

Biora Rapport™

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**A New Way to
Educate Patients!**

Biora's informative
Patient Discussion Guide
educates patients about
periodontal flap surgery
and the benefits of
Emdogain®Gel
treatment.

See Page 3

Streamlining the Solution Introducing new Emdogain®Gel

Biora is proud to announce the arrival of our exciting new technological advancement, Emdogain®Gel, which is based on our proven and safe Emdogain® platform technology. Emdogain®Gel brings you the same efficacy of Emdogain, previously packaged in vials, but is now offered in a unique syringe delivery system making it easier to handle. With this new product innovation, Emdogain®Gel brings you even greater benefits than our original formulation including:

- A prefilled, premixed, and ready-to-use periodontal treatment modality;
- A unique technology that requires no additional procedure or chair time; and
- Two sizes to suit your regenerative needs and provide inventory flexibility.

Emdogain®Gel also provides you with the same benefits you've come to expect from Emdogain:

- A biology-based protein matrix that initiates a cascade of cellular activity that mimics that of tooth development with proven efficacy and results; and
- Enhanced wound healing that has been reported by our customers and their patients.

Emdogain®Gel is available in two sizes to accommodate your surgical case requirements. The 0.7-ml size is distinguishably packaged in a dark green box and is designed to treat up to three periodontal intrabony defects. Our 0.3-ml size of Emdogain®Gel is packaged in a yellow-green box and designed to treat one periodontal intrabony defect. In addition to the syringe, the contents in both sizes contain a blunt application cannula, package insert and two Emdogain®Gel treatment stickers (one intended for the surgical office and the other designated for your referring office). An additional feature is the sterile blister packaging that contains the syringe. This new packaging benefit allows your assistant the ability to transfer Emdogain®Gel onto a sterile tray without the risk of contamination.



IN THIS ISSUE

**Annual Message
From Biora Inc.
President**

Case Reports

**Questions &
Answers About
Emdogain**

**Research &
Development
Review**

See Gel, Page 3

**Information
for Users
of Emdogain®Gel**



Diverse Patients, Consistent Results

Three Emdogain® Case Reports

Case Report 1



Baseline



18 Months Later

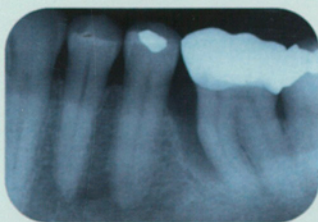
An 18-year-old, healthy, black male presented to my office with a localized periodontal problem on tooth #18. The patient is a non-smoker with a history of "gum problems" since 13 years old or so. He complained of swollen, tender gums with an accompanied constant dull ache on the lower left molar areas. Radiographic exam revealed an advanced vertical bone loss on the mesial of tooth #18 and moderate bone loss on the other first molar areas. The pattern of bone loss suggests that this patient had juvenile periodontitis transitioning to early onset adult periodontitis. The probing depth measurement on the mesial of tooth #18 was 15-mm. This tooth also had a class II furcation involvement on the lingual. The radiographs demonstrated a periapical radiolucency; consequently, a root canal will be necessary in the near future. After full mouth scaling and root planing with antibiotic therapy was completed, lower left quadrant surgery was recommended to attempt bone regeneration on the mesial of tooth #18.

The patient was anesthetized and a sulcular incision was made. After a full thickness flap was raised, the area was thoroughly root planed and granulomatous tissue was debrided from the vertical defect using an ultrasonic scaler and hand instruments. There was a circumferential defect present with involvement of a lingual furcation also noted. The affected root surface received further root debridement using a rotary instrument. Enamel matrix protein (Emdogain®) was prepared per the manufacturer's recommendation. The roots were conditioned

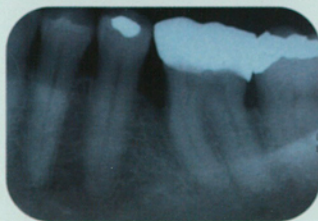
using EDTA and dried and Emdogain solution alone was applied to the defect and the remaining surgical site. The surgical site was tightly closed using 4-0 silk sutures in an interrupted fashion. The usual post operative and home care instructions were given. The patient was instructed to have a root canal done on that tooth as soon as possible.

The patient returned one week later for suture removal. The healing was remarkable and the patient was no longer in pain. However, he failed to have the root canal therapy on that tooth because he said, "I don't have pain on that tooth anymore." The importance of the root canal therapy was stressed to the patient and the procedure was re-scheduled. The patient failed the continued follow-up visits. Then about a year and a half later he came in for a periodontal scaling appointment. The patient had no complaints, was happy, and continued to have no pain thus far. The probing depth is now 5-mm and there is no furcation involvement on that tooth. He still has not completed the root canal on tooth #18. New radiographs were taken to demonstrate the bone gain.

Case Report 2



Baseline



24 Months Later

A 56-year old white female presented with generalized moderate adult chronic periodontitis. Her medical history is non-contributory and she is a non-smoker. She had moderate bone loss in her posterior teeth with localized, advanced, vertical bone loss on tooth #30. The tooth had a probing depth of 8-mm with purulent exudate present. It also had a class I furcation involvement on the lingual and class II

furcation involvement on the buccal aspects. Because of the severity of the vertical bone loss, surgical therapy was suggested along with a bone regeneration procedure on the mesial of tooth #30.

The patient was anesthetized and a full thickness flap was raised. The area was thoroughly debrided of granulomatous tissue and calculus. The affected root surface had a very heavy build up of calculus with a 2-walled defect and missing buccal wall also noted. The roots were conditioned with EDTA then Emdogain alone was applied in the defect and the remaining surgical site. The flap was closed using 4-0 silk sutures and the usual post operative and home care instructions were given.

The patient continued to follow up with regular maintenance visits and also maintained very good home care. The two-year follow up radiographs showed that there was definite bone gain. The probing depth is now at 3-mm on the mesial aspect of tooth #30.

Case Report 3



Baseline



12 Months Later

A 48-year-old American Indian female with generalized, moderate, adult, chronic periodontitis presented with an abscess on tooth #26. The tooth had a class II mobility with a 9-mm pocket depth. It was recommended to have the tooth extracted and replaced with a bridge. However, she did not want to extract the tooth or have the bridge made. It was explained to the patient that an attempt to regenerate the lost bone and save the tooth would be considered very heroic. The patient decided to accept the less than hopeful success rate in order to try to save her tooth.

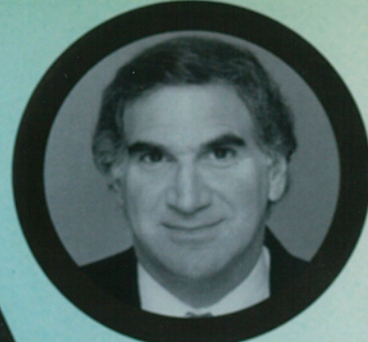
The patient was anesthetized and a full thickness flap was raised. The affected area was thoroughly debrided of calculus and granulomatous tissue using an ultrasonic scaler, hand instruments and rotary instruments. A two-walled defect was observed. The affected roots were conditioned with EDTA, washed, dried and immediately pooled with Emdogain solution alone. The surgical site was tightly closed with 4-0 silk sutures and a periodontal dressing was placed. The usual post operative instructions and follow up instructions were given.

The patient continued to follow up with regular 3-month maintenance cleanings. One year later, radiographs demonstrated that using Emdogain alone, bone growth was evident. This tooth now has no mobility with only 1-mm pocket depth. The patient is happy that she was able to avoid an extraction and a 6-unit bridge. ■



C. Leon Chen, D.M.D., M.S.

Dr. Chen received his D.M.D. from Harvard and completed his M.S. in periodontics at Northwestern. He has lectured extensively on implants, periodontal regeneration and periodontal cosmetic surgeries on a national and international level. Dr. Chen is also the founder of the Beijing Implant Center in Beijing, China. He is currently maintaining three private practices and an Educational Institute in Las Vegas, NV and is the assistant director for the University of Nevada School of Medicine's Department of Periodontics and Implants.



By:
Dr. Stuart J. Froum D.D.S., P.C.

Please describe a typical defect where you would find an optimal predictable outcome with Emdogain®Gel treatment?

Both our own clinical experience and that published by others confirm that deep infrabony defects appear to respond best to Emdogain treatment. Certainly, any defect that is well contained (3-wall wide, 2-3-wall combination and the classic 2-wall defect) responds well in terms of defect fill and gain in clinical attachment level. Although the results may not be as dramatic, I also find that moderate defects that may be too deep to resect or that are in the aesthetic zone where post surgical gingival recession may pose a problem, are also good candidates for Emdogain treatment.

What types of results would you consistently expect in these types of defects with Emdogain®Gel?

Our experience has shown that these defects appear to predictably fill to about 70% of the depth of the defect. More impressively, in our study we found that with the post surgical regimen we used, not one site lost attachment when evaluated one-year post surgery.

Surgical technique is a factor in determining a successful outcome for regeneration. Please describe your technique for cases where you will use Emdogain®Gel.

The surgical technique using Emdogain®Gel has similarities to other regenerative procedures. They include a flap design which conserves as much of the gingiva as possible, meticulous root preparation with hand, ultrasonic and rotary instruments, and debridement of osseous defects. However, I refrain from performing any intra-marrow penetration or decortication of the walls of the defect. In fact, every effort is made to minimize bleeding into the defect. The root is conditioned with citric acid pH=1 for 15 seconds or EDTA (PrefGel™) for two minutes then irrigated with sterile saline or water for one minute. The root is then air-dried and Emdogain®Gel is applied to the root from the base of the defect coronally. The flap is pre-sutured prior to Emdogain®Gel application and then sutured as coronal as possible so as to maintain space under the flap. If coverage is a problem, the flap is released with partial thickness periosteal dissection which allows flap advancement. This is done prior to root conditioning. Interrupted or mattress sutures are used to close the flap. In cases where defect morphology (wide 1-, 2-, or 3-wall defects) does not support the flap or if containment of the Emdogain®Gel is compromised, an autogenous bone graft is placed in the defect following Emdogain®Gel application to the root. Emdogain®Gel is then placed on top of the graft (an "Emdogain®Gel Sandwich") prior to tissue closure. If supracrestal bone is desired, a membrane barrier is placed over the bone graft and defect and stabilized with sutures or bone tacks. ■

Dr. Stuart Froum currently holds the position of Clinical Professor at New York University Dental Center in the Department of Periodontics as well as the Department of Implant Dentistry where he is the Director of Research. Dr. Froum is on the Research Committee of the Academy of Osseointegration and on the Continuing Education Committee of the American Academy of Periodontology. He is a recipient of the prestigious Isidore Hirschfeld Award.

We want to hear from you. Please submit questions to the following address:

**Biora, Inc. • c/o Dr. Cheryl Arnold
415 North LaSalle Street, Suite 615 • Chicago, Illinois 60610
e-mail: cheryl.arnold@biora.com**