Academy of Prosthodontics Annual Scientific Session
Naples, Florida | May 3 – 6, 2023

Program Speaker – Jason Griggs

Title

Glass Ceramic CAD CAM Materials-State of the Art

Abstract

A wide variety of strength values have been reported for glass-ceramic materials that are used in fixed dental prostheses. The microstructures of these materials differ greatly – even among products that are described using the same crystalline phase. This presentation will cover the differences between materials that have confusingly similar names and will help attendees to differentiate between the microstructures that are associated with less damage tolerance and the microstructures that are associated with greater damage tolerance. Fracture toughness is an important material property that has a strong correlation with clinical success or failure. We will discuss the relationship of fracture toughness to variability in the strengths of individual prostheses and to historical clinical failure rates.

Learning Objectives

1. Differentiate between microstructures that are associated with less damage tolerance versus more damage tolerance.
2. Understand the relationship between strength and fracture toughness.
3. Compare alternative ceramic materials for use in fixed prostheses.

Biography

Dr. Griggs conducted his undergraduate and graduate studies at the University of Florida in materials science & engineering under Dr. Ken Anusavice and Dr. Jack Mecholsky. He joined the faculty at Baylor College of Dentistry (Texas A&M) in 1998 as an Assistant Professor. During his appointment at Baylor, he progressed to the rank of Professor and served as Graduate Program Director and Vice-Chair of the Department of Biomaterials Science. He arrived at UMMC in 2007 to serve as Chair of the Department of Biomedical Materials Science. Dr. Griggs began serving as Associate Dean for Research in the School of Dentistry in 2008. He is a Fellow and former President of the Academy of Dental Materials. He currently serves as Convener of the ISO

workgroup on dental ceramics. He has authored over 80 peer-reviewed articles, six book chapters, and two patents.