

White Amalgams: Is It Myth or Truth?

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Dental caries has been considered as a historically important component of the global oral disease burden. Thus, the quest for an ideal restorative material with optimum physical properties and durability exists. Though amalgam has many known drawbacks, but it has been used for more than a century as a successful restorative material. Many tooth-colored materials, such as composite resins and glass ionomer cements (GICs), have evolved to replace amalgam in the recent past and solved many of amalgam drawbacks but none of them was without drawbacks. Dental composite is a technique sensitive and needs efficient isolation during its application which is difficult to obtain in pediatric dentistry. Glass ionomer cements are esthetically more pleasing than metallic restorations, on the

contrary, their use in dentistry as a restorative material in stress-bearing areas is limited due to poor mechanical properties.

New GIC formulations are recently introduced to dentistry and they are called as Zirconomer and zirconomer improved (white amalgams). They are composed of ceramic and zirconia reinforced glass ionomer cements. The inclusion of zirconia fillers reinforces the structural integrity of that material, imparts its outstanding posterior esthetics, completely eliminates mercury hazards, and also it is fluoride rich, especially in cases with high caries risk. It is an ideal requirement for restorative material it has a good color stability, a co-efficient of thermal expansion, biocompatibility similar to that of natural tooth, remarkable edge strength, excellent marginal seal, and the ability to adhere chemically to enamel and dentin. They exhibit the strength of amalgam and at the same time maintain the unique properties of GICs. They are recommended for restorations of deciduous or permanent teeth.

The aim of the current work is to present the new zirconomer family regarding their composition, properties,

mechanism of zirconia toughening, and clinical cases restored with them.