



شبكة المعلومات الجامعية

بِسْمِ اللَّهِ الرَّحْمَنِ الرَّحِيمِ





شبكة المعلومات الجامعية



# شبكة المعلومات الجامعية

## التوثيق الالكتروني والميكرو فيلم

# جامعة عين شمس

التوثيق الالكتروني والميكروفيلم

## قسم

نقسم بالله العظيم أن المادة التي تم توثيقها وتسجيلها  
علي هذه الأفلام قد اعدت دون أية تغيرات



## يجب أن

تحفظ هذه الأفلام بعيداً عن الغبار

في درجة حرارة من 15 – 20 مئوية ورطوبة نسبية من 20-40 %

To be kept away from dust in dry cool place of  
15 – 25c and relative humidity 20-40 %



شبكة المعلومات الجامعية



# بعض الوثائق الأصلية تالفة



شبكة المعلومات الجامعية



بالرسالة صفحات  
لم ترد بالأصل

المعتمد  
د. محمد عبد الحليم  
C S

# **Comparison between Electronic Dental Anesthesia and conventional local anesthesia in controlling pain during cavity preparation in children**

Thesis

submitted to the faculty of Dentistry, Alexandria University  
in Partial Fulfillment for the Requirements  
for the Master Degree of

**PEDIATRIC DENTISTRY**

BY

***Mostafa Anwar Mohamed Matar***  
( B.D.S.1991 )

Faculty Of Dentistry  
Alexandria University  
1998

B 95.0

## SUPERVISORS

### **Prof. Dr. *Medhat Abd-Alla***

Professor of Pediatric Dentistry

Head of Pedodontic and Dental Public Health Dept.

Faculty of Dentistry

Alexandria University

### **Dr. *Magda El-Tekeya***

Associate Professor of Pediatric Dentistry

Pedodontic and Dental Public Health Dept.

Faculty of Dentistry

Alexandria University

*To My Belated Beloved Father,  
My Mother  
And My Lovely Wife*



## Acknowledgment

I would like to express my deepest gratitude to all those who have contributed to the completion of this work .

My very special thanks are due to Prof. Dr. Medhat Abd-Alla, Professor of Pediatric Dentistry and Public Health Dept. ,Alexandria University, for the amount of whole hearted effort and support he has given me. His true knowledge about Electronic Anesthesia helped me to come out with the results of this study. Appreciating his efforts is less than he deserves.

I am greatly indebted to Dr. Magda El-Tekya, Associate Professor of Pediatric Dentistry and Public Health Dept., Alexandria University, in supervising this work. She has been most generous with her time, extensive knowledge and above all moral support. Her constructive criticism and suggestion have been most helpful to me in making this work possible .

I would like to express my thanks to Prof. Dr. Khalil El-Kashlan, Professor in the Department of Public Health , Faculty of Medicine, Alexandria University, for his help in the statistical part of this research . Also, I would like to express my appreciation and thanks to all the staff members of the Pediatric Dentistry and Public Health Department, for their encouragement and cooperation.

Last but not least, my deepest gratitude is due to my mother and my wife, without whom, this work would have never been completed .

# Table of Contents

<u>Chapter</u>	<u>page</u>
List of Tables	
List of Figures	
I Introduction	1
II Aim of the work	19
III Materials and Methods	20
IV Results	35
V Discussion	63
VI Summary & Conclusions	69
VII References	73
Protocol of thesis	
Arabic Summary	

## List of Tables

<i>Table No</i>	<i>Title</i>	<i>page</i>
1	Grouping of teeth treated with Electronic Anesthesia and Local Anesthesia....	21
2	Definition of the pain perception scores by Eland.....	26
3	The SEM scale used to measure comfort or pain.....	27
4	Scores for pain assessment of E.A. and L.A. for the upper second primary molars using the SEM scale.....	36
5	Comparison between E.A. and L.A. in pain control using the SEM scale for upper second primary molars...	37
6	Scores for pain assessment of E.A. and L.A. for the upper first permanent molars using the SEM scale.....	39
7	Comparison between E.A. and L.A. in pain control using the SEM scale for upper first permanent molars...	40
8	Scores for pain assessment of E.A. and L.A. for the lower second primary molars using the SEM scale.....	42

## List of Tables (cont.)

<i>Table No</i>	<i>Title</i>	<i>page</i>
9	Comparison between E.A. and L.A. in pain control using the SEM scale for lower second primary molars...	43
10	Scores for pain assessment of E.A. and L.A. for the lower first permanent molars using the SEM scale.....	45
11	Comparison between E.A. and L.A. in pain control using the SEM scale for lower first permanent molars...	46
12	Scores for pain assessment of E.A. and L.A. for the upper second primary molars using the Eland scale.....	48
13	Comparison between E.A. and L.A. in pain control using the Eland scale for upper primary molars...	49
14	Scores for pain assessment of E.A. and L.A. for the upper first permanent molars using the Eland scale.....	51
15	Comparison between E.A. and L.A. in pain control using the Eland scale for upper first permanent molars...	52

## List of Tables (cont.)

<i>Table No</i>	<i>Title</i>	<i>page</i>
16	Scores for pain assessment of E.A. and L.A. for the lower second primary molars using the Eland scale.....	54
17	Comparison between E.A. and L.A. in pain control using the Eland scale for lower second primary molars...	55
18	Scores for pain assessment of E.A. and L.A. for the lower first permanent molars using the Eland scale.....	57
19	Comparison between E.A. and L.A. in pain control using the Eland scale for lower first permanent molars...	58
20	Mean SEM scores for pain assessment during cavity preparation according to tooth location by Electronic Anesthesia.....	60
21	Mean Eland scores for pain assessment during cavity preparation according to tooth location by Electronic Anesthesia.....	60
22	Success rate of Electronic Anesthesia and Local Anesthesia during pad placement or injection and cavity preparation using SEM scale....	62

## List of Tables (cont.)

<i>Table No</i>	<i>Title</i>	<i>page</i>
23	Success rate of Electronic Anesthesia and Local Anesthesia during pad placement or injection and cavity preparation using Eland scale....	62