

Sudan University of Sciences and Technology

College of Graduate Studies



***Reasons for Low Computed Tomography Image Quality
in Khartoum State Hospitals***

اسباب انخفاض جودة الصور في التصوير المقطعي بمستشفيات ولاية الخرطوم

*A thesis submitted in partial fulfillment for the requirements
of M.Sc degree in Diagnostic Radiology Technology*

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Chapter One

1.1 Introduction:

Medical imaging has experienced significant change in both technologic and clinical areas. Innovations have become common in the Radiology Department, and today the introduction of new ideas and methods refinement in existing techniques are apparent.

The goal of these developments is the acquisition of optimal diagnostic information while the quality of care afforded to patient is improved. One such development that is revolutionary tool of medicine, particularly in medical imaging, is computed tomography “CT”.

Tomography is old word mean section; conventional tomography is an image of a section of the patient that is oriented parallel to the film.

Later they develop another tomographic technique in which the sections were transverse section (cross section); this technique was referred transverse axial tomography.

The primary purpose of quality control (QC) is to maintain a standard of image quality for the benefits of patient, physician, medical imaging department, and the institution.

For CT scanners, QC may be defined as a program that periodically tests the performance of a CT scanner and compare its performance with some standard, the goal of quality control program is to insure that every image created by CT scanner is a good image.

1.2 Research problems:

The reasons for low computed tomography image quality in Khartoum state hospital.

1.3 Hypothesis:

The evidence of quality control protocol in diagnostic CT scan improves the quality of diagnosis and reduces the cost of maintenance, and due to the absence of QC program for CT equipment the performance will be affected.

1.4 Research objectives:

1.4.1 General objectives:

To evaluation the quality control in computed tomography in Khartoum state hospital.

1.4.2 Specific objectives

- To determine the level of QC services in Khartoum state hospital.

1.5 Research Overview

Chapter one: introduction to this thesis.

Chapter two: literature review

Chapter three: materials and a method.

Chapter four: results of the study.

Chapter five: discussion, conclusion and recommendations of the thesis and References and appendix.