صفاء أبو السعود محمد

شبكة المعلومات الجامعية

بسم الله الرحمن الرحيم

صفاء أبو السعود محمد

شبكة المعلومات الجامعية

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التوثيق الالكتروني والميكروفيلم

صفاء أبو السعود محمد

شبكة المعلومات الجامعية

جامعة عين شمس

التوثيق الإلكتروني والميكروفيلم

قسم

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بعض الوثائق الأصلية تالفة

صفاء أبو السعود محمد

بالرسالة صفحات لم ترد بالأصل

EFFECT OF AXIAL LOADING AND TEMPERATURE CYCLING ON MICROLEAKAGE OF PORCELAIN AND COMPOSITE INLAY RESTORATIONS

Thesis

Submitted in partial fulfillment of the requirement for Ph.D. degree in restorative dentistry

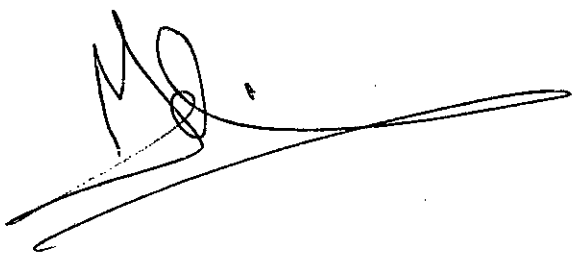
Submitted by

HANY ABOUL FOTOUH ABDEL MOHSEN
B.D.S, M.Sc.

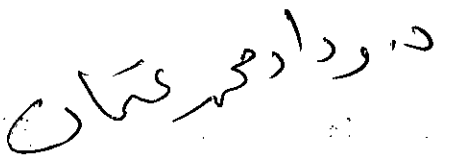
Faculty of dentistry
Tanta university
1997

SUPERVISORS

EL-BAGHADAY Y.M., B.D.S., M.Sc., Ph.D.
Professor and dean
Faculty of dentistry
Tanta university



ETMANN, W. M., B.D.S., M.Sc., Ph.D.
Assistant professor
Restorative dentistry
Tanta university



SEGHI, R.R., B.D.S., M.Sc.
Restorative dentistry
Faculty of dentistry
The Ohio state university
Columbus, Ohio
U.S.A.

ACKNOWLEDGMENTS

I'm grateful and thankful to God for his mercy and guidance throughout my life.

This investigation was initially conducted at the department of Restorative Dentistry, Faculty of Dentistry, Tanta University under the supervision of prof. Dr. Y.M. El Baghdady and Dr. W.M. Etmanı. I would like to express my sincere gratitude and appreciation for their great support and encouragement.

The investigation was subsequently completed at the department of Restorative dentistry, Faculty of Dentistry, The Ohio state University, U.S.A. under the supervision of prof. Dr R.R. Seghi. I appreciate very much his help and support throughout this work as well as his taking care of my stay in U.S.A.

My great sincere to my colleagues in the department of Restorative Dentistry at Tanta and the Ohio state for their valuable discussion and sharing me the moments of delight and despair. I wish also to thank every body help me by any way during this study.

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INTRODUCTION

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Amalgam alloy remain the most widely used material for restoration of posterior teeth. However, this pattern of practice is changing as a result of a number of factors. Alternative materials and techniques developed in recent years, changing patterns of disease and new approaches towards cavity design *(QUALTROUGH et al., 1990)* have forced clinicians to rethink strategies for improving oral health.

Growing concern about biocompatibility has raised some questions regarding the safety of mercury in amalgam to both the surgery staff and to the patients *(ELEY & COX 1988).* And finally, their is an increasing demand for tooth colored restorations not only in the anterior teeth but also for large posterior restorations. Individuals are willing to pay a larger fee for an esthetic restoration than for an amalgam *(DOGLIA et al., 1986).*

Directly placed dental composite resins are currently routinely used in anterior teeth where esthetic is of optimum importance, Because of their current clinical success in anterior restorations, the use of these materials and techniques in posterior teeth as as an esthetic alternative to amalgam and gold alloys have also increased *(DIETSCHI et al., 1989).*

Despite the promising results which have been achieved with direct placement posterior composite resins *(WILSON & SMITH1988)* Problems related to wear resistance, polymerization shrinkage leading to micro leakage and subsequent secondry caries have been highlighted as disadvantages and have been shown to be particularly associated with larger posterior resorations *(JENSE & CHAN 1985).* To minimize the sum of the adverse effect associated with the direct method, an indirect technique which is less sensitive to insertion and handling based on inlay processing with extra oral or additional intraoral curing of resin based composite material was developed *(LUTZ et al .,1984).*

In this indirect technique the inlay is fabricated on a die and then cemented into the cavity. Indirect composite restorations are preferred over direct composite for their enhanced mechanical properties, reduced side effects of polymerization contraction and better control of clinical procedures *(SCOTT et al.,1992).*

In addition to indirect composite inlays, porcelain inlays also offer esthetic alternation to amalgam. Porcelain inlays were first used about 100 years ago. One of the earliest technique described was that of cementing ground section of factory made porcelain teeth into prepared cavities in the natural tooth *(HUNTER1978).*