Effect of Abutment Taper on the Vertical Marginal Discrepancy of Zirconia Copings Using Two Manufacturing Techniques

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تأثير درجة ميل الدعامة السنية على الانطباق الحافي العمودي للأغطية الزيركونية المصنعة باستخدام طريقتين

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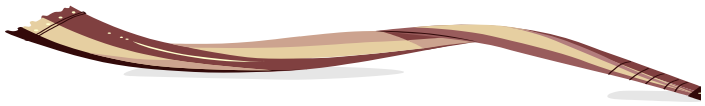

Dedication

This work is dedicated to

Souls of the martyrs of the glorious revolution of the 17th of February.

My father,
My dear mother,
the light that leads the way

My Family, for their great care, support and guidance all the way in my life.

My True Friend, *

Milad Mustafa Milad ElShuh*

for his encouragement and great cooperation.

المشرفـتـان

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INTRODUCTION

Recent progress in the technology and research of new dental materials has resulted in an increased number of materials available for esthetic restorations. Evaluations of the physical properties of the materials, biocompatibility and clinical success are necessary before these materials can be recommended for standard treatment. The Incorporation of a metal substructure has been among methods previously used to improve fracture resistance of ceramic crowns. The disadvantage of such restorations is increased light reflectivity, which is due to the opaque porcelain that is used to mask the metal substrate. [86]

Physical properties, biocompatibility, and marginal accuracy are determining factors for the long-term clinical success of any dental restoration. Many ceramic systems are now available for manufacturing of all ceramic restorations with high strength, durability and esthetics. One of the most durable and high strength all ceramic restorations is zirconia based restorations. Introduction of zirconium dioxide based ceramics (ZrO_2) into dentistry, primarily because of advances in computer-aided design/computer-aided manufacturing technologies (CAD/ CAM), made it possible to extend the application of all-ceramic materials to the fabrication of posterior fixed partial dentures. Among different types of ZrO_2 ceramics, the most frequently used material is yttria-stabilized tetragonal zirconia polycrystal. [1]

Marginal adaptation is considered to be a primary and significant factor in the prevention of secondary caries and is an important indicator of the overall acceptability of the restoration. So geometry of the tooth preparation, including type of finish line and degree of taper and cement