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New generation materials to address aesthetic and functional demands, high performance polymer PEKK

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The type of prosthetic restoration greatly contributes to the recovery of masticatory function as well as quality of life in patients, but nowadays, the esthetic appearance is the most determining factor in its acceptance. To ensure the maximum esthetic results, the optical properties of the restorative material should be similar to that of the natural teeth. The structure and composition of the teeth is perfectly adapted to the functional demands of the mouth and is superior to those of any artificial materials. Due to the complex optical characteristics of teeth, achieving successful esthetics with a restoration is rather a difficult process for the dental clinician, yet there are still many different materials that can be used to achieve a highly esthetic outcome. All ceramic systems with different compositions and microstructure have long been used as the gold standard for maximum esthetics. Computer-aided design and computer-aided manufacturing (CAD/CAM) technologies are well-known to allow the processing of various dental materials, including ceramic, zirconia, composite, and acrylic resins to provide a standardized and reproducible method to create dental restorations. The recent development of polymer-based CAD/CAM, realised a new-generation of a high performance polymer as PEKKtone in market in 2016, with potentially wide-ranging applications. This product is increasingly acknowledged as a better alternative to stiff, rigid dentures, crown or bridges in metal or ceramics solutions, implant supported and removable dental prostheses. This article focuses on this new material along with its characteristics, usage and possible shortcomings.

Biography

Sareh Habibzadeh is an Assistant Professor in the Department of Prosthodontics of Tehran University of Medical Sciences, International Campus, Dental School. She pursued Doctorate Degree in Dentistry from Shiraz University Dental School and Master's degree in Prosthodontics from Shaheed Beheshti University of Medical Sciences, Dental School.

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