

Periodontal Health in Oklahoma

Oklahoma Center for
Implants & Periodontics

Our Mission Statement

Changing the Lives of
Patients

Our office changes the lives of people through premiere service and the highest quality of implant and periodontal treatment offered today.

Robin D. Henderson, D.M.D.,
M.S.

Diplomate of the American
Board of Periodontology

Emphasis on Comprehensive
Periodontics, Soft Tissue
Grafting, and Dental Implants

In This Issue

Biological Width
Infringement

Implant Maintenance

What is Perio Protect

ONJ Case Update

Ask Dr. Henderson

You and Your Health

Team Member Highlight

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Invading The Biological Width

A 50 year old female presented with an area on the upper right that constantly bled and tender. It swells and goes down with aggressive home care. The crown on #4 has been present for about one year. Scaling and root planing resolved the issue for a short amount of time but the lesion eventually came back.

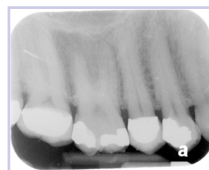
I considered a couple of different things when diagnosing and treating this case. The most obvious item is the granulomatous lesion present between #4 and #5, see Figure 1. Closer examination reveals an erythematous and cyanotic type lesion around the crown on #4 as well as the crown on #2. Compare the tissue color and texture to the natural tissue response around tooth #6 which has nice pink, firm tissues, with no signs of inflammation. The tissue around the crown is the opposite.

The radiograph examination shows a close approximation of the crown margin to the bone height, see Figure 2.

Figure 1



Figure 2



Assume the radiograph is parallel and place a probe or measuring device on the radiograph, it would read approximately 2 millimeters from the osseous crest. We know from literature that the biologic width needs to be 3 to 4 mm from the crown margin to the bone crest. If the biological width is encroached, an inflammatory response occurs similar to bacteria induced periodontal disease.



Robin D. Henderson, DMD, MS

The crown was placed subgingival to get beyond the restorative margin of the previous restoration; similar to the restoration on #5, but the gingival fibers were encroached. Initially there was no reaction to the crown, but an inflammatory response began. Once this inflammatory response is activated, various results can occur. In this case a pyogenic granuloma formed. A **pyogenic granuloma** is a common tumor-like growth found in the oral cavity. It is thought to represent an exuberant tissue response to traumatic local irritation. Pyogenic granulomas are highly vascular in nature and bleed easily because of this feature. Normally a "stalk" of vessels "feed" the tumor. These feeding vessels need to be identified

Continued on Page 2

Implant Maintenance Clarified

It appears I may have caused some confusion in a previous article about implant maintenance. Some of you responded with valid questions about my comments regarding the type of instruments used around implants. I will clarify my statements backed by the American Academy of Periodontology position papers on implant maintenance and my experience.

Literature supports that an implant surface can be marred or altered by aggressive use of conventional dental hygiene instruments. Obviously the most aggressive instruments are ultrasonic

scalers and stainless steel, hand instruments. The least damaging is the prophy cup. Yes, it is true instruments can damage the surface of an implant.

Please keep this in mind, crowns on teeth and a crown on an implant should look almost exactly alike. Typically on a healthy implant supported crown, the implant fixture should not be seen or felt, only the crown. It is important to remember the parts of an implant. The implant crown is just like any other crown. The abutment holds the crown in place and connects it to the implant. The fixture is the body of the implant that is an-

Continued on Page 5

Cont... Biological Width

and cauterized before complete resolution of the tumor occurs. (Neville textbook)

Treatment for this area was crown lengthening and removal of the pyogenic granuloma. The procedure was done with a Biolase Waterlase, where both soft tissue and hard tissue were removed to facilitate healing. A periodontal dressing (Coe-pak) was placed to aid with protection of the wound during healing. The area will heal uneventfully with a new biologic width and normal healthy tissues.

To treat or not treat a sulcus based on the number? I get this question a lot when talking with people about treatment planning periodontal issues. Probing depths are used as a guide to tell us the extent of a pocket and its relationship to its surrounding landmarks. We can extrapolate that it relates to bone loss and it does on some cases. The problem is relying only on the number and not confirming it with other findings.

One of the most overlooked indicators is tissue color and texture around an area of concern, as well as how it compares with the rest of the mouth. If the tissues are pink and firm throughout the majority of the mouth and yet one area appears deep red or bluish-purple, then it is an isolated issue, not to be ignored.

Bleeding on probing is another indicator we know but forget to use. Of course, with a heavy hand any area can bleed. "Slight provocation" is the phrase used when checking for bleeding on probing. When light probing elicits a bleeding response it means the capillary system within the sulcus is inflamed and has increased in response to a local infiltration. If you have to push to make something bleed, then a wound has been created and it is not a true problem area.

In Figures 3 and 4, the distal of #30 has

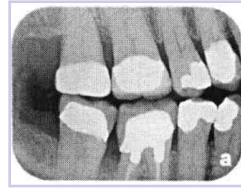


Figure 3 (above) radiograph #30 crown margin impinging on biological width

Figure 4 (below) note healthy tissue



a 5 mm probing depth. The tissues are pink and firm with no bleeding. The dentist treated the area with scaling and root planing and multiple rounds of Arestin. The patient's home care is immaculate and she has done well taking care of it. The problem is no matter how much scaling or antimicrobials placed in the pocket, the "number" or probing depth will never resolve.

Look closer at the radiograph. It shows a discrepancy of the crown margin height. The distal of #30 crown is about 2 mm more subgingival than the mesial of #31. This height difference shows up in the pocket measurement. Remember there has to be a biologic width associated with restorative dentistry. If the 3 to 4 mm of biologic width is not present, the body will make it that way with an uncontrolled inflammatory process.

In this case, the pocket is stable. Do not forget about it, watch it closely. Because of the deeper restorative margin it has the potential to become pathogenic and develop recurrent decay. If this pocket begins to break down and bleed, then crown lengthening should be performed to reestablish appropriate biological width.

"One of the most overlooked indicators [in periodontal disease] is tissue color and texture around an area of concern, as well as how it compares with the rest of the mouth."



Send your questions to Robin,
Robin@OkPerioImplant.com

Ask Dr. Henderson...

Q: What information do you need when a hygienist refers a patient to you?

A: Any information is helpful but ideally full mouth radiographs, full mouth perio charting and any extra information, like "the patient likes nitrous", or "the patient is afraid of losing their teeth." Anything to help out the process, diagnosis and our relationship with your patient.

Q: Why do smokers after SRP not have ideal results? Even after the best care and proper follow up appointments?

Smokers or any kind of tobacco users will always have a poorer response than non-smokers simply because the body cannot fight the healing process through all of the nicotine and by-products that are in tobacco. One thing you should notice is that most smokers will have much less bleeding than non-smokers, but will have deeper pockets because the blood vessels that help fight periodontal disease are too constricted so that is another reason why their disease is more severe. You will also notice that people who have recently stopped smoking will initially bleed more until their body gets used to things again because of the blood vessel dilation. Not to worry, it will calm down.

What is Perio Protect?

According to the World Health Organization, 85 percent of the population has some form of periodontal disease. Severe periodontal disease is found in 5 to 20 percent of the population depending on the study. Nevertheless, these are staggering numbers of people who need treatment.

Periodontal disease is so prevalent because bacteria control, specifically biofilm, is often misunderstood and difficult to manage. Bacteria work in a synergistic behavior in a matrix called biofilm. This matrix of bacteria and their byproducts create a nearly impenetrable mesh that cause an inflammatory response.

Normal home care techniques have limited effects against this multi-layer matrix. While the topmost bacteria might be metabolically active, the lower layers are less active or dormant. This layered activity presents some of the most significant problems when trying to remove the biofilm.

Conventional therapy like scaling and root planing and periodontal surgery used to treat and control biofilm makes a lot of strides; however these techniques do nothing for long term maintenance and bacterial repopulation which occurs later. It is not uncommon for surgically treated patients to struggle controlling bacteria even with very compliant maintenance visits. The inability to control periodontal disease leads to future tooth loss and complex procedures.

The Perio Protect Method assists practitioners and patients in controlling bacterial biofilm every day. This system delivers prescribed antimicrobial agents into the sulcus for a designated period of time.

The gingival sulci and periodontal ligaments throughout the mouth cover an area about the size of the palm of your hand. Periodontal disease is a wound in the exoskeleton system that needs medical attention. An equal sized wound on another part of your body would require medical attention but because periodontal disease typically does not cause discomfort, this wound goes unnoticed until it becomes much more severe.

The sulcus harbors bacteria and creates periodontal breakdown. The anatomy of the sulcus is one of thinnest layers of skin. In some areas it is only a single cell layer thick. When bacteria colonize in the sulcus and a biofilm matrix is formed the integrity of the cell layer is weakened. The breach allows bacterial infiltration into the blood stream and into the interstitial tissues of the body.

Once bacteria enters the system, it triggers a cascade of inflammatory reac-

tions in an attempt to contain and defeat the invaders. The first noticeable evidence seen is sulcular bleeding. Bleeding is not necessarily indicative of periodontal disease, but there is a strong correlation between bleeding on probing and periodontal disease.

Many systemic diseases are directly related to the immune response from oral bacteria. Oral bacteria are responsible for problems with cardiovascular disease, respiratory disease, diabetic disease, Alzheimer's disease, problems with preterm pregnancy, as well as arthritic changes. The common denominator of these diseases is oral bacteria and the immune response.

Control of the Crevicular Fluid Flow

Local deliver of medications into the sulcus to control periodontal disease has been moderately effective for short periods of time. The difficulty of this idea is that the sulcus is constantly bathed with crevicular fluid. The rate of the crevicular fluid flow totally replaces the contents of the sulcus about 40 times per hour. In areas with increased biofilm thickness, this fluid flow increases dramatically.

In a study by Zhang et al., participants were to abstain from oral home care routines for three days so that the crevicular fluid flow could be tested. It was found that the fluid flow had increased 148 percent in response to

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Continued on Page 4

Update on Osteonecrosis of the Jaw Case

As you can see the patient improved dramatically in less than one year.

This patient is a 76 year old female with a history of smoking and five years on Oral Bisphosphonates. The problem had progressed over a three year period. Figure 1 shows excessive bone loss as the necrosis approached the nerve. The patient experienced numbness and a suspected bone fracture. Figure 2 is the most recent radiograph with improved healing and bone regeneration. The patient was given Perio Protect trays with Hydrogen Peroxide gel and Vibramycin Syrup. She wore the Perio Protect trays two to three times a day for ten minutes for the last three months.

Finally the bone is healing and there are no further soft tissue issues.

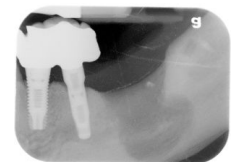


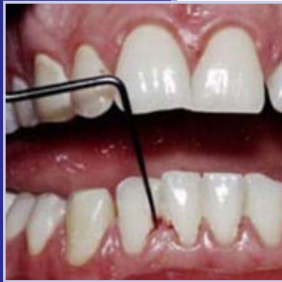
Figure 1: 4-8-08



Figure 2: 3-3-09

Cont...Perio Protect

the added bacterial load and biofilm. In addition to extra bacteria, the thickness and density of the biofilm increased in response to the increase of crevicular fluid flow. According to Goodson et al., the expected life of a topically applied agent into the sulcus has a lifespan of a minute. Thus irrigating with rinses and other topically placed agents have a limited effect.



"To overcome this gingival crevicular fluid flow problem, the Perio Protect Method utilizes custom fabricated FDA approved trays that allow the prescribed medications to be forcibly introduced into the sulcus under positive pressure and keeps it in the area for the prescribed amount of time."

Dr. Robin Henderson is an approved provider for the Perio Protect System. He also travels teaching seminars regarding the Perio Protect Method and its benefits.

To overcome this gingival crevicular fluid flow problem, the Perio Protect Method utilizes custom fabricated FDA approved trays that allow the prescribed medications to be forcibly introduced into the sulcus under positive pressure and keeps it in the area for the prescribed amount of time.

These trays create a sealed environment where antimicrobial agents work to eradicate bacteria and biofilm. How often the trays should be used depends on each patient's disease type and severity. A majority of patients will only need to wear the trays one to two times per day for ten minutes at a time, easy to manage in patient's daily routine.

Most Common Medications Used

The Perio Protect Method uses a variety of medications prescribed by the patient's dental practitioner. The regimen most commonly uses an antimicrobial agent along with an antioxidant to control bacteria and byproducts. The most commonly used antimicrobial agent is a compounded 1.7% hydrogen peroxide gel. Hydrogen peroxide is a fantastic antimicrobial agent capable of killing all bacteria. It is impossible to be allergic to it because it is made within our own neutrophils and is the way these cells kill bacteria.

Hydrogen peroxide has many benefits as an antimicrobial agent.

- ◆ Naturally occurring
- ◆ Invades biofilms
- ◆ Functions are irreversible cleavage of amino acids in protein chains
- ◆ Breaks down bacterial cell walls
- ◆ Breaks down the protein pellicle which adheres to the tooth structure
- ◆ Decrease inflammation by inhibiting IL-8
- ◆ Decreases PMN chemotaxis by inhibiting IL-8
- ◆ Decreases plaque and gingivitis indices
- ◆ Enhances wound healing
- ◆ No known resistant strains
- ◆ No allergic reactions
- ◆ Economical
- ◆ Whitens teeth
- ◆ Freshens breath

Now that hydrogen peroxide has been established as the antimicrobial agent of choice, it does have some inherent problems. Although beneficial to the breakdown of bacteria and biofilm, the free radicals created with the degradation of the hydrogen peroxide can cause inflammatory tissue destruction. An antioxidant is used to help combat these free radicals. The antioxidant of choice is doxycycline in a subclinical dose. The Perio Protect Method uses Vibramycin syrup as the proper form of

doxycycline. Patients with tetracycline allergies cannot use it but still have a great response with just the peroxide gel.

Reasons for using doxycycline syrup as an antioxidant.

- ◆ Antioxidants used if there is acute local inflammation which assists in controlling the inflammatory, free radical complex
- ◆ Controls the matrix metalloproteinase if there is collagen or connective tissue breakdown, such as loss of stippling. Most periodontal disease has collagen breakdown.
- ◆ Decrease the function of osteoclasts to decrease their activity and reduce bone removal. Helps in bone gain.
- ◆ Enables osteoblasts to continue to function to generate bone.

The Perio Protect Method offers an easy to use, painless, compliant home care routine for all patients. Everyone can benefit from using Perio Protect whether gingivitis or the most severe periodontal diseased patients.

Biofilm control is paramount to managing not only periodontal disease but all forms of dental disease. Without pathogenic bacteria there will not be dental disease.

FDA Approved custom fit Perio Protect Tray System



You and Your Health: Transform Anxiety Into Energy

A tip from Learning Strategies: Health Sparks. The American Psychological Association says 80% of us reported heightened stress about economic security. No kidding! The good news is that it is fairly easy to get this stress and anxiety under control.

Anxieties are always about future events or situations where your brain wants to avoid the physical or emotional discomfort of possible future negative consequences. Anxieties are generally not about danger in the present moment. A certain level of anxiety can be useful, helping you take swift action when needed. It can be a great internal warning system. But, many people use their imagination to turn anxious energy into stifling, debilitating fear. Left unchecked, such fear can control you.

But you needn't let that happen. Follow these steps from LearningStrategies.com *Anxiety-Free Paraliminal* to turn your anxiety into personal strength and power:

1) Consider your current situation and level of anxiety. On a scale of 0 to 10, how would you rate it? A range of 4 to 7 is manageable and can serve you well as you redirect this energy. Think of anxiety as energy flowing through your nervous system. Feelings of anxiety are similar to feelings of excitement—the difference is in our attitude toward it.

2) Imagine what you could do to physically, mentally, and emotionally turn your anxiety into excitement. Visualize your desired outcome so you feel it with all your senses. When you use your imagination well, you fill your body and mind with power and confidence, dramatically increasing the likelihood of your success.

3) Take action. Do one thing today to help you take control. Even one small step or task will lead to a greater sense of security about your current situation and leave you breathing easier.

It may help to remember something Einstein said: "Energy cannot be created or destroyed, it can only be changed from one form to another." Change your feelings of anxiety to feelings of excitement and you'll get your stress under control.



Implant Maintenance

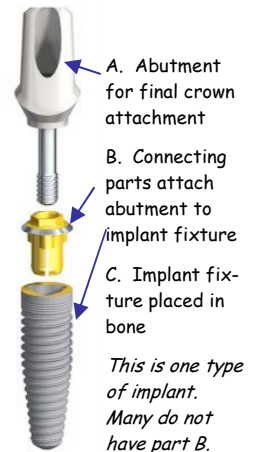
chored in the bone. Confusing the implant parts may lead to not completely understanding what gets scaled.

There are about 300 different brands of implants on the market and each implant brand has about half a dozen different component combinations. The implant fixture brand used and its components may vary depending on what the surgeon chooses. Still, the implant fixture should not be accessible with any kind of instrument.

If you can actually feel the fixture of an implant, do not use metal instruments on it because the surface will become more damaged. What happens when you damage the surface of the implant fixture? A marred implant fixture surface harbors bacteria which creates future periodontal breakdown. The exposed fixture means

there is bone loss and loss of connective tissue attachment. Once this happens it will not matter if the fixture surface gets further damage because there are pits and fissures with bacteria living in the implant body. This is called an ailing/failing implant. Just doing maintenance at this point is futile because completely ridding the bacteria off the implant is impossible.

Bottom line, an exposed or accessible implant fixture cannot be ignored, "hoping it will get better". Know that most likely the only thing you are touching is a crown, like any other crown, so no need to change what you are doing with special instruments. If you suspect the implant fixture is compromised, the implant should be evaluated immediately. I hope things are a bit more clarified.



Outside the Office - Team Member Highlight

After a long day on the phone scheduling and rescheduling, keeping hygienists on their toes, Victoria retreats to a soaker bathtub filled with bubbles, sea salts, candles and complete solitude. The daily tub soak allows her to relax, brainstorm, cry, pray and count her many blessings.

For 28 years she has served as a calming voice on the phone coordinating hygiene re care appointments, answering questions and filtering calls. She genuinely cares about people and it shows in her compassion for our patient's needs as well as her devotion to her family and friends. She and her husband enjoy trail walks and picnics every Sunday whether at the park, by the lake or on the patio. They set aside time each week to de-stress over a simple meal.

They share five children and their spouses and five grandchildren, with another one on the way in August. She cherishes her two dogs, Mr. Twister and Miss Solo, and doesn't deny they are just as spoiled as her children and give her great comfort and love.

She thrives when she is creative and organized whether scrap booking, reading a good book, cooking or finding great deals in the clearance and bargain bins, even if it is not for her. Entertaining family and friends is what she really enjoys. She became quite the homebody when they recently remodeled their house with a theater room including a hot dog, popcorn and margarita machine; a great place for friends to come over and watch OU football games.



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My mission is to give the most accurate information available about Dental Health. Unfortunately, there is a lot of misinformation out there and I would like to set the record straight. We are Committed to improving the foundation of a patient's smile.

I would like to be able to answer your questions and perhaps share some of my observations I see on a daily basis through this newsletter or online. It doesn't have to be all business, hopefully we can have some fun too.

Check us out: www.okperioimplant.blogspot.com

Name

Address

City, State Zip

Committed to improving the
foundation of a patient's smile.

Page Six...News For You

From the Editor...

Happy Anniversary! It's been one year since we started this newsletter. We hope it has been informative and helpful in your daily dental hygiene practice. It is our mission to keep you up to date with the periodontal issues we see today and more. We heard from many of you appreciative of it and we want to hear more so we may continue to give you the tools you need.

It is that time again...the Spring Fling Hygiene Expo 2009. As of April 1 over 220 hygienists registered for the May 1 Expo at the Cox Convention Center in Oklahoma City. We are excited to bring another fun filled day focused on hygienists with more quality information and most of all fun.

Noel Kelsch, RDH will discuss *Meth Mouth and Dental Care Considerations* in a presentation that will surely keep you entertained and leave you with useful information. And don't forget, Dr. Henderson will be available to answer your

Spring Fling 2009



questions in a Q & A session in the afternoon. He wants to know what your concerns are regarding periodontal disease or any other patient care

issues you face. Last year we had several great questions which are often featured in this newsletter. The entire list is available online at www.everythingdentalhygiene.com.

The website is continually updated with more case studies and advanced technology information. We also post all previous newsletters available for your reference any time.

We expanded the Hygiene Expo this year to accommodate last year's demand and there is still room for more. The registration form is still available on the EDH website or you can call the office for more information.

Thanks for all your support. Don't hesitate to contact us if you have questions. We look forward to another great year.

