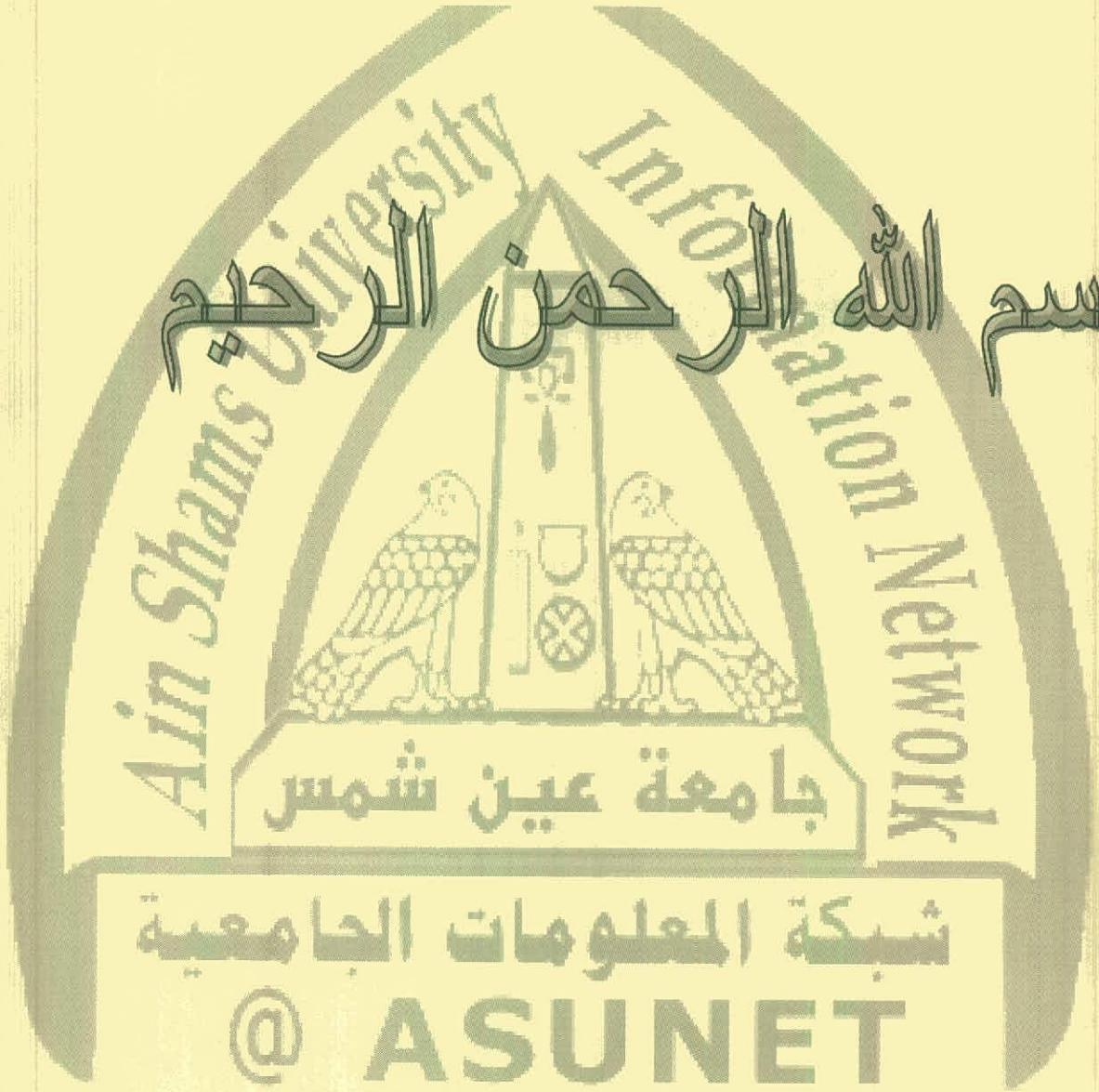
شبكة المعلومات الجامعية



بسم الله الرحمن الرحيم

شبكة المعلومات الجامعية

التوثيق الالكتروني والميكروفيلم

شبكة المعلومات الجامعية

جامعة عين شمس

التوثيق الالكتروني والميكروفيلم

قسم

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

يجب أن

تحفظ هذه الأفلام بعيدا عن الغبار

في درجة حرارة من ١٥-٢٥ مئوية ورطوبة نسبية من ٢٠-٤٠%

To be Kept away from Dust in Dry Cool place of 15-25- c and relative humidity 20-40%

بعض الوثائـــــــق الاصليـــــة تالفـــة

بالرسالة صفحات لم ترد بالاصل

OPERATIVE TREATMENT OF RECENT FRACTURES OF THE CALCANEUS

Thesis Submitted for Partial Fulfillment
For the M.D. Degree in Orthopedics

BY

Amir Khairy Kozman
M.B.B.Ch., M.Sc. (Orthopedics)

Supervised By

Prof. Dr. Hassan El-Zaher Hassan
Professor of Orthopedic Surgery
Faculty of Medicine - Ain Shams University

Prof. Dr. Mohamed Sadek El-Sokkary
Professor of Orthopedic Surgery
Faculty of Medicine - Ain Shams University

Dr. Atef Mohamed Fathy Khaled El-Beltagy
Lecturer of Orthopedic Surgery
Faculty of Medicine - Ain Shams University

Faculty of Medicine
Ain Shams University
***** 2000 *****

Acknowledgment

I would like to express my sincere appreciation and deep gratitude to **Prof. Dr. Hassan El-Zaher Hassan**, Professor of Orthopedic Surgery, Faculty of Medicine, Ain Shams University, for his helpful supervision and valuable instructions through this work. It is really a great honor to work under his guidance and supervision.

My special thanks and sincere appreciation for **Prof. Dr. Mohamed Sadek El-Sokkary**, Professor of Orthopedic Surgery, Faculty of Medicine, Ain Shams University, for his meticulous supervision, continuous encouragement, and moral support during the accomplishment of this work.

My great thanks and deepest gratitude are due to **Dr. Atef Mohamed Fathy Khaled El-Beltagy**, Lecturer of Orthopedic Surgery, Faculty of Medicine, Ain Shams University for his great cooperation and valuable advice throughout the completion of this work.

Amir Kozman

List of Contents

	PAGE
Introduction and Aim of the Work	**1 – 2**
Review of Literature	**3 - 57**
Surgical Anatomy	3 - 15
Biomechanics of the Subtalar Joint Complex	16 - 24
Classification of Calcaneal Fractures	25 - 53
Diagnosis of Calcaneal Fractures	54 - 82
Mechanism of Injury	83 - 94
Treatment of Calcaneal Fractures	95 - 112
Operative Treatment of Calcaneal Fractures	113 - 170
Complications of Calcaneal Fractures	171 - 185
Materials and Methods	**186 - 220**
Results	**221 - 285**
Discussion	**286 - 306**
Conclusion	**307 - 310**
Summary	**311 - 313**
References	**314 - 340**
Arabic Summary	

Introduction and Aim of the Work

Introduction and Aim of the Work

Historically, calcaneal fractures are divided into the two broad categories of intra-articular and extra-articular fractures. While the treatment of the extra-articular fractures is relatively simple, numerous controversies surround our understanding of the treatment of intra-articular calcaneal fractures ***(Hamesfahr, 1989)***.

In the 1970, the philosophy of treatment of intra-articular calcaneal fractures changed from that of non-operative treatment to that of operative one. This change developed for several reasons:

- The number of studies with good results from operative treatment increased.
- Advances in the development of internal fixation devices.
- The quality of the instruments and the variety of devices available allowed for the development of techniques specific to the problems of calcaneal fractures.
- The mechanism of injury of calcaneal fractures became more clear, and as a result, the fracture was more clearly categorized.

(Soeur and Remy, 1975)

It seems illogical that the subtalar joint should be treated differently than other weight-bearing joints with displaced intra-articular fractures. It is well established that intra-articular fracture should be treated with an anatomic reduction and stable fixation to permit painless early motion. These techniques offer the patient the best chance of preventing the development of post-traumatic arthrosis and loss of motion ***(Leung et al., 1989)***.

Melcher et al. (1991) firmly believes that a majority of displaced intra-articular fractures profit from surgical reconstruction and stabilization and that, in this way, much more consistent functional results are achieved than with conservative therapy. This operative method of treatment of intra-articular calcaneal fractures is not only the reduction of the displaced fracture, but also the restoration of the heel height, width, alignment and related foot biomechanics.

Paley and Hall (1989) demonstrated that there was a direct relation between results and patho-anatomy.

The aim of this work is to study and evaluate the results of surgical reconstruction of recent fractures of the calcaneus in thirty-two patients.