

Best Dentist News

Information for Savvy Dental Patients

What Can We Learn About Dental Care from Plaque?

What many dentists know is that plaque is a biofilm, a combination of bacteria (500+ types), fungi, and protozoa, that mixes with nutrients from foods and drinks in the mouth to create a self-sustaining ecosystem. When plaque builds up near the gum line, it creates wounds that are the start of periodontal (gum) disease. What many dentists don't know is that there are lessons to be learned about dentistry from the vitality of biofilm colonies: treatment should be specialized, treatment should be multidisciplinary, and treatment should be ongoing.



Biofilm Communities Teach us About Individualized Care

Most of the historical treatment of gum disease and other bacterial infections has been based on viewing individual bacteria cultures, and treating with antibiotics. What this research and treatment fails to take into account is that free floating single bacteria lead to acute illnesses, but do not typically cause wounds and chronic infections. Bacteria that combine to form protective biofilms are the cause of tooth decay, gum disease, and other chronic illnesses. Plaque buildup in the mouth is one specific form of biofilm that creates wounds that lead to periodontal disease. When gum disease is treated with generic antibiotics not only is this treatment less effective, it can also be detrimental to health as bacteria build stronger resistance to antibiotics. The solution? Personalized treatment. As every biofilm is made up of a unique combination of bacteria and other materials, cases of periodontal infection should receive unique care to remove and prevent future plaque buildup. There should never be a one-size-fits-all approach to dental care, and that goes for plaque wounds and infections.

Periodontal Disease Provides Lessons on Multidisciplinarity

Plaque builds strong defensive systems because more than 500 types of bacteria work together to fortify and protect the colony. Each type of bacteria has its own defensive system, and the more types of bacteria work together, the harder they are to remove. Dentists could learn a lesson from this defensive system. It's time to break down the silos of medical care, and start working with dental specialist and other medical practitioners to better understand not just how to treat gum disease, but how to protect against it in the first place. Every field of dental and medical care has its own defenses against and treatments for infection, and there is much to be learned by sharing knowledge.

Treatment Changes & Community Building

Dr. Randy Wolcott, a wound care researcher, discovered that many patients treated for infection would relapse. Antibiotics or other therapies removed the initial disease, but did little to treat damaged tissue or prevent future infection. The future of periodontal therapy should take into consideration not only the removal of plaque and bacteria, but actually healing the wounds and preventing recontamination. Most patients who suffer from gum disease relapse numerous times necessitating additional treatment. With the dental community's shift in focus to preventive care, it makes sense to include treatments to prevent gum disease. Some of the many treatments that protect against future infection include: the application of liquid medications with dental trays worn at home, ozone therapy (shown to improve tissue healing and prevent future infection), and more traditional root planing.

Going Forward

The lessons learned from this surprising source are beneficial for any practice and any dental health concern. It's time to start taking into consideration unique needs, shared knowledge, and ongoing prevention every time we care for patients.

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