

PerFect TCS II - a „cutting-edge“ gadget

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In the 1980s, people were taught to plan removal of soft tissue with a scalpel in such a way as to produce as little damage as possible to the periodontium. This often demanded too much of the general dental practitioner using conventional aids.

In order to make more precise and atraumatic incisions, even sharper and smaller blades were developed over time. Haemostatic aids continued to be necessary. However, because of their oxidation products, generated by means of metal ions, these usually led to discolouration in the dentine area, which in turn had a negative effect on the aesthetics.

Properties of the PerFect TCS II

Today, an electrosurgical unit such as the PerFect TCS II is simple for the dentist to use for both cutting and coagulation. Combined with user-friendly handling, it is easy to operate and the ap-

propriate parameters can be set rapidly. It is also designed so that it can be stored either free-standing or in a cupboard to save space. The surfaces are designed to allow appropriate disinfection to ensure hygiene (Fig. 1). The variety of electrodes allows it to do cope with every situation and changing the instruments is extremely easy. The electrodes are integrated in the handpiece, which can be sterilised and attached to the adapter with a simple turn lock (Figs. 2 and 3).

Use in restoration techniques

From the clinical aspect, a clean and dry working field is essential in the adhesive technology employed with the restoration techniques that are available today. An attempt is often made to expose subgingival caries with retraction cords, haemostats and gingivectomy knives but the tissue starts to bleed at the latest when the adhesive systems are used. Fundamental ethical decisions, such as whether

to continue or start afresh, become shaky. This is where the advantage of electrotonomy comes in. During cutting, the soft tissue vaporises and the small blood vessels are sealed, which allows correct use of adhesive technology. This signifies additional assistance in achieving aesthetic long-term results (Figs. 4-6).

Naturally, the rules of periodontology also apply here: the gingiva must not be removed at bone level and indeed the bone must not even be touched with the electrode. Nevertheless, electrotonomy allows even difficult situations in the molar region to be controlled with the PerFect TCS II and a suitable working tip, without having to use invasive, costly and unsafe methods.

Use as a contouring instrument

The advantages become apparent particularly in the case of aesthetic corrections of the gingiva in the anterior region.



Fig. 1: PerFect TCS II

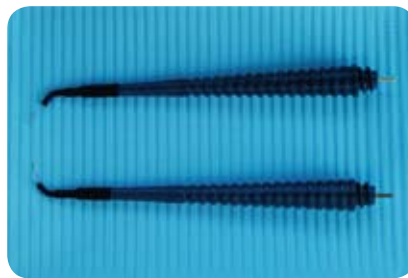


Fig. 2: Handpiece with integrated electrode



Fig. 3: Turn lock for simple attachment to the adapter



Fig. 4: Subgingival cusp fracture, no access in order to reconstruct it



Fig. 5: Removal of the tissue and subsequent contouring



Fig. 6: The dental tissue is accessible again

On the one hand, it is possible to set the high-frequency modulated current so exactly that a precise incision is possible and on the other hand, tissue can not only be removed but also contoured (Figs. 7 and 8). 80% of the contouring is preserved, which is why the subsequent soft tissue healing and recontouring phase is practically absent (Fig. 9) so that restorative aesthetic corrections can be proceeded with sooner. In the case of gingivectomy of a thick gingiva, the gingival margin normally forms a step (Fig. 10), which is poor both aesthetically and from the dental hygiene aspect. Further correction is therefore often necessary (Fig. 11), and this is usually associated with extreme secondary bleeding and pain. In the anterior region, the acceptance of the patients is also very low. With the PerFect TCS II a clean horizontal incision can be made and the gingival bulge can then be contoured with a loop.

Because the current strength can be set exactly, the epithelium and the capillaries are vaporised and sclerosed respectively so that there is neither bleeding

nor a major change in colour. Because the surface is sealed, local oedema also occurs less often, which in turn means less pain, and good healing progress is apparent after only 3 days (Fig. 12). The latter properties are consequently highly valued by patients.

Use in periodontal surgery

In periodontal surgery, not only the straight approaches to cutting but also the rhombus- and loop-shaped approaches to contouring or to coagulation are very helpful. Coagulation plays an essential part particularly in mucogingival surgery. There is often uncontrolled oozing after a graft is taken from the palate, which is indeed localised but cannot be stopped because of the anatomical situation. The coagulation ball is used here, which coagulates the sites of oozing with a slowly increasing current. As a result, the patient has fewer symptoms and further secondary haemorrhage can be avoided (Figs. 13-16).

PerFect TCS II in implantology

In implantology, the sixty four thousand dollar question is how reopening

for the abutment connection should be performed. On the one hand, it is important to preserve as much soft tissue as possible while on the other hand creating access to the implant. Extended reopening with exposure always results in resorption in the bone. This results in a very bloody operation field, and the wound has to be closed subsequently with sutures. Pain due to swelling cannot be ruled out. With the straight knife of the PerFect TCS II, a conical "plug" can be cut out over the implant instead of a punch. On the one hand, this facilitates access to the implant and at the same time, precontouring of the gingiva is undertaken, provided attached gingiva is involved.

Here too, the working field becomes clearer and safer through the immediate haemostasis and the infection risk is also reduced. Nevertheless, caution is warranted and excessive contact with the implant must be avoided although titanium is a poor conductor of electricity and heat (there are no reservations with regard to ceramic and zirconia implants). The possible potential for damage is much lower



Fig. 7: Overall line of the anterior gingiva is too low



Fig. 8: Fine incision with the straight knife



Fig. 9: Final situation – ready for cosmetic correction of the teeth



Fig. 10: Excision of hyperplastic gingiva with a straight knife



Fig. 11: The junction was rounded with the large blade



Fig. 12: Healed postoperative gingiva

with the PerFect TCS II than with monopolar conventional electrotome units.

Although laser technology has nowadays moved into dentistry, there is hardly anything that could not also be performed with the PerFect TCS II. If the costs for scalpel and styptics in several procedures were to be calculated, it becomes clear how much a non-calculable added benefit is achieved. When compared with regard to economy for dentist and patient it is a “cutting-edge” gadget.

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Fig. 13: The contralateral gingival line is too low



Fig. 14: Start of the electrotonomy around tooth 11 with a fine knife



Fig. 15: Aligning the gingival line around 21 and 22



Fig. 16: Perfect wound healing and correction of the teeth