SOCKET SHIELDS FOR IMPLANT ESTHETICS
HANDS-ON TRAINING

Implant Dentistry Study Club of Houston
September 14, 2024

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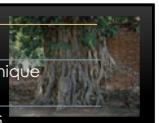
AGENDA (1)



- Surgical guides, why a must for the SS technique
- Immediate implants, clinical considerations
- Implants in the esthetic zone, fundamental concepts
- Immediate implants and immediate provisionalization
- The digital socket shield technique

2

AGENDA (2)

- Socket Shield Introduction Wound healing and the SS technique Clinical evidence on the SS technique
- The socket shield technique, why?
- Long-term results
- Hands-on exercise
- Course closure Q&A

3

Indications for Guided Surgery

- After and During Maxillary Sinus Floor Elevation
- Graft-less Cases
  - Maxillary Sinus Avoidance: "Kiss the Sinus"
  - Narrow Ridges
- a priori knowledge of Fenestrations/Dehiscences
- After Bone Block Grafting
- Immediate Implants
- Anterior implants and
- All-on-four cases

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Graft-less Cases

"Kiss the Sinus"
Narrow Ridges

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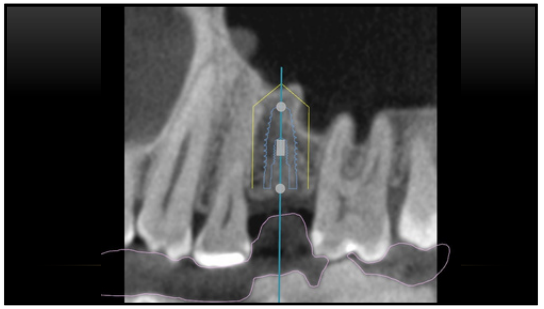

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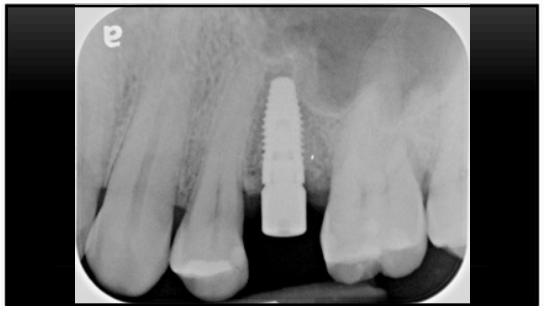

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Tight mesial-distal dimensions

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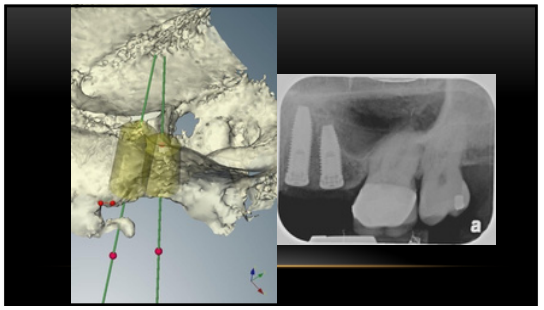

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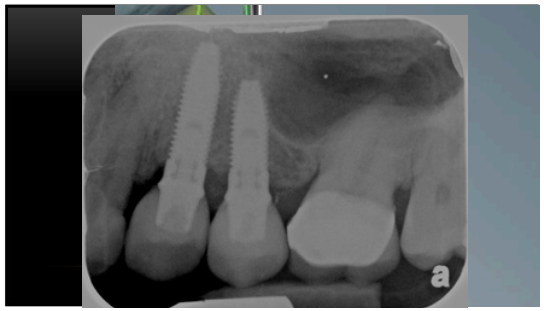

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Narrow Ridges

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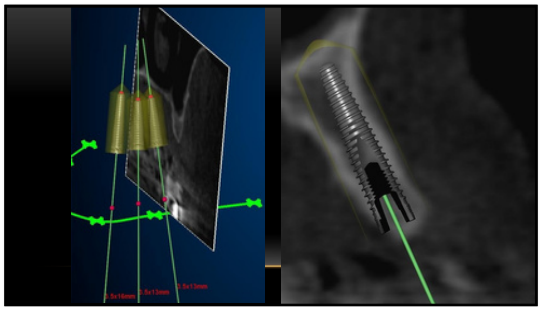

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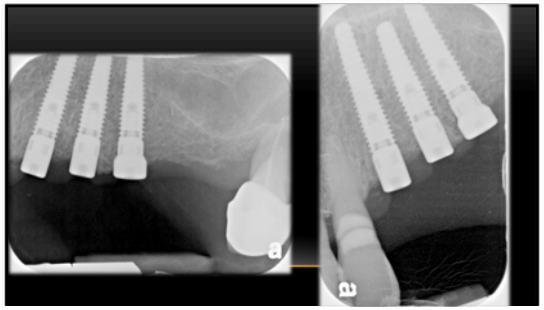

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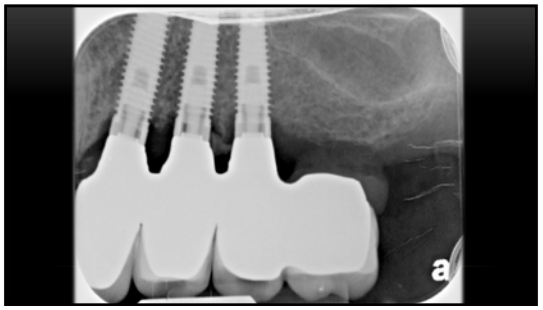

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Computer assisted implant diagnosis and planning
EVOLUTION with Nobel Clinician, now DTX Studio

- The challenge
- Cone-Beam 3D imaging: I-Cat
- Intraoral scanners: 3-Shape Trios
- 3D printers: Formlabs
- DTX implant software

Interocclusal Mounting

SMART Set-up (DESIGNS), Face scans, Guided Surgery

- Conclusions

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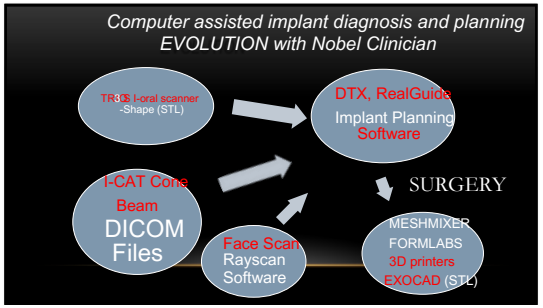

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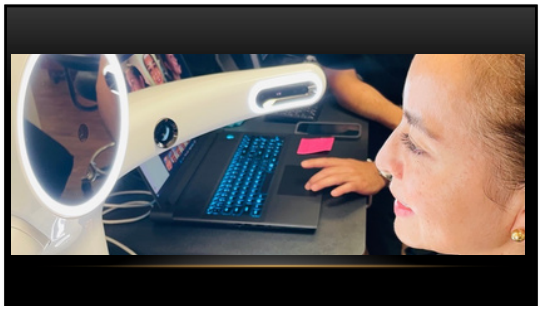

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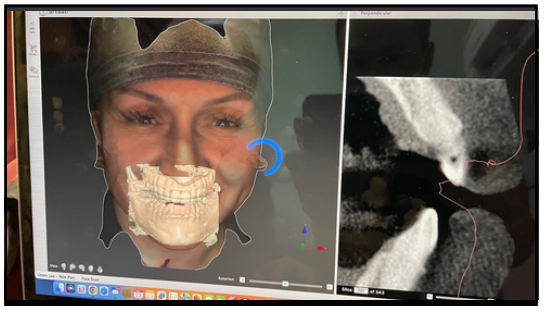

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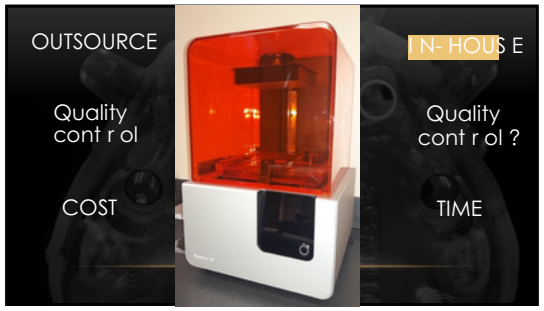

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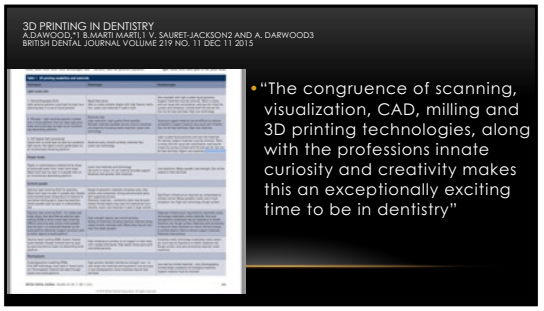

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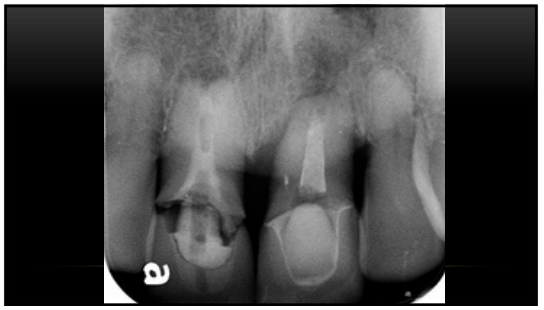

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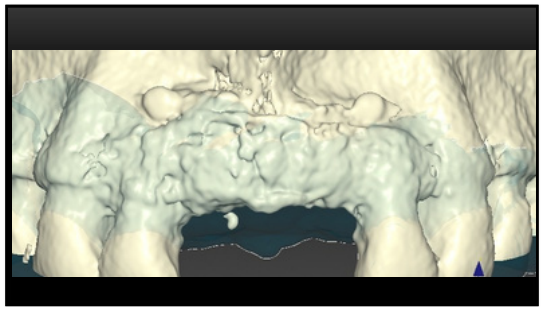

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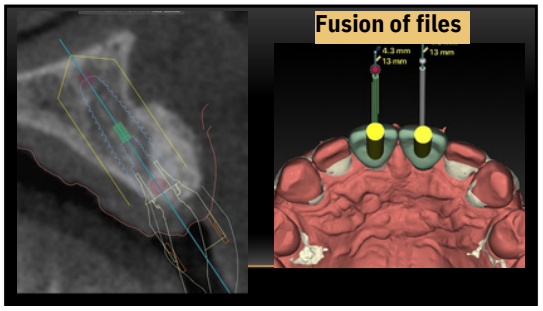

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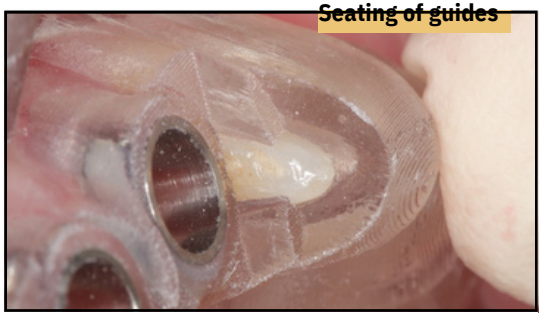

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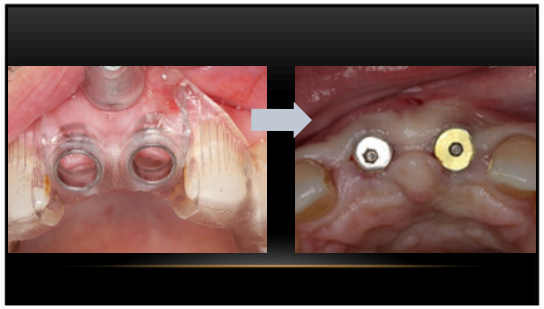

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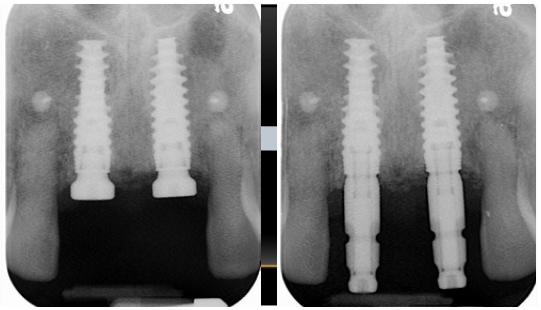

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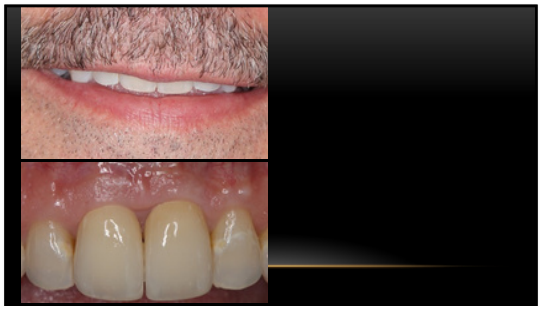

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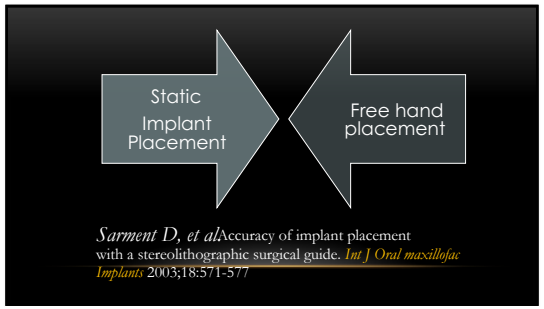

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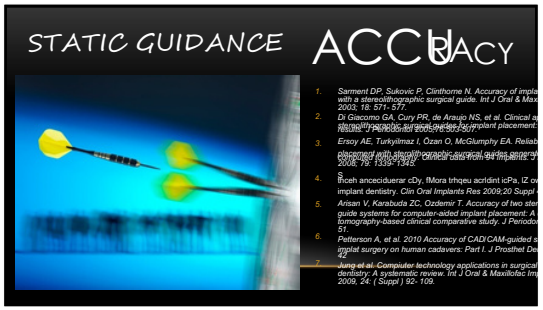

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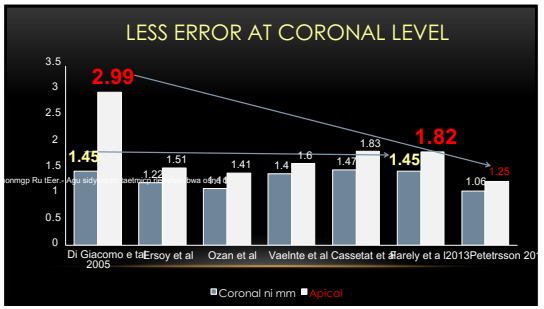

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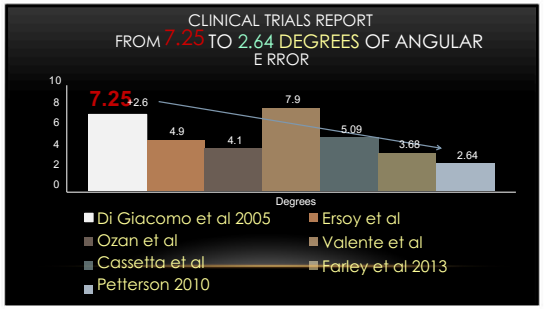

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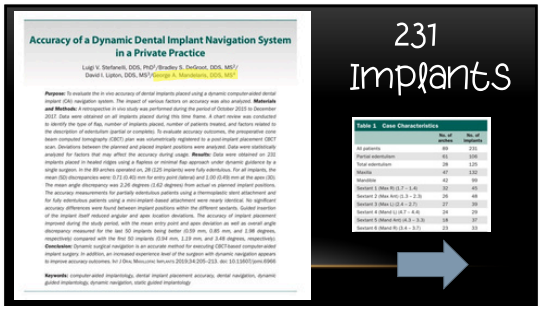

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Table 2 Key Deviation Statistics of All Implants Inserted (n = 231)

Deviation	Mean	Statistic	SD
Entry (2D, mm)	0.71	Mean	0.40
Apex (3D, mm)	1.00	0.74	0.49
Angle (deg)	2.26	0.85	1.62
		2.64	

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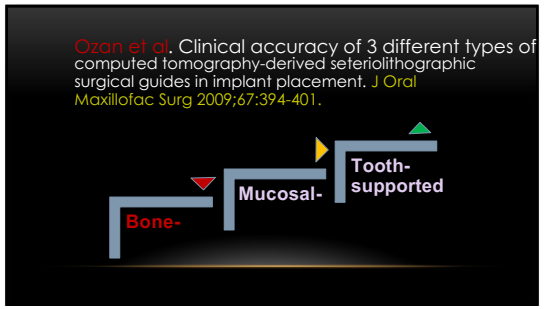

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CORRECT 3-DIMENSIONAL IMPLANT POSITION IS CRITICAL FOR A FAVORABLE AESTHETIC OUTCOME

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FREQUENCY DISTRIBUTION (%) OF EXAMINED TEETH ACCORDING TO THICKNESS OF THE FACIAL BONE WALLS

	Missing bone wall	Bone wall thickness <1mm	Bone wall thickness >1mm
Central Incisors	4.6	**89.3**	6.1
Lateral Incisors	9.5	83.1	7.4
Canine	9.4	82	8.6
First Premolar	21.3	56.3	22.5
Total	10	80.1	9.8

Vedrana B., ….Buser D. Thickness of the Anterior Maxillary Facial Bone Wall-A Retrospective Radiographic Study Using Cone Beam Computed Tomography. Inf J Periodontics Restorative Dent 2011;31:125-131.

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WHAT CONSTITUTES A GOOD IMPLANT POSITION, A WELL-PLACED IMPLANT?

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IMPLANT 3-DIMENSIONALPOSITION AND ITS PROSTHETIC EFFECTS

1. Apico-coronal: 2 -4 mm apical to the expected gingival margin position
2. Facial-lingual: 2 mm of facial bone is recommended to prevent the loss of facial tissue, and the implant should be positioned slightly palatal to the incisal edge; and
3. Mesio-distal: the implant should be 1-2 mm away from adjacent teeth, and a 3-mm space between implants is recommended.

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Apico-coronal

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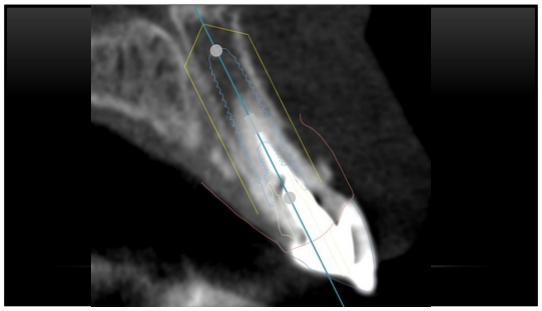

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Facial-lingual

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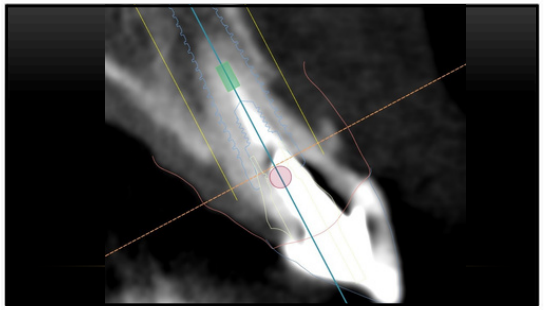

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Mesio-distal

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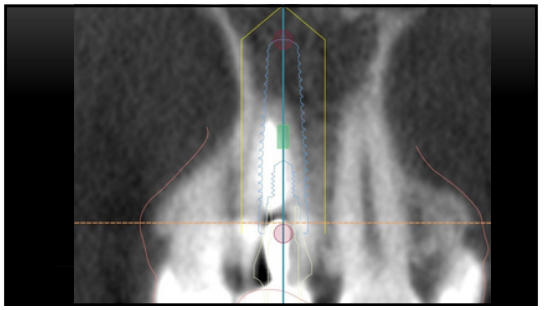

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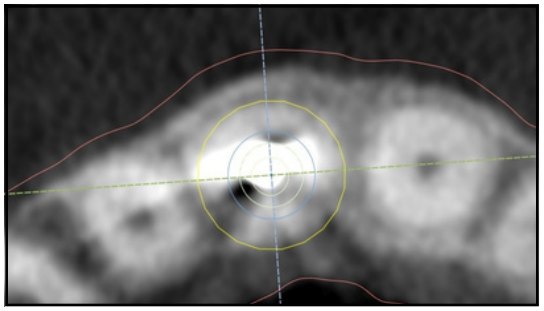

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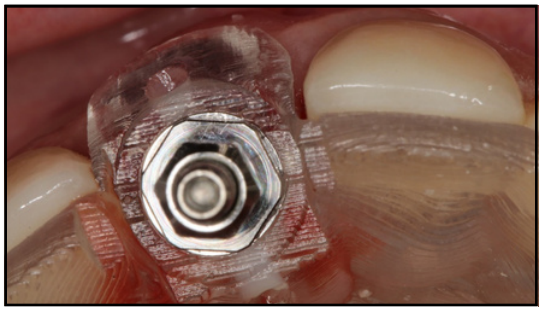

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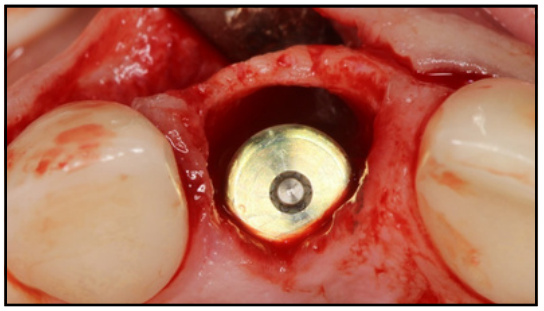

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CHU SJ, SALAMA MA, SALAMA H, ET AL. THE DUAL-ZONE THERAPEUTIC CONCEPT OF MANAGING IMMEDIATE IMPLANT PLACEMENT AND PROVISIONAL RESTORATION IN ANTERIOR EXTRACTION SOCKETS.COMPEND CONTIN EDUC DENT. 2012;33(7):524-534.

Effect of grafting 0.59 mm or 54% less horizontal buccal bone resorption

CT grafting 0.41 mm less apical migration and 0.66 mm thicker mid-facial mucosa

56

ADVANTAGES OF NEW TECHNOLOGIES AND THE SS TECHNIQUE

1. Powerful implant planning software
2. Accuracy of in-house printed surgical guides
3. Precise immediate implant planning and placement

Effective and better treatment for our patie

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1 Printed guides are accurate enough and should be use for every S-S case and all anterior implants

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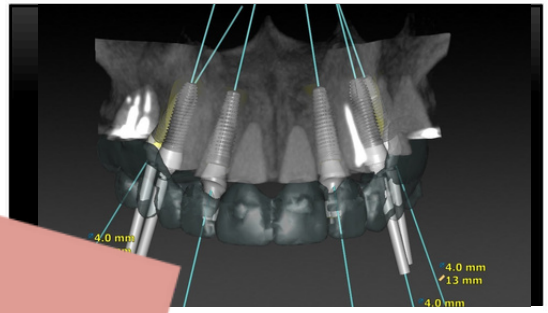

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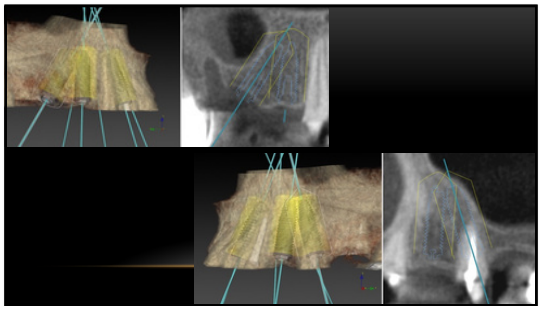

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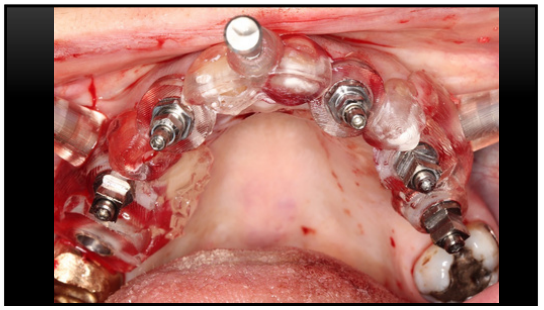

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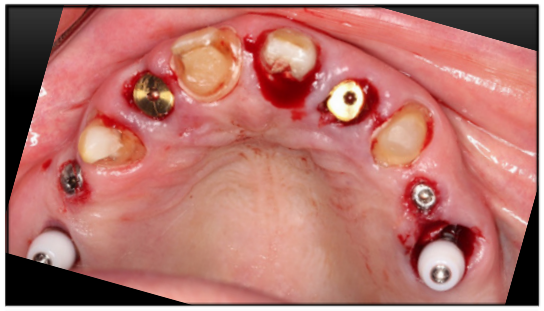

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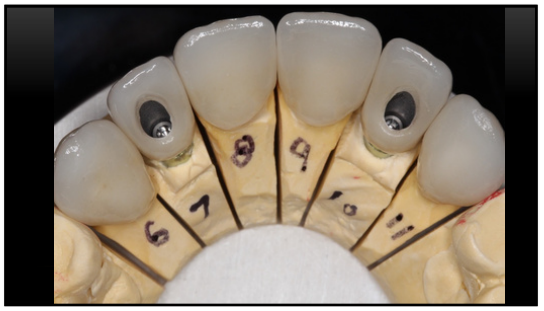

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A UNIQUE CASE?

1.Avoided diagnostic/cognitivebias
2.DTX studio implant software
3.Guided surgery
4.Tilted implants
5.Retained teeth/soft tissues
6.Cad-cam screw-retained restorations

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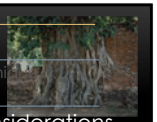
AGENDA (1)



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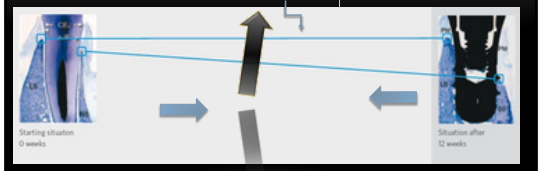
IMMEDIATE IMPLANTS



Resorption of the bucco-lingual bone dimension after 12 weeks

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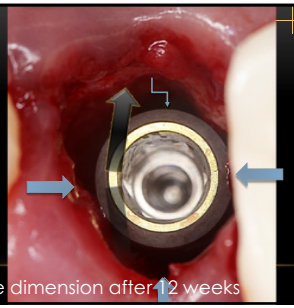

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Immediate Implants Indications

- **Implant stability**
  - Ideal, 4 mm of apical bone for stability
  - Mesial-distal bone walls for stability
  - Uncompromised osseous anatomy
- Dental infection that can be eliminated at the time of placement

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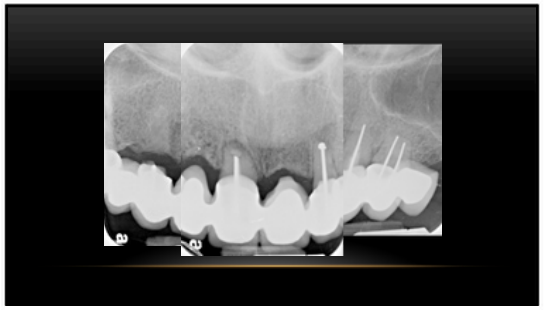

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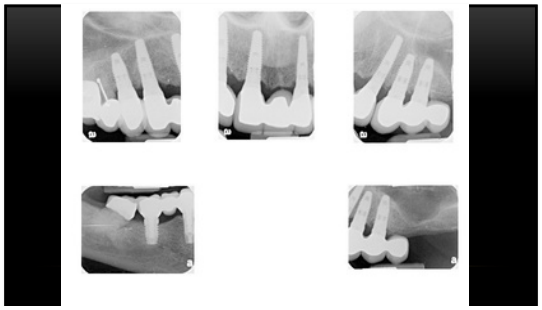

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"GUIDED SX" ADVANTAGES

- 3-D diagnostic capabilities
- Able to relate surgical guide to existing socket anatomy
- Implants in BE position within the socke
- Increase surgical and prosthetic precision
- Time of surgery reduced
- Decrease morbidity

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Controlling implant position!!!

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Atraumatic tooth extraction simultaneously with implant placement

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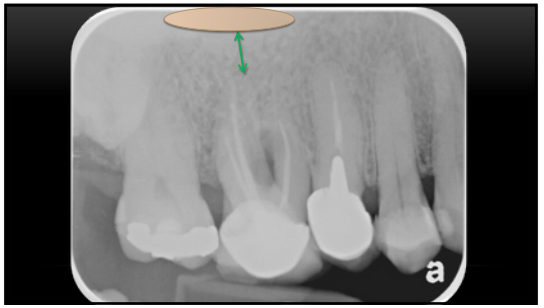

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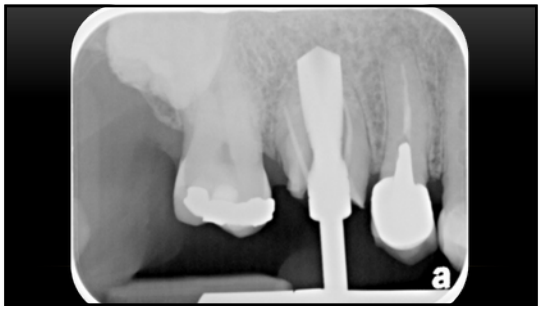

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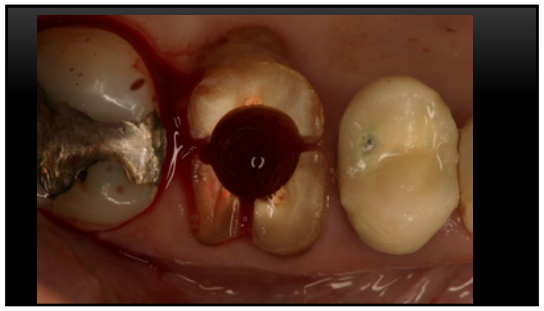

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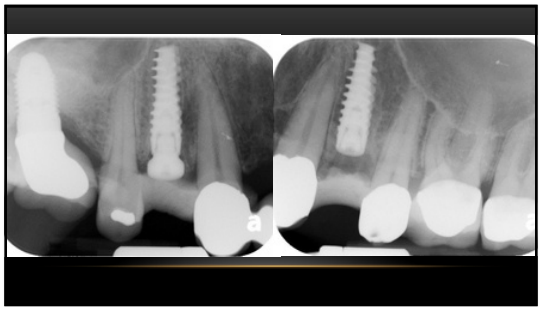

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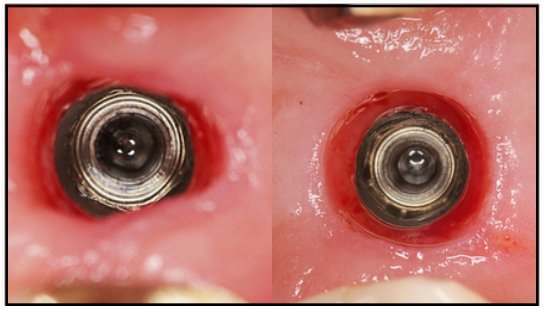

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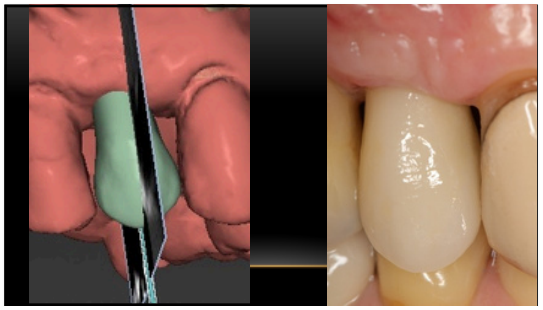

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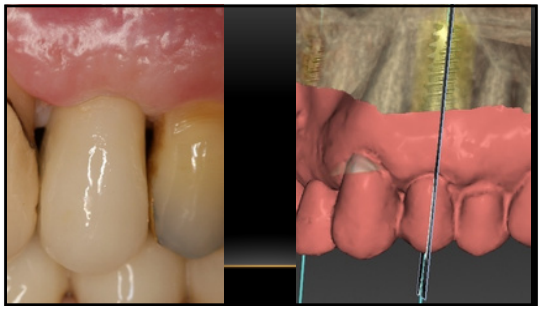

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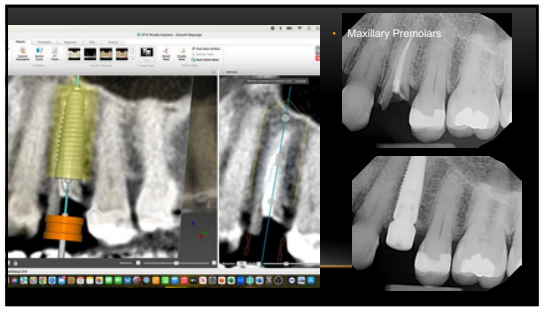

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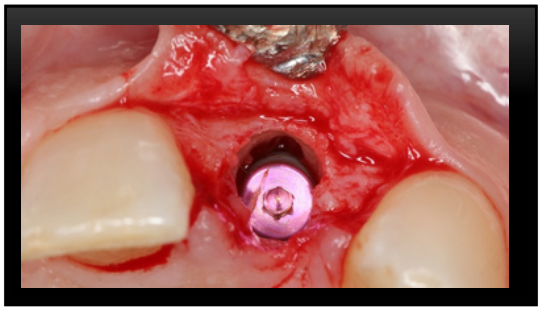

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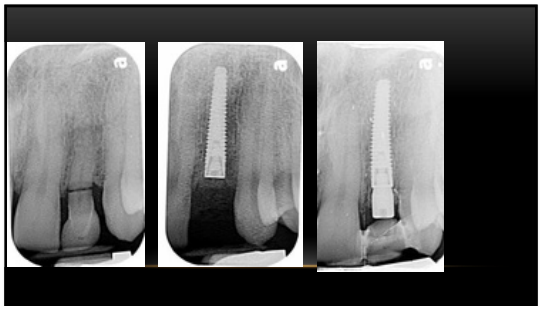

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Clinical Guidelines & Considerations
1)Infection might affect immediate implants
2)Primary stability beyond the extraction socket
3)Large buccal osseous defects involving the crest
4)Socket configuration demands surgical skill
5)Occlusion not allowing provisionalization
De Rouck, et al Single-ToothReplacementintheAnterior Maxilla by Means of Immediate Implantatio
and Provisionalization: A review
Int J Oral Maxillofac Implants 2008;23:897-904.

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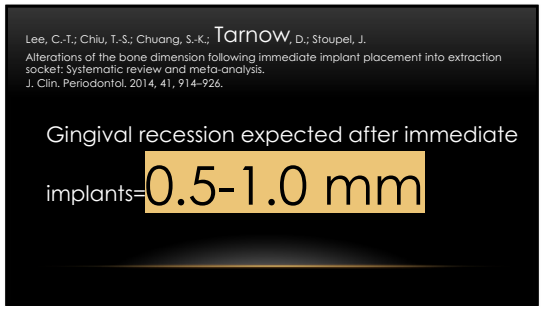
Lee, C.-T.; Chiu, T.-S.; Chuang, S.-K.; Tarnow, D.; Stoupel, J.
Alterations of the bone dimension following immediate implant placement into extraction socket: Systematic review and meta-analysis.
J. Clin. Periodontol. 2014, 41, 914–926.
Gingival recession expected after immediate implants=0.5-1.0 mm

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"As we go forward, I hope we're going to
continue to use technology to make really big differences in how people live and work."
Sergey Brin
Google search engine develope

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