The Holistic Hygiene Arm of the Dental Wellness Center

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It is agreed within all of dentistry that oral biofilm (dental plaque) is the precipitating cause of both gum disease and tooth decay. Other contributing factors that influence the effectiveness of the biofilm causing its damage are:

1. pH - relative acidity/alkalinity of saliva, which is reflective of bodily pH. Oral biofilm is much less effective in causing tooth or gum damage in a salivary environment that is neutral or slightly alkaline.
2. Excess pressure placed on teeth from an uneven bite – the main cause of teeth clenching and grinding.
3. Poor nutrition.
4. Habits such as tobacco and recreational drugs.
5. General health conditions, such as diabetes or metabolic syndrome.
6. Dry mouth from prescribed drugs.
7. Inherent genetic factors.
8. Effectiveness of daily oral self-care.
9. A person's desire to be healthy in conjunction with #7.
10. A combination of the above factors.

Per the above list, it can be seen that there are many factors involved in controlling dental disease and attaining an optimum level of oral health that need to be addressed other than simply having one's teeth cleaned. This includes developing control of oral bacteria that can't harm the teeth and gums if they are floating within the saliva, but when they colonize within tooth-colored "clumps" on the teeth, between the gums and teeth, tongue and other areas within the mouth, they mature and evolve into a toxic mass of biofilm that injures both teeth and gums – without pain. If not removed, tooth decay will deepen over time and cause a tooth ache, but rarely, if ever, a "gum ache" as gum disease isn't painful. With gum (periodontal) disease, the bacteria within the biofilm that lies within the area between the teeth and gums (gingival sulcus) release toxic substances that actually dissolve the layer of "skin" that hugs the tooth within the sulcus, making it raw. Over time, this causes the gums to swell and injures the area of gum attachment to the tooth that deepens the sulcus, transforming it into a diseased "pocket," making it more difficult for the usual methods of tooth brushing and flossing to get to them – the bacteria now becoming even more toxic. During this process, the bacteria in the biofilm manufacture tartar, or calculus – a hard substance that becomes their "home."

Image 1

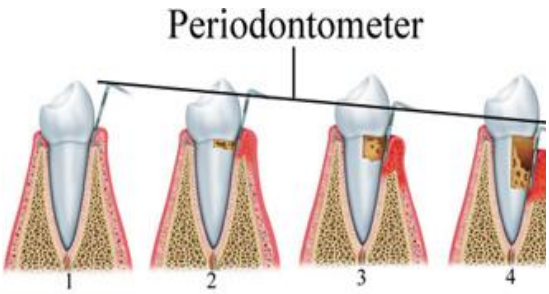
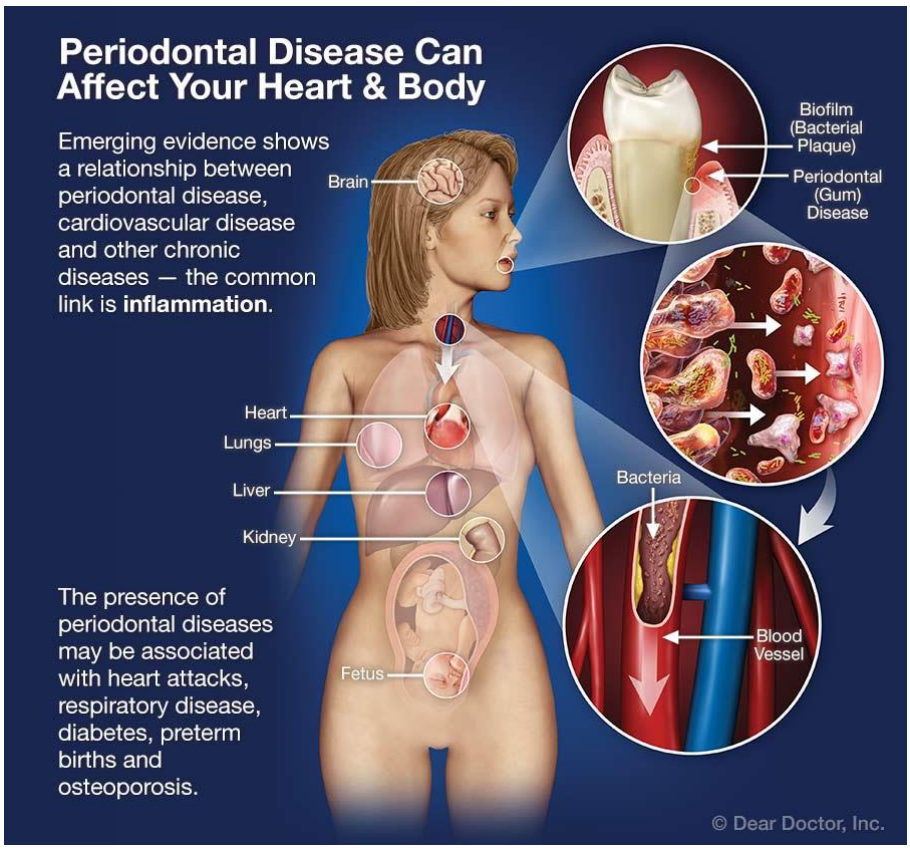


Image 2



An elemental, but important diagnostic step for determining the presence of gum disease is what is known as periodontal probing, a technique taught to all dentists and hygienists while in school. During this process, the sulcus depth is measured with a sort of "dipstick" (periodontometer) that has millimeter markings. When the probe is carefully inserted to the depth of the sulcus (or pocket, if diseased), healthy depths are considered to be from one to three millimeters – with no bleeding. No bleeding would mean that the skin within the sulcus is healthy and not raw, whereas if bleeding occurs during measuring, it would indicate a loss of skin due to the toxic products caused by the bad bacteria within the biofilm. If biofilm persists within the space between the tooth and gums, it changes from a healthy sulcus to an unhealthy periodontal pocket. As time goes by, the gum tissues become infected, which:

- Causes destruction of the attachment of the gum to the tooth, deepening the pocket.
- Destroys the supporting bone around the tooth, deepening the pocket more and eventually loosening the tooth.

} Image 1

- Allows the entry of bad bacteria into the blood stream to do damage to other bodily systems. (Image 2)

Is There Really a Connection Between The Mouth And The Rest of The Body?

We now have information that oral spirochetes have been found in the brains of many Alzheimer's patients. Could these pathogenic bacteria be a factor in dementia? Another example: The March, 2013 edition of the American Heart Association Journal *Circulation* cites groundbreaking research showing the direct connection between oral pathogens (associated with periodontal disease and tooth decay) and acute heart attacks. It tells us that as many as half of heart attacks are being triggered by oral pathogens. **Oral bacteria were found in every thrombus, and 30% had live oral pathogens in the clot!**

Recent (2016) leading-edge information surfaced in a British Medical Journal showing that periodontal disease is not only associated with coronary disease, but is, in fact, a causal factor. The implications of this research are that oral bacteria can enter the bloodstream and invade the blood vessel walls. This invasion creates infections and inflammation associated with thrombi-forming events that can result in serious health issues, including heart attacks and strokes. It has been established that periodontal disease is a complex microbial and genetic disease. The most alterable factor is the microbial components of oral biofilm.

A Holistic Approach

A new patient entering the Dental Wellness Center does not have their teeth cleaned until a determination is made of the state of their gum health through a complete periodontal probing, pH testing and bacterial assessments that indicate the type and amount of the most pathogenic bacteria found in the 700 species of bacteria that can reside within the patients' mouth. We have developed this approach based upon the following facts:

- A dental "cleaning" is a <u>diagnosed</u> procedure based upon gum pocket measurements (periodontal probing), bleeding upon measuring, and x-ray data – in other words, there are different levels of "cleanings" based upon these findings, each of which can require different appointment times - some requiring multiple appointments and more than just teeth "cleaning(s)" per below information.
- 97% of patients entering the Dental Wellness Center have gums that bleed when measured.
- Over 70% of these patients have been receiving regular cleanings.
- Half of these patients have never been measured via periodontal probing.
- Of those who have been measured, most don't know the significance of periodontal measuring and resultant gum bleeding.
- One in seventy new patients indicates that they have ever been properly "coached" regarding effective self-care.
- If we clean a new patient's teeth without laboratory biofilm tests, and the patient has bad bacteria between the teeth and gums, cleaning teeth with sharp instruments can be painful, as well as introducing them into the blood stream – not a good thing!

Information supporting the Dental Wellness Center's biological approach to improving the health of the oral environment by first evaluating its state through various assessment protocols. This includes patient education as well as individualized preventive and treatment modalities based upon the assessment findings.

1. There are up to 700 species (plus their subsets) of oral bacteria, some good, and some bad. There can be more bacteria inhabitants in the mouth than at the other end. This is why we offer bacterial assessment technologies (Plaque Disclosing Solution, Phase Contrast Microscopy; BANA testing; Biofilm Gram Stain testing; Biofilm DNA testing) to determine the types of bacteria and their concentrations that are unique to each patient. Our initial Phase Contrast Microscopic biofilm analysis offers the practitioner and patient an immediate reality as to the nature and amount of bacterial types that lie within their oral biofilm "live, on camera."
2. Proper coaching. Oral biofilm, the main cause of bleeding gums can be effectively removed by patients when properly coached.
3. Salivary pH testing. Bacteria that cause gum disease and decay thrive within an acidic oral environment (and rest of the body as well). Oral and nutritional protocols we recommend to change a patient's pH to neutral or slightly alkaline can render oral biofilm to be less harmful.
4. Ozone Therapy – a painless and effective adjunct to both control biofilm and initiate the healing process.
5. Teeth cleanings after initial healing through bacterial control that are not bloody and painful.

A Matter of Philosophy

It all starts with the philosophy of the dental practice – is its focus mainly on repairing/replacing the results of dental disease, or prevention through discovering their causes? For most all dental patients, a hygienist cannot successfully coach effective home care regimens and properly clean teeth in a traditional one-half to one-hour allotted appointment. It is somewhat counter-intuitive as well, as the hygienist knows s/he is mostly removing what the patient could themselves remove if properly educated and coached. By their very nature, most teeth cleaning appointments deny emphasis on prevention – any honest dental hygienist will agree - perhaps a reason for the burnout rate in the dental hygiene field? Teaching about causes while simultaneously treating their results is quite self-contradictory. How can a condition that affects 47.2% of adults aged 30 years and older that increases with age to 70.1% of adults 65 years and older be successfully treated by having a patient sit passively in a dental chair 2 of 2,920 hours per year?