Practicing wellness in the clinic and at home: Strategic synergies in the age of the oral microbiome

Dentistry and medicine are undergoing a sea change in understanding what constitutes effective preventative care. That change is driven by the emerging knowledge of the oral microbiome and its implications for the prevention and treatment of disease. Biofilms are not naturally removed from the body and they harbor complex mixtures of microorganisms. Some of these organisms go dormant, appearing dead when treated by antimicrobials. Others can communicate and organize defenses to antimicrobials when the environment permits. Both situations contribute to the rapid regrowth of oral biofilms, dental plaque and oral pathogens within hours and days of traditional sanitation and debridement and mechanical plaque removal. Thus, the story begins from the point of view of a bacterium and what we know about how that bacterium interacts within plaque biofilm. However, the story must now shift to inflammation, the body's response to the insult of bacterial infection and effective strategies leading to enhanced standards of practice in clinics and improved home oral care. We explore the villains of the story, the oral pathogens that reside within the biofilm, the human saliva as defender of the oral cavity and the bacteria that impede disease and infection and the fog the educational challenges and shifts in thinking that are brought about as we learn more about the microbiome. We close with a consideration of changes in standards of professional dental hygiene and home oral hygiene care.

Biography

James L Ratcliff is the Chairman of the Board and CEO of Rowpar Pharmaceuticals, Inc., Scottsdale, AZ, maker of the CloSYS brands of oral care products (available from Eskine Dental and Henry Schein Hallas in Australia). He later served as Senior Research Scientist, Professor and Director, Center for the Study of Higher Education at the Pennsylvania State University. He was a Professor and Program Head for higher education at Iowa State University. He has authored 120 articles, books, book chapters, co-inventor on over 24 patents and patents pending. He is active Member of the Arizona Biotechnology Association, American Academy of Oral and Systemic Health, American Education Research Association and the International Association for Dental Research. He has received his PhD in Higher Education from Washington State University, MA in History from Washington State University and a BA from Utah State University.

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