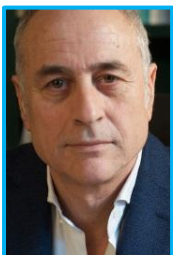


Adhesive Inlays: Why, when, how

Composite resins and adhesive agents were introduced at the end of the 1950s. The adhesive agents, initially used for adhesion to the enamel, have been constantly improved and are now also used as dentinal adhesives. Constantly improved in their chemical-physical and aesthetic characteristics, composite resins are now widely used as restorative material and for the adhesive cementation of partial and full indirect prosthetic restorations. Black's I, II, III, IV and V class cavities can be restored in a single session through the direct application of the composite material. However, in the case of large cavities, cusp coverage and reduced dental substance, the direct technique is not sufficient to obtain an adequate and always predictable anatomical form. Composite resin can also be used as a material for semi-direct restorations (Chair-Side) and for indirect restorations, especially in the case of inlays, onlays and overlays.

CAD-CAM technology has been in use in the industry for several years, but its application in dentistry began in the 80s. The first attempts were made in the early 70's by Bruce Altschuler in the United States and François Duret in France. In 1985 Mormann and Brandestini introduced the first prototype, Cerec 1, which made it possible to take a digital impression and to produce a partial restoration starting from a feldspathic ceramic block. Since then there has been a constant evolution and nowadays technology is widespread in dental laboratories and, especially in some countries (USA, Germany, Switzerland), even in dental practices. The introduction of new restorative materials, allows us today to manufacture provisionals, inlays and onlays, veneers, crowns, bridges on natural teeth and implants in a single session.

The use of the CAD-CAM system provides numerous advantages to the patient and the dentist: It allows the fabrication of restorations in a single session with no need to resort to a temporary restoration. The impression taking is well tolerated by the patient and requires less time than the traditional impression. Furthermore, today there is a wide choice of definitive restorative materials: composite resins, vitreous ceramic infiltrated with resin, vitreous and polycrystalline ceramics.



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