



▶ WA Brief Re-Introduction of the DentistryForDiabetics Organization

Dentistry for Diabetics™

From Your Dentistry for Diabetics (DFD) Professional
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▶ Part 2: A Q&A Interview with the founder of Dentistry-ForDiabetics

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▶ SUMMARY AND RESOURCES

Informed

The truth about the diabetic & oral care

PART 2 of *DentistryForDiabetics*

How Dentists Respond to Needs of Diabetics

In last month's issue of *Informed*, you saw Part 1 of this two-part series about *DentistryForDiabetics*.

We interviewed the founder of *DentistryForDiabetics*SM Dr. Charles W. Martin, DDS and asked him why DFD was created. We asked what the mission is of *DentistryForDiabetics*. What their goals are. What this coalition of dentists and diagnosticians have accomplished during their first year. And what more there plan to do in the coming year.

This month, we will continue that discussion with Dr. Martin. We take a deeper look at the most pressing issues for diabetics, related to oral health and systemic health. We will find out what the top priorities are for *DentistryForDiabetics*. And we will ask Dr. Martin how the actions and goals of his organization relate — not only to the oral health of the diabetic — but to the patient's and systemic health as well. And we will find out what all of this means to the diabetic care community at large.



Did You Know?

According to ADA Standards of Medical Care 2007, only 7.3 percent of diabetic subjects achieved all three treatment goals at once.

A Brief Re-introduction of *DentistryForDiabetics*SM Organization

*DentistryForDiabetics*SM is a coalition of dentists from across the United States, who have banded together under the leadership of one Dr. Charles W. Martin to respond to the unique and pervasive oral health issues that confront the diabetic patient today. Founded in 2007, *DentistryForDiabetics* has made significant strides toward educating the individual diabetic patient and in connecting with other members of the diabetic care community. The ultimate goal of *DentistryForDiabetics* is to help enhance the overall health of the diabetic by addressing the unique oral health vulnerabilities that confront them. By working in tandem with other care providers dedicated to the care of diabetic patients, *DentistryForDiabetics* dentists can support overall management goals, align oral treatments and prescription drug medications, and

“Oral health and general health are inseparable.”

-U.S. Surgeon General
Dept of Health and Human Services
Oral Health in America 2000

enable healthier lifestyle choices of the patient.

The interview that follows will continue the discussion with Dr. Martin that began last month about the state of oral health as it affects the diabetic. And we will hear about the role Dr. Martin’s organization plays in the oral health community and in the diabetic care community.

Part 2 of a Question & Answer Interview with the Founder of *DentistryForDiabetics*

Q: Dr. Martin, you’ve said that one of the top priorities should be continued research into the relationships between oral health and diabetes. Why do you say that?

Dr. Martin: The answer is simple. The more we understand about the mechanisms and etiology between the two diseases, the better prepared we will be to treat its complications. Or better yet, we may be able delay or even prevent onset.

Q: What areas of study should be addressed first?

Dr. Martin: There is a long list of connection points that would serve both dentists and the medical community to understand better. For example, we know there is a link between cardiovascular disease and periodontal disease. Periodontal disease has also been identified as “marker” for end stage kidney

disease. We know that very often when oral infection is treated mechanically and with antimicrobials, glycated hemoglobin levels often fall within target ranges – without additional management tactics.

I believe the common link for all these scenarios is inflammation. More precisely the inflammatory response that is both triggered by oral health disease and contributes to it. We know, for example, that inflammation can be caused by bacterial infection from the oral cavity. This can impact insulin resistance and overall management.

Q: This idea of inflammation being at the root of diabetes and oral health is an interesting one. But is it true?

Check it out:

Successful periodontal treatment [of insulin resistance] appears to reduce circulating TNF-alpha levels significantly in both systemically healthy periodontal patients and diabetic patients.

— Nishimura (et al , 2000), Iwamoto (et al, 2001)

Dr Martin: Most diseases are a reaction to some impetus. We know this to be true at the most basic level when we acknowledge that viruses are transmitted via microscopic virulent. The organism attacks the body, and the body responds either by warding off the disease or by succumbing to it for a time before the immune response can overcome it.

More and more research is telling us that inflammation may be at the core of many diseases, especially systemic diseases. In essence, these diseases may be a reaction or rather an over reaction to inflammation – which translates into higher glucose and cholesterol levels, further stressing the overall system.

There are several studies that show that neutrophils are often inhibited in the diabetic patient. Hence the monocytic cell line may up-regulate in response to antigens.

That over-response by macrophage and monocyte may trigger excessive amounts of pro-inflammatory mediators and cytokines. C-reactive proteins produce elevated levels of TNF-alpha in response to antigens from *P. gingivalis*. Interestingly, the resultant prolonged inflammatory response is directly related to TNF-alpha stimulation – and not to the pathogen.

Q: What more is there to understand about the etiology of orally-induced inflammation then?

Dr Martin: To answer that question, I'll refer to a study performed by the brilliant research team of

Nishimura and Murayama of the Okayama University Dental School in 2001.

After performing a longitudinal study into the effects of periodontal disease on diabetes, they found that oral inflammation acts on diabetes and insulin in much the same way obesity acts. It has been associated with increased TNF-alpha levels, which may trigger insulin resistance in diabetic subjects.

They also identified three areas where additional research would benefit the dental and medical communities.

1. An in-depth study to identify the precise periodontal treatments that reduce circulating TNF-alpha levels. Today, we know that a combination

of mechanical and chemical debridement, along with topical antimicrobial and systemic doxycycline help normalize glycemic levels while inflammation is reduced. But further study is desirable to pinpoint the TNF-alpha periodontal treatment connection.

2. Based upon current research that connections, Nishimura and Murayama (and others) have identified connections between periodontal disease and insulin resistance. Diabetic subjects often have higher levels of pro-inflammatory cytokines. When periodontal infection is also present, insulin has been found at higher levels than those

“One of the keys to long-term health for the diabetic, is lifestyle change.

Our role as diabetic care professionals is to educate them and motivate them to give up what may be long-held, unhealthy habits and choose new ones that support their health.

This is the biggest challenge for medical doctors, CDEs, dentists, etc. It is one that is best shared for the good of our patients.”

Did you know?

Antimicrobial chemical treatment targeted at periodontal bacteria in patients with chronic periodontitis and type 2 diabetes was found to improve the metabolic control of diabetes in the Pima Indian population.

— Grossi SG, Skrepcinski FB, DeCaro T, Robertson DC, Ho AW, Dunford RG, et al. Treatment of periodontal disease in diabetics reduces glycosylated hemoglobin. *JPeriodontol*1997; 68:713-719.

subjects without periodontal disease. Further research is needed into the etiology of gum disease, diabetes and insulin resistance.

3. Because diabetes and obesity are risk factors for periodontal disease, additional studies that comprehend the multi-factorial risks that contribute to long-term oral inflammation are needed. In addition, with diabetes and obesity on the rise, these studies are imperative if we are to develop complete health programs that oral as well as systemic health for the greatest benefit.

The real success in patient treatment is measured, not by the plan, but by how well patient treatment goals are met.

According to the ADA Standards of Medical Care 2007:

Only 37 percent of adults with diagnosed diabetes achieved an A1C of 7 percent

36 percent had a blood pressure 130/80 mmHg,

Just 48 percent reached the standard for cholesterol – 200 mg/dl.

Q: Currently, is there sufficient research evidence to support the position of DFD – that oral care plays a role in the overall health of the diabetic patient?

Dr. Martin: Yes, certainly there is enough data to support the position of *DentistryForDiabetics*. We cannot wait for every last research study to be written before we act because the health and wellbeing of our diabetic patients are at stake.

The fact of the situation is this. There are literally hundreds of studies that have been performed in the last 50 years that prove a connection between oral

health and systemic health for the diabetic patient. The extensive studies performed on the Pima Indians of Arizona fully document higher rates of periodontal disease, gingivitis and Candidiasis among those with diabetes. On average, diabetics are 3-4 times more likely to contract periodontitis. And the destruction to oral tissue and alveolar bone can be up to 6 times greater than for non-diabetics.

We also know that when oral inflammation is treated with rigorous dental treatment, glucose levels have been shown to decrease.

The greater risk is in not acting, not collaborating, not educating our patients about their increased risk of oral diseases. And how those oral diseases can add unnecessary stress to the system and potentially increase co-morbidity.

Q: Where can our readers go to find out more about the DentistryForDiabetics organization?

Dr. Martin: Readers can go to our web site for additional information about us. Also, if they are receiving this information by way of the Informed newsletter, they can contact the dentist who sent them the newsletter.

SUMMARY AND RESOURCES

For more information about DentistryForDiabetics or to find a DFD-trained practitioner:

Visit www.dentistryfordiabetics.com

Phone, e-mail or fax the dentist whose name appears at the bottom of this newsletter. He or she will either be your local DFD dentist or can refer you to the correct dentist for your geographic location.

From:

To: