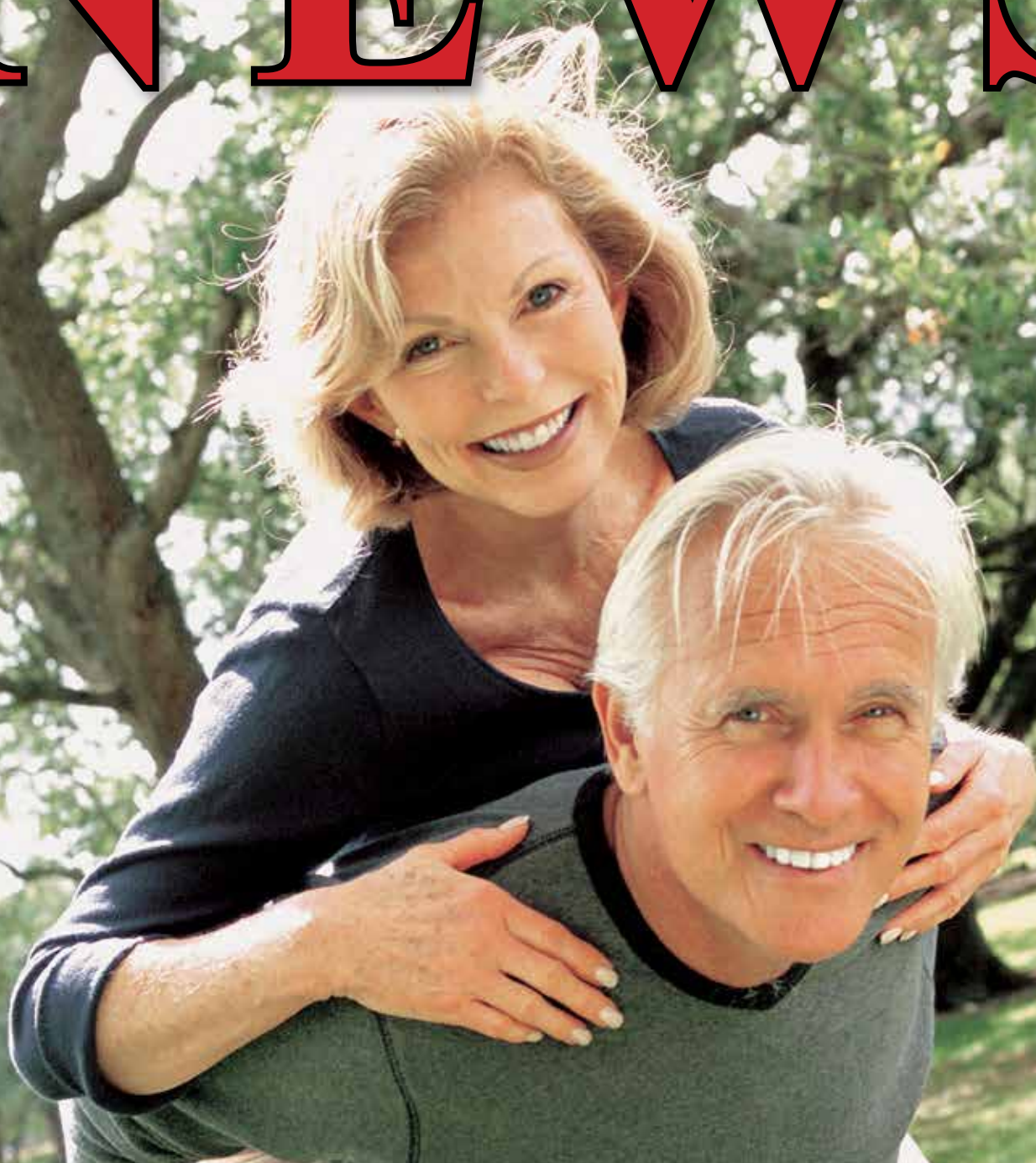


# MEDICAL DENTAL NEWS



Medicine & Dentistry Working Together



# How You Can Prevent Periodontal Disease at Home

By Leona Meditz

Periodontal disease is different than most health problems. Over 70% of the population will get it at sometime during their life, although they may not know that they have it. Research shows that even if they receive treatment it will likely come back. The reason is that periodontal disease is caused by natural forces which are constantly at work and are only resisted by your immune system and home care. \*

The goal of the CleanKiss Homecare system is to remove the causes of periodontal disease every day so that if you don't have it you won't get it; if you have it, we can help reverse it; and if we have treated

Start by gargling or swishing Swish mouthwash for 10 seconds. "Floss" by adding two capfuls to an oral irrigator with about 6 ounces water. Always gargle, swish and water floss before using an electric toothbrush to brush for two minutes using Scrub toothpaste. You must have the right tools to keep your mouth clean.



**The Clean Kiss Organic Oral Care System** starts with Clean Kiss Swish Mouthrinse and Scrub Toothpaste that kill bad breath germs that attack your gums without killing good bacteria, using botanicals not chemicals. Bad breath is usually caused by

bacteria entering our mouth every time we eat, drink or breathe. These germs cause gum disease, allowing bacteria to get into the bloodstream and cause inflammation. Inflammation contributes to many diseases including diabetes



and heart disease. Keeping your mouth clean plus adding nutritional support can give your mouth and body the healthy support it needs to resist gum disease. One reason gum disease returns is most people cannot eat enough fruits and veggies to produce inflammation squelching anti-oxidants. **PerioTherapy** and **PerioCare** absorb easily to prevent inflammation, gum disease

and cavities. **AND** are the only nutraceuticals proven to work with a double blind study from Loma Linda University.



Periodontal disease causes bone and tooth loss. Bone rarely re-generates so expensive bone grafts can be required. **OsteoTherapy+**'s bone strengthening ingredients, in capsule form protect bones and teeth. Used together, the effects are improved heart function, blood pressure and immune system.

So powerful, that if you are on medications ask your doctor to watch dosages and stop using if you have any adverse reactions.

These pharmaceutical grade ingredients cannot be found in drug stores and are condensed in two small capsules taken morning and evening with water before meals. Made in the USA by an FDA registered lab for quality assurance.

## Have a dental appliance?

Try lining the top and bottom with Clean Kiss Scrub toothpaste before inserting appliance at bedtime.

All night long, botanicals (not chemicals) will be bathing your gums with healing

essential oils, killing germs that cause gum disease and decay while gently whitening your teeth while you sleep.

Plus, Scrub is loaded with Vitamin B12 that will be absorbed into your blood stream over night.

Wake up with sweet smelling breath, whiter teeth and a Vitamin B12 energy boost.

Dental appliances are commonly used to:

- \* Keep teeth aligned after braces
- \* Reduce Sleep Apnea or as a "snore guard"
- \* Protect teeth from clenching or grinding wear
- \* Re-align jaw alignment

Adding Clean Kiss Scrub toothpaste can also:

- \* Soothe gums while you sleep
- \* Kill gum disease germs
- \* Whiten Teeth
- \* Lessen Dry Mouth
- \* Prevent Decay
- \* Re-mineralize teeth
- \* Absorb Vitamin B12 while you sleep

If you don't have an oral appliance, Your Wellnet Dentist can recommend the best type for you.



*\* These statements are the conclusions of the author after a review of relevant research and have not been evaluated by the FDA.*



## a happy, healthy smiling you

<b>THE HEALTH CONNECTION.....</b> How the Mouth and Body are Interrelated	<b>4-5</b>
<b>THE SLEEP CONNECTION.....</b> Snoring Can Be Dangerous to Your Health	<b>6-7</b>
<b>THE INFLAMMATION CONNECTION.....</b> The New Factor in Heart Disease, Stroke, Cancer and other Serious Diseases	<b>8-9</b>
<b>THE HEART GUM-DISEASE CONNECTION..</b> Avoiding the Disease that Kills 30% of the Population	<b>10-11</b>
<b>THE DIABETESS CONNECTION.....</b> Combating a Growing Epidemic of Our Modern Lifestyle	<b>12</b>
<b>THE LASER CONNECTION.....</b> Toward a Kinder, Gentler, Periodontal Treatment	<b>13</b>
<b>THE NUTRITION CONNECTION.....</b> Supporting the Body's Defense System	<b>14-15</b>
<b>THE PREGNANCY CONNECTION.....</b> Avoiding Pre-Term Low Birth Weight Babies	<b>16</b>

“It has been my observation that people who keep their teeth live an average of ten years longer than people who lose them.”

- Dr. Charles Mayo, Founder of the renowned Mayo Clinic

# The Health Connection — How the Mouth and Body are Interrelated

*New York- February 26, 2006 “Who benefits from medicine and dentistry working together? The patient! “*

That question, posed by ADA Executive Director James Bramson, kicked off Thursday's joint media conference hosted by the American Dental Association and the American Medical Association, part of the ADA's national campaign to educate the public about the relationship between oral health and overall health. “Oral health conditions and other health conditions are more closely related than many may once have thought,” Dr. Bramson said, “and viewing them as separate matters no longer makes sense.” The conference, “Oral and Systemic Health: Exploring the Connection,” addressed periodontal inflammation; diabetes and periodontal disease; oral infections and cardiovascular risk factors; and pregnancy risks and periodontal disease.

## *Toward a longer healthier life*

While we can't hope to live forever, a key to a longer, healthier life is to prevent the pre-mature onset of the major threats to a healthy happy life: heart disease, stroke, cancer, diabetes, Alzheimer's and lung diseases, to name a few. We are now learning that in addition to good nutrition and exercise, keeping your mouth healthy is a vital factor in the equation.

## *The Oral-Systemic Connection*

The mouth is the gateway to the body. We rely on it for daily nutrition and life support, communication, and even expressing our love. Veterinarians will look first into the horse's mouth to assess the overall health of the animal, and over 80 years ago Dr. Charles Mayo, founder of the famed Mayo Clinic, noted that people who keep their teeth live an average of ten years longer than those who lose them. We all know that a tooth infection, or abscess, can affect other parts of the body, and those with heart conditions, or who are about to have heart surgery are treated first with antibiotics before any dentistry is done so that the bacteria from the mouth does not travel through the bloodstream to damage the heart. The bloodstream is a two-way street, the new factor emerging as most significant to total health is-

## *Gum Disease*

Because it is part of the digestive system and the gateway to the body, the mouth is filled with over 500 different microorganisms, more than any other part of the body except for the intestine.

The majority of these are useful, but some, especially the anaerobic bacteria that avoid air and live in deep crevices, can cause harm if allowed to penetrate the gums and enter the bloodstream. Therefore, that little bit of bleeding that accompanies brushing your teeth, and bad breath in the morning, can be a sign that you are under attack by harmful bacteria. While beautiful pink gums are a sign of good health,

red puffy gums are a sign of inflammation, which is linked to a host of serious diseases. Oftentimes, periodontal disease is present even when the gums appear healthy on the outside. Professional dental evaluation is necessary to determine the presence or absence of periodontal disease.

## *How do we recognize gum disease and why do so many people have it?*

It is estimated that during their lifetime 80% of the U.S. population will develop gum disease and that once it starts it does not usually reverse itself without specialized care.

- It begins with the formation of bacterial plaque, a colorless, sticky substance that forms every day. While diligent brushing and flossing will remove it, if left alone, plaque will create chemicals that attack the gums.
- The bacteria cause a mineral buildup called calculus which advances local irritation. This calculus cannot be removed by diligent brushing and flossing, only by professional care in the dental office.
- The skin on your gums dies and is reborn every day and this tissue contains sulfur. This sulfur mixes with the bacteria and food forming sulfur compounds such as H<sub>2</sub>S (which has a rotten egg smell well-known to chemistry students).
- While the symptom is bad breath, the problem is that the sulfur compounds allow the bacteria to penetrate into the gums. (13) (14)
- If your body's defenses are low because of poor nutrition, other diseases, or even aging, it will not be able to fight off these attacks.
- Gum tissue and even bone are destroyed which allow additional harmful bacteria to breed and enter the bloodstream.

The initial stage of the gum disease is called Gingivitis while the more advanced stages with deeper tissue damage and bone loss are called Periodontitis. The good news is we can combat the onset of periodontal disease through diligent brushing and flossing, using toothpaste and mouthwash that specifically combat anaerobic bacteria and sulfur compounds, and improved nutrition and beneficial supplements. Regular visits to your dentist for preventative care and checkups will support your dental health and let you know if you are at additional risk.





**Chronic  
Bad  
Breath**



**Gum  
Disease**



**Inflamed  
Blood  
Vessels**



**Serious  
Diseases**

**Find out if you have gum disease**

### Treating Gum Disease Means Lower Annual Medical Costs



Significant annual cost savings are possible when individuals with certain chronic diseases (diabetes, cerebral vascular disease, or coronary heart disease), or who were pregnant, received dental treatment for their gum disease, after accounting for the effect of diabetes.

### Treating Gum Disease Reduces Hospital Admissions



Significant decreases in annual hospitalizations are possible when individuals with certain chronic diseases received dental treatment for their gum disease, after accounting for the effect of diabetes.



# The Sleep Connection

## Sleep Disordered Breathing by Gale Skousen, MD

### The Importance of Sleep

Adequate sleep is vital for your body's processes to work properly. The average person needs 6-8 hours of sleep. According to the NIH (National Institutes of Health), sleep deprivation increases the risk of obesity, heart disease and diabetes. Sleep deprivation decreases the level of the hormone leptin, which tells the brain when your stomach is full. Sleep deprived individuals tend to compensate for their tiredness by eating more. Improvements in sleep quantity and quality have shown benefits in cognitive functioning, a decrease in coronary artery events, a reduction in risk for stroke, improved memory and increased safety as a driver on the road.

### Sleep Disordered Breathing

Your dentist deals with two kinds of Sleep Disordered Breathing — snoring, with which you are probably familiar, and Sleep Apnea, which you may not have heard of. As you get older and often gain weight, the soft tissues in your pharynx (the back of your throat) vibrate as the air is forced through a passage that is too small - resulting in snoring. Snoring is very common, it is estimated that 45% of men and 30% of women over the age of 40 snore on a regular basis. Many couples report that snoring is a problem with their relationship and can result in sleeping in separate rooms. But snoring itself is not dangerous to your health.

Between 20% and 50% of snorers actually have obstructive sleep apnea. When they snore, their throat tissues completely collapse causing a temporary obstruction of the airway, temporarily cutting off all breathing. Obstructive Sleep Apnea's severity is measured by how many instances of Apnea (stopping breathing) or hypopnea (shallow breathing) happen in one hour.

### Risks of Sleep Apnea

Apart from the bothersome nature of a sleeping partner listening to loud snoring and periods of absent breathing, wondering if their partner is going to take the next breath - Sleep Apnea has many significant health consequences. The recurrent episodes of apnea produce lowered oxygen levels and elevated intra-thoracic pressures. These physiologic changes contribute to increases in Hypertension, Coronary Artery Disease and Stroke events. Sleep Apnea contributes to daytime sleepiness, diminishes job performance and leads to an increase in the frequency of motor vehicle accidents. The cognitive capabilities of patients with Sleep Apnea decline as well.

If you suffer from Obstructive Sleep Apnea:

- You are 4 times as likely to have heart attack.
- You are twice as likely to die in your sleep.
- You are seven times more likely to have a motor vehicle accident.
- You have a 40% greater risk of having depression.
- You are more likely to have sexual impotence and develop diabetes.
- You are 2 to 3 times as likely to have a stroke.

### Diagnosis and Treatment

Many different factors can cause snoring and Sleep Apnea. These include: an abnormal enlargement of the soft tissues in your throat such as the uvula or tonsils, excess fat in the neck associated with obesity, brain injury, and a small jaw. If your snoring is a relatively recent phenomenon for you, correlated with weight gain, the first step would be to get on a weight loss program. This will help lower your risks for diabetes and heart disease as well.

## *If you snore, it is vital to determine whether it is "Just snoring" or serious obstructive Sleep Apnea.*

The good news is that simple snoring, without Sleep Apnea, is treatable. Positioning yourself to sleep with your mouth closed, breathing through your nose and sleeping on your side rather than your back will help to avoid the collapsing of throat tissues that causes snoring. Dental devices, which often resemble the mouth guards worn by athletes, can help open your airway by bringing your lower jaw or your tongue forward during sleep.

However, if you snore, it is vital to determine if it is “just snoring” or serious obstructive Sleep Apnea. A major problem in our society is that the diagnosis and treatment has been expensive and required specialty evaluation. As a result, 85% of Sleep Apnea in the United States is undiagnosed.

An initial indication that you have sleep apnea is given by the Epworth Sleepiness Study, which asks questions about when and where you become drowsy. If the study is positive, Obstructive Sleep Apnea is diagnosed by the Apnea Hypopnea Index (AHI), a measure of the number of pauses in breathing while sleeping. Historically the AHI was calculated through overnight sleep studies away from home in a “Sleep Lab”. Today these measurements can be done in the comfort of one’s own bed. Advancements in technology with the use of microchips and tiny sensors in contained devices, allow for the simultaneous measurement of air flow, brain waves, oxygen levels, intra-thoracic pressure changes and sound measurements with a device the patient can wear in their own bed at home. The ability to perform a comprehensive sleep evaluation at home drastically lowers the cost of the procedure and provides an opportunity for an increased role by dentists in the evaluation and management of results.

The use of a facemask with variable rate and air pressure delivery (CPAP) has been the most commonly used treatment.

***“Sleep Apnea can lead to serious health problems, or even death.”***

However, many patients find the facemask and air blowing into their face and nose to be excessively noxious and limit the frequency of its use. Other treatment options for Sleep Apnea include the creation of an oral appliance - used to move the jaw forward, that opens the airway and reduces the obstruction and uvulopalatal surgery used to remove excess tissue at the back of the throat that is obstructing the airway during sleep.

Of interest, formal sleep laboratories are only able to treat Sleep Apnea with CPAP. All other treatment modalities require consultation with either dentists, oral surgeons or ear nose and throat surgeons. The unique relationship of the linkage between a sleep lab and a treatment device has too often left patients that might be treated in other ways — untreated or at best only partially treated. In addition, the costs for a sleep study and long-term CPAP use are significant. Now, with the development of a relatively inexpensive, in-home diagnostic tool, and the use of dental Mandibular Repositioning Devices, a dentist can work in cooperation with physicians to evaluate and treat many of the affected patients at relatively low costs.

The in-home diagnostic tool also allows the dentist to see if the Mandibular Repositioning device decreases Apnea so patients and health care professionals can compare before and after AHI readings to confirm efficacy. As this is a medical treatment, medical insurance companies are billed by your dentist and often provide excellent coverage for this evaluation and treatment.

In Summary, if you snore tell your dentist — it could help your most important relationship and add years to your life.

*Dr. Gale Skousen served as a Medical Officer in the United States Air Force for twenty years. He now works in a general family medical clinic in Payson, Utah. Dr. Skousen has followed the research on oral infection as it relates to heart health and systemic diseases for many years. He now routinely discusses health history risk and current oral health with his patients. All at-risk patients are referred to a qualified dental professional for comprehensive oral treatment.*





# The Inflammation Connection



## The New Factor in Heart Disease, Stroke, Cancer and Other Serious Diseases.

One of the early signs of gum disease is inflamed gums. Scientists are now discovering that bodily inflammation is linked with a host of diseases including heart disease, stroke, lung disease, cancers, Alzheimer's, and others.

Gum disease caused by bacterial infection is an inflammatory condition that does not go away without treatment and it is a major cause of inflammation in many people (8) (22). Inflammation causes the liver to secrete a protein called C-Reactive Protein (CRP, for short) to fight the problem which seems to cause a number of side effects in the body.

The best known side effect of elevated CRP levels is the connection to heart disease. CRP is more predictive of heart attacks than the bad LDL cholesterol (9) (23). While a CRP value of under 1 mg/liter is considered normal, a value of 2-3 triples your risk of heart attack

and higher values can increase your risk up to seven and a half times!(under 1.0 mg/liter). The actual manner by which CRP causes heart attacks was only recently explained. Elevated CRP levels actually interfere with the process that prevents blood clots, thus causing a higher incidence of blockages in arteries which can result in a sudden heart attack or stroke (10).

By comparison, bad cholesterol slowly builds up plaque in the arteries which often allows for some advanced warning in the form of pain or weakness.

**“Gum disease is the major cause of inflammation in many people.”**



While the active process is less known, statistically people with the top 25% of CRP scores develop 2.5 times as much colon cancer as those in the bottom 25% (11). Also, CRP is implicated in Alzheimer's. Seniors with the highest 1/3 of CRP levels had significantly more cognitive decline than those in the bottom third (12).

Clearly it pays to know your CRP number, which can be requested as a single test (a high-sensitivity CRP is the more valuable test for heart disease association) or when other blood tests are done. If your CRP is high, the causes need to be determined and corrected to reduce your number.

In addition to gum disease, bodily infections such as a urinary tract infection, high blood pressure, smoking, lymphoma, and even being overweight can contribute to elevated CRP levels. Since periodontal disease is an inflammatory disease and is capable of elevating CRP levels, we normally request this blood test for any of our patients diagnosed with periodontal disease. HCP Wellnet Centers have developed a groundbreaking protocol for the diagnosis of periodontal disease and the treatment of periodontal disease and its associated negative impact on overall health.

Centers throughout the country have found that by following our unique periodontal protocol, we are able to quickly reduce periodontal inflammation, and in so doing, we can significantly reduce the CRP level to a nonharmful range in almost all cases, unless there is another systemic factor contributing to the elevation. (19).

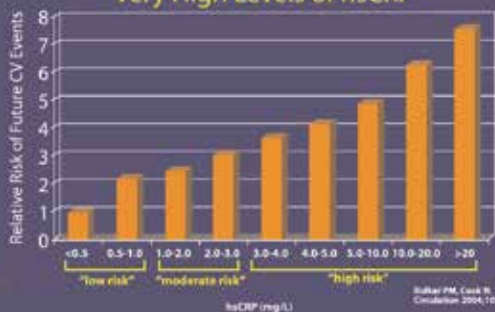
If your CRP number is high to begin with and remains high after periodontal health has been established, we will collaborate with your physician to review and monitor your results and make sure that you do not have other problems as well. As an HCP Wellnet Center, we give you our exclusive commitment to help care for your total health.

**A Safe, Non-Surgical, Non-Toxic Treatment:** Traditionally, physicians are trained to diagnose disease and treat with surgery or drugs. The discovery of the infection-inflammation and heart disease connection is no different.

Physicians are waiting on drug manufacturers to produce a drug that will lower the levels of CRP and thus, reduce the risk of a heart attack. An eighteen month clinical trial showed that a statin drug (Lipitor) can lower CRP levels (9). However, to accomplish this, 8 times the normal dosage was needed.

This approach can be expensive and unnecessarily risky. A sole drug-based approach to lowering CRP levels is not seeking and removing the underlying cause of the elevated CRP. A more ideal approach would be to find and eliminate the source of the inflammation in the first place. A commitment we make to our patients is to help to eliminate any periodontal inflammation in order to rule out this potential cause.

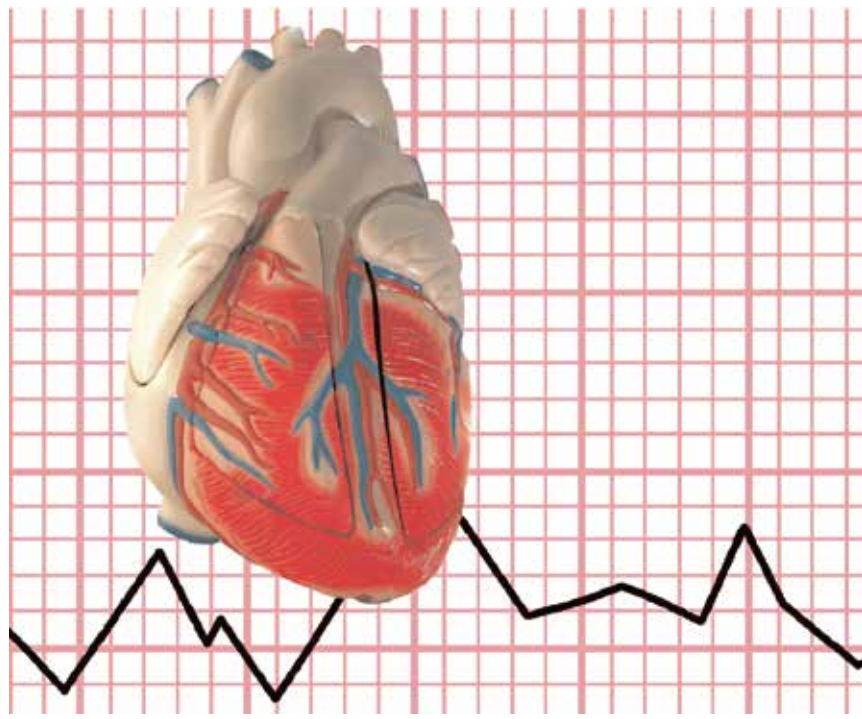
Clinical Predictive Value of Very Low as Well as Very High Levels of hsCRP



The graph shows that depending on your Hs CRP score your heart attack risk could be as high as 7.5 times the normal.

# The Heart-Gum Disease Connection

by G. Lee Ostler, DDS



The evidence linking periodontitis to heart disease originated from a Finnish study in 1989 (27), which noted that patients who had heart attacks had more severe oral conditions including periodontal disease and tooth decay. Several studies since then have shown that pre-existing periodontal disease results in an increased risk for a heart attack or stroke. (2) The first National Health and Nutrition Examination survey followed 9760 subjects for 14 years. DeStafano and co-workers found that individuals with periodontitis at baseline had a 25% greater chance of having coronary artery disease. After adjusting for age, gender, race, education, poverty index, marital status, blood pressure, cholesterol, body mass index, physical activity, alcohol consumption and cigarette smoking, men with periodontitis had a 1.72 fold(nearly double) greater chance of cardiovascular disease!(28)

Numerous studies suggest that periodontal disease is not only associated with cardiovascular events like heart attack and stroke, but it is also associated with subclinical evidence of atherosclerosis, including thickening of the vessel wall. Such controlled studies indicate that periodontitis remains an independent contributor to heart disease. Causality is being studied extensively in current research.

New evidence is suggesting that these organisms can lodge in vessel walls and plaque and persist. The relationship between gum disease and heart disease is seen by demonstrating the presence of periodontal pathogens (bacteria & microorganisms) within the plaque lesions of the blood vessels (1).

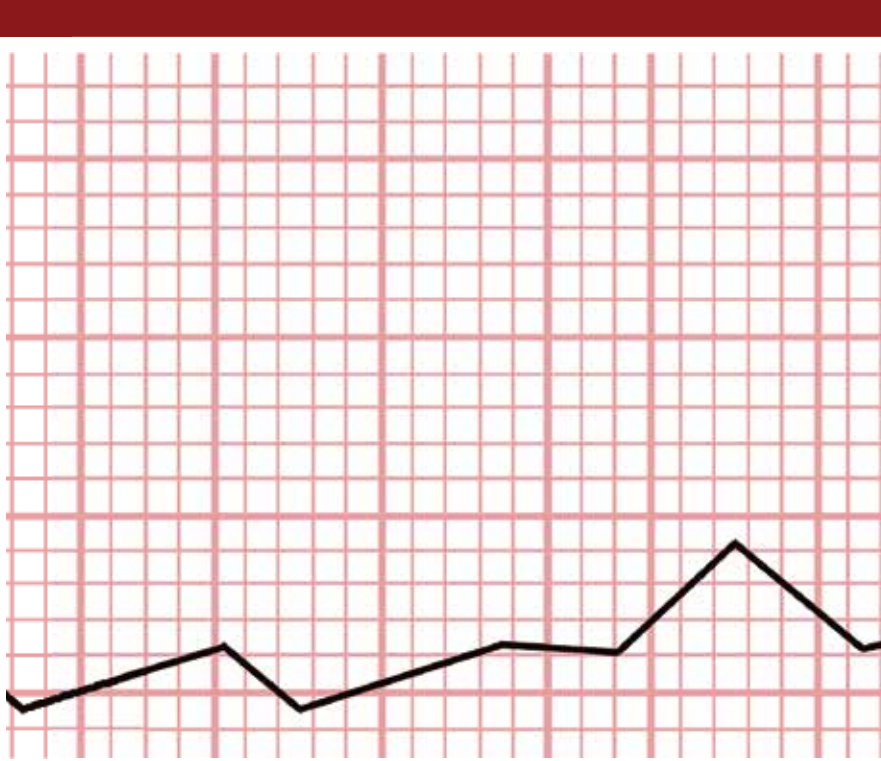
We have long known that gum disease is associated with transmission of oral bacteria into the blood (bacteremia) and this is the reason why preventative antibiotics are used prior to dental treatment for patients with heart murmurs, valve problems and heart and joint surgeries. New evidence is suggesting that these organisms can lodge in vessel walls and plaque and persist.

Other new information links gum disease with systemic inflammation, as measured by the production of liver proteins such as C-Reactive Protein (8) (23). This protein has been known to be a risk factor for heart attacks and peripheral artery disease in otherwise healthy individuals and it has been published that CRP is more predictive of heart attacks than bad cholesterol (9). In fact over 50% of the people who have heart attacks have normal Cholesterol.

As shown in the inflammation article while a CRP value of under 1 mg/liter is considered normal, a value of 2-3 triples your risk of heart attack and higher values can increase your risk up to seven and a half times! The actual disease process was only recently explained (10). The CRP actually interferes with the process that inhibits blood clots which can predispose one to a sudden heart attack or stroke.

By comparison bad cholesterol slowly builds up plaque in the arteries which may allow more warning. New research links gum disease as one potential cause for elevations in this protein, thus suggesting another link between gum disease and bacteria and heart disease risk.





**“ CRP is more predictive of heart attacks than bad cholesterol. In fact over 50% of the people who have heart attacks have normal Cholesterol. ”**

However, there is much promise in the fact that successful treatment of periodontal disease can significantly lower C-Reactive Protein (19) (25).

In the December 2005 issue of the Journal of Lipid Research, researchers found that patients with generalized aggressive periodontitis frequently had elevated plasma levels of a particularly bad subclass of the low density lipoprotein (LDL) called small-dense LDL. Previous research revealed that people who have predominantly small-dense LDL in their blood are at a three- to six-fold increased risk of heart disease and stroke. Thus, we have three means by which periodontal disease can increase the risk of heart disease.

American Heart Association spokesman Dr. Richard Stein, who is also director of preventive cardiology at Beth Israel Medical Center, in New York City, said he “regularly counsels patients worried about their risk for heart attack or stroke to incorporate good periodontal care in their preventive strategies, just as they would include exercise, healthy diets and appropriate medications”



# **For Optimum Health and Longevity**

**Nutritious Diet • Plenty of exercise • Good Oral Health**

# The Diabetes Connection

## Combating a Growing Epidemic of Our Modern Lifestyle

The diet of the average American is cause for great concern in the medical and dental communities. We are eating excessive amounts of fats, starches, and sugars (diets high in trans-fats and simple and complex sugars). Diabetes is developing at an unprecedented rate in our country and millions of people are not aware of their condition. Living with undiagnosed and untreated diabetes can have a very rapid detrimental effect on a person's health.

### The Prevalence of Diabetes

According to the American Diabetes Association about 20% of Americans are affected by Diabetes:

- 30.3 million people or 9.4% of the population have diagnosed diabetes.
- 7.2 million people have undiagnosed diabetes.
- 1.5 million new cases are diagnosed each year.
- 84.1 million people are pre-diabetic.
- 25.2% or 12 million seniors 65+ years old are diabetic.
- Diabetes is the 7th leading cause of death in the USA.
- 252,806 death certificates state diabetes was a contributing cause of death.

### The Rate of Periodontal Disease in Diabetics

Periodontal disease in the normal population is rare before age 20 and increases steadily to 60% in the 45-54 age group. However, thirty percent of 20-year-old diabetics have periodontal disease, reaching 50% by age 35 and 80+% in the 45-54 group. According to the American Academy of Periodontology, the rate of periodontal disease in diabetics is double the rate in the non-diabetic population.

### The Risk of Periodontal Disease for Diabetics

Anaerobic bacteria live in the deep crevices. When these bacteria get into the blood system they make it more difficult for a diabetic to control their blood sugar. Additionally, the loss of teeth is a real problem for diabetics since their support for a denture erodes away more rapidly than in the nondiabetic person. Diet and nutrition are usually compromised with an undesirable increased intake of refined



carbohydrates. Periodontal disease increases the rate of C-Reactive Protein, which also causes problems for diabetics and combines with elevations in blood sugar (also noted in higher HbA1c levels) to greatly increase the rate of heart attacks (26).

The result is that periodontal disease greatly increases the mortality rate in diabetics, up to 7.5 times(5). The National Institute of Diabetes and Digestive and Kidney Disease, monitored 628 type II diabetics for an average of 11 years. 204 subjects died during the study. The age adjusted death rates were 3.7% for mild or no periodontal disease, 19.6% for moderate periodontal disease and 28.4% for severe periodontal disease. The primary causes of death associated with periodontal disease were ischemic heart disease (heart attacks) and diabetic nephropathy (kidney disease).

### Diabetes Prevention

As we have seen, the periodontal bacteria living in infected gum tissue increase blood sugar. People with periodontal disease are twice likely as to develop diabetes. A study from Japan called the Hisayama study (3) reviewed the records on 961 persons for ten years. Subjects with normal glucose tolerance, but deeper periodontal pockets at the beginning of the study developed more diabetes 10 years later. Therefore, it was concluded that treatment of periodontal disease may reduce the development of diabetes.

### Glycated Hemoglobin - HbA1c

When you have uncontrolled diabetes you have too much sugar in your bloodstream. This extra glucose enters your red blood cells and links up (or glycates) with molecules of hemoglobin. The more excess glucose in your blood, the more hemoglobin gets glycated. An A1C test reveals your average blood glucose control for the past few months. Research indicates that that certain periodontal bacteria increase HbA1c. The good news is that successfully treating the periodontal disease, including use of anti-microbial treatment, can significantly reduce HbA1C (4).

Because of the strong connection between periodontal disease and diabetes, we test all periodontal patients for HbA1c. If your level is found to be high, we will collaborate with your physician to, hopefully, reduce the risk of diabetes. If you already have diabetes, periodontal therapy can help you control it to minimize your risk of associated diseases such as cardiovascular and kidney disease.



# **The LASER CONNECTION**

## **Toward a Kinder, Gentler, Periodontal Treatment**

Until recently the only periodontal therapy available was deep cleanings and in more advanced cases, surgery. More recently, antibiotics were added to kill the bacteria. Such treatment made a lasting impression on those who went through it. However, the periodontal disease often came back again, creating the belief that the disease can never be cured. The good news is that now with lasers, and our understanding of the disease, treatment can be accomplished painlessly, quickly, and with your cooperation, can be kept in remission.

At each appointment, we will perform a typically painless laser decontamination which includes tracing the laser around the gumline of each tooth quickly, killing the bad (anaerobic) bacteria. It has been shown that laser decontamination is more effective than antibiotics. In addition, there are no strains of bacteria resistant to lasers (16). Lasers do not create resistances to medicines you may need some day and they do not suppress your immune system as antibiotics can.

We will then send you home with your special oral hygiene products, rinse and nutritional supplements. When you return the next week for your first deep cleaning you will be in much better shape, have less bleeding and sweeter smelling breath.

At the next appointment you may receive some topical anesthetic to avoid any possible discomfort. A laser decontamination followed by the use of a special gentle scaler will occur in order to make sure your roots are clean. It is only when the roots are decontaminated that the gums can re-attach to the roots of the teeth. We will then use the laser to go around each tissue damage to vaporize the diseased tissue and treat the roots to allow better growth of new tissue and bone(18). Tissue damage depth will normally decrease by 1mm per visit. We will perform a refreshing irrigation of the tissue and then your visit is complete. The laser actually helps minimize the discomfort of the cleaning and you should feel fine the next day. You may have two to four of these visits, depending upon the depth of the original tissue damage and how your tissue responds.

If you have advanced tissue damage of 6mm or more you may have a few more painless visits where only the laser is used. This whole process should take no more than a month or two, after which you continue with your home care until your first periodontal maintenance visit (PMT) where your progress will be measured. This process will work 90% of the time for moderate cases of the disease, defined by 4-7 mm tissue damage. Deeper tissue damage can exist because of diseased teeth, broken down restorations and poor bite relationships.

Bone grafting, soft tissue grafting and other more costly treatments might be required.

### **The Benefits of Treatment**

Recent research has shown that treating your periodontal disease will do more than save your teeth and sweeten your breath. It may be the best way to reduce your CRP (21), lower a factor called glycated hemoglobin (HbA1c) which can reduce the risk of diabetes, (4) and, if you are diabetic, greatly increase your life expectancy(5). If you are an expectant mother it can reduce your chance of a pre-term birth by a factor of 7(6).

### **Costs**

Our unique non-surgical periodontal treatment protocol will be less costly and less painful than traditional periodontal surgery or even your co-pay on a one-day stay in the hospital. Since periodontal disease is now recognized as a systemic infection it is likely that in the future your medical insurance would cover some or all of the costs of periodontal treatment. In the meantime, you can be assured that the protocol we have developed will be a worthwhile investment in your total health as well as your dental health.



# The Nutrition Connection



## the Body's Defense System

By Leona Meditz



Why is periodontal disease more common among 60 year olds than 20 year olds, even though 60 year olds can be more dental savvy and brush regularly? The difference is likely in the body's ability to fight off the

attacks of bacteria and chemicals.

When bacterial infections, such as Periodontal Disease occur, our immune systems attack the invading organisms with a network of cells, tissues and organs all working together. As we age, the body is less able to assimilate nutrients required to maintain an optimal immune system so it is very important to eat more fruits and vegetables and properly supplement our diet. This gives us anti-oxidants that prevent cell oxidation and lower the occurrence of disease, aging and even cancer. Cell Oxidation is like metal rusting, weakening the cell wall and damaging DNA. Anti-oxidants prevent cell oxidation and support the immune system.

Research at Loma Linda University in May 2001, showed that a nutritional supplement alone, without any other dental treatment, was able to significantly lower the bleeding and tissue damage caused by periodontal disease. The key supplement ingredients were Grapeseed Extract, CoQ10 (Ubiquinone) and Folate. It is valuable to examine these elements because they are not normally found in your daily multi-vitamin.

### **Proanthocyanidin (grape seed extract)**

How can the French and Italians, who drink red wine, be so healthy even with a pasta and fat laden diet? The wine has

Proanthocyanidin, found in red grapes. Grapeseed extract contains Proanthocyanidin with 20-50X the antioxidant power of Vitamin C or E. Naturopaths, the branch of healthcare that focuses on treatment using natural products rather than drugs, have found Grapeseed extract to be a natural anti-histamine that combats allergies without drowsiness. It is a natural anti-inflammatory that can reduce CRP and reduce inflammatory diseases while improving the circulatory system. Grapeseed extract can prevent periodontal bacteria from colonizing in gum tissue and on teeth and prevents the aggression of destructive enzymes. The anti-oxidant action destroys free-radicals that attack gum tissue.

### **Coenzyme Q10 (CoQ10) improves the healing response.**

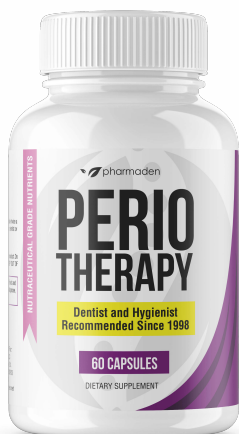
Vital to all natural processes from cellular energy, immune system function, to heart function and blood pressure, CoQ10 is used in medicine for treatment of congestive heart failure, neurodegenerative disorders such as Parkinson's disease and cancer treatment through tumor suppression. During pregnancy, a woman makes 50% more CoQ10 to aid in placenta development. Since statin drugs lower the body's production of CoQ10, it is important those taking statin drugs supplement with CoQ10. Clinical studies show that people with gum disease tend to have low levels of CoQ10 in their gums. CoQ10 may improve symptoms of dry mouth. CoQ10 will help damaged gum tissue heal so bacteria cannot hide under the gum line.

### **Folate and Folic acid are necessary for the production and maintenance of new cells.**

This is especially important during rapid cell division and growth (i.e. infancy and pregnancy). Folate and folic acid are needed to make DNA and RNA, the building blocks of cells, and help prevent changes to DNA that may lead to cancer. Both adults and children need folate and folic acid to make normal red blood cells and prevent anemia. Although both are forms of a water-soluble B vitamin, Folate occurs naturally in food. Folic acid is the synthetic form found in supplements and fortified foods. To become bioavailable (absorbed by the body), both Folate and Folic Acid must be converted to L-methylfolate. Unfortunately, about 20% of the population fail to convert folic acid and thus do not receive the full nutritional benefits. When the body does not convert enough folic acid to L-methyl folate, excess levels of homocysteine may accumulate. Hundreds of published studies have linked excessive homocysteine with common age related problems. Clean Kiss Anti-Inflammatory Support™ uses Folic Acid as L-Methyl Folate for easy absorption and maximum cell protection for everyone.



Clean Kiss now includes the following periodontal support supplementation used in the Loma Linda study:



PerioTherapy's dramatic results are achieved by synergistically balancing the correct ratio of only the highest quality ingredients. A formula's ultimate bio-availability (the body's ability to absorb nutrients) is determined by the proper combination and the quality of the nutrients selected. PerioTherapy, a diligent homecare program, and the personalized treatment from your dentist and hygienist are the key components to good oral health.

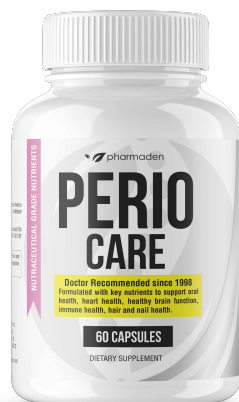
Benefits of PerioTherapy may include, but are not limited to:

- May reduce plaque\*
- May reduce bleeding of the gums\*
- May reduce pocket depth\*
- May promote bone remineralization where bones can be regrown\*
- May support the immune system and strengthen immune system functions\*

Serving Size: 1 capsule

Suggested Use: 1 capsules twice daily with or without food or as recommended by your dentist or hygienist. Always check with your physician before taking any supplement or medicine.

PerioTherapy contains echinacea. Some studies show extended use of echinacea may weaken the immune system. People with immune disorders, such as multiple sclerosis, lupus, HIV and rheumatoid arthritis should not take echinacea supplements. If you are recommended to take PerioTherapy but unable to because of echinacea, ask your physician about PerioCare.



Systemic Support: PerioCare Maintenance & Prevention is specifically designed as the perfect complement following PerioTherapy, to help maintain the results of the Dentist's Treatment. Pharmaden's PerioCare special proprietary formulation developed to help maintain and enhance the body's host resistance.

Highly absorbable nutrients for greater bone health. 1,114 mg of calcium per serving in the form of calcium citrate to help support bone health\*. 800 IU of vitamin D3 per serving to help your body absorb calcium\* 197 mg Magnesium and essential bone supporting minerals: zinc, copper and manganese\* Gentle on your digestive system. Can be taken with or without food. For men and women. Contains 60mcg vitamin K2 (MK4/MK7):- MK4 - Recent studies show taking vitamin D, calcium, and magnesium supplements did not have a significant decrease in bone fractures and, instead, taking MK4 with calcium and vitamin D does significantly lower bone fractures. MK4 stopped and reversed bone loss, grew stronger bones, and reduced fractures more than 80%.- MK7 - Shown to reduce fractures and maintain bone density. K2-7 safely directs calcium to your bones instead of your arteries (so arteries do not harden). Serving Size: 2 capsules once or twice daily with or without food or as recommended by your doctor, pharmacist, or healthcare professional. Always check with your physician before taking any supplement or medicine.



*\*These statements have not been evaluated by the Food and Drug Administration. This product is not intended to diagnose, treat, cure, or prevent any disease. Always check with your physician before taking any supplements*

# The PREGNANCY CONNECTION

by Lisa Marie Samaha. DDS, FAGD

Prematurity is defined as a birth before 37 weeks of pregnancy. Low birth weight babies weigh less than 5 lbs, 8 oz. These phenomena are connected and in total, affect about 18% of all births.

Premature birth and low birth weight can occur separately but about 60% of low birth weight babies are pre-term. Together they are the leading cause of newborn death in the first month of life. Those that do survive often face chronic health problems and developmental disabilities. Recent research reveals abnormal brain patterns occur even through adolescence (7).

What is not well known is that periodontal disease may be a greater factor for pre-term/low birth weight than smoking or alcohol use (6). Throughout pregnancy, regulatory proteins called cytokines and prostaglandins steadily increase until a critical threshold is reached inducing labor, cervical dilation and delivery. The specific bacteria associated with periodontal disease are capable of stimulating excessive production of the regulators which induce pre-term birth.

Specifically, in 1996, Dr. Steve Offenbacher, of UNC Chapel Hill, found that severe periodontitis was associated with a 7.5 to 7.9 times increase in the rate of low birth weight babies. This has been substantiated by other investigators. Since then, intervention studies have been completed in which periodontal treatment reduced the incidence of pre-term birth and low birth weight infants between 71 percent and 84 percent in pregnant women with moderate to severe chronic periodontitis. Dr. Offenbacher stated, “45,000 premature births per year could be prevented if periodontal disease could be eliminated in expectant mothers”.

Because of hormone levels, pregnant women are far more disposed to gingivitis than the population and it is estimated that 50% of pregnant women have gum disease to some extent. Dr. Néstor J. López, Professor of the University of Chile, explained, “We found a significant association between gingivitis and pre-term birth after adjusting for the major risk factors for pre-term delivery, suggesting that gingivitis, the earliest form of periodontal disease, is an independent risk factor for preterm birth and low birth weight...Periodontal therapy reduced preterm birth and low birth weight infant rates by 68 percent in women with pregnancy-associated gingivitis” (21).

“Pregnancy-associated gingivitis is a preventable and easy to treat disease,” relates Kenneth A. Krebs, DMD and American Academy of Periodontics president. “Although it is still not known what are the precise mechanisms involved in the association between periodontal infections and pre-term birth, to date, no harmful damaging effect caused by periodontal intervention in pregnant women has been reported”. Therefore, conscientious periodontal care of expectant mothers is important. Extraordinarily high health care costs are generated by pre-term birth, and any strategy that reduces the pre-term birth rate is likely to produce both health and economic benefits for mothers and infants. “The real cost saving is best represented by the lives of children saved from premature death and biological and social impairment”, said Dr. López.

Aware of the significance of the research with regards to periodontal disease and pregnancy complications, Cigna Health Care has begun



their Oral Health Maternity Program. Through this program, medical insurance pays for the periodontal care of their pregnant insured. CIGNA Dental is also cooperating, “...we are launching our new CIGNA Dental Oral Health Maternity Program, which enhances benefits for pregnant members with CIGNA medical and fully-insured dental coverage”.

“We hope this will encourage pregnant members to have an oral health exam and to seek needed treatment for gum disease. Effective 1/1/06 CIGNA Dental will cover periodontal scaling and root planing performed during pregnancy at 100% for eligible members. In addition, for pregnant members not requiring scaling and root planing, we will cover an additional cleaning during pregnancy because we recognize the potential risk of “pregnancy gingivitis.” We will also cover treatment for inflamed gums around wisdom teeth at 100% during pregnancy.”

“Ideally, women should begin their pregnancy without periodontal infections, and they should be educated and motivated to maintain a high level of oral hygiene prior to and throughout pregnancy,” encouraged López. “If periodontal infection is diagnosed at any time during pregnancy, the treatment should be administered as soon as possible in order to reduce the risk of preterm birth and low birth weight.”

# Clean Kiss Ingredients Research



The Clean Kiss ingredients use the power of nutritional intelligence as a system working together to sustain your clean kiss. Use the entire Swish, Scrub and Support system for best results.

- (1) Hammer KA, Carson CF, Riley TV. In-vitro activity of essential oils, in particular *Melaleuca alternifolia* (tea tree) oil and tea tree oil products, against *Candida* spp. *J Antimicrob Chemother.* 1998 Nov;42(5):591-5.
- (2) Forrer M, Kulik EM, Filippi A, Waltimo T. The antimicrobial activity of alpha-bisabolol and tea tree oil against *Solobacterium moorei*, a Gram-positive bacterium associated with halitosis. *Arch Oral Biol.* 2013 Jan;58(1):10-6. doi: 10.1016/j.archoralbio.2012.08.001. Epub 2012 Aug 29.
- (3) de Rapper S, Van Vuuren SF, Kamatou GP, Viljoen AM, Dagne E. The additive and synergistic antimicrobial effects of select frankincense and myrrh oils—a combination from the pharaonic pharmacopoeia. *Lett Appl Microbiol.* 2012 Apr;54(4):352-8. doi: 10.1111/j.1472-765X.2012.03216.x. Epub 2012 Feb 20.
- (4) Zeng WC, Zhang Z, Gao H, Jia LR, He Q. Chemical composition, antioxidant, and antimicrobial activities of essential oil from pine needle (*Cedrus deodara*). *J Food Sci.* 2012 Jul;77(7):C824-9. doi: 10.1111/j.1750-3841.2012.02767.x.
- (5) Liqa Sabah Hasan Ismail Ibrahim Latif Shakir Hammed Mohammed Efficacy of Olive Leaf Extract Mouthwash on Clinical and Inflammatory Parameters of Gingival Inflammation in Relation to Chlorhexidine in Acute Gingivitis Serum Patients
- (6) The Role of Manganese Superoxide Dismutase in Inflammation Defense Chang Li and Hai-Meng Zhou, Published online 2011 Oct 3. doi: 10.4061/2011/387176, PMID: PMC3185262, *Enzyme Res.* 2011; 2011: 387176.
- (7) Warner BB, Stuart L, Gebe S, Wispé JR. Redox regulation of manganese superoxide dismutase. *The American Journal of Physiology.* 1996;271(1):L150–L158
- (8) Visner GA, Dougall WC, Wilson JM, Burr IA, Nick HS. Regulation of manganese superoxide dismutase by lipopolysaccharide, interleukin-1, and tumor necrosis factor. Role in the acute inflammatory response. *Journal of Biological Chemistry.* 1990;265(5):2856–2864
- (9) Thannickal VJ, Fanburg BL. Reactive oxygen species in cell signaling. *The American Journal of Physiology.* 2000;279(6):L1005–L1028.
- (10) The Role of Coconut Oil in Treating Patients Affected by Plaque-Induced Gingivitis: A Pilot Study *Eur J Dent.* 2020 Oct; 14(4): Eur J Dent. 2020 Oct; 14(4): 558–565. Published online 2020 Sep 22. doi: 10.1055/s-0040-1714194 <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7535963/>
- (11) Effectiveness of Apple Cider Vinegar and Mechanical Removal on Dental Plaque and Gingival Inflammation of Children With Cerebral Palsy Cureus. 2022 Jul; 14(7): e26874. [https://www.ncbi.nlm.nih.gov/pmc/articles/PMC9375849/#:~:text=Plaque%20accumulation%20and%20gingivitis%20decreased,0.05\)%20at%20T5%20and%20T6.](https://www.ncbi.nlm.nih.gov/pmc/articles/PMC9375849/#:~:text=Plaque%20accumulation%20and%20gingivitis%20decreased,0.05)%20at%20T5%20and%20T6.)
- (12) Beneficial Effects of Vitamin C in Maintaining Optimal Oral Health *Front Nutr.* 2021; 8: 805809. [https://www.ncbi.nlm.nih.gov/pmc/articles/PMC8784414/#:~:text=Clinical%20studies%20have%20found%20that,in%20their%20plasma%20\(30\).](https://www.ncbi.nlm.nih.gov/pmc/articles/PMC8784414/#:~:text=Clinical%20studies%20have%20found%20that,in%20their%20plasma%20(30).)
- (13) Natural anti-inflammatory agents for pain relief, Joseph C. Maroon, Jeffrey W. Bost, and Adara Maroon, *Surg Neurol Int.* 2010; 1: 80. Published online 2010 Dec 13. doi: 4103/2152-7806.73804 PMID: PMC3011108
- (14) *SJ Appl Oral Sci.* 2017 Mar-Apr; 25(2): 121–129. doi: 10.1590/1678-77572016-0298 PMID: PMC5393532 PMID: 28403352 Effects of grape seed extract on periodontal disease: an experimental study in rats Feyza Otan ÖZDEN, 1 Elif Eser SAKALLIOĞLU, 1 Umur SAKALLIOĞLU, 1 Bülent AYAS, 2 and Züleyha ERİŞGİN 3
- (15) James A. Duke, Phd in the October, 2007 issue of *Alternative & Complementary Therapies.* Over 700 studies of the benefits of turmeric were reviewed.
- (16) Vitamin B12: the forgotten micronutrient for critical care. Manzanares W1, Hardy G., *Curr Opin Clin Nutr Metab Care.* 2010 Nov;13(6):662-8. doi: 10.1097/MCO.0b013e32833dface
- (17) Role of coenzyme Q10 as an antioxidant and bioenergizer in periodontal diseases.
- (18) Shobha Prakash, J. Sunitha, and Mayank Hans. *Indian J Pharmacol.* 2010 Dec; 42(6): 334–337. doi: 10.4103/0253-7613.71884, PMID: PMC2991687
- (19) Miller JM, Ginsberg M, McElpatrick GC, and et al. The



- administration of bromelain orally in the treatment of inflammation and edema. *Exper Med & Surg* 1964;22:293-299.
- (20) Cirelli MG. Five years of clinical experience with bromelains in therapy of edema and inflammation in postoperative tissue reaction, skin infections and trauma. *Clinical Medicine* 1967;74:55-59.
  - (21) Tassman GC, Zafran JN, and Zayon GM. A double-blind crossover study of a plant proteolytic enzyme in oral surgery. *J Dent Med* 1965;20:51-54.
  - (22) Kolac C, Streichhan P, and Lehr CM. Oral bioavailability of proteolytic enzymes. *Eur J Pharm Biopharm* 1996;42:232.
  - (23) Determination of antioxidant and radical scavenging activity of Basil (*Ocimum basilicum* L. Family Lamiaceae) assayed by different methodologies. Gülçin, İlhami; Elmastas, Mahfuz; Aboul-Enein, Hassan Y; Institution: Atatürk University, Faculty of Science and Arts, Department of Chemistry, TR-25240-Erzurum, Turkey. Publication: Phytotherapy research : PTR Publication Date: 2007
  - (24) Double-blinded randomized controlled trial for immunomodulatory effects of Tulsi (*Ocimum sanctum* Linn.) leaf extract on healthy volunteers. • Mondal S, et al, *J Ethnopharmacol.* (2011)
  - (25) Anti-inflammatory effects of chlorella in adjuvant-induced arthritis model and carrageenan-induced edema model in rats. Masako Saito<sup>1</sup>, Hideo Takekoshi<sup>1</sup>, Hirofumi Chubachi<sup>2</sup>, Kun-Yuan Lin<sup>3</sup>, Fong-Chi Cheng<sup>3</sup>, Hideyo Imanishi<sup>3</sup>, 1: Sun Chlorella Corporation, 2: Hokkaido Medicinal Plant Research Institute, 3: MDS Pharma Services; Annual Meeting of Japan Society for Bioscience, Biotechnology, and Agrochemistry (JSBBA) 2009;
  - (26) The effect of *Scutellaria baicalensis* Georgi on immune response in mouse model of experimental periodontitis. Shiguang Huang<sup>1</sup>, Qiling Huang, Bo Huang, Fangli Lu. Published Online: May 30, 2013
  - (27) SILICON AND BONE HEALTH. R. JUGDAOHSINGH, *J Nutr Health Aging. J Nutr Health Aging.* 2007 Mar-Apr; 11(2): 99–110. PMID: PMC2658806/EMSID: UKMS4021
  - (28) Trace elements and bone health. Zofková I, Nemcikova P, Matucha P. *Clin Chem Lab Med.* 2013 Aug;51(8):1555-61. doi: 10.1515/cclm-2012-0868.
  - (29) [Biological effects of vitamin K2 on bone quality]. [Article in Japanese] Amizuka N<sup>1</sup>, Li M, Guo Y, Liu Z, Suzuki R, Yamamoto T. *Clin Calcium.* 2009 Dec;19(12):1788-96. doi: CliCa091217881796.
  - (30) Vitamin K promotes mineralization, osteoblast-to-osteocyte transition, and an anticatabolic phenotype by {gamma}-carboxylation-dependent and -independent mechanisms. Atkins GJ<sup>1</sup>, Welldon KJ, Wijenayaka AR, Bonewald LF, Findlay DM. *Am J Physiol Cell Physiol.* 2009 Dec;297(6):C1358-67. doi: 10.1152/ajpcell.00216.2009. Epub 2009 Aug 12.
  - (31) Vitamin K2 promotes 1alpha,25(OH)<sub>2</sub> vitamin D3-induced mineralization in human periosteal osteoblasts. Koshihara Y<sup>1</sup>, Hoshi K, Ishibashi H, Shiraki M., *Calcif Tissue Int.* 1996 Dec;59(6):466-73.
  - (32) Tripkovic, H. Lambert, K. Hart, C. P. Smith, G. Bucca, S. Penson, G. Chope, E. Hypponen, J. Berry, R. Vieth, S. Lanham-New. Comparison of vitamin D2 and vitamin D3 supplementation in raising serum 25-hydroxyvitamin D status: a systematic review and meta-analysis. *American Journal of Clinical Nutrition*, 2012; 95 (6): 1357 DOI:10.3945/ajcn.111.031070
  - (33) The Impact of Vitamin D Status on Periodontal Surgery Outcomes. J.D. Bashutski, R.M. Eber, J.S. Kinney, E. Benavides, S. Maitra, T.M. Braun, W.V. Giannobile, and L.K. McCauley, *J Dent Res.* 2011 Aug; 90(8): 1007–1012. doi: 1177/0022034511407771/ PMID: PMC3170167
  - (34) Calcium and the risk for periodontal disease. Nishida M<sup>1</sup>, Grossi SG, Dunford RG, Ho AW, Trevisan M, Genco RJ. *J Periodontol.* 2000 Jul;71(7):1057-66.
  - (35) Nielson, FH: Studies on the relationship between boron and magnesium which possibly effect the formation and maintenance of bones. *Magnesium Trace Elem* 1990;9:61-69.
  - (36) Effect of vitamin E on periodontitis: Evidence and proposed mechanisms of action *Journal of Oral Biosciences* Volume 63, Issue 2, June 2021, Pages 97-103 Saminathan Shadisvaaran a, Kok-Yong Chin b, Mohd-Said Shahida c, Soelaiman Ima-Nirwana b, Xin-Fang Leong
  - (37) Effects of extracellular magnesium on the differentiation and function of human osteoclasts. Lili Wu, Bérengère J.C. Luthringer, Frank Feyerabend, Arndt F. Schilling, Regine Willumeit. *Acta Biomaterialia* Volume 10, Issue 6, June 2014, Pages 2843–2854
  - (38) The relationship between boron and magnesium status, and bone mineral density in humans: a review – in *MAGNESIUM RESEARCH: OFFICIAL ORGAN OF THE INTERNATIONAL SOCIETY FOR THE DEVELOPMENT OF RESEARCH ON MAGNESIUM* 6(3):291-6 • SEPTEMBER 1993, Department of Nutritional Sciences, University of California at Berkeley.
  - (39) On the importance of selenium for bone physiology. Nicole Pietschmann, Eddy Rijntjes, Antonia Hoeg & Lutz Schomburg, *Bone Abstracts* (2013) 1 PP115 | DOI:10.1530/boneabs.1.PP115
  - (40) Evaluation of antimicrobial and cytotoxic effects of Echinacea and Arctium extracts and Zataria essential oil *AMB Express.* 2022; 12: 75. Published online 2022 Jun 15. doi: 10.1186/s13568-022-01417-7 PMID: PMC9200929 PMID: 35705727 Mohsen Yazdaniyan,1,2 Pouya Rostamzadeh,3 Mostafa Alam,4 Kamyar Abbasi,5 Elahe Tahmasebi,corresponding author1,2 Hamid Tebyaniyan,corresponding author6 Reza Ranjbar,1,2 Alexander Seifalian,7 Mehrdad Moosazadeh Moghaddam,8 and Balaei Kahnamoe *J Indian Soc Periodontol.* 2014 May-Jun; 18(3): 316–320. doi: 10.4103/0972-124X.134568 PMID: PMC4095623

# Periodontal Disease Relationship To Systemic Diseases – Relevant Research

- (1) **Live Oral Bacteria Found in Arterial Plaque** *University Florida News* March 22, 2005 Ann Progulske-Fox, chief investigator University Florida College of Dentistry.
- (2) **Periodontal Disease May Increase Risk Of Stroke** *American Academy of Neurology 51st annual meeting Toronto Canada* April 21, 1999 Mitchell Elkind, MD, Columbia University, New York.
- (3) **The Severity of Periodontal Disease is Associated with the Development of Glucose Intolerance in Non-diabetics** *The Hisayama Study, Dent Res* 83(6): 485- 490, 2004 Fukuoka, Japan;
- (4) **Treatment of Periodontal Disease in Diabetics Reduces Glycated Hemoglobin,** *J Periodontol* 1997;68:713-719., Sara Grossi, et.al, SUNY Buffalo
- (5) **Periodontal Disease Predicts Mortality in Diabetics,** *Diabetes In Control.com: Diabetes Care* 2005;28:27-32 National Institute of Diabetes and Digestive and Kidney Disease, Phoenix, AZ
- (6) **Importance of Good Oral Health in Pregnant Women,** *American Academy of Periodontology Specialty Conference on Periodontal Medicine in Washington, D.C* May 7, 2000 Marjorie Jeffcoat, D.M.D, University of Alabama at Birmingham School of Dentistry
- (7) **Mental deficits common after every preterm birth** *New England Journal of Medicine, January 6, 2005.* Dr. Dieter Wolke University of Bristol
- (8) **Elevation of systemic markers related to cardiovascular disease in peripheral blood of periodontitis patients.** Loos BG, Craandijk, et al *J Periodontology*, 2000 Oct;71(10): 1528-34
- (9) **Comparison of C-Reactive Protein and Low-Density Lipoprotein Cholesterol Levels in the Prediction of First Cardiovascular Events,** abstract, *New England Journal of Medicine*, Nov. 14 (vol. 347, issue 20), Paul M. Ridker, et.al.
- (10) **C-Reactive Protein Increases Plasminogen Activator Inhibitor-1 Expression and Activity in Human Aortic Endothelial Cells,** *American Heart Association Journal Circulation.* 2003;107:398-404. Sridevi Devaraj, PhD; et.al University of California, Davis Medical Center, Sacramento, Calif.
- (11) **Inflammation Marker Predicts Colon Cancer,** Feb. 4, 2004 *The Journal of the American Medical Association*, Tate" P. Erlinger, M.D., M.P.H., Johns Hopkins Univ.
- (12) **Inflammation Linked to Cognitive Decline-** *J. Neurology* July 8, 2003 Dr. Kristen Yaffe, professor of psychiatry, neurology and epidemiology University of California, San Francisco.
- (13) **The relationship between oral malodor, gingivitis, and periodontitis.A review.** *J.Periodontol.* 1999 May;70(5):485-9. Ratcliff, Johnson.
- (14) **Efficacy of a Chlorine Dioxide-containing Mouthrinse in Oral Malodor,** NJ, *Journal of Dental Research*, , (IADR Abstracts) 1999, p. 356, Article 2004 J. Frascella et al
- (15) **The effectiveness of a magnetized water oral irrigator (Hydro Floss® ) on plaque, calculus and gingival health,** Johnson KE, Sanders et.al ISSN 0303-6979 *J Clin Periodontol* 1998; 25: 316-321
- (16) **Nd:YAG - Assisted Periodontal Curettage to Prevent Bacteremia Before Cardiovascular Surgery,** Jorge Pinero, DDS, *Dentistry Today Vol. 17 #3, March 1998*
- (17) **Effects of a Nutritional Supplement on Periodontal Status. Report of a recent study of a nutritional supplement,** *PerioTherapy, Compendium of Continuing Education in Dentistry May 2001*
- (18) **Effects of CO2 Laser Treatment on Fibroblast Attachment to Root Surfaces. A Scanning Electron Microscopy Analysis /** Crespi, et.al 1308-1312 *Journal of Periodontology* 2002; 73 (4)
- (19) **Periodontal therapy lowers levels of heart disease inflammation markers,** S.Grossi, et.al, State University of New York at Buffalo *ADA News* 04/21/2004
- (20) **Involvement of periodontopathic anaerobes in aspiration pneumonia,** Okuda K et al, *J Periodontology* 2005, Vol. 76, No. 11-s, pp2154-2160.
- (21) **Periodontal Therapy Reduces the Rate of Preterm Low BirthWeight in WomenWith Pregnancy-Associated Gingivitis** Néstor J. López, Isabel Da Silva, Joaquín Ipinza, Jorge Gutiérrez *Journal of Periodontology* 2005, Vol. 76, No. 11 s: 2144-2153.
- (22) **Periodontal infections contribute to elevated systemic C-reactive protein level.,** Noack et al, *J Periodontol.* 2001 Sep;72(9):1221-7.
- (23) **C-Reactive protein, a sensitive marker of inflammation, predicts future risk of coronary heart disease in initially healthy middle-aged men,** Koenig et al, *Circulation.* 1999;99:237-242.
- (24) **Periodontal disease and risk of cerebrovascular disease,** Wu T et al, *Arch Intern Med.* 2000; 160:2749-2755.
- (25) **Effect of treating Periodontitis on C-reactive protein levels: a pilot study,** *BMC Infectious Diseases* 2002, 2:30
- (26) **Joint Effects of C-Reactive Protein and Glycated Hemoglobin in Predicting Future Cardiovascular Events of PatientsWith Advanced Atherosclerosis,** Schillinger et al *Circulation.* 2003;108:2323.
- (27) **The Finnish Study** *British Medical Journal (BMJ),* 1989 Mar 25;298(6676):779-81
- (28) **Dental disease and risk of coronary heart disease and mortality.** DeStefano F, et al *Brit Med J* 306:688-691, 1993



HEALTH CARE PROFESSIONALS  
**Wellnet**  
G O W E L L N E T . C O M

Dentists and Physicians join to "Make Health Contagious" (TM)



Wellnet dentists and physicians use the latest, most advanced techniques for the effective treatment of inflammatory diseases that doubles heart disease, diabetes, even cancer risks.

Wellnet dentists and hygienists assess whether you have gum disease and your risk of health issues. They discuss your treatment options and provide the most up-to-date in-office therapies and homecare available.

Wellnet physicians monitor therapies and medication dosages as you put periodontal disease in remission and may offer anti-inflammatory therapies beyond the mouth.

Now you will know if you have chronic infectious periodontal disease, if it is in your bloodstream, causing health risks, what therapies you need, how well they work and if the infection returns.

## Health Care Professionals Wellness Network

### Advanced Treatment for Periodontal Disease

Find the Nearest Wellnet Dentist at  
<http://cleankiss.com/find-a-dentist/>

PHONE 480 400 7358