

Our office continues to offer 3D scanning for your diagnostic needs. Patient cost per scan is \$125. Images are sent to your office on CD with accompanying viewing software - printed images available on request.



Conventional Periapical Film



Thin Cross Sections with CT Scan

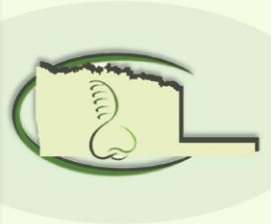


Advanced Dental Imaging Services

Implant Planning
TMJ Evaluation
Impactions
Endo Diagnosis
Ortho Planning



ENHANCING THE WAY YOU SEE PATIENTS.



Periodontal Implant Center

Jacob D. Hager, DDS, MS

8203 S. Walker

Oklahoma City, OK 73139

Periodontal News



A Recurring Publication from the Periodontal Implant Center ♦ No. 7, May 2011

Jacob Hager, DDS, MS ♦ Board Certified by the American Board of Periodontology



Our goal is to function as an extension of your office, offering your patients the highest level of periodontal and implant services.

In doing so, we are committed to the highest level of inter-office communication and promise that you will always know what treatments your patients are receiving in our clinic.

Contact Us

8203 S. Walker
Oklahoma City, OK 73139

405-636-1411
800-525-9355
405-636-1197 fax

email:
okperioimplantcenter@yahoo.com

Technology Update

Medtronic INFUSE Bone Graft

Augmenting a deficient alveolar ridge for future implant placement is a very challenging procedure where the outcome is heavily dependent on multiple variables: patient selection, surgical technique and grafting material selection. In many instances, multiple graft materials are incorporated into an augmentation site such as bone allograft particles, a collagen barrier and a biologic simulative agent to increase the rate and quality of new bone formation.

The inclusion of biologic simulative agents in ridge augmentation grafts has become more commonplace in recent years. *Emdogain*, which is a mix of amelogenins and other proteins harvested from developing porcine tooth buds, is marketed by Straumann and has been on the market for over 10 years. Recombinant platelet derived growth factor (PDGF) marketed by Osteohealth as *Gem21* has been available for over 5 years.

A more recent advancement in the stimulation of bone growth for oral surgery applications is recombinant bone morphogenetic protein-2 (BMP-2) marketed by Medtronic as *INFUSE Bone Graft*. BMP-2 is a protein naturally found in the body that guides bone formation during fetal development. In adults, the protein is found in trace quantities in the skeletal structure. *INFUSE Bone Graft* is a lab-produced, recombinant BMP-2 that has FDA clearance for use in sinus grafting and localized ridge augmentation procedures.

BMP-2 has been used in orthopedic surgery for some time, but only recently has become economically practical for use in clinic-based dental surgery.

The integration of *INFUSE Bone Graft* at the Periodontal Implant Center for bone grafting procedures began earlier this year. A collagen sponge is soaked in BMP-2 solution and used in combination with a particulate bone allograft, collagen barrier and standard surgical technique. Initial results appear very favorable.

In no way is BMP-2, or any other biologic agent, considered to be a “magic bullet” that guarantees a successful grafting outcome. Rather, biologic agents with sound clinical research are considered as adjuncts that improve the overall chance of a successful outcome when combined with proper patient selection and ideal surgical techniques.

Patient Education Page

The last page of this publication contains an education sheet that is currently given to every periodontal patient seen in our office. Information contained on the page is grouped into two main categories relating to periodontal disease:

- 1) Ways in which a patient can participate to better control their periodontal disease long term.
- 2) Other systemic diseases that are linked with chronic inflammatory processes such as periodontitis.

Significant emphasis is made regarding the role of inflammation in the periodontal disease process and the fact that periodontitis, in most cases, is never cured, rather managed (much like diabetes) with routine plaque control and professional maintenance care.

A printable copy of this education page is located on our web page at www.perioimplantcenterokc.com under the Downloads tab.

Lunch and CE is On Us

Call or email us to set up a lunch hour education course for you and your staff. Food and signed CE cards will be provided. Pick your topic:

- 1) *Dental Implants - General Principles and Case Planning.*
- 2) *Implants in the Esthetic Zone – A Simplified Approach to Custom Abutments.*
- 3) *Utilizing implants and locator attachments to retain dentures and partial dentures.*

Call or email to reserve a date.

Managing Peri-Implant Infections

The Key is Prevention

Below are simple guidelines to help reduce the occurrence of peri-implant infections in your office.

- 1) Limit implant placement to patients that smoke less than 10 cigarettes a day (*implant complications increase greatly in patients that smoke more than a half-pack per day*).
- 2) Avoid implant placement in poorly controlled diabetics (*check to make sure that a diabetic patient's last A1c level was less than 7.5 – an indicator of glycemic control over the last 4-6 months*).
- 3) Avoid implant placement in a deficient alveolus. Exposed threads at the time of placement are a significant risk for later complications. Three-dimensional imaging with a CT scan is recommended for any planned implant site that is suspected of a lateral bone deficiency.
- 4) Prevent cement extrusion onto the abutment / implant collar (*best accomplished by keeping cement lines no more than 2mm subgingival – custom abutments are usually needed to accomplish this in anterior sites. Also important to use minimal cement at the time of prosthetic delivery and take post-delivery radiographs to check for cement extrusion.*)
- 5) Work with an experienced implant lab that will prevent poorly contoured or over-contoured implant restorations that are prone to increasing plaque accumulation.
- 6) Minimize off-axis occlusal contacts on final implant restorations.
- 7) Provide detailed oral hygiene instruction for patients with implant restorations and encourage the use of floss and an interdental proxabrush that can remove plaque at the level of the implant collar / cement margin.



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Frontline Non-Surgical Therapy

Determining the primary etiology and addressing modifiable risk factors are the keys to non-surgical management of peri-implantitis.

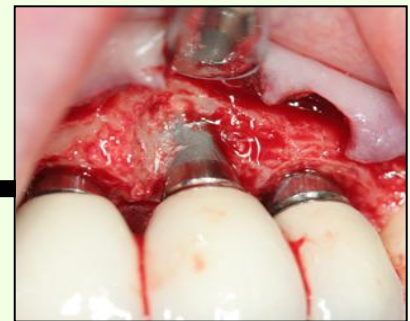
- Heavy smoking / diabetic control?
- Subgingival calculus / bacterial biofilm?
- Lateral / off-axis occlusal contacts?
- Poor restoration contours contributing to plaque accumulation?
- Adequate plaque control?
- Retained subgingival cement?
- Adequate peri-implant attached gingiva?

**If the peri-implant infection occurs shortly after delivery of the restoration, retained cement should be suspected.*

Non-surgical debridement with curettes (*plastic, titanium, gold*) or specifically designed Cavitron tips (*shown below*) is recommended. Supplementation with local antibiotics (*Arestin*) is also an advisable adjunct. Surgical intervention or referral should be considered if peri-implant infection does not respond to initial non-surgical therapy, radiographic bone loss extends beyond the second thread or clinical pocketing exceeds 6mm.



Surgical Intervention – Case Examples



Implants placed 7 years prior to examination in our office with a longstanding history of peri-implant inflammation and recent acute abscess formation facial to #9. Gingival flap revealed open crown margins and a large accumulation of cement on the #9 implant collar. Site treated with thorough debridement, decontamination and grafting (#9) with particulate bone allograft. Fabrication of new crowns with improved margins is recommended with any significant recurrence of peri-implant inflammation.



Narrow diameter implant #6 placed 9 years prior to examination in our office with chronic inflammation, suppuration and 7mm pocket depths. Surgical debridement revealed ledged, overhanging crown contours that were corrected by the addition of composite resin to create a convex shape from the crown ledge to the implant collar.

Improve Your Periodontal Health



You have been diagnosed with periodontal disease; a disease that has caused the loss of bone around your teeth. This disease process is the result of inflammation caused by dental plaque, a sticky film of debris and bacteria that forms on your teeth every day. Below is a list of ways you can participate and help limit further loss of bone that supports your teeth.

- 1. Remove the plaque that forms on your teeth at least twice a day.** The combination of a quality electric tooth brush, floss and interdental brush is the best way to remove dental plaque. Mouthrinses and Waterpiks are a great adjunct to your oral health but are not a substitute for brushes that mechanically remove the sticky plaque film.
- 2. Quit smoking.** Smoking is the biggest controllable risk factor for periodontal disease. Patients that smoke are at 8 times the risk for bone loss around their teeth. Cutting back to less than 10 cigarettes a day will help decrease the risk of additional bone loss compared to smoking more.
- 3. Manage your diabetes.** Uncontrolled diabetes is another significant risk factor for periodontal disease. Check your blood sugar daily. Work with your physician to keep your A1c level less than 7.0.
- 4. Supplement your Diet.** 1000mg of omega 3 fatty acids (*fish oil*) and an 81mg aspirin each day have been shown to significantly reduce the destructive effects of inflammation in patients also receiving periodontal therapy. Other dietary supplements such as soy products and green tea have also been shown to reduce inflammation throughout the body.
- 5. Remain compliant with your scheduled dental cleanings.** For most patients, the effects of a professional cleaning that disrupts bacteria under your gums lasts for 90 days. After this period of time, the bacteria begin to reorganize and induce a more severe inflammatory response that can lead to further bone loss around your teeth.

Our main goal at the *Periodontal Implant Center* is to help you keep your teeth. How successful we are in accomplishing this is greatly dependent on your compliance with the treatments we recommend and your participation in assisting with the care of your mouth as outlined above. **Please understand that periodontal disease is a chronic disease that requires constant attention and management for the rest of your life.**

Risks of Periodontal Disease



Currently, dentists believe that the destructive effects of periodontal disease on the bone supporting your teeth are actually caused by your body's own chronic inflammatory response to bacteria under your gums. Several research studies have suggested that periodontal disease may be associated with other chronic inflammatory diseases, including cardiovascular disease, stroke, diabetes, pre-term pregnancy, rheumatoid arthritis, Alzheimer's, kidney disease and even certain forms of cancer. Since research has indicated that people with periodontal disease are at a higher risk for these other diseases, it is critical to maintain periodontal health in an effort to achieve overall health.

Heart Disease. Researchers have found that people with periodontal disease are almost twice as likely to suffer from coronary artery disease (increased risk for heart attack) as those without periodontal disease.

Stroke. Researchers have found that people suffering a stroke were more likely to have an infection in their mouth compared to those without.

Impaired Diabetic Control. Research has emerged that suggests that the relationship between periodontal disease and diabetes goes both ways - periodontal disease may make it more difficult for people who have diabetes to control their blood sugar.

Pre-term and Low Birth Weight Infants. Pregnant women who have periodontal disease may be seven times more likely to have a baby that is born too early or too small.

Respiratory Disease. Scientists have found that bacteria that grow in the mouth can be aspirated into the lungs and cause respiratory diseases such as pneumonia, especially in people with periodontal disease. Scientists also believe that through the aspiration process, bacteria can cause frequent bouts of infection in patients with COPD (Bronchitis / Emphysema).

For now, the focus of treating periodontal disease remains centered on reducing inflammation in the mouth, which likely carries the added benefit of helping with the management and/or prevention of other chronic inflammatory conditions. An actual cause-and-effect relationship between periodontal disease and other health risks remains the focus of intense research.