

2411 Human Periodontal Regeneration Following the Laser Assisted New Attachment Procedure

R.A. YUKNA, [G. EVANS](#), S. VASTARDIS, and R.L. CARR, Louisiana State University, New Orleans, USA

Objective: The Laser Assisted New Attachment Procedure (LANAP) has been developed for the sulcular debridement of periodontal pockets with the goal of obtaining new attachment. Favorable clinical results have been reported, but human histologic proof of regeneration is limited (IADR Abstract # 1735, 2003).

Methods: 6 pairs of single-rooted teeth with moderate-advanced chronic periodontitis and subgingival calculus deposits were treated. Occlusal adjustment and direct bond extracoronal splinting were performed. Under local anesthesia, a 1/4 round bur notch was placed at the apical extent of calculus as carefully as possible. One of each pair of teeth received pulsed FR Nd:YAG laser treatment of the inner pocket wall to remove the pocket epithelium (3 watts, 150 pulses/second, 10 Hz). Both teeth were then aggressively scaled and root planed. Pockets of the test teeth were lased again to help coagulate any blood present and to form a fibrin seal. Triple antibiotic ointment and a light cured dressing was placed. The control teeth received all of the above except the laser treatment. Patients were seen every 10 days for the first month, then at 2 and 3 months, at which time the treated teeth were removed en bloc, decalcified, and stained with H & E.

Results: All 6 of the LANAP treated specimens showed new cementum and new connective tissue attachment (and in two cases new bone and new periodontal ligament) in and coronal to the notch. Control teeth had a long junctional epithelium with no evidence of regeneration. There was no evidence of any adverse pulpal or tooth surface changes in any specimen.

Conclusion: This report supports the proof of principle that LANAP can be associated with cementum mediated new attachment and periodontal regeneration on a diseased root surface in humans.

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[Seq #243 - Adjunct Treatment](#)

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http://iadr.confex.com/iadr/2004Hawaii/techprogram/abstract_47642.htm

Millennium Dental Technologies, Inc., has received FDA clearance for "Cementum Mediated New Attachment" but does not have clearance for some or all of the claims made in this article.