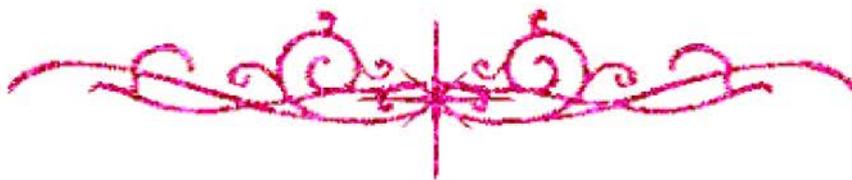


hossam maghraby



شبكة المعلومات الجامعية

بِسْمِ اللَّهِ الرَّحْمَنِ الرَّحِيمِ



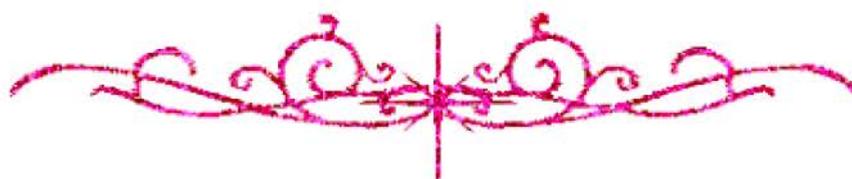
hossam maghraby



شبكة المعلومات الجامعية



شبكة المعلومات الجامعية التوثيق الالكتروني والميكروفيلم



hossam maghraby



شبكة المعلومات الجامعية

جامعة عين شمس

التوثيق الإلكتروني والميكروفيلم

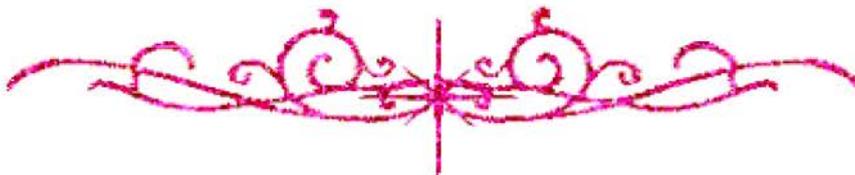
قسم

نقسم بالله العظيم أن المادة التي تم توثيقها وتسجيلها
علي هذه الأقراص المدمجة قد أعدت دون أية تغييرات



يجب أن

تحفظ هذه الأقراص المدمجة بعيدا عن الغبار



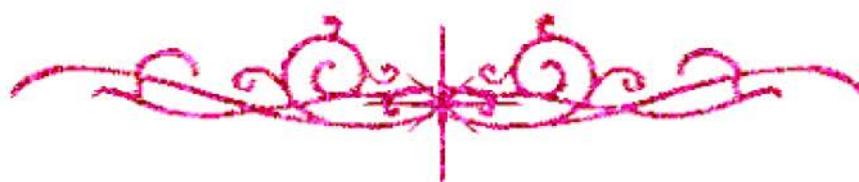
hossam maghraby



شبكة المعلومات الجامعية



بعض الوثائق الأصلية تالفة



hossam maghraby

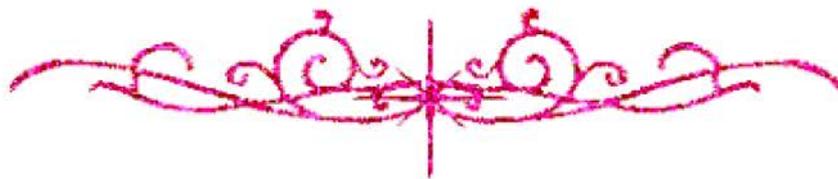


شبكة المعلومات الجامعية



بالرسالة صفحات

لم ترد بالأصل



**EFFECT OF OCCLUSAL PLANE ADJUSTMENT
ON THE BIOLOGICAL CONDITIONS
OF THE SUPPORTING STRUCTURES
IN SINGLE DENTURE WEARERS**

B1947

Research Project Submitted to The Prosthodontic
Department in Partial Fulfillment of the Requirements
of The Master Degree in Prosthodontics

BY

انيل م

Eman Moustafa Ahmed Ibrahim

B.D.S.

انيل م

انيل م
ظلمة ابو الفتوح

د. سير عمر



Faculty of Oral & Dental Medicine
Cairo University
2003

د. احمد ابراهيم

بِسْمِ اللَّهِ الرَّحْمَنِ الرَّحِيمِ

قَالُوا

سُبْحَانَكَ لَا عِلْمَ لَنَا إِلَّا

بِمَا عَلَّمْتَنَا إِنَّكَ أَنْتَ

الْعَلِيمُ الْحَكِيمُ

صدق الله العظيم

سورة البقرة ٣١

SUPERVISORS

Prof. Dr. Amal Kaddah

Professor, Prosthodontic Department,
Faculty of Oral and Dental Medicine,
Cairo University.

Dr. Yusr Mady

Associate Professor, Prosthodontic Department,
Faculty of Oral and Dental Medicine,
Cairo University.

Dr. Mohamed El Sorougy

Associate Professor, Radiology Department,
Faculty of Oral and Dental Medicine,
Cairo University.

Special thanks to:

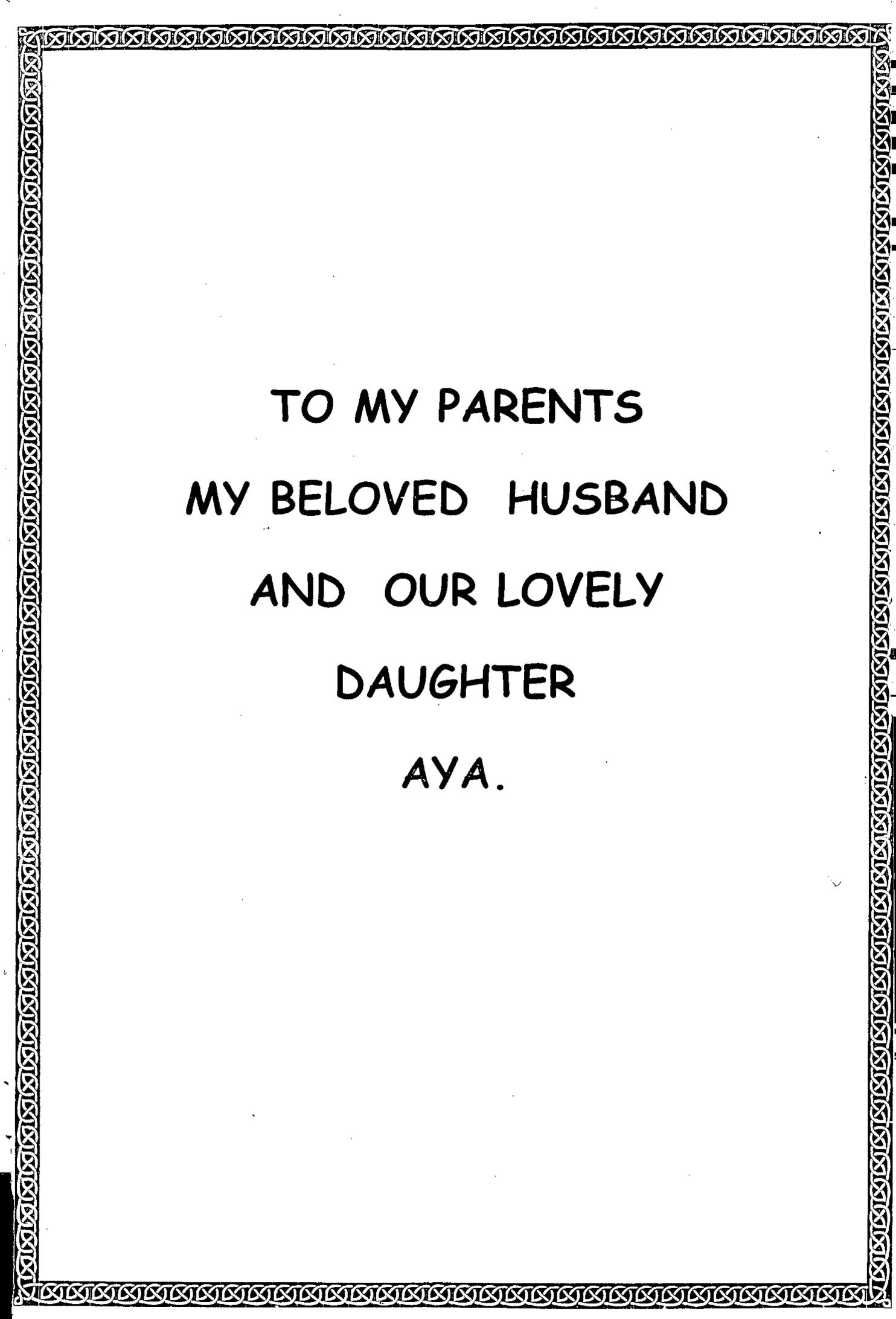
Dr. Mohamed El-sherbini

Associate Professor, Radiology Department.

For his great support,

Valuable comments and time he spent

for the progress of this work.

A decorative border with a repeating geometric pattern of interlocking circles and lines, framing the entire page.

TO MY PARENTS
MY BELOVED HUSBAND
AND OUR LOVELY
DAUGHTER
AYA.

ACKNOWLEDGEMENT

First of all I would like to thank God who paved the way and only by his will everything can be achieved.

I would like to express my deep gratitude to *Prof. Dr. Amal Kaddah*, Professor, Prosthodontic Department, Faculty of Oral and Dental Medicine, Cairo University, whose guidance, encouragement and support were invaluable to me.

I would like to extend my sincere gratitude and thanks to *Dr. Yusr Mady*, Associate Professor, Prothodontic Department, Faculty of Oral and Dental Medicine, Cairo University. Her directives, suggestions and valuable criticism were extremely helpful to the progress of this work.

I would like to express my deepest thanks to *Dr. Mohamed El-Sorougy*, Associate Professor, Radiology Department, Faculty of Oral and Dental Medicine, Cairo University, for his support, valuable comments and time he spent in revising this work.

I would like also to express my thanks to Mr. Mohamed Abd El-Gaeed, Dental Technician, for his help in the laboratory work.

Last but not least, I would like to express my sincere thanks to my parents. I derived great strength from their continuous encouragement and prayer.

In few words, I express my deepest gratitude and appreciation to my patient husband Dr. Ayman Mohamed Monier and my lovely daughter Aya for their love and generous support during the difficult times of this research.

CONTENTS

	Page
Introduction	1
Review of Literature	2
I. Single denture.	2
II. Occlusion and single denture.	5
1. Modification techniques for natural teeth.	5
2. Methods to achieve a harmonious balanced occlusion.---	7
a. Statically equilibrated occlusion.	7
i. Articulator equilibration technique.....	7
ii. Articulator generated path	7
b. Dynamically equilibrated occlusion.	9
3. Occlusal plane.	12
4. Occlusal materials for single denture.	14
a. Acrylic resin teeth.	14
b. Acrylic resin teeth with amalgam stops.	14
c. Cross linked acrylic resin teeth.	15
d. Teeth with gold occlusal surfaces.	15
e. Porcelain teeth.	16
f. Composite occlusal surfaces for acrylic resin teeth.---	16
III. Methods of evaluation.	17
1. Alveolar bone height and density.	17
2. Muscle activity.....	20
3. Radiographic evaluation.....	22
a. Conventional radiography.....	22
i. Intra oral radiography.....	22
(1) Periapical radiography.....	22
(2) Occlusal radiography.....	23

	Page
ii. Extra oral radiogrphahy.	24
(1) Panoramic radiography.	24
(2) Lateral cephalometric radiography.	24
(3) Cross sectional tomography.	24
b. Digital Radiogrphahy.	25
i. Indirect digital radiography.	25
ii. Direct digital radiography.	25
iii. Indirect direct digital radiography.	26
4. Pocket depth measurement	28
Aim of the Study	29
Materials and Methods	30
Results	51
Discussion	76
Summary and Conclusion	86
References	88
Arabic Summary.	-

LIST OF FIGURES

	Page
Fig. (1) Maxillary edentulous ridge and mandibular dentulous ridge.....	32
Fig. (2) Secondary impression for the maxillary ridge.....	32
Fig. (3) Secondary impression for the mandibular arch.....	34
Fig. (4) Centric occluding Jaw relation ship.....	34
Fig. (5) Setting-up of the maxillary teeth.....	35
Fig. (6) Delivery of the finished denture.....	35
Fig. (7) Metal U-shaped template with the articulating paper.....	37
Fig. (8) The secondary cast with the template before the occulsal plane adjustment.....	37
Fig. (9) The secondary cast with the template after the occulsal plane adjustment.....	39
Fig. (10) Complete amalgam generated path.	39
Fig. (11) Measurement of pocket depth using the graduated periodontal probe.....	42
Fig. (12) Photographic demonstration for the radiographic acrylic template.	42
Fig. (13) Radiograph showing the wire placed at the incisor area in the radiographic template.	43
Fig. (14) Radiograph showing the wire placed at the premolar and molar area in the radiographic template.....	43
Fig. (15) Photographic demonstration for the acrylic bite blocks on the radiographic template.....	45
Fig. (16) Patient positioning during imaging.	45
	46

	Page
Fig. (17) Diagrammatic representation for bone density measurement in the maxillary anterior area.	47
Fig. (18) Diagrammatic representation for bone density measurement in the maxillary premolar and molar areas.	47
Fig. (19) Diagrammatic representation for bone density measurement in the mandibular premolar and molar teeth.	49
Fig. (20) Diagrammatic representation for bone height measurement in the maxillary anterior area.	49
Fig. (21) Diagrammatic representation for bone height measurement in the maxillary premolar and molar areas.	50
Fig. (22) Bone density of the upper jaw for group I at anterior, premolar and molar areas	52
Fig. (23) Bone density of the upper jaw for group II at anterior, premolar and molar areas.	54
Fig. (24) Comparison of the percent change of bone density for the upper jaw between group I and group II at the anterior area.	56
Fig. (25) Comparison of the percent change of bone density for the upper jaw between group I and group II at the premolar area.	57
Fig. (26) Comparison of the percent change of bone density for the upper jaw between group I and group II at the molar area.	57