

Assessment of Guided Lateral Maxillary Sinus Lift Procedure With Simultaneous Implant Placement Using Stereolithographic Surgical Guide. A Randomized Control Study

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Background and Aim

The goal of this study is to evaluate the efficacy of the stereolithographic surgical guide in reducing intraoperative and postoperative complication during lateral sinus lift operation. Mandelaris and Rosenfeld (2008) were the first to manufacture three-dimensional printed surgical guides for outlining the lateral windows. The technique was modified using various implant planning software to enhance its effectiveness.

Methodology

The study design was interventional prospective randomized clinical trial. The unit of analysis and randomization was the individual implant site.

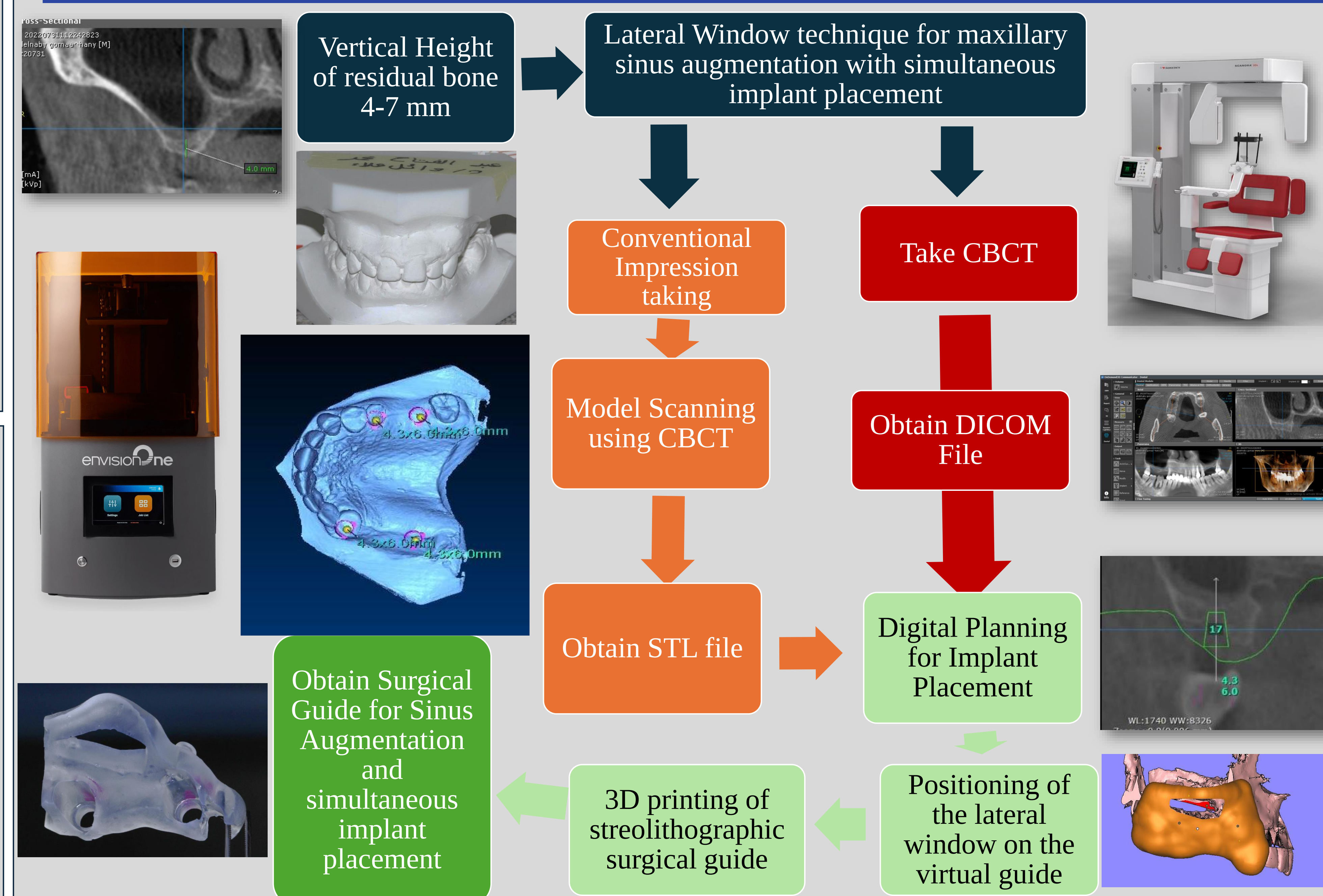
Study Group: 15 implants

Lateral Window and Implants Using Stereolithographic Guide

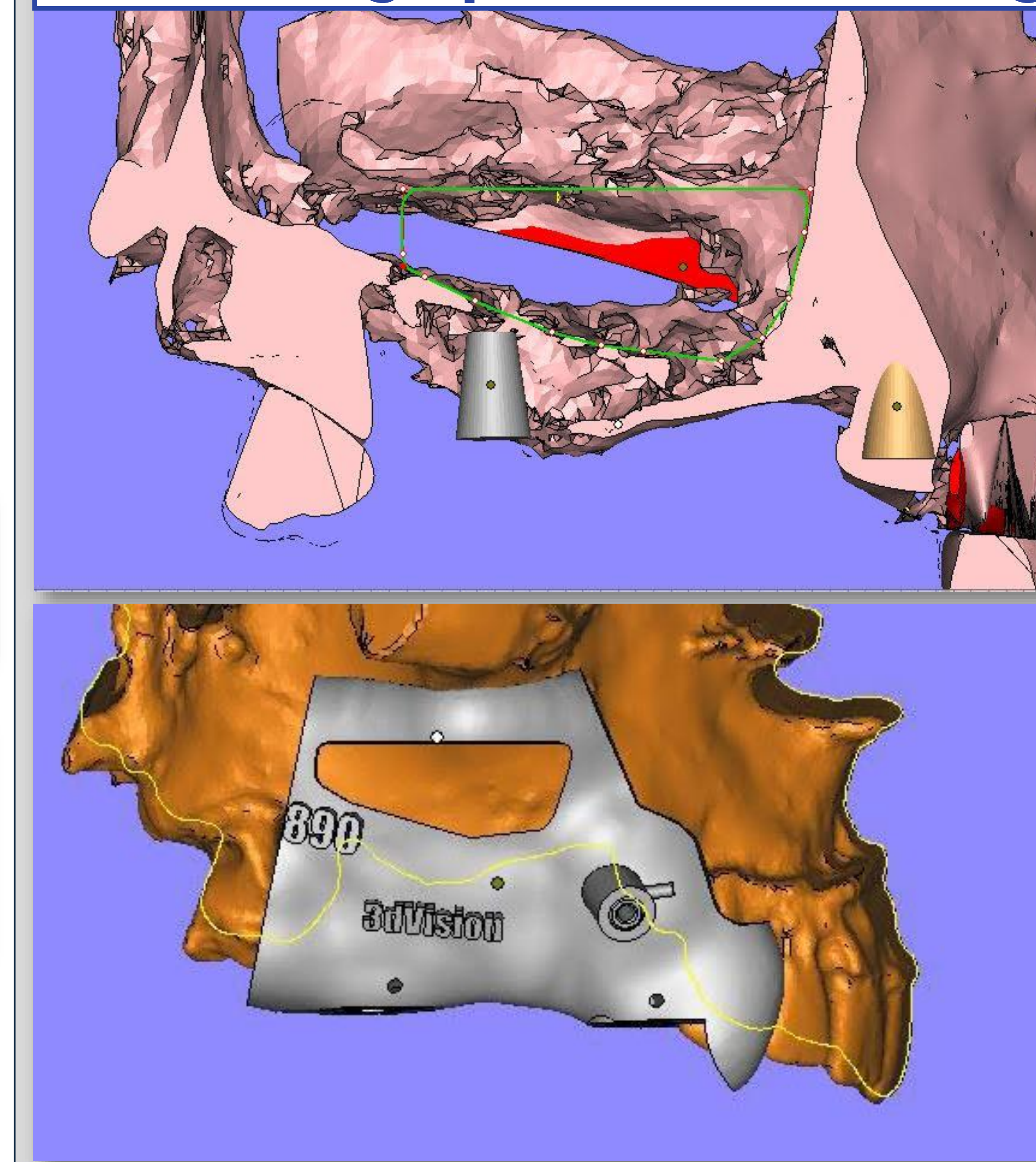
Control Group: 15 implants

Lateral Window and Implants Done Freehand

Workflow for Study Group



Stereolithographic Guide Planning

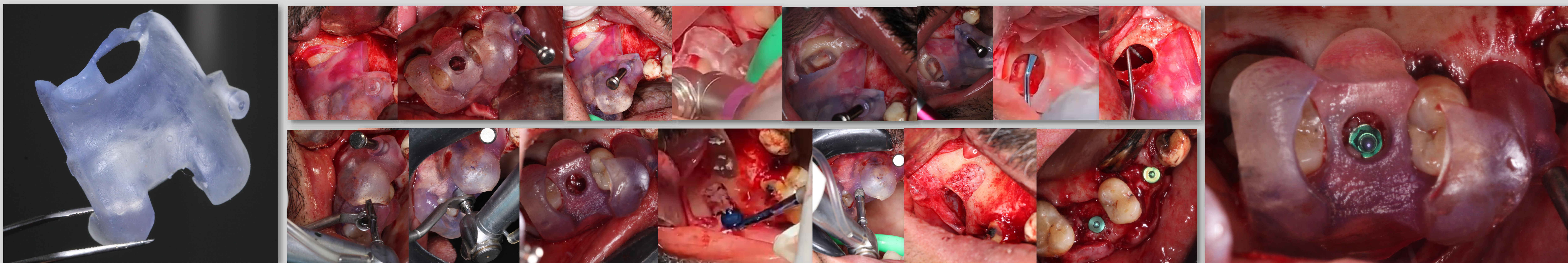


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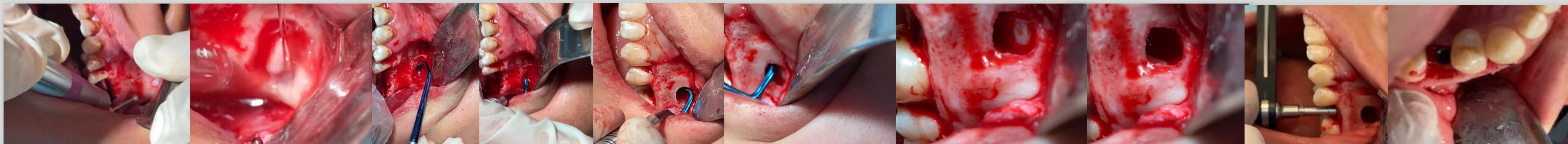
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Surgical Protocol

Study Group: Lateral Window and Implants Using Stereolithographic Guide



Control Group: Lateral Window and Implants Done Freehand



<p>A</p>	<p>B</p>	<p>C</p>	<p>D</p>
<p>None ☐</p>	<p>Mild ☐</p>	<p>Moderate ☐</p>	<p>Severe ☐</p>
<p>no inflammation</p>	<p>intraoral swelling confined to the surgical field</p>	<p>extraoral swelling in the surgical zone</p>	<p>extraoral swelling spreading beyond the surgical zone</p>

Conclusion

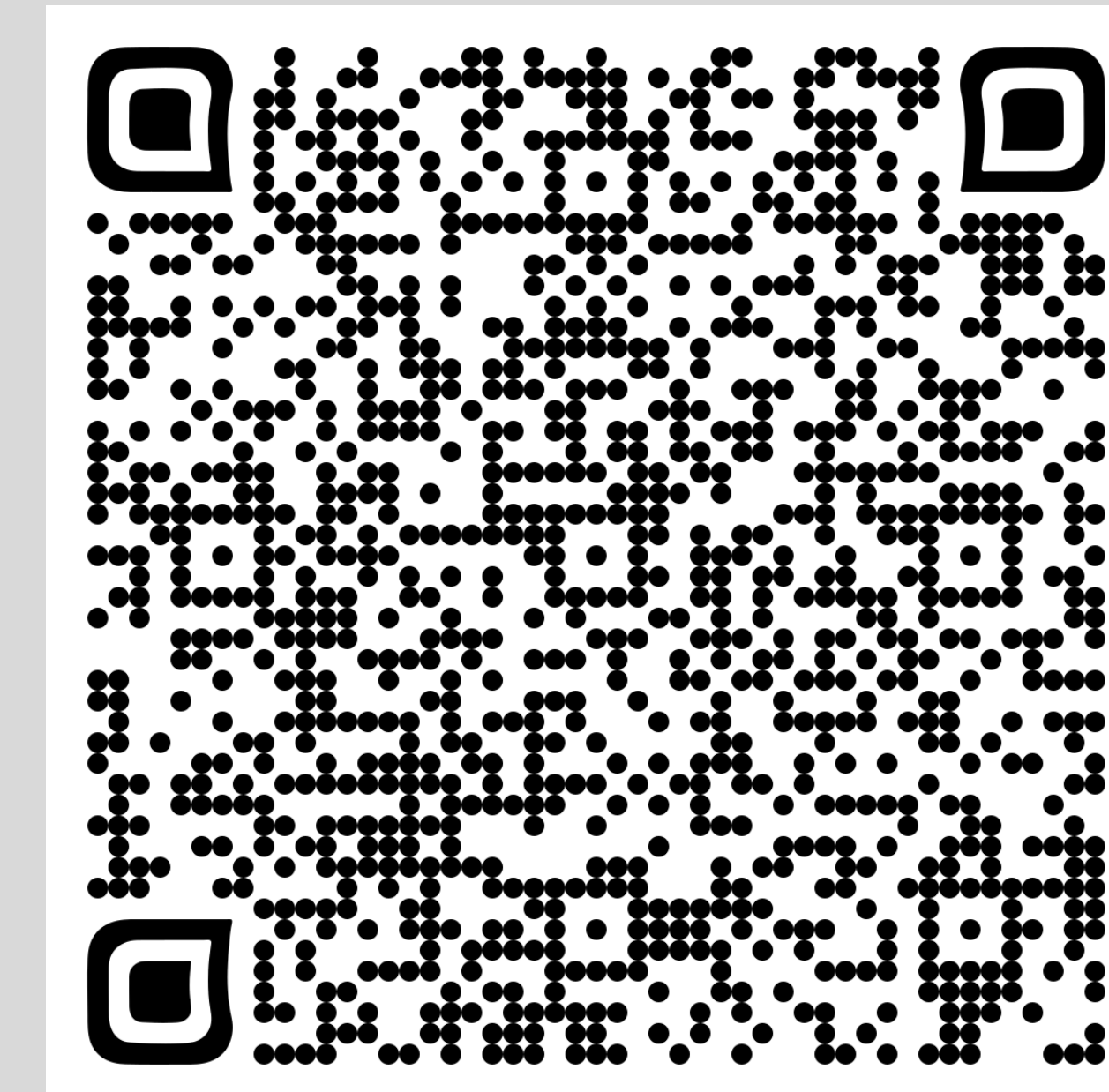
According to current study it has been concluded that there was no remarkable difference between the outcomes of both methods.

However, the use stereolithographic surgical guides for lateral sinus elevation could be spared for cases with anatomical limitations such as the presence of the posterior superior alveolar artery and the presence of bony septae to avoid intraoperative complications.

Recommendations

The author recommends further clinical and multi-center studies with larger sample sizes and longer follow-up periods to assess the value of the stereolithographic guide for lateral window osteotomy.

References



Contact

