



Potential deviation factors affecting stereolithographic surgical guides: Narrative review

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Abstract

Surgical guide systems can be divided into static or dynamic. Static surgical guides are made in the laboratory through 3D printing (Prototyping) known as stereolithographic guides (STL) or perforations in templates made on the jaw models. They are called static because they don't allow modification of the planned position during the surgical procedure. Dynamic guides use a mechanical or optical system to transfer the virtual planning to the surgical field, displaying the process on a screen.

Stereolithographic guides can be single or multiple, the multi type guides are generally used with no stabilization screws, changing the guide as the drill diameter increases and have showed similar results than single type guides. Single guides uses physical stops for different diameter of drills (Cassetta et al. 2013b).

Objective: to review guide flapless surgery techniques and potential deviation factors in stereolithographic surgical guides for dental implantology, warnings and limitations of the system.

Methods and Topics: Literature review of static and dynamic guides. Information on the accuracy of static computer-guided implant placement, summarize and analyse the overall accuracy. The correlations between factors such as: support (teeth/mucosa/bone), number of templates, use of fixation pins, jaw, template production, guiding system, guided implant placement in articles related to guided surgery with stereolithographic static systems.

Conclusion: Guided surgery may have a limited precision as technique, which surgeons need to be aware in the planning process. Practice, master the technique and system used.

Biography

Diego Sigcho completed his PhD in Dental sciences at University of Sao Paulo, Brazil. Currently he is working as an implantologist at CEDYTE Dental Clinic.



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