

Up-to-date vestibuloplasty at the age of implant dentistry

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_Introduction

Whether nowadays, in the age of implant dentistry, one can still perform vestibuloplasty in good conscience, is a question constantly being raised. In the pre-implant era, vestibuloplasty was applied to deepen the vestibule with the aim of lining the vestibular trough with functional mucosa in order to form a valve-type margin.¹ Vestibuloplasty today continues to be used for this purpose if the patient's financial resources preclude implantation.

_Classical surgical procedures

There are three possible approaches to the classical surgical procedure¹:

1. Incision of the mucosal, leaving the periosteal wound surface to secondary healing;
2. Covering the periosteal wound area with skin or mucosal graft;
3. Submucosal incision without opening of the mucosal cover, using Obwegeser's technique.

Procedure one is the technique most commonly used in practice, although it has the drawback of being associated with a loss of the gained alveolar ridge height of 50 % as a result of scar contraction. The patient has to endure pain due to the open wound surfaces and is limited in terms of food intake. In addition, patients often have to re-attend the dental practice because they develop pressure sores owing to scar contraction. In the worst-case scenario, the relined denture is not worn by the patient, resulting in conditions similar to the pre-treatment situation. The alexxon diode laser and its patented high-pulse technology enable practitioners to achieve a more sustainable result, causing minimal pain to the patient, without the disadvantages of the conventional surgery.

_Pre-implantation surgery

Apart from the social indications, the implant era bears the following medical indications prior to planned implantation:

Fig. 1 _Initial situation.

Fig. 2 _Laser cutting. Anterior view.

Fig. 3 _Laser cutting. Lateral view.

Fig. 4 _Check-up and soft laser one day post-op.



1. Removal of the mobile mucosa and fraenal attachments extending into the area of the implants;
2. Creating valve-type margins for coverimplant dentures;
3. Reduction of the impaction of food remnants, especially if performing immediate loading of implants.

These pre-implantation surgical measures provide the implants with lasting protection against mobile mucosa. Even in the event of implant loss or if only a few implants are placed, additional retention can be achieved by the valve-type margin. If immediate loading is performed, the implants can heal unaffected by external influences.

Case presentation

A patient with a long history of pain presented at our dental practice and reported that she can no longer eat even semi-solid foods and that she is using analgesics constantly without being able to wear her lower denture. After general and specific history-taking, treatment with at least six minimally invasive implants and a preceding vestibuloplasty in the mandible were proposed. A new denture in the

lower jaw was to be fabricated, with immediate loading of the implants. After detailed advice and a thorough explanation, the patient consented to the proposed treatment. As a complicating factor, the patient's heavy consumption of analgesics resulted in a highly reduced anaesthesia time.

Anaesthesia was performed first (Fig. 1). Super-pulsed laser cutting was then performed with the ellexion diode laser 810 nm (Fig. 2). It is important to make sure that the laser is guided parallelly to the bone in order to avoid unwanted side effects (Fig. 3). This procedure is accompanied by the instant haemostasis known to be typical of laser treatment, as well as reduced postoperative pain resulting from the deactivation of the nerve fibre endings. Fast, high-performance cutting with low carbonization is made possible by the patented high-pulse technology.

Immediately afterwards and on the following day, the glass rod of the ellexion diode laser was used for soft laser application in order to reduce pain and accelerate wound healing. A relin impression was taken immediately after surgery and inserted at the evening of the surgery after indirect relining in the laboratory.

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*become an author
for "laser"*



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Fig. 5 Wound healing after five days.
Anterior view.

Fig. 6 Wound healing after five days.
Lateral view.

Fig. 7 Wound healing after ten days.
Anterior view.

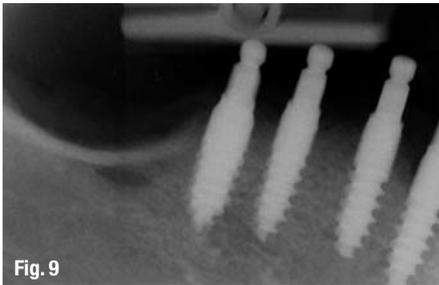
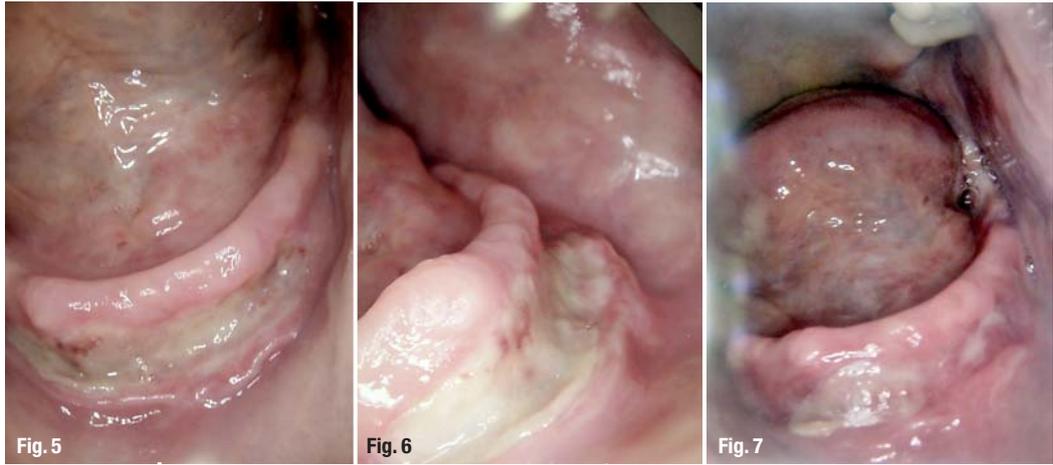


Fig. 8 Immediately after implantation.

Fig. 9 Exit of the mental nerve close to the alveolar ridge.

Fig. 10 One week after implantation.

On the following day, the patient presented for check-ups with the expected fibrin deposit (Fig. 4). She was delighted to report that this was the first time she managed to do without pain killers after any dental surgery. At the subsequent check-ups after five (Fig. 5 and 6) and ten (Fig. 7) days, wound healing appeared to proceed successfully and pain-free.

pains which were resistant to analgesics when the patient wore the previous full denture. In cases such as this, it is important to ensure a sufficient number of at least six implants or, if there are only four implants, a bar restoration should be planned in order to relieve the mental nerve from pressure. Only four weeks after implantation, almost complete contouring of the vestibule was achieved (Fig. 11).

Complete preservation of the alveolar ridge

After complete healing, minimally invasive implantation was performed with six Champions tulip-head implants (Fig. 8), followed by immediate loading with the overdenture (Fig. 10). Masticatory function was immediately restored, and complete osseointegration of the implants was successfully achieved after six and twelve weeks. The exit point of the mental nerve can clearly be identified on the control X-ray (Fig. 9). This also explains the severe

Is vestibuloplasty still up-to-date?

With laser it definitely is. This is because a very good outcome can be achieved with minimal discomfort for the patient and the surrounding area can be prepared for implantation to ensure problem-free, undisrupted healing even with immediate loading, provided there are sufficient implants.



Fig. 11 Four weeks after implantation.

<u>information</u>	laser
<p>¹ Band 2 Spezielle Chirurgie, Norbert Schwenzer und Gerhard Grimm, Thieme Verlag 1990, p.439 ff.</p>	

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