Wellness Dentistry – The Big Wave

A tsunami is only a long, low wave in the open ocean. Its power is not realized until it comes ashore. A tsunami-like paradigm shift is approaching society today. Everyone, dentists included, will feel its impact.

Dentists have typically worked in a silo or in isolation from other health professionals because dental diseases have a unique cause – oral bacteria. At the same time, cardiovascular surgeons are in their silo fighting a cholesterol disease, diabetic specialists are fighting an insulin disease and oncologists are dealing with cells gone haywire. Modern health care (or disease repair) sees the body as individual parts with specific problems and unique causes.

Recent research, however, is discovering the role inflammation and the body’s own immune response plays in all of these diseases. This new understanding will have a profound impact on every health professional and consumer to varying degrees.

It is now becoming the mainstream understanding in dentistry that periodontal breakdown is not caused by oral bacteria, but by the body’s own uncontrolled inflammatory response. Essentially, it is an autoimmune disease. Likewise, the beneficial effects of statins like Lipitor are not so much due to reducing cholesterol, but controlling inflammation. The macular degeneration and neuropathies of diabetes are inflammatory in origin. Inflammation also can be a factor in cancer promotion and progression.

With regard to dental caries, leading dental researchers are finding more evidence to support the theory of acid demineralization activating matrix metalloproteinases (MMPs) like collagenase. This results in a carious breakdown of the dentin. What is new is the discovery that the host is the source of these MMPs. Horrors! It is not the bacteria causing the damage after all. Dental decay is an uncontrolled inflammatory autoimmune breakdown just like periodontal disease. The research identifies the role of bacteria is to produce an acid environment which irritates the tooth to defend itself with an inflammatory response. Now you know, bacteria are not causal to dental caries, they are only casual to it. Uncontrolled inflammation stimulated by acid is the cause. Acid from soda pop can substitute for bacterial acid.

We are now recognizing inflammation to be the much sought after link between dental disease and other diseases. This inflammation tsunami is about to land on our shores very soon. Powered by a more informed consumer than ever before, the dental world as we know it will never be the same.
know it will be irreversibly changed, whether we like it or not. We can prepare now to ride the wave or simply sit and wait. While you are deciding, let’s quickly describe inflammation.

Oxidation is the process that causes steel to rust or an apple to turn brown when cut. Our bodies also oxidize and the process is recognized as aging. This oxidation is caused by free radicals. They are molecules, often oxygen, that have an electron missing, which makes them very unstable. They will steal an electron from wherever they can to gain stability. Endogenous free radicals are a natural by-product of energy production in the body and are necessary in the body’s defense mechanism. For example, the body oxidizes bacteria and viruses to kill them. Fortunately, our bodies also produce antioxidants to control the oxidizing free radicals. These antioxidant molecules like superoxide dismutase and glutathione readily give up an electron to harmlessly neutralize the oxidation process. When offense (oxidation) equals defense (antioxidation), everybody is happy and healthy.

There are also outside the body or exogenous sources of free radicals. These are things like plaque on your teeth, cigarette smoking, radiation, too much sun and high glycemic diets that stimulate excessive insulin. To combat this, there are exogenous sources of antioxidants found in brightly colored fruits and vegetables and high-quality nutritional supplements. Once again, when the oxidation/antioxidation equation is equal, everything is well.

What happens to the equation when the oxidation side, (the sum of endogenous and exogenous sources of free radicals), is greater than the antioxidant side (the sum of endogenous and exogenous antioxidants)? This difference or imbalance is known as “oxidative stress.” To defend itself against oxidative stress, the body marshals its defensive inflammatory response. The more the oxidation excess, the more inflammation is necessary to help the antioxidants balance the equation. In an acute situation, like a sliver in your finger or plaque on your teeth, once you eliminate the sliver or plaque, the inflammation disappears. In a chronic situation, like never cleaning your teeth, long-term smoking or obesity, the body can’t shut down the inflammation response because the irritant is always there. Eventually, the body’s antioxidant defenses are exhausted and damage occurs either in the area of local trauma or systemically at the point of genetic weakness. Examples are the inflamed blood vessels of cardiovascular disease, the free radical damaged DNA of cancer, the pockets of periodontal disease and the inflamed joints of arthritis.

Traditionally, dentists have attempted to balance the equation by reducing the bacteria on the teeth which were causing the localized oxidative stress. We are well paid for focusing on this part of the equation, so we should keep doing it. We performed these services; however, thinking that we were dealing with an oral bacterial disease which was unique from all other systemic diseases. Now, we can see why we fell so short of success. We were only focused on one of several free radical generators stimulating the inflammatory response. This is like trying to par a golf course when you only have a 5-iron. When you want to shoot par, you need a variety of clubs. When dentists and hygienists want to control dental diseases, they need a variety of options.

Recently, drugs like NSAIDS and low dose doxycycline (Periostat) have been developed that permit us to modulate the inflammatory response. But dentists aren’t used to putting people on drugs for the rest of their lives like physicians are, and besides, turning off the fire alarm doesn’t put the oxidative stress fire out.
I predict we will move from a society of nutritional supplements to a society of supplementing nutrition. What is often seen today as a supplemental extra, will shift to become an integral part of the end-goal, optimum nutrition.

The new wave of wellness dentistry will recognize that our role is to help our clients/patients balance their health equation by reducing as many oxidative forces as possible and to increase the antioxidant side of the equation without unnecessarily handicapping the body's defense system. It becomes clear that enriching a person's nutrition with vitamin/mineral/antioxidant supplementation will play a growing role in not only preventive dentistry, but preventive cardio, preventive diabetes and some preventive cancer. Prevention is the key word. When a cure is necessary, drugs and therapy are more appropriate.

With regard to a shift in the public’s perception, let's learn from Bill Gates. At a conference about 10 years ago, Gates predicted that we would move from notebook computers to computer notebooks. He was absolutely right. The computer, once seen as the important factor or the noun, has simply become an adjective to describe the end-goal, a notebook. Likewise, I predict we will move from a society of nutritional supplements to a society of supplementing nutrition. What is often seen today as a supplemental extra, will shift to become an integral part of the end-goal, optimum nutrition. As consumers become more aware of the relationship between antioxidants and the uncontrolled inflammation that is crippling their health, the demand will rise.

Management guru, the late Peter Drucker, used the example of the railroads to make a point. Every business, dentistry included, must continually define their business. In the 1940s, the railroads defined their business as driving trains. If they had defined their business as moving people and cargo, they were in the perfect position with ticket agencies, hotels and food services to found the airlines. The mistake cost them dearly. Presently, dentistry has all the required attributes to lead the wellness wave. We enjoy a trusting clientele who electively seek services at regular intervals and at all ages. Who else has that advantage? We also are relatively healthy clientele who electively seek services at regular intervals and at all ages. Who else has that advantage? We will go the way of the railroads.

How will we achieve this shift and what is the time frame? I don't have all the answers, but I do have some well-researched opinions. First, a lesson from history. Henry Ford did not invent the automobile. There were several automobile shops around before he got involved. What Henry Ford developed was the assembly line; the driving force of the industrial era. We are now accelerating into the knowledge era. The driving force of the knowledge era is the network. Whether it is face-to-face, cell phones, Blackberries or online through blogs and chat rooms, we are becoming a more connected network. Townies are a network. Dentaltown is an appropriate tool to facilitate the network's need to communicate. Other networks exist to support educational, product and service needs. Franchises are networks. So too is Rick Kushner's Comfort Dental. Health professionals will outsource them as necessary to enhance their business and service to their clients/patients.

I coined the term “Wellies” to identify those who value wellness. I believe education and awareness will encourage more people towards wellness and wellness networks will evolve. Many Townies are already Wellies.

Where does one start? There are a wide range of options, few of which existed 10 years ago. First, those interested in wellness for themselves can become online clients in our dental practice at www.dentalhealth.ca. Register as a client by subscribing to The Simple Secrets to Better Health. It is our online information program which is designed to not only inform our clients about inflammation, but to empower them to take action. Second, for dentists/hygienists anywhere in the world interested in referring Wellie patients/clients to our online practice, we will welcome them like any dental specialist. Third, if you would like to provide The Simple Secrets to Better Health to all your clientele, we can issue you a password. This could serve to outsource education of your clients/patients in a cost-effective manner, or to protect you from a lawsuit that alleges you did not inform your client/patient of the connection between dental diseases and the inflammatory systemic disease that they might now have. Fourth, for dental Wellies interested in a participation role, go to the “Wellies network” Web site at www.welliesnet.com for network enrollment information. Fifth, for health professionals who want to develop or already support a network, you will find the Wellies network to be a natural progression to include wellness services.

I look forward to further discussion with Townies on Dentaltown.com and the emergence of new leaders in wellness for our profession. Our influence will be felt far beyond dentistry if we get out of the silo and ride the tsunami.

Editor's Note: Would you like to share your thoughts or ask questions about Wellness Dentistry? Visit Dentaltown.com: Message Boards » Dentaltown Magazine This Month » September 2006 » Wellness Dentistry

---

Ken Southward, DDS is a general dentist in Beamsville, Ontario, Canada. He is a published author and speaker on wellness dentistry and the potential of dentists to take a leadership role in the wellness revolution. He can be reached at drken@dentalhealth.ca or www.dentalhealth.ca.