative Dent 2014;34
Trimpou G, Rationale for esthetic tissue preservation of a fresh extraction socket by an implant treatment concept simulating a tooth replantation. Dent Traumatol 2010;26:105–111.

3. Planning for predictable outcome: Provisional considerations





Amato et al, Tissue Dimensional Changes in Single-Tooth Immediate Extraction Implant Placement in the Esthetic Zone: A Retrospective Clinical Study. Int J Oral MaxIllOfac IMplants 2018
Chu S. A Novel Prosthetic Device and Method for Guided Tissue Preservation of Immediate Post extraction Socket Implants. (Int J Periodontics Restorative Dent 2014;34

4. Anatomically Driven Transmucosal Approach

Utilizing tooth anatomy for prototypes and final restorations

Immediate implant placement + (Immediate) Provisional + Favorable Transmucosal contour → Increased predictability

Stephen J. Chu et-al Flapless Postextraction Socket Implant Placement, Part 2: The Effects of Bone Grafting and Provisional Restoration on Peri-implant Soft Tissue Height and Thickness A Retrospective StudyInt J Periodontics & Restorative Dent 2014, 35

Block MS et al Prospective evaluation of immediate and delayed provisional single tooth restorations.J Oral Maxillofac Surg. 2009 Nov.11 :89-107

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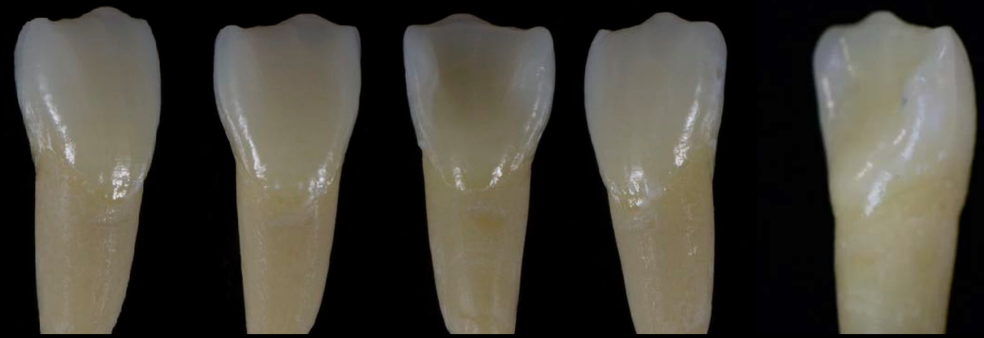
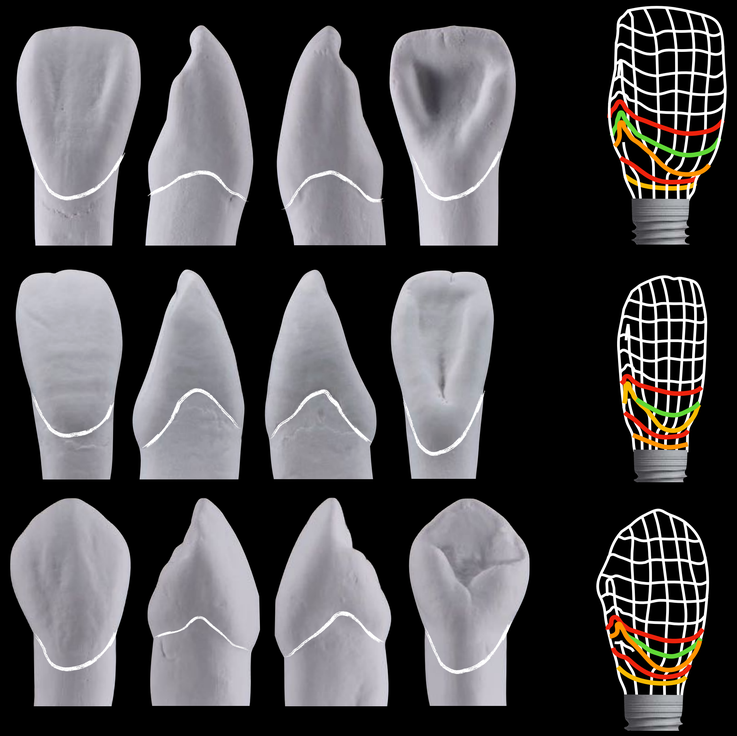
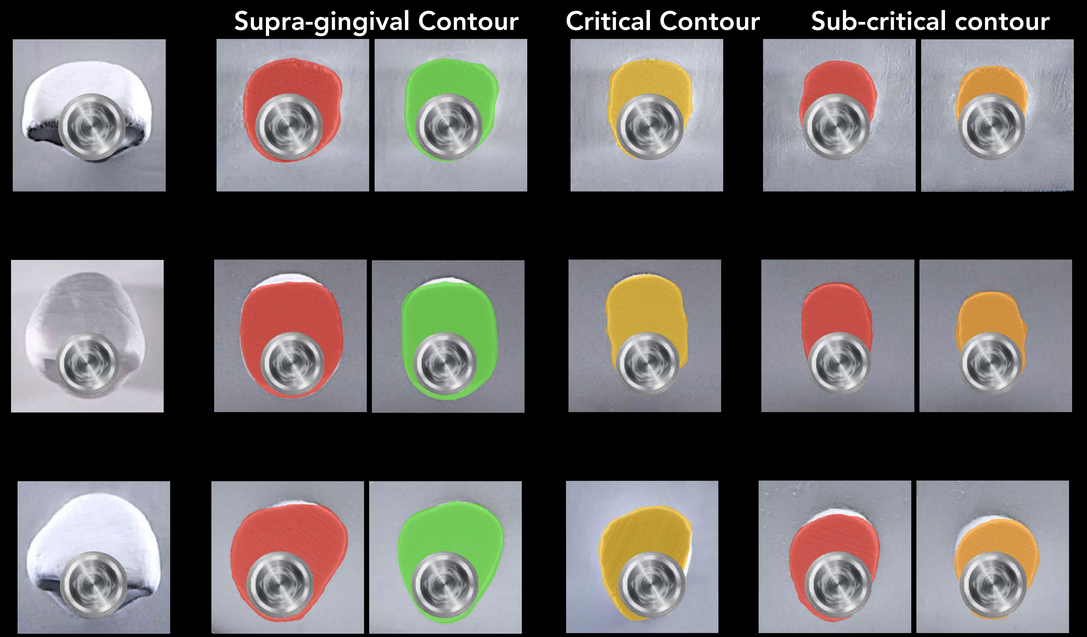


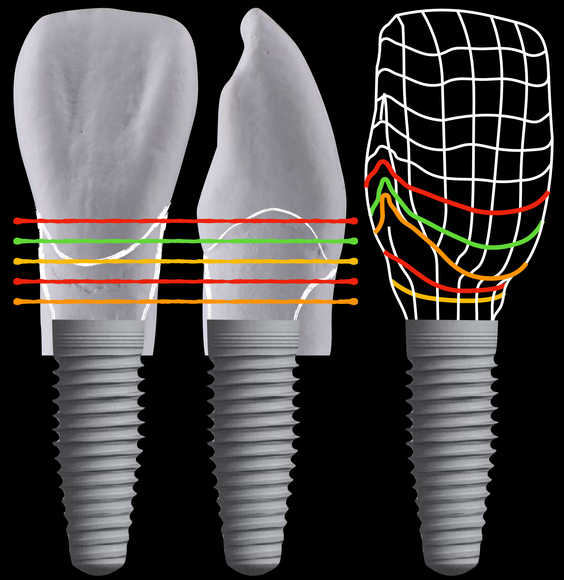

1899
1900
1910
1916
1957

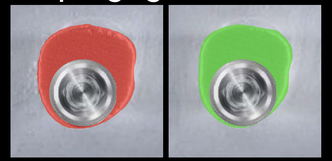
4. Anatomically Driven Transmucosal Approach

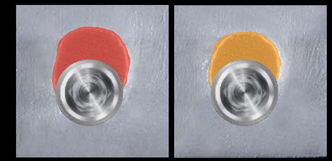




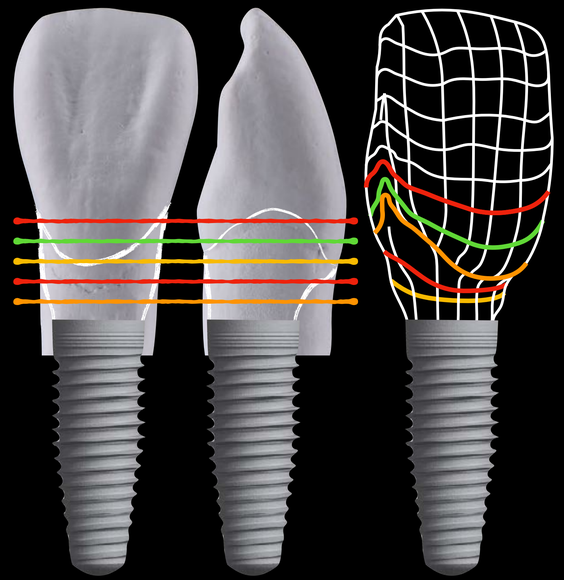
4. Anatomically Driven Transmucosal Approach

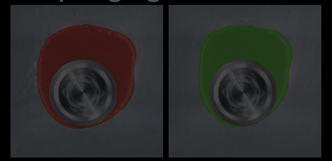


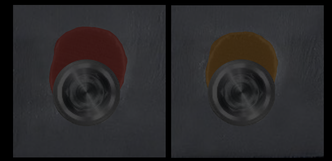


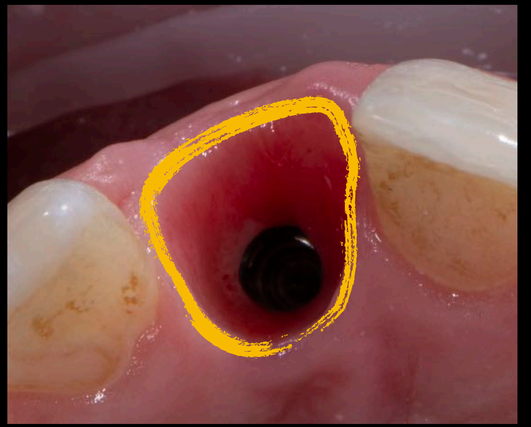


4. Anatomically Driven Transmucosal Approach

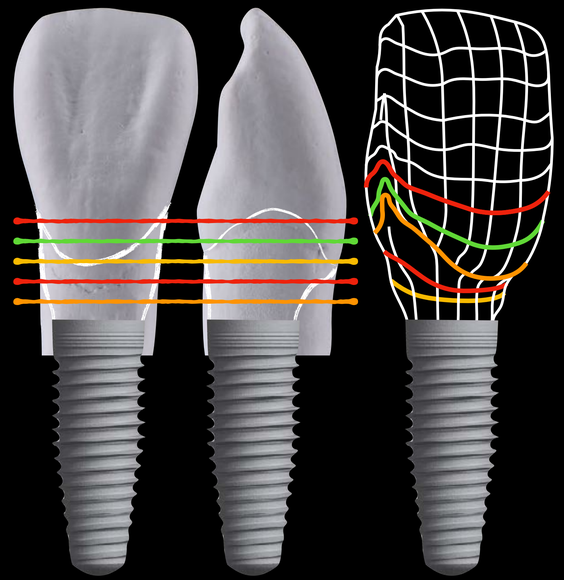


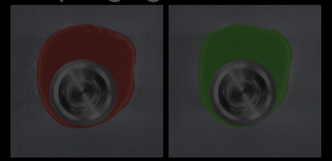


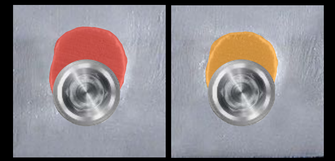


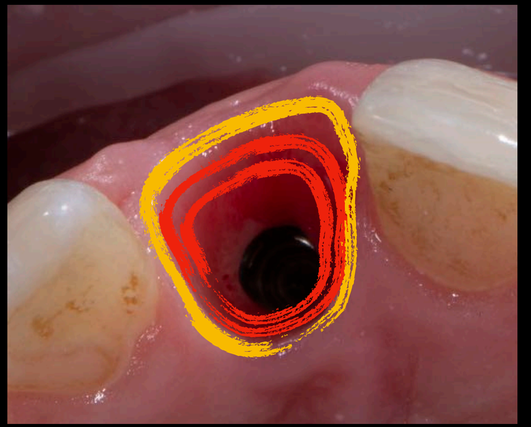


4. Anatomically Driven Transmucosal Approach

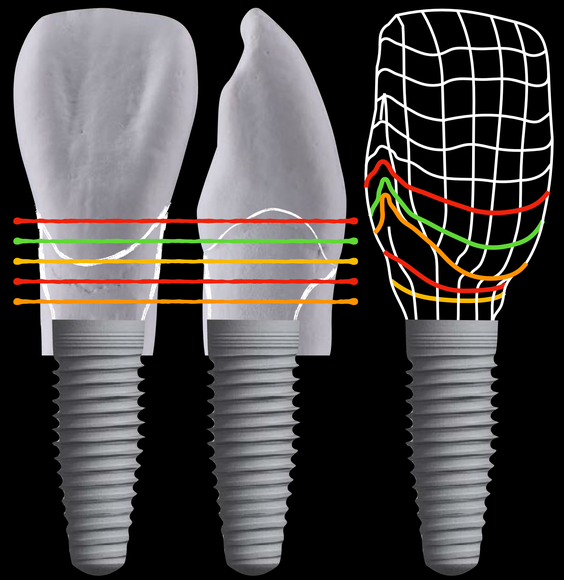


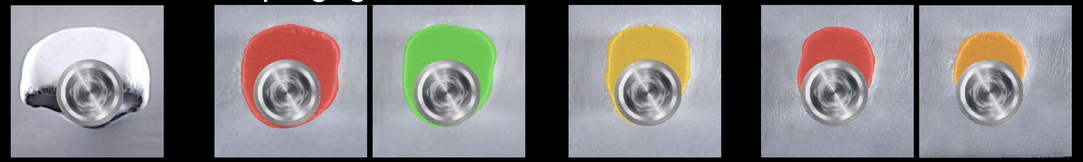


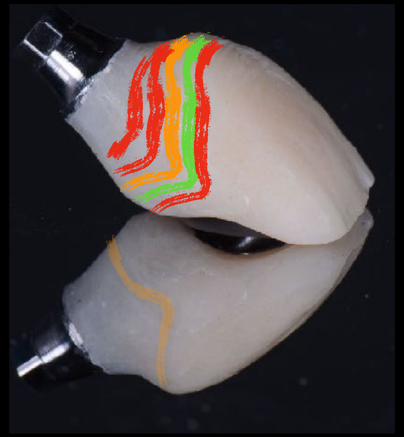


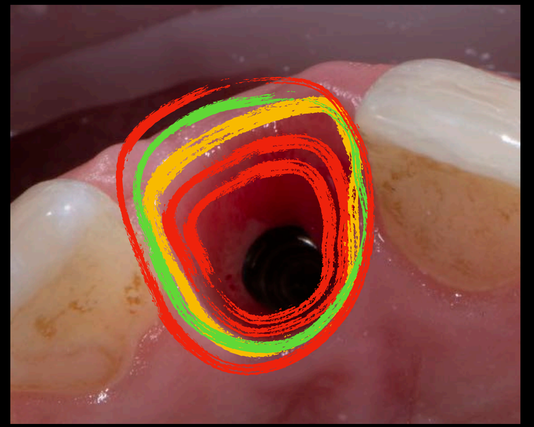


4. Anatomically Driven Transmucosal Approach

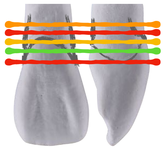


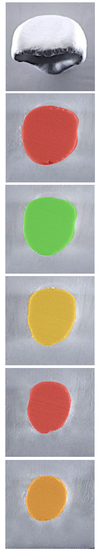






5. Scenario base Anatomically-Driven work flow





Immediate placement
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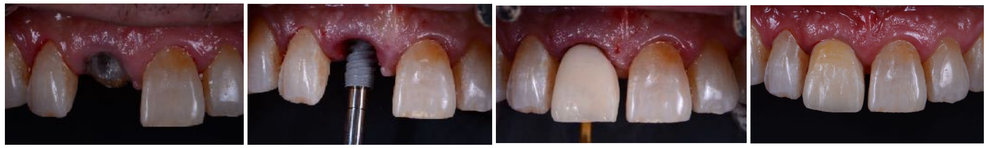
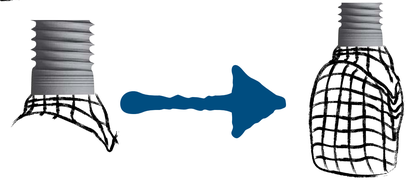


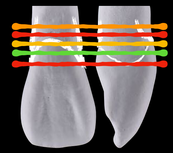
Immediate placement
1 stage

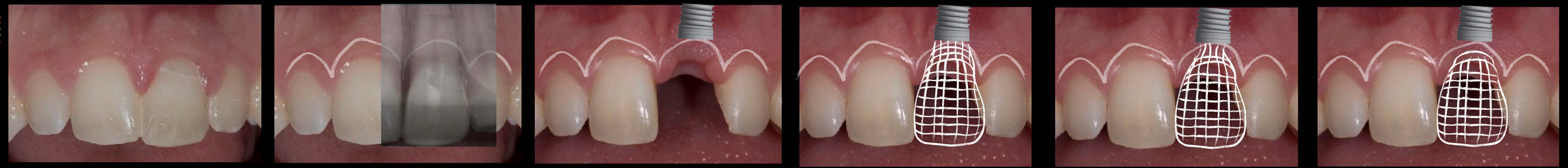


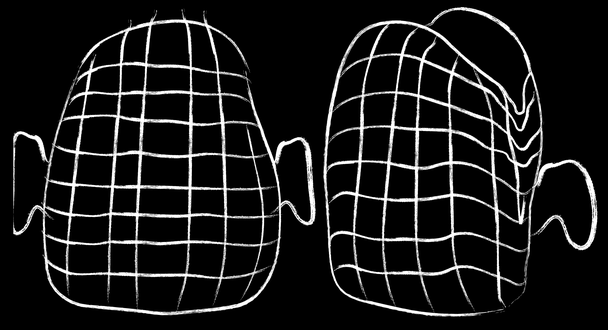
Immediate placement
2 stage

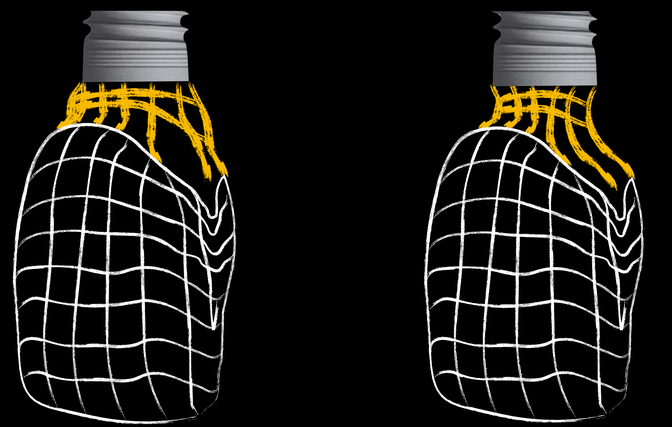
Delayed placement

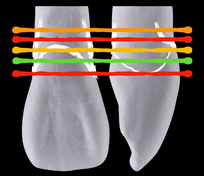
6. Sequencing and strategies for predictable esthetic outcome

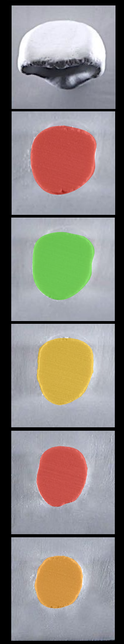


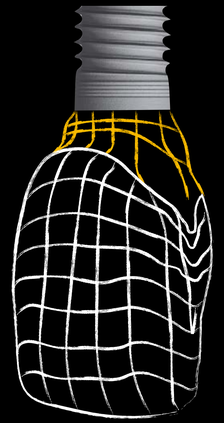












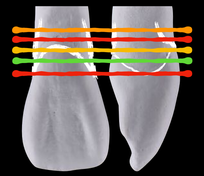
12/2009

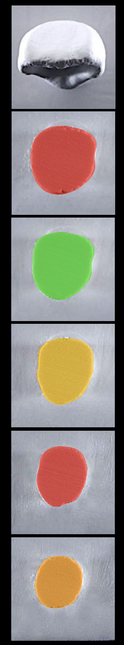
1/2010

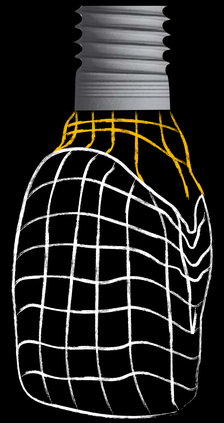
7/2011

9/2013

2/2015







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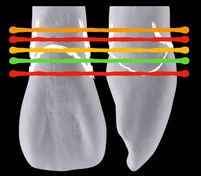

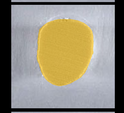

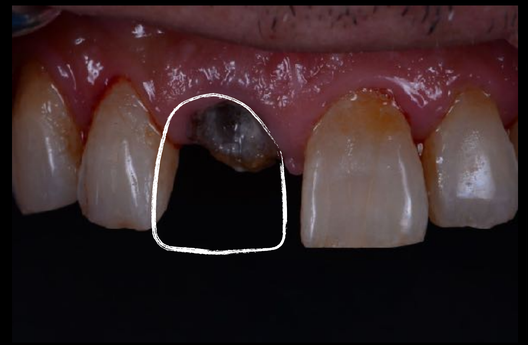

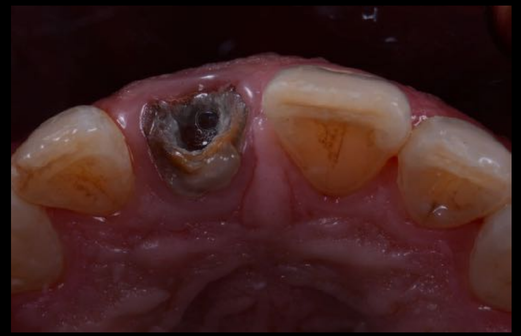

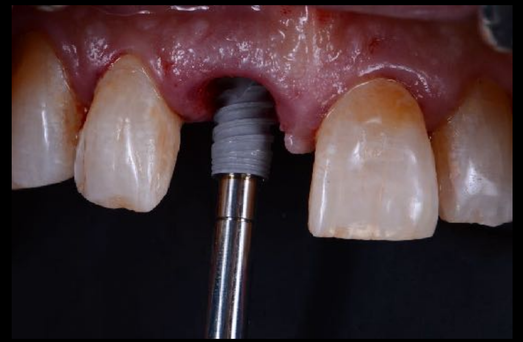

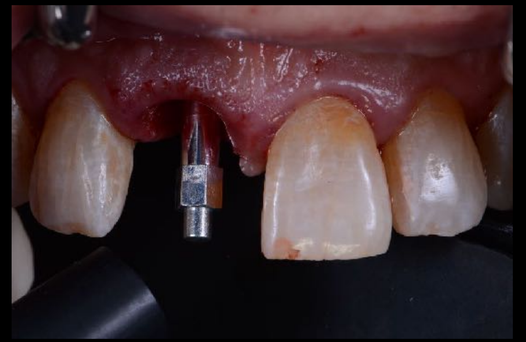


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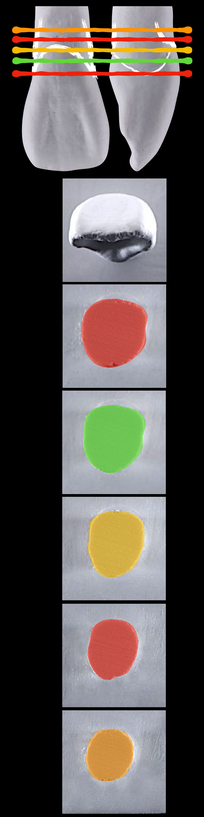
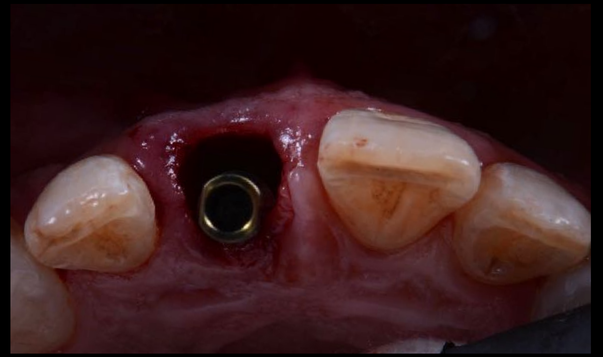
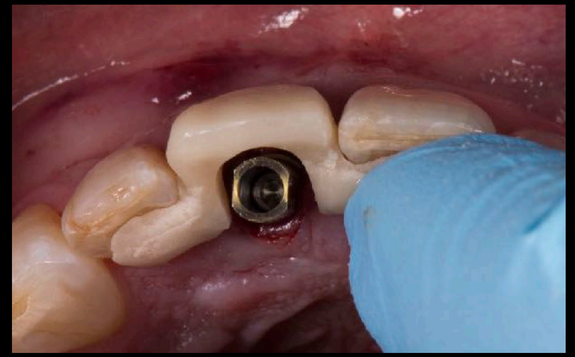
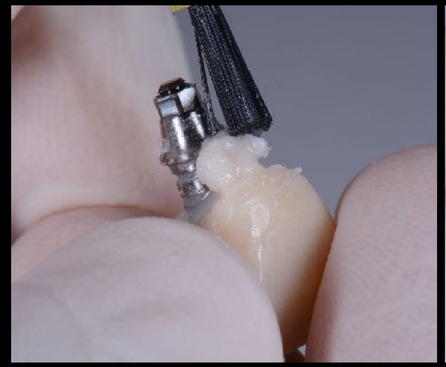
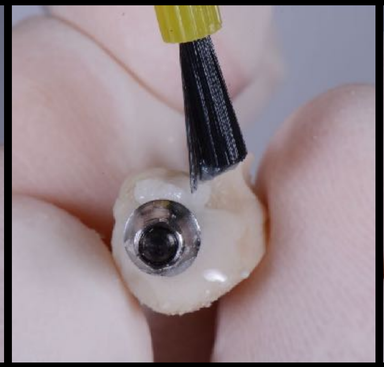
12-Oct-2015

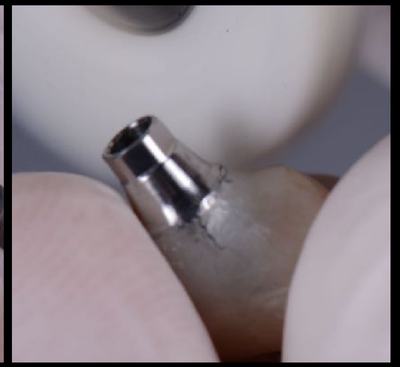


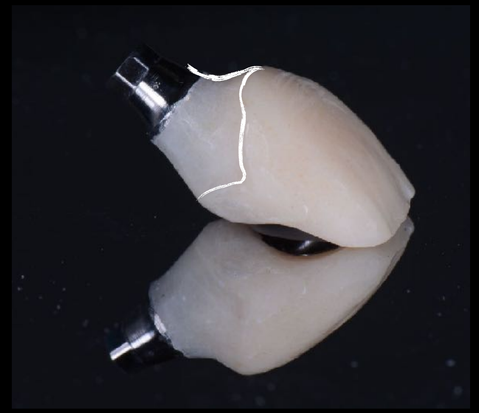


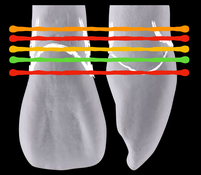


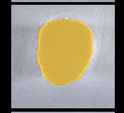


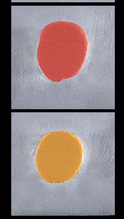


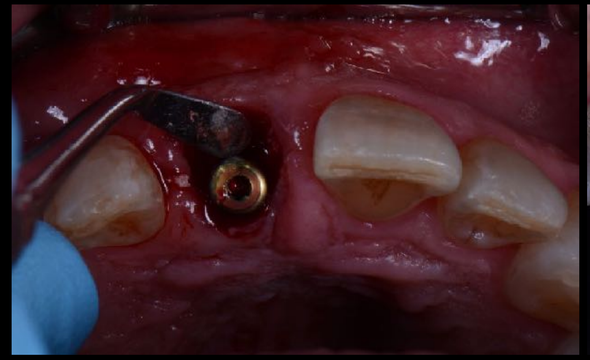


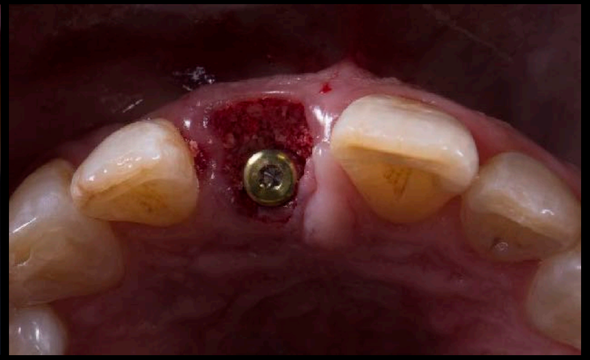


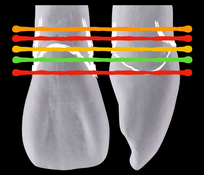


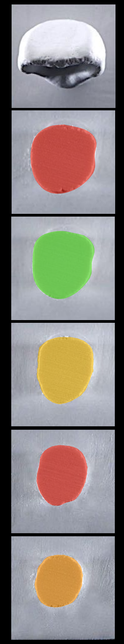




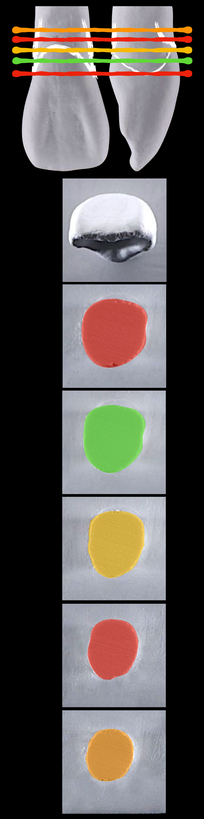


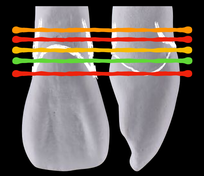


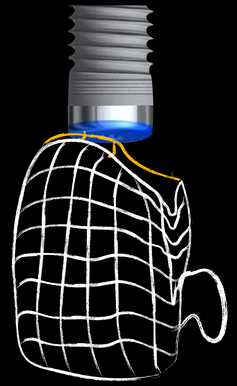




2/2015

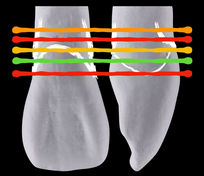


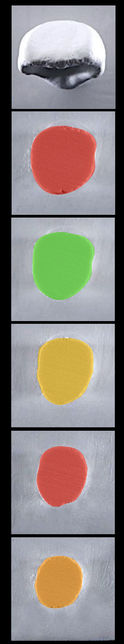


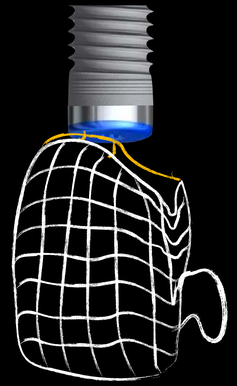


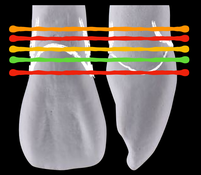
Compound Odontoma with
Impacted Central #8

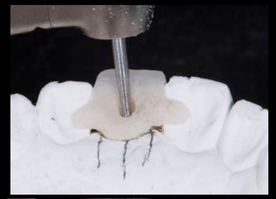
11/7/2016

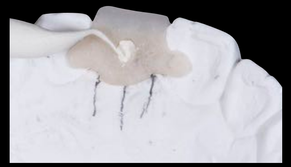


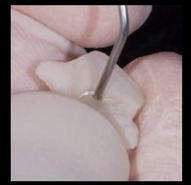


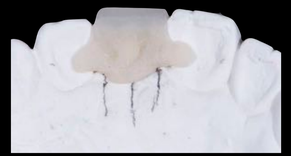


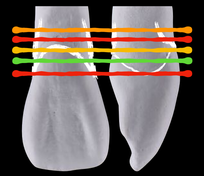


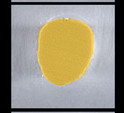


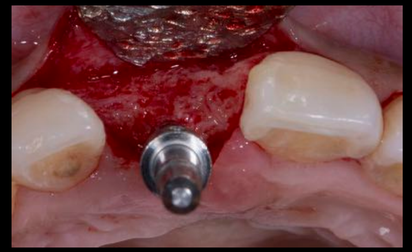


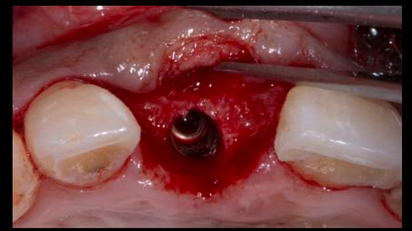


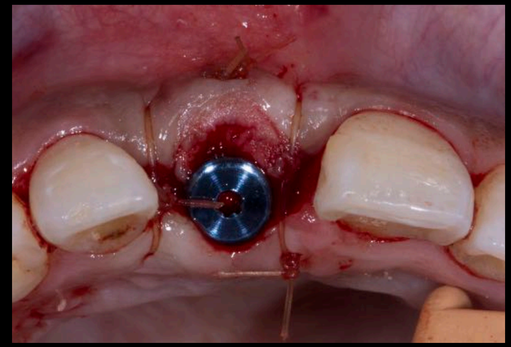




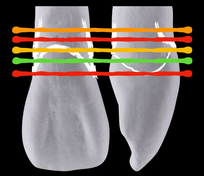


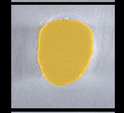


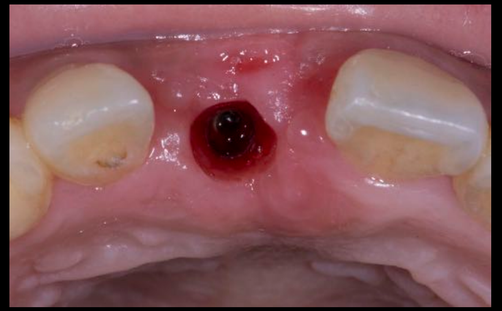




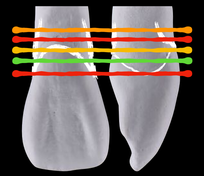
10/6/2017

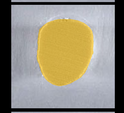


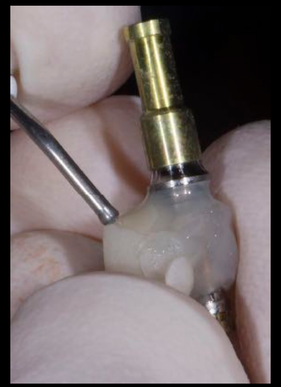




1/26/2018







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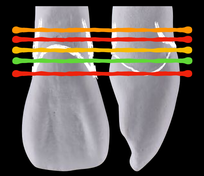

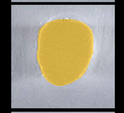

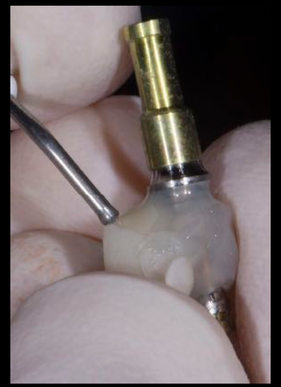

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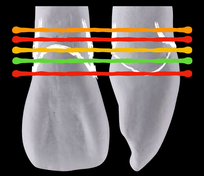

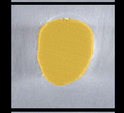

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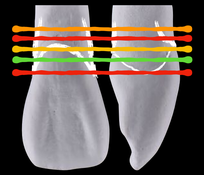
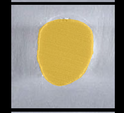
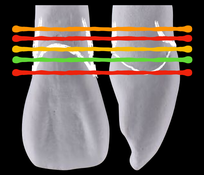
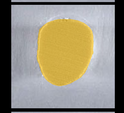




2/8/2018





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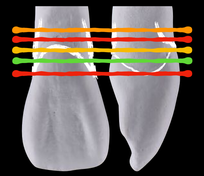
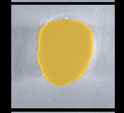
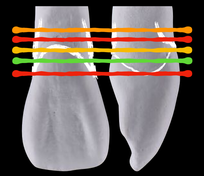
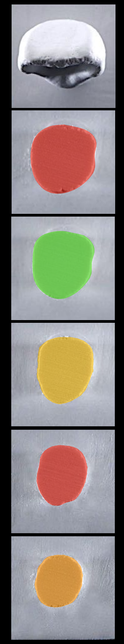
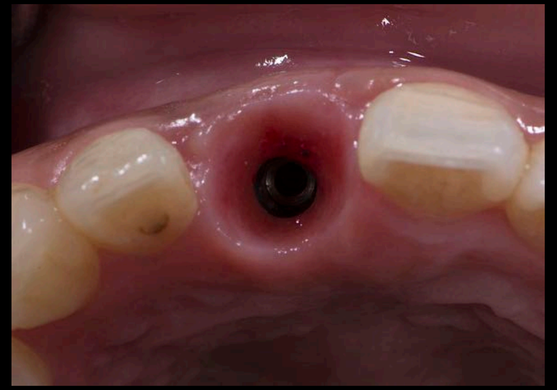


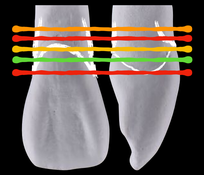


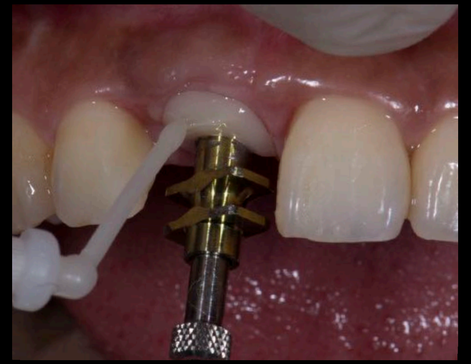
5/21/2018

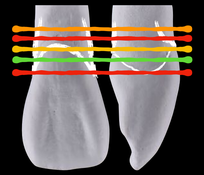


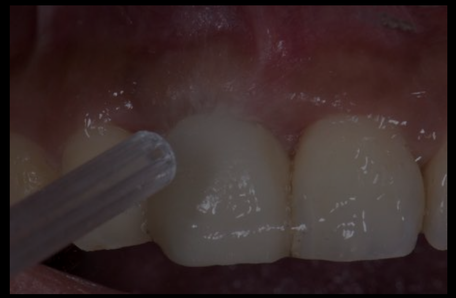


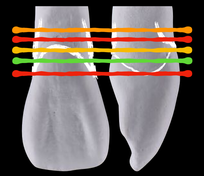












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M2
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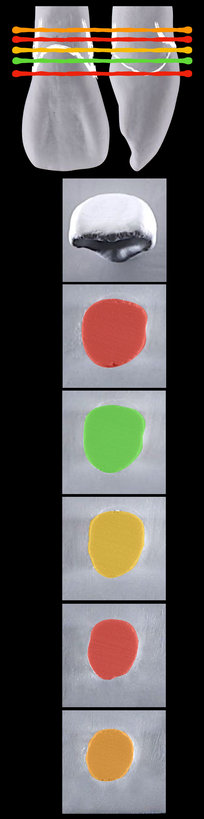
L2.5



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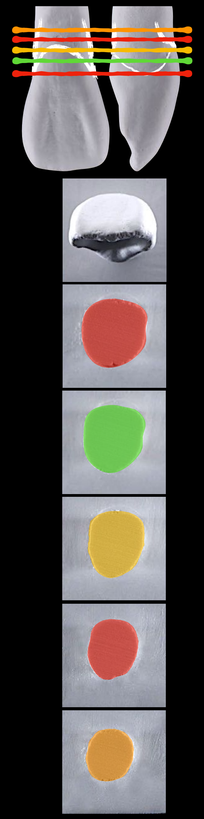
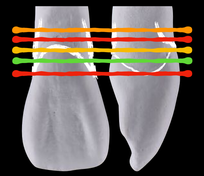
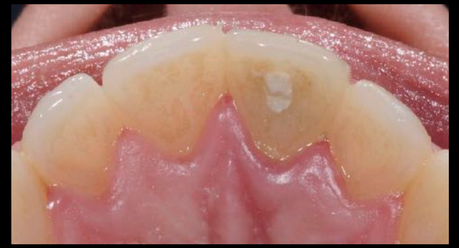
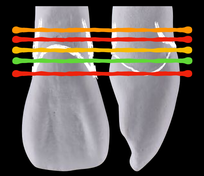
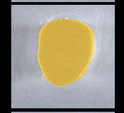


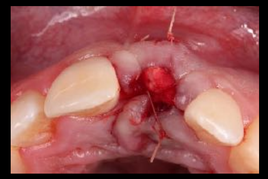
5/24/2019

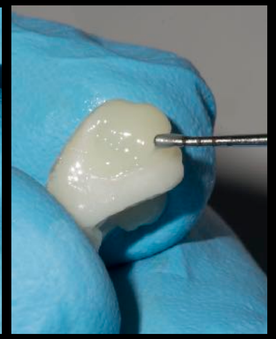


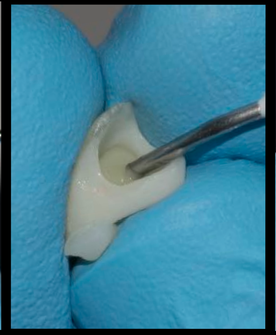


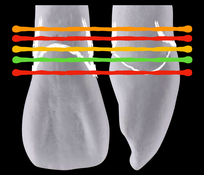


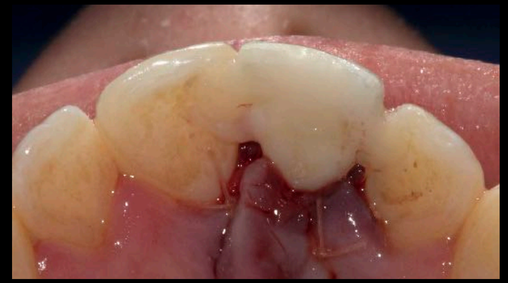




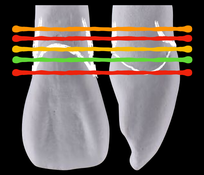


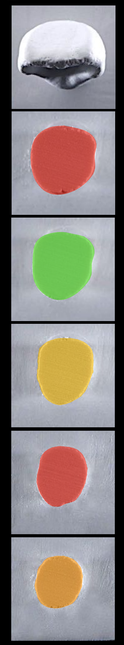


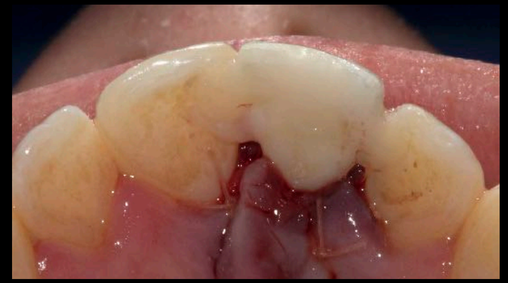




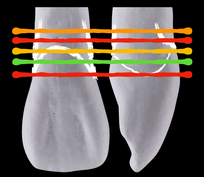
10 Days

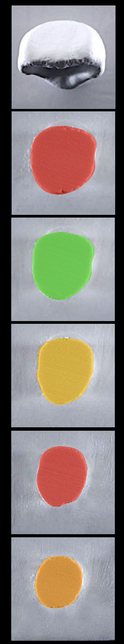


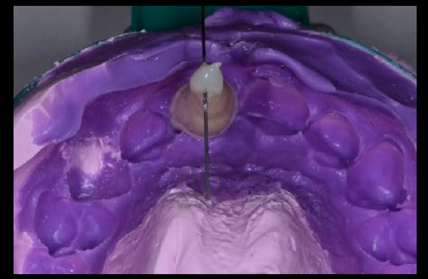


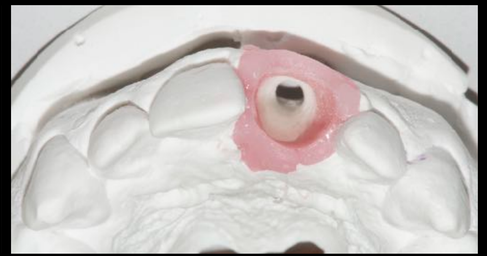


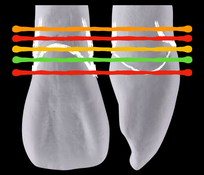
3 months

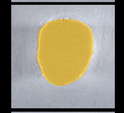


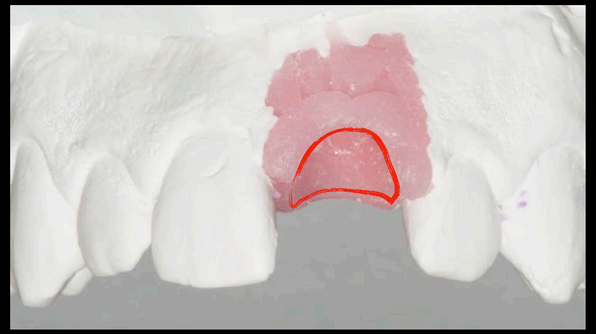


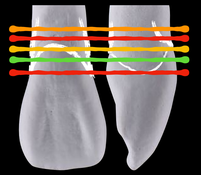


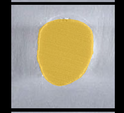


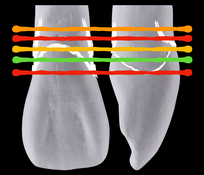


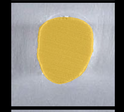


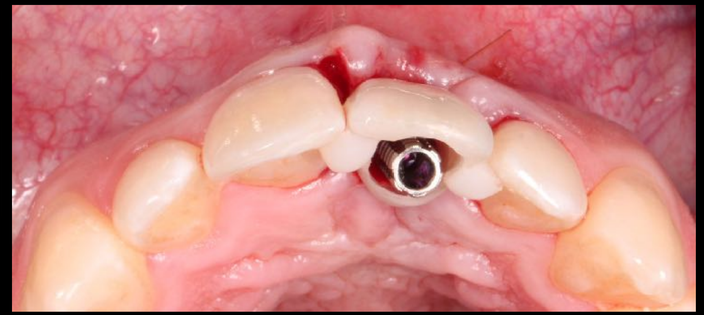


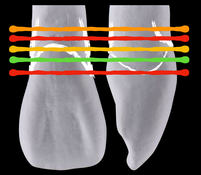


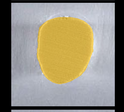


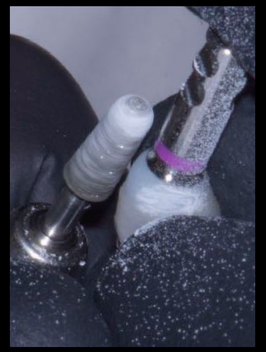


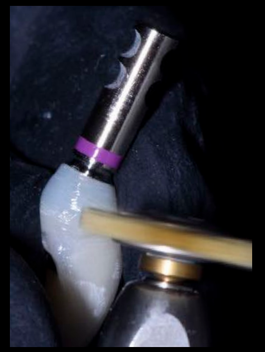


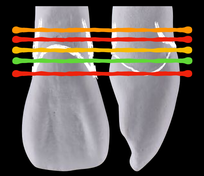


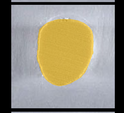


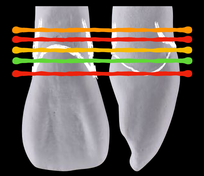




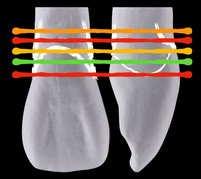








10 Days



DAILY BRUIN

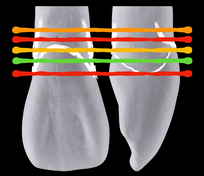
ater polo brings home UCLA's 112th NCAA
hampionship

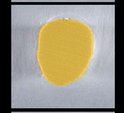
BY CLAIRE FAHY

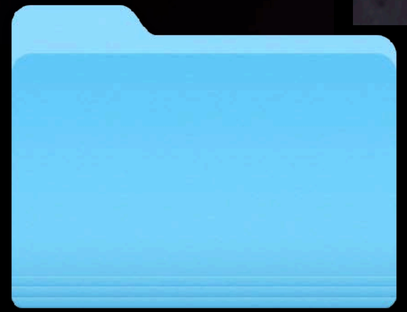
Posted: December 7, 2014 9:48 pm

MEN'S WATER POLO, SPORTS

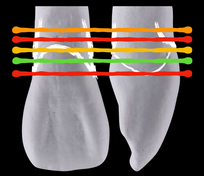
A men's water polo won the Bruins' 112th national championship after sophomore center Gordon M
een UCLA and USC. (Katie Meyers/Daily Bruin senior staff)

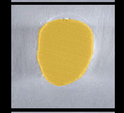


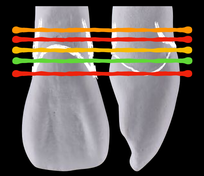


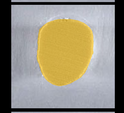


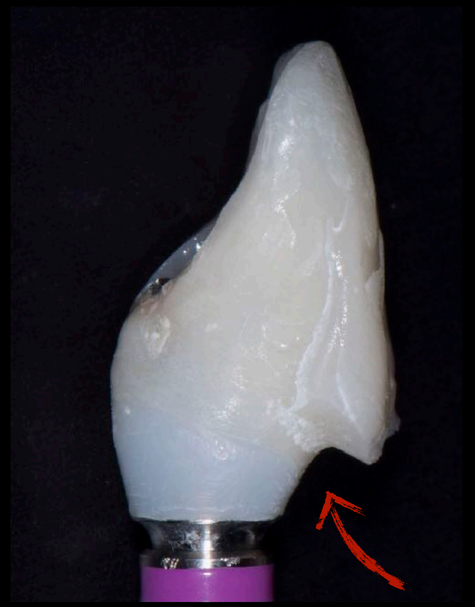
5. Plaque Galore- 3 Months Follow-up

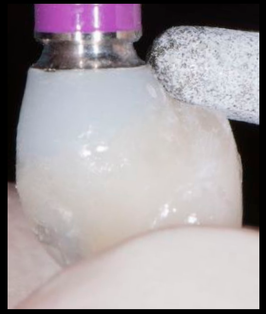


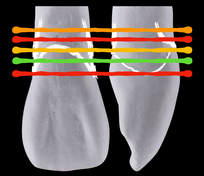


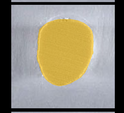


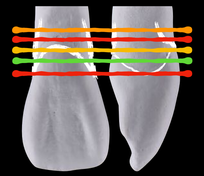


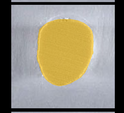


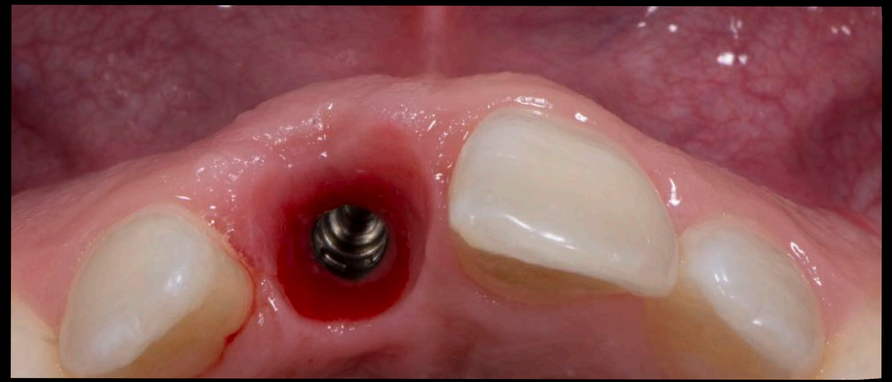


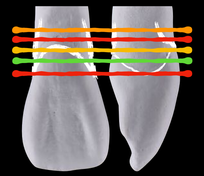


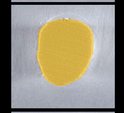


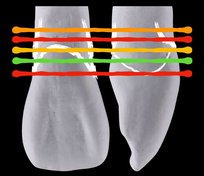


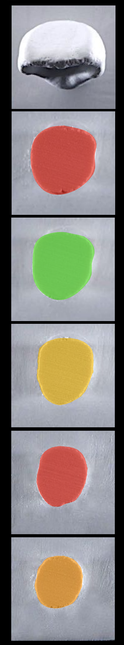




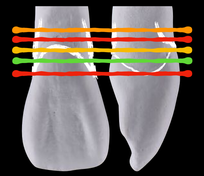


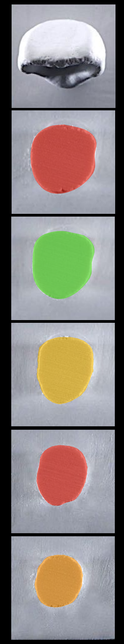




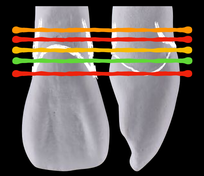


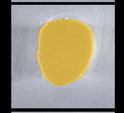

3 months





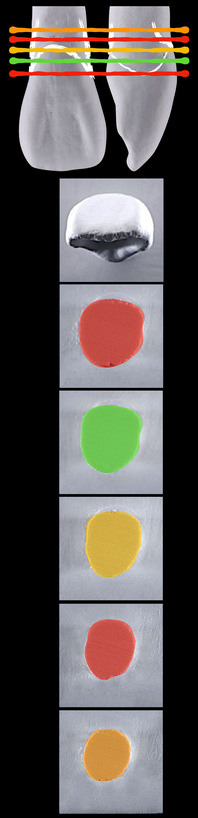
6 months

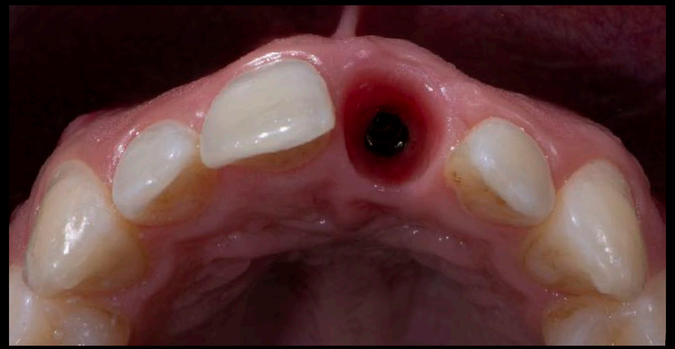


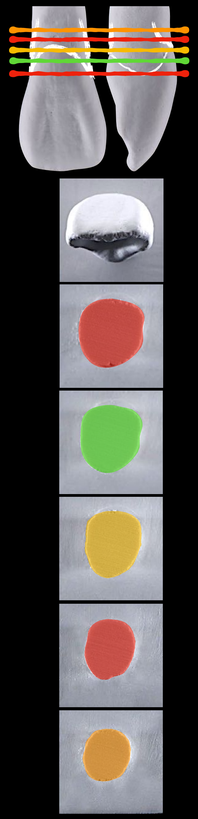


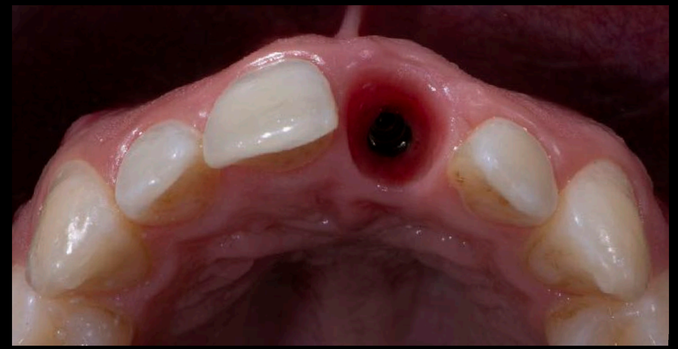
….6 months

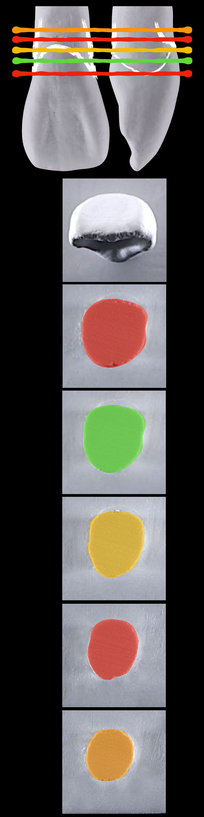
6/18/19

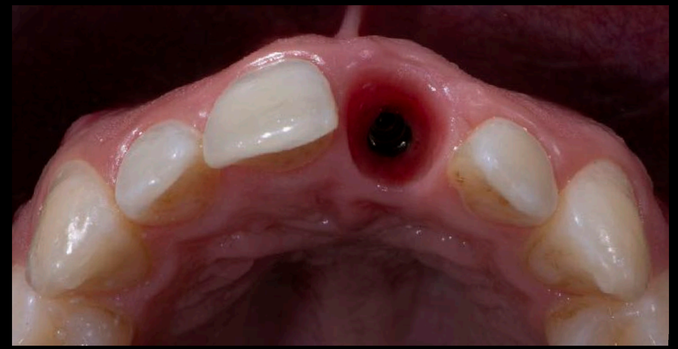


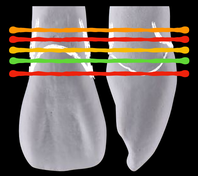


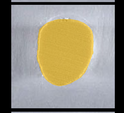


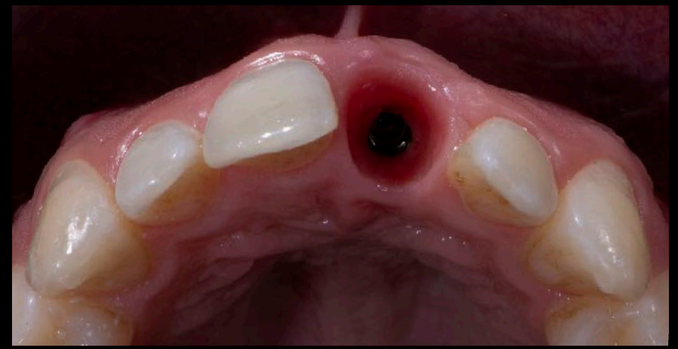


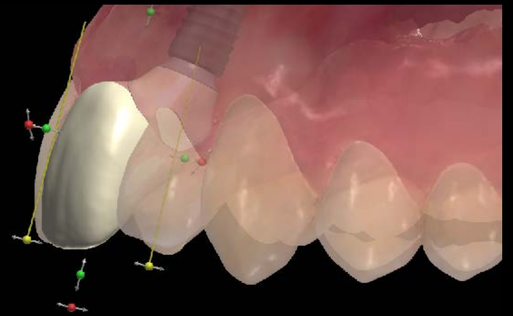


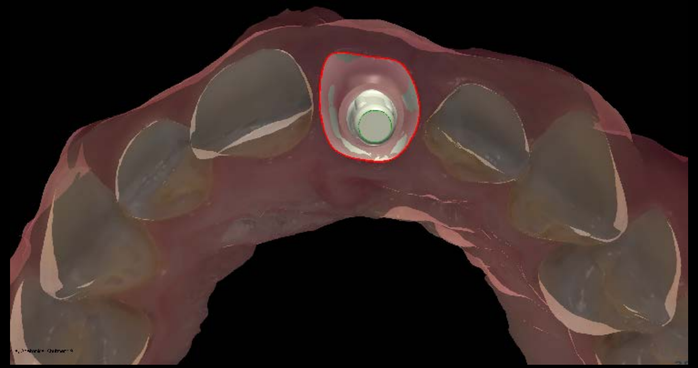


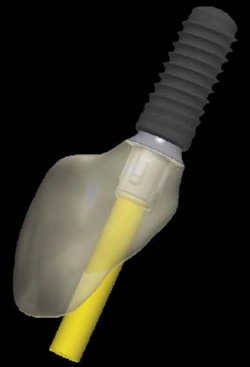


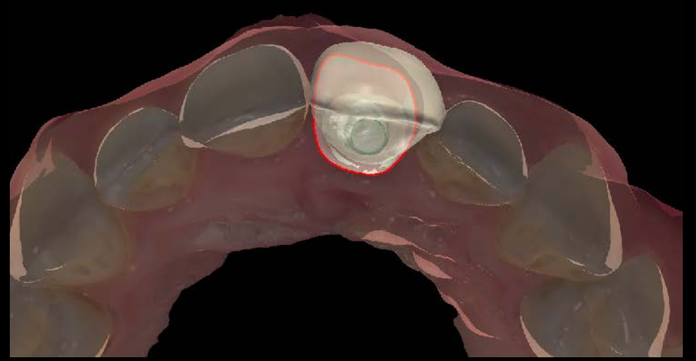


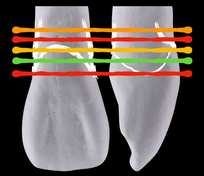


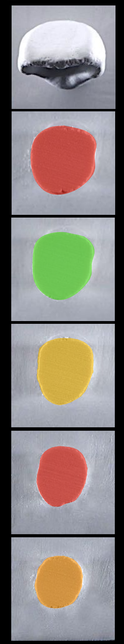




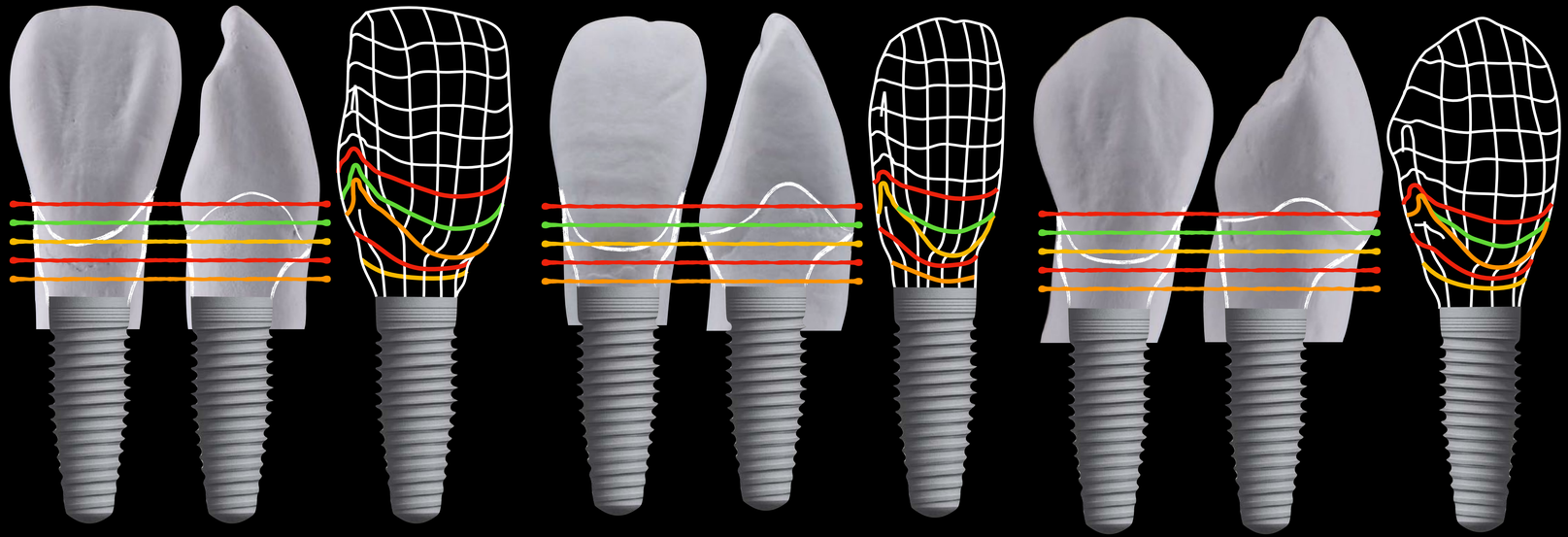









To be continued...



Dr. Joan Pi-Anfruns
Mr. Ryan Lim
Mr. Juan Kang
Dr. Akshay Vij
Dr. Abhi Thakkar
Dr. Carlos Trujillo
Dr. Fouad Talic
Dr. Ravdeep Mann

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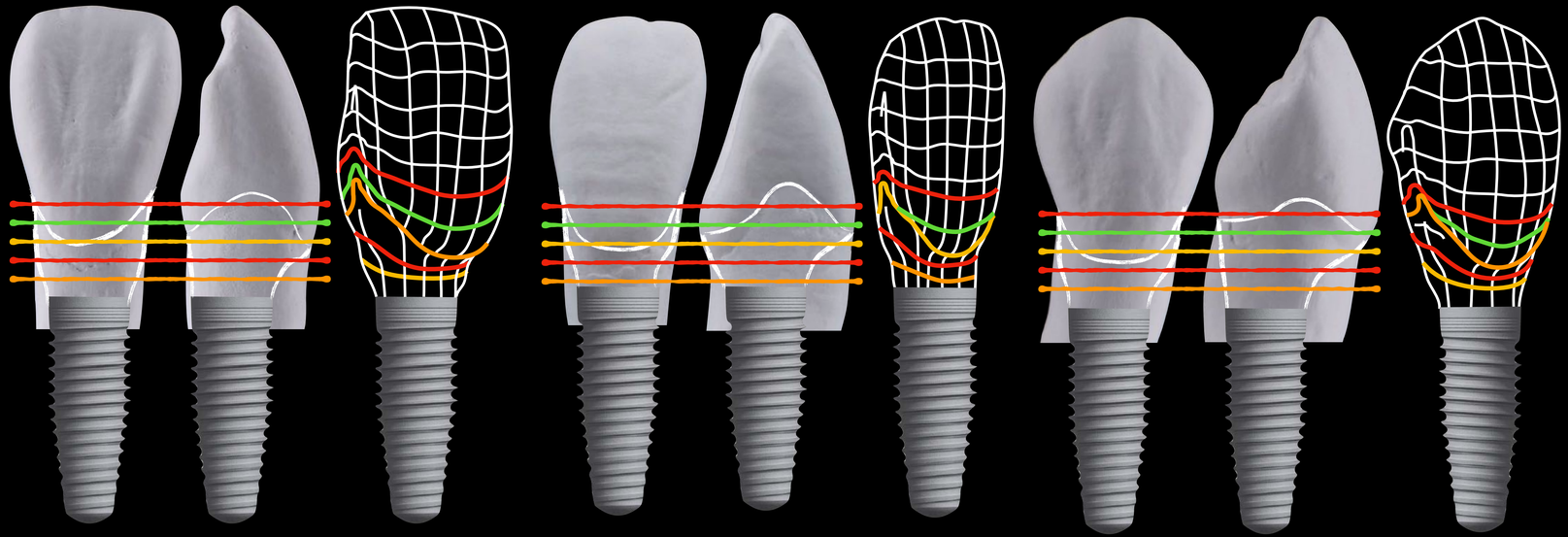

Thank you…

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