

Graftless sinus floor augmentation of the highly atrophic posterior maxilla before implant placement

Citation for published version (APA):

Lie, S. A. N. (2022). *Graftless sinus floor augmentation of the highly atrophic posterior maxilla before implant placement*. [Doctoral Thesis, Maastricht University]. Maastricht University. <https://doi.org/10.26481/dis.20220713sl>

Document status and date:

Published: 01/01/2022

DOI:

[10.26481/dis.20220713sl](https://doi.org/10.26481/dis.20220713sl)

Document Version:

Publisher's PDF, also known as Version of record

Please check the document version of this publication:

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CHAPTER 9

IMPACT PARAGRAPH

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This work must be seen in the overall context of a changing field. Dentistry, which in the Netherlands includes oral and maxillofacial (OMF) surgery, is in a critical phase due to several factors. In addition to the demographic and structural conditions for the OMF-surgeons, which need to be described separately, health care and science policy trends are apparent that require the utmost focus, attention and also intervention from those responsible.

Within the last three decades, a significant development of dentistry can be observed. This development cannot be reduced to purely technological progress, but is characterized by a reorientation of dentistry in a biological and oral medical context. A major plus of dentistry is the demonstrable improvement of oral health in the Netherlands, but also worldwide in developed countries. This is the merit of prophylaxis efforts at all levels. From this alone derives the postulate that dentistry should always focus on prevention as the primary goal, although there is still considerable potential for optimization in this area as well, since a large part of the daily work in the dental practice still consists of simply repairing avoidable primary and secondary defects. In this context, financing issues also play a role in delineating ethical issues of possible overtreatment from treatments that can be assigned to esthetics and cosmetics. Optimal oral function, as well as esthetics, become increasingly important nowadays. Surgical techniques and various materials are developed to meet the high expectations of patients.

A cornerstone of good oral surgery is quality of work. Guidelines are good tools to excel in dental-medical decision making, not least as a final authority in litigation. However, guidelines are also bulky and experience shows that they are not always read in their entirety. This work is also intended to contribute to proving, in the chosen form of a scientific paper, the need for a stringent and critical review of the quality of structure, process and outcome in pre-prosthetic surgery.

Dental implantology has undoubtedly brought tremendous success in masticatory functional restoration of the dentition. It has been used worldwide for more than 60 years and has paved the way for implant surgery in other medical specialties. Coupled with this tremendous clinical impact is the use of titanium as the starting point for many implants in general reconstructive surgery. The first applications were characterized by clinical situations in which masticatory function was completely lost: edentulous patients. Dental implantology has already led to a change in pre-prosthetic surgery in the 80s and 90s of the last century which can be called revolutionary, especially

lowering of the floor of the mouth and vestibuloplasty with skin grafts from dermis into the oral cavity played a major role. These procedures were not without risk and occasionally resulted in dangerous swelling with respiratory impairment. Thankfully, the discipline of OMF surgery has accepted the possibility of achieving better results with the help of dental implants themselves. Today, the above-mentioned procedures have almost completely disappeared from the maxillofacial surgeon's arsenal, in favor of the risks for the patient.

However, another phenomenon occurred that has pushed implantology and the associated pre-prosthetic surgery into a special position to this day. Usually, implantological treatments in maxillofacial surgery are not included in the billing tables of the insurance landscapes worldwide, or only under certain conditions. As a result, dental implantology occupies an almost elite position in the medical treatment spectrum. The corresponding impact on the pricing and positioning of the associated products is subject to an enormous economic market power, which is absolutely crucial. This makes studies such as the present one, which on the one hand demonstrates the added value of implant-supported dental restorations, and on the other hand also shows a way of using the self-healing potentials of suitable anatomical regions to create proper conditions for the insertion of dental implants without additional augmentation materials, all the more important.

When it comes to augmentation materials, there is still a consensus that autogenous bone determines the gold standard. Harvesting autogenous tissue is always associated with increased morbidity, and this is also the case in pre-prosthetic surgery in our field. Criticism of autogenous bone harvesting has gone so far that some colleagues consider the harvesting of the iliac crest bone to be an encroachment.

In addition to the offering to replace missing bone by grafting autogenous bone, a large market for bone substitutes has developed, with a market power at least as great as that of the more than 100 companies offering dental implants in the Netherlands. The advertising of these providers suggests solutions for all situations of pre-prosthetic surgery, but the reality shows the limitations of many products. Some could even be labeled as unnecessary or dangerous if the origin of the product or the chemical preparation for safe use in humans has not been clarified beyond doubt.

The implications of the results of this dissertation is that we are aware that there are alternatives to the use of bone graft substitutes that can lead to acceptable outcomes. This results in less co-morbidity, lower risk of post-operative infection, lower cost and

shorter surgical time. Research has yet to identify the best technique and bone graft substitute to meet the desire for the best combination of best results with little or no co-morbidity and minimal cost.