

SOLVING CROWDING MULTIDISCIPLINARY BENEFITS

Aesthetic expert Dr Rahul Doshi reviews his use of a no preparation, no anaesthesia technique for smile design that includes the use of a powerful diode laser

Normally, as you know, the saying is: 'No pain, no gain', but I've now started to do some rather interesting treatments, which involve no preparations on the teeth and, therefore, no local anaesthetic is required. They do, however, involve the use of a soft tissue laser for recontouring the gingiva, and this is where this treatment becomes most interesting because this is also done without the use of local anaesthetic.

I have selected two cases that aptly demonstrate this technique.

CASE STUDY ONE

I start the process with an initial examination where with the patient talking through what treatment they would like to undergo. We specifically ask them what sort of smile they would like to have, looking at the amount of gum showing at rest and the gingival contours, and then make a complete assessment of the patient and their medical history - this appointment also includes impressions and photographs. This information allows us to design a smile for our patients which is fitting for them and their personality, in terms of shape, style, colour as well as overall effect.

Looking at Figures 1 and 2, you will see that the patient here presents a nice smile, but with a number of things that she does not like. Concentrating on the upper arch, her comments were on the following issues: the diastema between the two centrals, the small angled gaps between the centrals and the laterals, and the fact that the right canine is greatly reduced in size. There is also some work to do with the laser in order to create the soft tissue profiles that will make the end result into a beautiful smile.

The first step in the process is to build up the new smile in composite. As per the patient's request, we are only going to work on UL4 to UR4 in the upper arch. This means that we have to build the teeth out in a buccal direction in order to widen the smile. Once we have built the composites to create the new smile, we can then use the laser to create the new soft tissue profiles that we need. I use an Elexxion nano laser, which is a 15W diode laser that normally allows me to cut very quickly, with no carbonisation. However, for these sorts of



Figure 1: Smile preoperative



Figure 2: Preoperative smile close-up

cases, it's not the speed that I require, but the precision. The laser cuts with a pulse rate up to 20,000 Hz and this means that there is no carbonisation in the area where the laser has been used. This is ideal as I can do the soft tissue preparation without using any local anaesthetic. I can choose either a very fine or a standard-sized laser fibre for the task in hand.



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Figure 3: Immediately after laser had been used



Figure 4: Final veneers in place

It is important to note that the laser is not only used for reshaping the gingiva itself, but for allowing us to open the sulcus slightly. This allows the impression material into the sulcus (as with a crown preparation) and allows the final veneers to fit just subgingivally to look like natural teeth protruding from the gum line.

To illustrate this, Figure 3 was immediately taken after the laser had been used. This is a good illustration as it now shows the new smile (in composite) built up to resemble the final smile. At this stage, we can take as much time as we need in order to deliver exactly what the patient wants. Once the laser has been used, we have the ideal situation of the new teeth with the new gingival contours, so we can see how the whole smile comes together. As a result of not using any local anaesthetic, the patient has full control of her lips and can feel the new teeth in situ and give us her accurate feedback. This makes a lot of difference compared to the conventional method where it takes a few days after the preparation appointment in order to get any accurate feedback from the patients.

Once the patient is happy with the smile in this form, we can take impressions for the laboratory. The laboratory will use these impressions to make the final veneers. I use Amdecc in Basildon, Essex, for this work as I have used them for more than 10 years and

they understand exactly what I'm looking for. With the impressions done, we can take off the composite and then make any minor alterations that need to be done to the teeth (still without the use of local anaesthetic). With minor work completed, we can then take the final impressions of the starting position. The laboratory now has all of the impressions that they need in order to create the new smile. I then use Luxatemp (DMG) to give the patient their new smile (in temporary) whilst their new teeth are being made.

There would normally be a review appointment after around a week, which allows the patient to confirm that the temporaries are to their liking – having taken comments from family and friends into consideration.

The final step is then the fit appointment – usually a couple of weeks after the preparation stage, but depending on the patient's availability.

Figure 4 now shows the final veneers in place. As you can see there is a good match with the gingival contouring so that the eight new veneers fit nicely into the gingival contours that we have created. On reviewing this picture, I wish that she had agreed to have the amalgams replaced in the two lower molars, but then that's just being hyper critical, and at the end of the day it's her choice. You can now see clearly how we have increased the size of the right canine to make it match the left canine.

CASE STUDY TWO

In the second case, we have again followed the principles outlined above. However, in this case we treated six upper teeth and four lower teeth. It would have been ideal to have been able to treat more, but again, that was what the patient wanted. Our main challenge in this case was a missing right lateral. The trick here is to make the right canine look like a lateral and then make the premolar look like a canine. Figure 5 shows the starting point of the second case. The patient wants us to concentrate on UL3 to UR3 and LL2 to LR2 as these are the teeth that she feels are critical to her smile.

Looking at Figure 6, immediately after



Figure 5: Preoperative smile close-up



Figure 6: Immediately after laser had been used



Figure 7: Final veneers in place

using the laser you can see just how gentle the laser is in helping me to re-contour the gingival margins, particularly around the right side where we have to make the appearance changes.

The final picture in the sequence, Figure 7, shows the final result with the veneers in place, and whilst my eyes are still drawn to the teeth that we did not treat, the final result on the teeth that we did treat is very pleasing and, more importantly, the patient was delighted. Here the smile has a nice balance and it's certainly not obvious, at least on an initial inspection, that she's missing a lateral on the right side.

CONCLUSION

The no preparation, no anaesthetic system is a major step forward from a patient's point



Figure 8: A laser in use

of view. The feedback during treatment is excellent. The lasers that I have used in the past would not have let me be this precise

without anaesthesia and with this much control of the soft tissues. The final picture (Figure 8) shows me using the laser, fully

protected wearing the comfortable laser glasses over the top of my normal eyewear.

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The cases in this article were treated in collaboration with Amdecc Dental Laboratory.



For further information on Elexxion diode lasers, please visit www.elexxion.com

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