# بسم الله الرحمن الرحيم


MONA MAGHRABY


# شبكة المعلومات الجامعية

# التوثيق الالكتروني والميكروفيلم

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التوثيق الإلكتروني والميكروفيلم

# جامعة عين شمس

# التوثيق الإلكتروني والميكروفيلم

# قسم

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

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تحفظ هذه الأقراص المدمجة بعيدا عن الغبار

***MONA MAGHRABY***

# Effect of different preparation depth for an inlay-retained bridge on the trueness and precision of intraoral digital scanners

-An in vitro study-

*Submitted for Partial Fulfillment of Requirements of the master's Degree of Science in Fixed Prosthodontics, Fixed Prosthodontics Department Faculty of Dentistry, Ain Shams University*


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# List of Contents

# List of Tables

# List of Figures

# List of Figures (Cont...)

# INTRODUCTION

With the advancement of the digital dentistry over the last years, it becomes so important to evaluate all the computer aided design/computer aided manufacturing (CAD/CAM) devices.

Several intra-oral scanners have been introduced in the market and CEREC (Dentsply Sirona, Bensheim, Germany) was the first intraoral scanner to be introduced in the dental market and since then a great number of intraoral scanners have appeared with different technologies aiming for capturing scans with a high resolution and accuracy.

With the increased pace of life and the increased awareness and the esthetic demand and high expectation from both patients and dentists, also the development of CAD/CAM strategies in the production of restorations with superior performance and high quality from new biocompatible materials, impression taking of tooth preparation become essentially digitized since the fabrication of CAD/CAM based dental restoration demand a digital model.

The success rate of prosthesis depends on several factors, an accurate impression is one of the most important factor to ensure a proper prosthesis from a functional and esthetic aspects.

Conventional impression was utilized to be the sole solution for capturing intra oral data and send it to the laboratory where all the traditional steps were performed starting from disinfecting the impression to pouring, casting, investing down to fabrication of the prosthesis.

The digital process of construction of dental restoration will eliminate the drawbacks produced by the conventional impression such as the risk of storage and damage, the inconvenience and in appreciation regarding the patient, the prolonged overall treatment time and the risk of contamination.

Studying the accuracy of the intraoral scanners has an important role in developing the digital dentistry. The accuracy of impression is described as trueness and precision. Trueness is the ability of measurements matching the real image. Precision is the ability of measurements to be constantly repeated [(1)].