

# Lasers in dentistry: gingivectomy by diode laser

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Lasers in dentistry can be divided into two main types: soft tissue lasers and hard tissue lasers. The laser used in this case is the Gemini 810 + 980 diode laser (Ultradent).

The main use of the laser in this case was to scallop the gingival margin of a primary canine to match the contralateral adult canine. It was also a valuable tool for providing haemostasis for the resulting composite addition to the cervical area.

## Case presentation

A 42-year-old gentleman attended the practice with a primary upper left canine that had undergone significant cervical wear. Despite the number of years the primary tooth had been present, it was not mobile, and therefore there was no reason to replace it.

The patient was not happy with the colour of his tooth, and the difference in gum height compared to the contralateral permanent canine (Figure 1).



Figure 1.

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Figure 2.

### Treatment plan

After bone sounding, it was determined that the cervical margin could be relocated 1.5mm apically without risk of encroaching the biological width. The treatment plan was ordered to correct the gingival discrepancy, and then restore the tooth with composite resin to camouflage, giving the appearance of a permanent canine.

It was also decided to replace the composites on the central incisors to improve aesthetics and close the black triangles.

### Treatment

Using the laser in gingivectomy mode, the gingival margin was carefully scalloped 1.5mm apically following a similar gingival scallop of the adjacent teeth (Figure 2).

This was extremely quick and effective with the added

benefit of rapid haemostasis and creation of a coagulum, which reduced the risk of gingival crevicular fluid contaminating the field of isolation (Figure 3).

Gingival isolation was reinforced by using some Ultra-Pak retraction cord triple O (Ultradent) (Figure 4). After sandblasting and following a self-etching adhesive protocol (after enamel selective etching and rinsing), the tooth was then restored, producing a camouflage effect, copying the right permanent canine.

### Six-month review

At the six-month review, excellent gingival symmetry and acceptable aesthetics were achieved (Figure 5). It was observed that the canine was far more similar to the contralateral tooth.



Figure 3.



Figure 4.



Figure 5.

Additionally, the black triangle situation was improved by moving the contact point on the central incisor composite additions to within 5mm of the bone crest (using the principles of Tarnow et al).

### Conclusion

A primary observation of interest was the rapid response of healing following use of the laser. In an incredibly short space of time, the patient showed remarkable change.

In summary, the laser was the perfect tool for scalloping

the gingival margin with precision, accelerating healing with the added benefit of rapid haemostasis.

Introducing a laser at our practice has allowed a faster process when considering adhesive dental procedures such as composite bonding at the gingival level owing to the ability to create a clean field of isolation after cutting with its instant haemostasis.

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