

# بسم الله الرحمن الرحيم



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# شبكة المعلومات الجامعية التوثيق الالكتروني والميكروفيلم



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# جامعة عين شمس

## التوثيق الإلكتروني والميكروفيلم

### قسم

نقسم بالله العظيم أن المادة التي تم توثيقها وتسجيلها  
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بالرسالة صفحات

لم ترد بالأصل



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**An in Vitro Evaluation of Smear Layer Removal and  
Apical Extrusion of Root Canal Debris and Irrigants  
Using New Brush-Covered Irrigation Needle**

*Thesis*

*Submitted to the Faculty of Oral and Dental Medicine,  
Cairo University*

*In Partial Fulfillment*

*Of the requirements of Master Degree in  
Endodontics*

**By**

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**Faculty of Oral and Medicine  
Cairo University  
2011**



سُبْحَانَكَ اللَّهُمَّ

﴿قَالُوا سُبْحَانَكَ لَا عِلْمَ لَنَا إِلَّا مَا عَلَّمْتَنَا إِنَّكَ أَنْتَ

الْعَلِيمُ الْكَرِيمُ﴾

صدق الله العظيم

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## List of Abbreviations

|        |                                             |
|--------|---------------------------------------------|
| SEM    | Scanning electron microscopic.              |
| TCM    | Torque controlled motor.                    |
| WL     | Working length.                             |
| PUI    | Passive ultrasonic irrigation.              |
| EDTA   | Ethyldiamine tetraacetic acid.              |
| ESEM   | Environmental Scanning Electron Microscope. |
| TFM    | Transmission electron microscopy.           |
| CIA    | Computer image analysis.                    |
| Sec    | Second.                                     |
| Min    | Minute.                                     |
| SD     | Stander deviation.                          |
| ANOVA  | Analysis of Variance.                       |
| SPSS   | Statistical Package for Scientific Studies. |
| r.p.m. | Round per minutes.                          |
| NaOCl  | Sodium hypochlorite.                        |



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