

بسم الله الرحمن الرحيم

**: قال تعالى**

﴿وَاللَّهُ أَخْرَجَكُمْ مِنْ بُطُونِ أُمَّهَاتِكُمْ لَا تَعْلَمُونَ شَيْئًا  
وَجَعَلَ لَكُمُ السَّمْعَ وَالْأَبْصَارَ وَالْأَفْئِدَةَ لَعَلَّكُمْ تَشْكُرُونَ﴾

سورة النحل الآية ﴿78﴾

# **Dedication**

**I dedicate my dissertation work to my family and**

**Friends. A special feeling of gratitude to my loving parents,**

**To My**

**To my brothers, sisters, friends, and to all my  
family.**

**And I will Always appreciate all they have done, Along with  
all hard**

**Working and respected teachers**

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I express my warm thanks to my family. A special feeling of gratitude to my loving parents

**Abstract:**

This study was aimed to assessment of Motion artifact in Brain CT Images in pediatric patients and comparison between volumetric and axial CT Methods, The study showed that the CT axial images are better than the CT volumetric image in the overall quality assessment. A total of 10 patients ( male , female ) with average age 6years , five patients for brain examination volumetric CT scan and five to patients for brain examination axial CT scan and all image of brain is a visually evaluated for quality, Resolution ,SNR , by 50 technologist, by using four score scale excellent, very good, good, acceptable, poor. In this study The final results showed that the quality of Axial images is better than the quality of volumetric images. The final Assessment of Motion artifact in Brain CT Images in Pediatric Patients is more in volumetric than axial CT.

## :الملخص

تهدف هذه الدراسة لتقييم الاخطاء في التصوير الاشعاعياتي تؤدي الى فقد جزء من مكونات الأنسجة في الصورة ومقارنة بين التصوير الحجمي والمحوري في تصوير المخ بواسطة الاشعة المقطعية للأطفال, أجريت هذه الدراسة في المركز الطبي الحديث, قبل عملية جمع البيانات تمت معايرة أجهزة الأشعة السينية, أثبتت هذه الدراسة ان جودة الصورة الإشعاعية في التصوير المحوري افضل من التصوير, في هذه الدراسة تم تقييم جودة لصورة الإشعاعية عن طريق الإستبيان بالتقييم البصري, تم تقييم الصور الإشعاعية لعشرة مريضى من (الذكور والإناث) خمسة صور لفحص الدماغ الحجمي وخمسة صور لفحص الدماغ المحوري, وتم تقييم كل صورة من الدماغ بصريا من حيث الجودة والدقة, SNR, من خلال 50 تقني, باستخدام خمسة نقاط مقياس ممتاز, جيد جدا, جيد, مقبول, فقير. في هذه الدراسة أظهرت النتائج النهائية أن جودة الصور المحوري هو أفضل من جودة الصور الحجمية.

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### **List of Abbreviations:**

CT	Computed tomography
2D	Two Dimensions
3D	Three Dimensions
BCT	Brain computed tomography
PDU	Power Distribution Unit
ADCs	Analog-to-Digital Converters
EBT	<u>Electron beam tomography</u>
MSCT	multislice computed tomography
VC	virtual colonoscopy
MRI	Magnetic Resonance Image