Taking care of our teeth is a fundamental part of good health

Dental problems can affect what we eat, and the aesthetics of our teeth has a major impact on how we see ourselves and others.

By Neoss Ltd.

Taking care of our teeth is a fundamental part of good health. Dental problems can affect what we eat, and the aesthetics of our teeth has a major impact on how we see ourselves and others. Dental implants replace the roots of teeth and can be used to anchor a single dental crown(s), a bridge or a denture. Neoss has an approach to dental implants that keeps both the patient and the practitioner in mind.

Simplicity

Whilst every patient - and their dentist - is different, they ultimately want to achieve good results, spend less time in the chair, and for the final implants to last. Practitioners want the process to be straightforward and worth the investment of the patient.

Neoss answers all these needs with patented technology, including the Beosluc Implant-Abutment connection and the NeoLoc ProActive surface. This creates one of the strongest connections on the market and standardises surgical instruments so that practitioners don’t have to carry so much inventory.

Smart investment

Neoss continues to innovate and invest in Research and Product Development - designing, manufacturing and selling products of the highest quality which offer market-leading functionality. Its products are available internationally and the continuous business development programme has resulted in expanded geographical coverage - with revenues being developed in the major Asia markets including China and Japan - and the development of a significant presence within the MENA region.

Simplicity is something we work very hard to achieve for our customers,' says Neoss’s Chief Operating Officer Ruth Keeling. ‘What we hear from patients is that they wish they had sorted their dental problems sooner.

Dr Kavit Shah, Dental Surgeon and Specialist in Prosthodontics, says: ‘When we are working in a clinical environment on patients, the situations can sometimes be fairly tense, fairly stressful and highly pressured. A system that is simple, straightforward and easy to use minimises the risks throughout the clinical procedures, not only for us as dentists but also our assistants.'

Implant retreatment

By Dr Philippe Leclercq, France; Jean-François Martinez, France & Michael Brush, Germany

When working with dental implants, a number of specific rules must be followed regarding both the implant surgery and the prosthesis itself (fixed prostheses tending to have a more favourable prognosis than overdentures). If these rules are not adhered to, the results are often unsatisfactory, requiring retreatment.

In such cases, and despite the patient’s desire to quickly forget the previous treatment, a very strict protocol must be followed, specifically concerning the length of healing periods. Despite an increase in the overall treatment duration, this will ensure success of each stage of treatment. The implant retreatment case outlined in this article will emphasise these different stages in this type of clinical situation.

Initial case

At the age of 28, the patient was involved in a traffic accident, which resulted in significant trauma to her maxilla, including the loss of her central and lateral incisors and left canine. The shock also led to the loss of alveolar bone in the same area. The first premolars were absent, probably owing to previous orthodontic treatment.

The original treatment consisted of placing two implants in the residual bone and an anchorage reinforcement screw retained bridge to maintain a removable prosthesis, which included five teeth and a large false gingiva (Figs. 1 & 2).

Disatisfied with the treatment, the patient was re-examined three years after the initial treatment. The patient’s smile showed an infiltration at the right lateral incisal level and the prosthetic teeth were placed off-centre presumably because of significant recession at the right im-

ental and hyperplastic tissue.

Figs. 1 & 2: Initial prosthesis. Lip support was ensured by a large false gingiva, and fractured cosmetic material at the right maxillary canine was evident. The patient’s smile showed the prosthetic teeth placed off-centre and an infiltration at the right lateral incisal level.

Fig. 3: Examination after three years revealed a negative short-term prognosis for the implants owing to significant recession at the right implant and hyperplastic tissue.
gingival inflammation as a reaction to using implants for this indication. Engquist noted a gingival increase in 25 per cent of the cases; Naert et al. showed that out of 86 overdentures (6 maxillary, 80 mandibular), 8 observed gingival hyperplasia, primarily in the maxilla (9.3 per cent); and Jemt et al. observed that after one year out of 92 maxillary overdentures, 19 patients showed gingival hyperplasia (20.9 per cent), 13 patients had one gingival correction and five had two corrections. In a 1993 study on maxillary overdentures, Smedberg et al. observed: “The results show that the prevalence (p < 0.05) for Lactobacillus, Prevotella (subspecies) and yeasts in the subjects with removable prostheses was significantly higher than in subjects with fixed prostheses. Removable prostheses were accompanied by a more aggressive peri-implant plaque.” In view of our patient’s unsatisfactory treatment results, it was thus decided to restart treatment completely.

Retreatment

The retreatment followed an extremely precise protocol, especially regarding the length of the healing periods. To begin, dental impressions were taken to create a resin-based temporary removable prosthesis. The prosthesis included palatal support to relieve the vestibular gingival tissue as much as possible. An aesthetic fitting of the appliance was conducted to straighten the axis of the incisors.

Implant removal

Owing to insufficient osseointegration, the removal of the implants was fairly easy (Fig. 4). Removal was accomplished with the aid of an implant removal tool. Immediately after implant removal, the temporary removable resin prosthesis with palatal support was inserted.

Assessment after implant removal

Three months after implant removal, a clinical and radiographic assessment was performed. The grafts were harvested from the chin symphysis and firmly attached by surgical screws in the recipient site (Fig. 5).

Fig. 4: The framework was unscrewed, abutments removed and implants easily removed.

Figs. 6 & 7: The grafts were harvested from the chin symphysis and firmly attached by surgical screws in the recipient site.

Figs. 8 & 9: The properly compressed PRF membranes permitted complete coverage of the surgical site, in this instance on the maxilla.

Fig. 10: Panoramic radiograph showing the grafts to be correctly healed and satisfactorily adhered to the recipient bone sites.

Fig. 11: Increased vestibular bone volume allowed positioning of the teeth at the crestal bone level and reduction of the false gingiva.

Fig. 12: A key of the added wax was taken and fabricated in clear casting resin.

Fig. 13: The reopened site showing correct graft integration, a notable increase in cortical bone and excellent vascularity.

Fig. 14: Testing of the sterilised surgical drilling guide proved drilling would be at the centre of the reconstructed bone ridge.

Fig. 15: Atrauto self-tapping implants were placed.

Fig. 16: All five implants equipped with threaded cover screws and the surrounding tissue sutured.

Fig. 17: Loaded implants, healing abutments in situ.

Fig. 18: The healing abutments were removed and replaced with pick-up impression copings secured with self-curing resin.

Figs. 19 & 20: Removal of the impression and fitting of the impression copings with their laboratory equivalent.

Fig. 21: Model of the framework, temporarily including the canine, cast in pattern resin.
assessment was conducted. The assessment showed further significant vertical bone loss and loss in bone volume (Fig. 1). Significant vertical bone loss is difficult to correct owing to random gingival recovery. It was thus decided to augment the bone volume by performing a chin bone graft.

Bone graft

Anaesthetic was administered in the maxillary and mandibular anterior region. For the mandible, the sample was taken from the cortical bone and a section of the cancellous bone by piezoelectric surgery. The grafts were harvested from the chin symphysis, as close as possible to the mandibular inferior ridge to avoid disturbing the incisor’s sensitive innervation, which can be a frequent complication of the procedure. The vestibular cortical bone scar was perforated with a small round bur, allowing for rapid revascularisation of the grafts. The grafts were then positioned and secured in place with mini screws (Figs. 6 & 7).

To increase success, a blood sample was taken and centrifuged according to the Choukroun platelet-rich fibrin (PRF) technique in order to recuperate the fibrin clots. The clots

Figs. 22 & 23: The model was scanned before being transferred to a machining centre.

Figs. 24: After scanning, the computer configuration of the framework was validated.

Figs. 25 & 26: Testing of the titanium framework on the working model and verification of stability.

Figs. 27: The cosmetic material placed onto the framework.

Figs. 28 & 29: The prosthesis was attached with screws and the necessary occlusal verification was conducted.

Figs. 30: The patient’s smile showing now well-balanced incisors in line with the facial sagittal plane, lip support appearing to be correct.

Figs. 31: Removal of the validation prosthesis and examination of the area of compressed mucosa and difficult for dental hygiene. Reinstallation of validation prosthesis after correction.

Figs. 32: Final prosthesis framework and the coping for the right canine tested on the working model.

Figs. 33: Final prosthesis framework and the coping for the right canine tested on the working model.

Figs. 34 & 35: After fitting of the zirconia framework, the ceramic was cast using the exact parameters validated by the resin prosthesis.

Figs. 36 & 37: Installation of the final prosthesis and verification of correct occlusion. Screw channels filled with composite.

Figs. 38: Final cosmetic check-up showing correct lip support with the new extremely reduced false gingiva.
implants – Immediate loading with NO patient selection

By Vivek Gupta, UK

At EAO 2017, Dr Göran Urde presented a paper titled “Evolution of surgical protocols in implant dentistry” as a result of his work. Dr Göran Urde is the Program Lead for Tipton Training’s PG Certificate in Dental Implantology and is the Program Lead as part of the scientific programme. He is the Program Lead of the Futurum Clinic at Vicla Dental Implantology and is the Program Lead for Tipton Training’s PG Certificate in Dental Implantology and is part of the scientific programme.

In his opinion, this is a ticking time bomb. It is just a matter of time before patients will come back with complaints and demand for better treatment. To this end, the role of the dentist is very important. It is essential to retraining success.

Regular check-ups
Retreatment is regularly monitored with patient check-ups (Figs. 40). All implant treatments, no matter of what type, must be rigorously monitored in all treatment phases, but a retraining requires even more diligence. A patient affected by the failure of a previous treatment will not accept even the smallest problem. To this end, the role of the dentist is very important. It is essential to retraining success.

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