

GOULD'S GUMS GAZETTE

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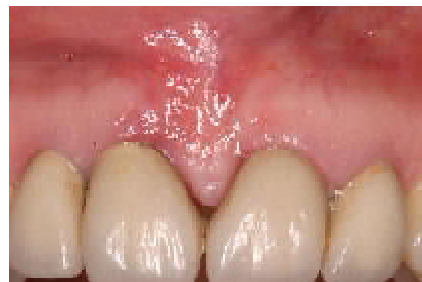
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Surgical Regeneration of the Interdental Papilla

One of the most difficult restorative challenges for a dentist has to be where there has been loss of the interdental papilla in an esthetic zone. Often, I am asked if it would be possible to surgically rebuild the papilla with tissue grafting, and my answer is always "maybe". This is a procedure that generally has a very uncertain success rate, because there are so many variables that can influence the outcome. These include primarily the width of the embrasure space and the vertical distance the papilla has to be rebuilt. Most surgical techniques focus on the adequacy of the blood supply at the recipient site for the survivability of the donor tissue and so the volume of the papilla is critical. That is the reason that rebuilding an edentulous ridge is often a more predictable procedure. Having said that, however, building tissue height is always much more difficult than width. Because the papilla is attached keratinized tissue, it cannot be "stretched" to accommodate a tissue graft and so previous surgical techniques have required making vertical releasing incisions into the alveolar mucosa which then allow the papilla to be moved coronally (somewhat like a roller blind on a window). Unfortunately, this can compromise the blood supply to the tissue flap and decrease the chance of a successful outcome, particularly if a horizontal incision is also made close to the papilla.

Microsurgical techniques using connective tissue grafts can often be successful where conventional treatment may fail, because of the minimal tissue invasion and manipulation of the surgical site, with coincidentally less disruption of the blood supply, as in the following example.



Update on Periowave

The Periowave pocket disinfection system has been in use in our office for over a year now, and I promised in a previous newsletter that I would keep you updated as to the results we have been achieving. We have been using the system for initial treatment (as an adjunct to root planing), for supportive periodontal treatment and during surgical cases to disinfect a site prior to regenerative procedures such as bone grafting.

In general, results have been positive. The most common finding, (particularly in a maintenance case where there is an individual tooth that we have previously found it hard to reduce inflammation), is a significant reduction in bleeding on probing. What is most surprising to me is that long-term maintenance patients for whom we have tried other adjunctive treatments in the past (e.g. local or systemic administration of antibiotics, local disinfection of pockets) have independently commented on how their teeth feel more comfortable and their gums no longer bleed when brushing or flossing.

Having said that, however, the treatment does not work all the time. I suspect that the system is more technique sensitive than was originally promoted. In particular, it is important to introduce sufficient material into the pocket before activating the laser. In addition it is also important that there is minimal or no bleeding, since blood (being red) will absorb the red laser light. This may mean having to postpone the Periowave treatment for a few days after root planing.

As far as the use of the Periowave system during regenerative periodontal surgery, I have only used it on a small number of cases so far, and so it is hard to determine how much influence it is having compared to all

the other materials that are also being used at the same time (Emdogain, bone grafting Etc.)

Nevertheless, I am able to show some early results from one of the first cases where I used Periowave during regenerative surgery for a significant pocket on the distal aspect of tooth #47 which also had a deep infrabony defect extending almost to the apex of the root. Pre-op pocket depths were 12mm on the distal and 10mm on the buccal. Post op were 4-5mm on the distal and 3mm on the buccal. The radiographs were taken preoperatively and a little over six months postoperatively.



You can see that even as early as six months there has not only been substantial bony fill on the distal, but also the area of radiolucency in the furcation has also resolved.

One can speculate that the Periowave system is able to eliminate plaque bacteria in the surgical site, particularly in hard to access areas for instrumentation such as furcations, and thus improve the outcome.