

CUSTOMIZED TREATMENT PLANNING

The evolution of non-surgical periodontal treatment over the last several years compels us to assess how are treating infection today compared to an the paradigm of “deep cleaning” and meticulous root planing.

A quick review of significant changes both in the understanding and the application of how periodontal disease is treated is helpful in understanding how effective treatment planning must be customized in order to achieve optimal results.

A 1970 model of treating periodontal disease promoted the belief that:

All plaque on the tooth is harmful

Adequate removal and maintenance of plaque accumulation is the key to treating disease
Meticulous root planing and removal of diseased cementum is required to adequately remove all deposits

Untreated periodontal disease progresses slowly from gingivitis and continues steadily throughout a lifetime resulting in ultimate tooth loss

All individuals and all teeth are susceptible to periodontal disease due to plaque exposure

The host itself is protective against the bacterial plaque

A 2000 model of treating periodontal disease requires a paradigm shift both in treatment of the disease, and in educating patients toward a better understanding. The evolution of the 2000 model supports that:

Specific bacteria and toxic by-products are the source of periodontal disease

Periodontal disease is a bacterial infection and it can be chronic or aggressive; localized or generalized

The host immune response to an overload of toxins is responsible for tissue destruction

Not all individuals have the same level of susceptibility to periodontal disease

Many environmental, systemic, and genetic factors affect an individual's susceptibility

Susceptibility factors can increase, decrease or be modified throughout a lifetime

Periodontitis can be episodic, site-specific and is very difficult to predict prior to destruction

There is a connection between the oral health and systemic health, and future research will be able to unveil a better understanding of that connection

How exactly should a current understanding of the disease process affect treatment protocols and patient education?

Re-education

First of all, we should re-educate patients about the dynamic effect between their immune systems and their susceptibility to periodontal disease. At times in their lives when stress levels are elevated, nutritional intake may not be optimal, and their bodies may not be

getting adequate rest or exercise, they should not be surprised if we discover a different tissue response than their previous visit. As tissue response reveals bleeding upon provocation, we can know the patient's immune system has undergone "toxic overload" even though plaque levels may be low and oral hygiene may be adequate. During those times when the susceptibility factors have changed, the patient is at greatest risk of tissue breakdown and permanent bone damage. Early diagnosis of the infection, and meticulous debridement therapy to detoxify the subgingival environment is indicated, whether or not the patient has subgingival calculus present.

In the past, when local factors of plaque and calculus were thought to be the causative factors, a patient like this would likely go un-diagnosed, and they might fruitlessly try more flossing, better flossing, changing toothpastes, mouth rinses, etc. all in an effort to control the bleeding themselves. While all of the above can be beneficial, none will significantly alter the subgingival environment long term if the sources of the infection are bacterial toxins that are inaccessible to the patient.

We must now recognize when patients are in need of gingivitis or periodontal debridement therapy even in the absence of obvious plaque or calculus accumulations in order to achieve optimal health. All patients should be screened at the beginning of each visit to determine health versus disease, and treatment both for today, as well as subsequent appointments should be based upon the patient's *diagnosis*, not simply doing what we've always done.

Contributing Factors

Secondly, since there are many contributing factors that might affect the rate of healing response and the outcome for patients undergoing therapy, treatment plans should not be based upon looking at the amount of calculus, plaque, and number of pockets to determine whether it will either take 2 or 4 appointments to *complete* therapy.

Treatment plans need to be customized to individual differences between patients contingent upon things like the amount of hemorrhage present, current stress levels, types of medications the patient is taking, nutritional intake, tobacco and or alcohol use, genetic susceptibility, current disease control habits, amount of bone loss and local factors. A treatment plan for one patient with localized chronic periodontitis might take one or two therapeutic treatments to create an environment compatible with health. Another patient with the same classification of disease may require numerous therapeutic treatments and possible adjunctive therapy in order to achieve a stable and healthy tissue response due to significant differences in contributing factors and immune response.

Treatment Planning Opportunity

The quadrant approach to treatment planning was suitable when adequate removal of local factors was believed to be the key to treating periodontal disease. Adequate treatment of a bacterial infection, on the other hand, requires consideration of various contributing factors, as well as the dynamic effect between the patient's immune system

and toxic levels of pathogenic bacteria. Treatment of periodontal disease today should involve customized treatment planning per individual, understanding the *best* clinical results are always achieved with early detection. The real opportunity to significantly alter a patient's health long term really rests with (1) Our complete understanding of the paradigm shifts in treating periodontal disease, (2) Time invested per patient, for communication and re-education about the causes and treatment options for treating periodontal disease, (3) Our ability to assess a patient appropriately to determine what factors will affect the treatment outcomes, and (4) Our willingness to treatment plan based upon individual needs, not on things like insurance assistance, or antiquated thinking.