

CAD/CAM technology and ceramic materials: realities and perspectives

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Success and longevity of all ceramic restorations depends on the ability of the dentist to decide which material is much more appropriate for each individual clinical situation.

Rapid evolving of dental materials and technologies impose continuous changing of options and perspectives. The main advantages of ceramic materials utilized for fabrication of different prosthetic restorations are biocompatibility and aesthetics. When the clinical situation impose an increased resistance, the mechanical properties of the ceramic material should be the first priority, sometimes in detrimental of the aesthetics.

CAD/CAM technology utilize different classes of bioceramic materials, such as feldspathic glass ceramic, glass infiltrated ceramic, polycrystalline ceramics. The main advantage, for the dentist (when chair-side systems are considered), the same for the dental laboratories (when lab-side are considered) is the reduced fabrication time.

This lecture focuses on a systematic classification of materials utilized with CAD/CAM technologies. Analyzing the characteristics and the inconveniences of each material, guidelines can be drawn in order to help the clinician to choose the proper CAD/CAM ceramic material, and also to understand the clinical workflow, from tooth preparation to cementation of CAD/CAM all ceramic restorations.