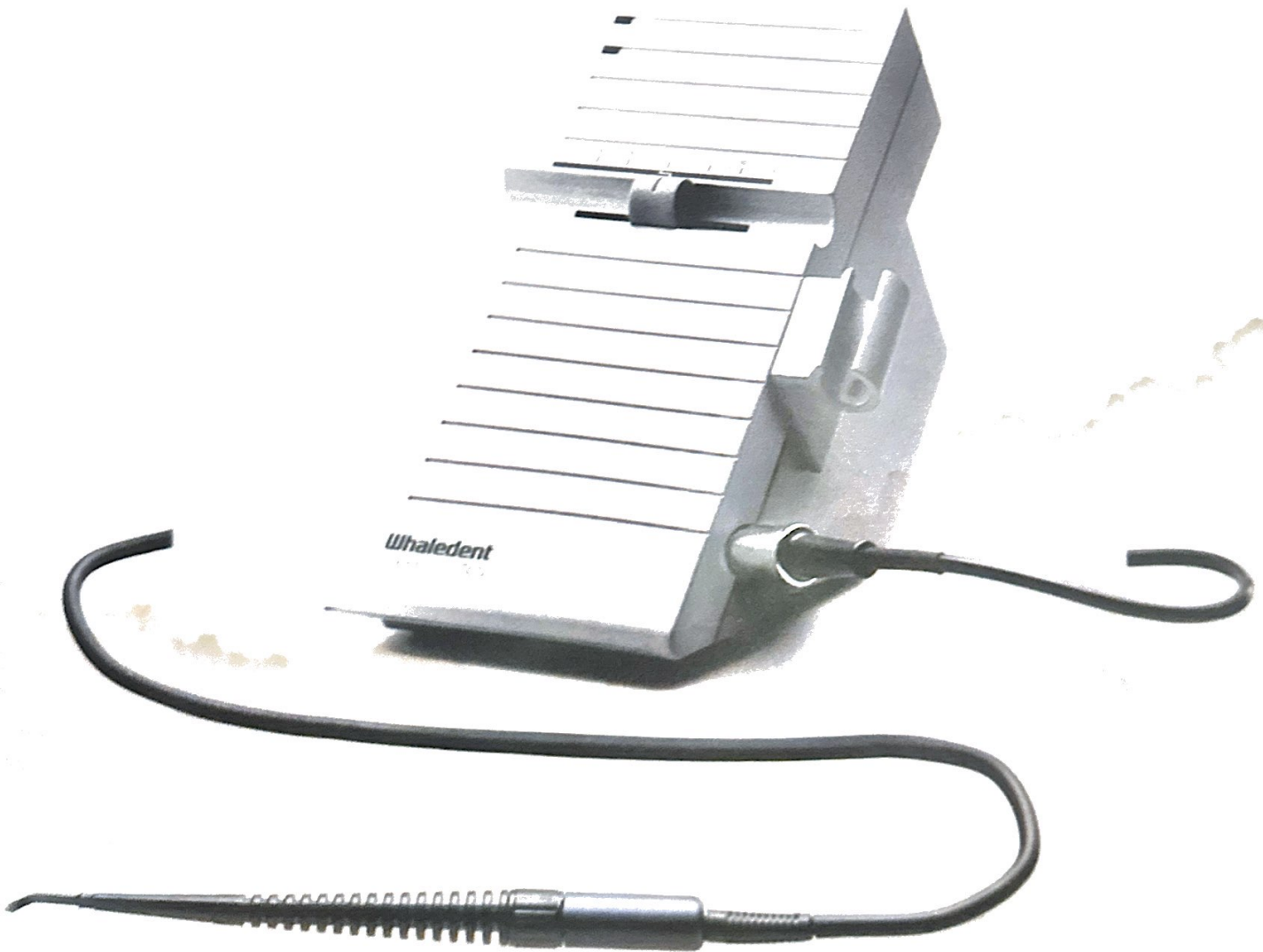


Perfect™ TCS

TISSUE CONTOURING SYSTEM

Operator's Guide



Gingival contouring

Removing redundant tissue prior to impression-taking or cementation. Prior to impression-taking or cementation of restorations, PerFect TCS can be used to remove redundant tissue that might interfere with the procedure. It will also help control bleeding that occurs during the procedure.

1. Thread the Long Loop electrode sheath onto the cord assembly.
2. With the electrode loop parallel to the tissue being removed (Figure 9), slice the tissue off in thin layers until the desired result is obtained.

Aesthetic contouring. PerFect TCS pays special dividends in tissue contouring for aesthetic purposes. A minor procedure can often greatly enhance the patient's appearance. With care and practice, it is possible to attain exceptionally precise control of the amount of tissue removed to ensure superior results, both aesthetically and therapeutically. In addition, the smooth, virtually pressureless cutting stroke reduces the time necessary for most aesthetic contouring procedures.

You may use either the Straight Knife or the Long Loop electrode for aesthetic contouring. Shave or "plane" away tissue in successive thin layers until the desired appearance is achieved. In Figures 10 and 11, the operator has easily corrected a patient's "crooked smile" resulting from a marked asymmetry of the gingival levels of the central incisors.

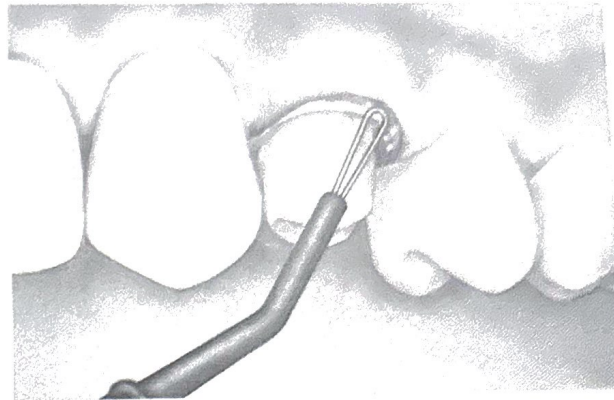


Figure 9
Removing redundant tissue to facilitate impression-taking

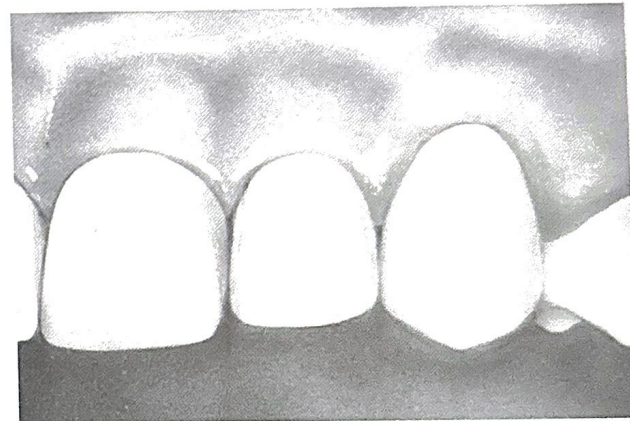


Figure 10.
Asymmetrical gingival levels of central incisors: preoperative condition

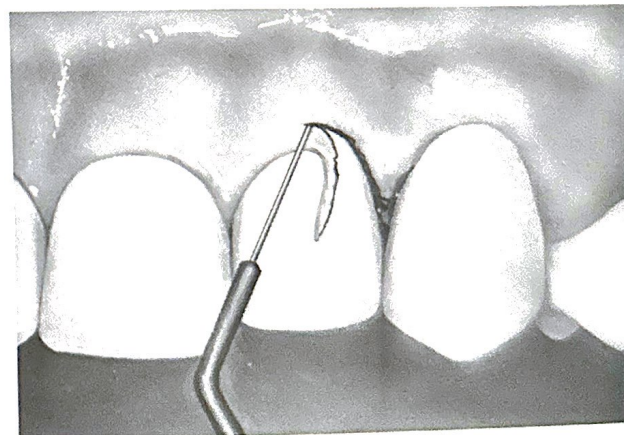


Figure 11.
Postoperative condition: gingival symmetry restored

Performance parameters

Dimensions

4 $\frac{1}{8}$ " x 6 $\frac{1}{4}$ " x 8 $\frac{3}{4}$ "

Weight

4.84 lbs (unit only)

PWR Output ($\pm 10\%$)

45W

Output impedance

850 Ω

Nominal frequency

3.3MHz

PWR output ($\pm 10\%$)

24W

Modulation waveform

50/50 square wave

Modulation frequency

Full-wave line frequency

PWR attenuation rate near peak

$\approx -2.5\text{dB/resistance octave}$

Access to caries

It is recommended that the new user of electrosurgery perform this procedure as a first clinical experience, preferably in the molar region. The benefits of PerPerfect TCS will be readily apparent when it is used to gain access to caries. Electrosurgery makes it possible to remove occluding tissue in a matter of seconds and complete restorative procedures immediately. The procedure is often virtually blood-free and provides a clean, dry, and highly visible operative field for the removal of caries and the placement of restorations during one visit.

1. The Long Loop electrode is well suited for obtaining access to most carious lesions. For caries occurring in tight interproximal areas, the Straight Knife may be more appropriate.
2. Explore the depth of the pocket and extent of the lesion with an instrument.
3. With the Output Control in the cutting mode and at the predetermined proper setting, shave off the gingival tissue covering the lesion with a few strokes of the Long Loop electrode (Figure 4).
4. With the caries exposed (Figure 5), restorative procedures can begin immediately.

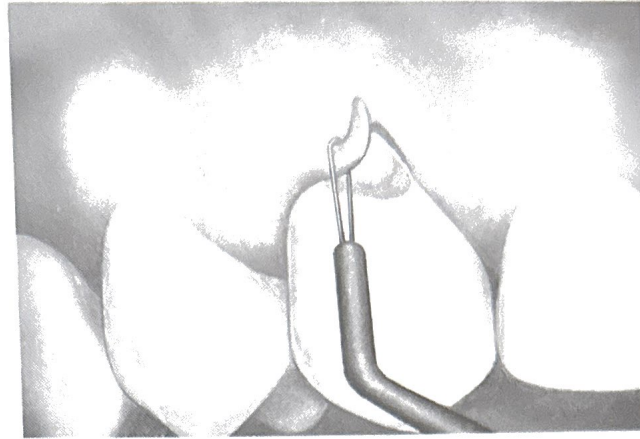


Figure 4
Removal of
occluding gingiva

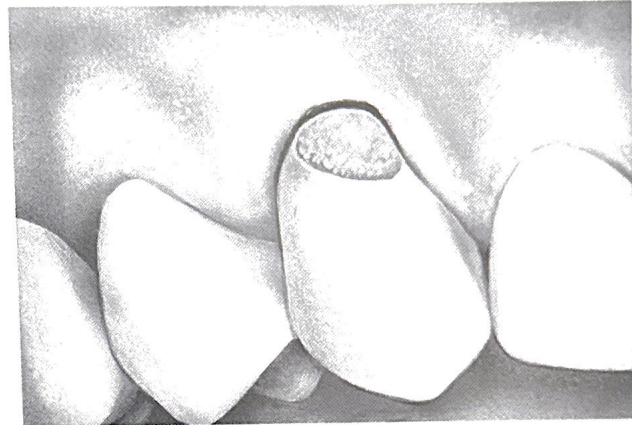


Figure 5.
Subgingival caries
exposed: immediate
postoperative condition

Gingival contouring

Creating a gingival trough. Gingival troughs are created to provide a space into which a sufficient amount of impression material can flow. You will find PerFect TCS to be exceptionally useful in this procedure, either as an alternative to a retraction cord or in conjunction with it. For example, you may create a partial trough in an area where the retraction cord does not provide space for a sufficient amount of impression material to flow.

Gingival troughs can be made either before or after tooth preparation. If they are made before tooth preparation, visibility and access are improved and margins can be finished readily. When the trough is completed and the tooth is prepared, the impression can be taken immediately. Gingival troughs should not be made in aesthetically critical areas with thin marginal gingiva because of the possible loss of gingival height on healing.

1. When creating a complete gingival trough, use the Long Loop electrode (for shoulderless preparations with a thin gingival mucosa, the Straight Knife electrode may be used.)
2. Electrode position is especially important during this procedure: the angle between the electrode and the tooth should be minimal. Too wide an angle may result in a reduced height of the marginal gingiva. Figure 6 shows the proper angle of the Loop electrode in relation to the tooth. If you find that the resulting trough is too narrow, you can retrace the trough (after waiting 15 seconds) while increasing the electrode angle slightly.
3. Begin troughing on the lingual surface, so you can adjust output intensity, stroke speed, and cutting depth before operating on the facial surfaces. You should not attempt to create a gingival trough with one continuous sweep around the circumference of the tooth. Instead, the troughing should be performed in four separate, short cutting strokes (Figure 7), each sweeping a quadrant of the gingival sulcus. The following cutting stroke order

is recommended: the palatal (lingual) surface, the labial (buccal) surface, the mesial surface, and the distal surface. As shown in Figure 7, the last two (shorter) excisions join the first two to create a continuous and uniform gingival trough. Figure 8 shows the immediate postoperative condition of a gingival trough.

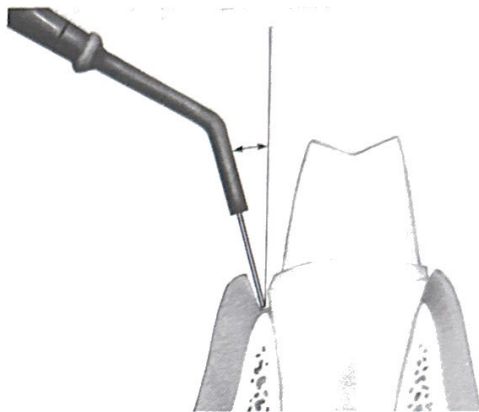


Figure 6.
Proper angle of
Long Loop electrode
during troughing

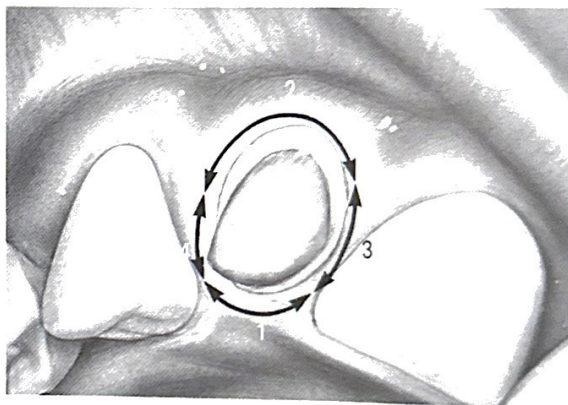


Figure 7.
Cutting strokes in
the creation of a
gingival trough

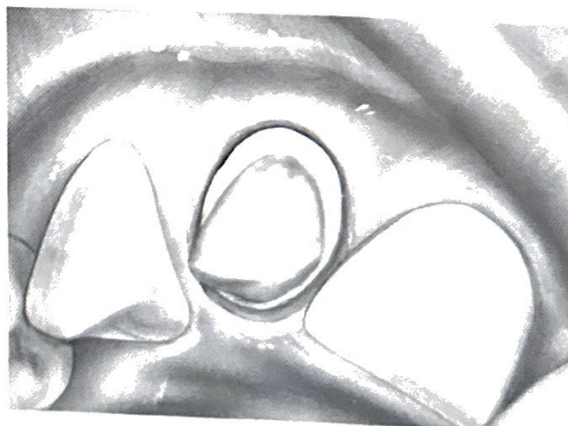


Figure 8.
Gingival trough
around first molar:
immediate
postoperative
condition

General principles of electrosurgery technique

The following simple guidelines will help you benefit fully from the many advantages of electrosurgery. For additional important information, please refer to the Special Notes and Precautions on page 11.

Placement of the equipment

It's important to place the PerFect TCS unit so that the controls, handpiece, electrodes, and accessories are readily accessible for use with a minimum of motion and wasted time. The unit should be plugged in at all times and the console should be within arm's reach of the operator. All of the functions, controls, and settings should be controlled by the dentist.

The cutting stroke

Your cutting stroke should be smooth, rapid, and brushlike. Before each cut, you may find it helpful to try several practice strokes with an inactive electrode, much as a golfer takes practice strokes before putting. This will help you assume a comfortable grasp on the handpiece and will enable you to plan the position and length of the actual cutting stroke.

When cutting, use several short strokes rather than a single long stroke. Rather than commit to a single irreversible cut (as you must do with a scalpel), you may find it preferable to shave tissue in very fine layers to achieve a more precise, aesthetically pleasing result. Cutting precision can also be enhanced by using a finger or hand rest to steady your stroke.

If your cutting stroke is too slow, or if you leave the electrode too long in one area, a build-up of lateral heat may cause necrosis and sloughing of tissue. To allow heat to dissipate safely, you should always wait 10-15 seconds between cuts in the same

area. After each cutting stroke, deactivate the electrode and wipe it on an alcohol-soaked pad. Charred or carbonized electrodes should not be used; they should be restored by cleaning with alcohol and a very fine emory cloth.

Tissue should be moist, but not wet, in the operative area. In addition, the electrode should not be activated in a bloody operative field.

It is quite simple to learn the proper technique for cutting with the PerFect TCS Long Loop and Straight Knife electrodes. With a little practice, the electrosurge handpiece will feel as natural to you as any other instrument.

The dispersive electrode

The dispersive electrode ensures that the flow of energy from the small active electrode is predictable and uniform. It *must* be used during all electrosurgical procedures. The dispersive electrode should be placed in firm, nonconductive contact with the patient, preferably against the patient's upper back, contacting the maximum possible area. Do not place the dispersive electrode in contact with bare skin. Hand-held or hand-worn dispersive electrodes should not be used. The patient, operator, or assistant should not be permitted to come into contact with metal parts, such as metal arm rests of chairs. Use only nonconducting (plastic) instruments (mirror, retractor, saliva evacuation tube, etc.) when performing procedures.

Clinical Guide to PerFect™ TCS

Bleeding control

The improved bleeding control you can achieve with PerFect TCS saves chair time, simplifies procedures, and improves patient comfort. Bleeding is virtually absent during electrosurgical procedures, because the electrode coagulates as it cuts. If bleeding does occur, coagulation is a relatively simple procedure.

1. Attach the Coag Ball electrode sheath to the cord assembly (or the Straight Knife electrode if the area to be coagulated is difficult to reach).
2. Slide the Output Control to the coagulation setting you have established from previous experience or during preoperative practice. *Remember to use the lowest effective output setting for best results.*
3. Rinse and air dry the operative field to visualize the bleeder.
4. Touch the bleeding area intermittently with the electrode (Figures 2 and 3). Duration of contact should be approximately 1 second, with a 10-15 second pause between contacts. Bleeding cessation indicates a successful coagulation. One or two applications of the electrode is usually sufficient to stop bleeding.

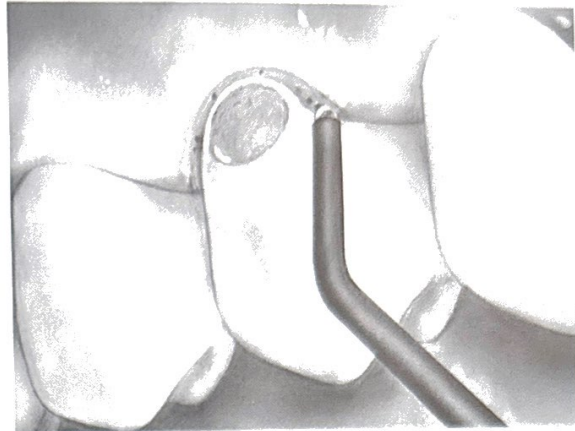


Figure 2.
Using the Coag Ball
to stop bleeding
caused by cavity
preparation

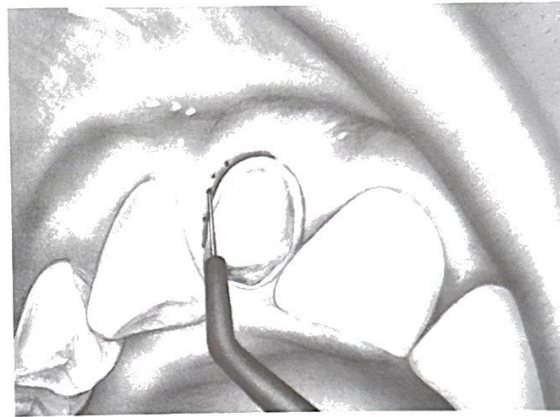


Figure 3.
Using the Straight
Knife electrode to
stop bleeding in the
gingival sulcus

