

30th International Conference & Exhibition on

DENTAL MEDICINE & DENTAL IMPLANTS &

5th Annual Summit on

AMERICAN DENTAL SCIENCE AND EDUCATION

July 20-21, 2018 | Atlanta, USA

Aerosol ceramic bonded titanium substructures and abutments

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Ceramic coated dental abutments offer dental professionals an alternative to zircon abutments in anterior regions of the mouth for esthetics and strength. For many decades dental professionals and dental patients had no alternative for titanium abutments. Esthetics became a problem in many cases as the tissue is translucent, a grey shadow of the alloy would be visible under the tissue above or below the porcelain fused to metal or all ceramic restorations. Dental ceramic manufacturers attempted to resolve the problem with a hand applied bonding agent applied with a brush to the abutment and fired. The next step was to brush on a tooth colored opaque over the bonding layer to hide the grey alloy. This method was both time consuming and if there was any area that was applied too thick in the bonder the ceramic would delaminate from the abutment or substructure. The alternative became the use of zircon abutments as they are white in color. Even with the strength as with any ceramic when it is thin and unsupported it will break. The problem with zircon used in the anterior regions of the mouth is many times they are small and break during seating or afterward when stressed by the patient in bruxing or biting into food which applied stresses to the anterior restorations causing the zircon abutment to break off the implant in the mouth. To resolve this problem the best alternative was to apply ceramic bonder and opaque with aerosol application. Aerosol application provided the thin even layer of bonder to the abutment or substructure for optimal strength of bonding colored ceramic to the abutment. This application resulted in the strongest ceramic bond to titanium in the dental profession and the strength of titanium without the grey shadow under the translucent tissue.

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