

# بسم الله الرحمن الرحيم



-Cardon - Cardon - Ca





شبكة المعلومات الجامعية التوثيق الالكتروني 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



يجب أن

تحفظ هذه الأقراص المدمجة بعيدا عن الغبار







بعض الوثائق

الأصلية تالفة







بالرسالة صفحات

لم ترد بالأصل





## RECONSTRUCTION OF TRAUMATIC SOFT TISSUE DEFECTS IN THE HAND

#### **THESIS**

SUBMITTED IN PARTIAL FULFILLMENT FOR M.Sc. DEGREE IN GENERAL SURGERY

BY
AYMAN MOHAMED MOUSTAFA
(M.B. B. Ch)

#### **SUPERVISORS**

PROF. MOUSTAFA A. EL-SONBATY
PROF. OF PLASTIC SURGERY
FACULTY OF MEDICINE
ASSIUT UNIVERSITY

Dr. TARIC A. EL-GAMMAL
ASSISTANT PROF. OF ORTHOPAEDIC SURGERY
FACULTY OF MEDICINE
ASSIUT UNIVERSITY

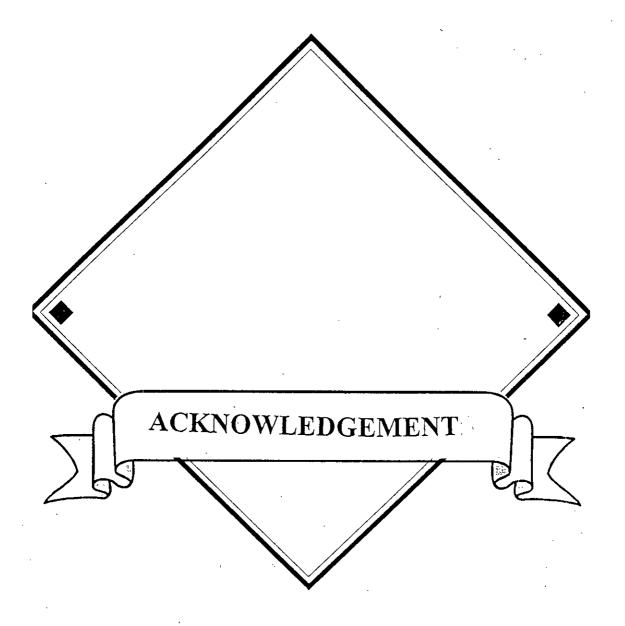
Dr. SONIA M. RASHAD
LECTURER OF RHEUMATOLOGY
AND REHABILITATION
FACULTY OF MEDICINE
ASSIUT UNIVERSITY



﴿...نَرفَعُ دَرَجَاتٍ مَّن نَشْنَاءُ وَفُوقَ كُلِّ وَلَيْمُ اللَّهِ عَلِيمٌ اللَّهُ عَلِيمٌ اللهُ الله

سورة يوسف (آية ٢٧)

برللات العظريم



### **ACKNOWLEDGEMENTS**

Praise be to **ALLAH**, the merciful, the compassionate for all the countless gifts have been offered. Of these gifts, those persons who were assigned to give me a precious hand so as to be able to fulfill this study. Some of them will be cordially acknowledged.

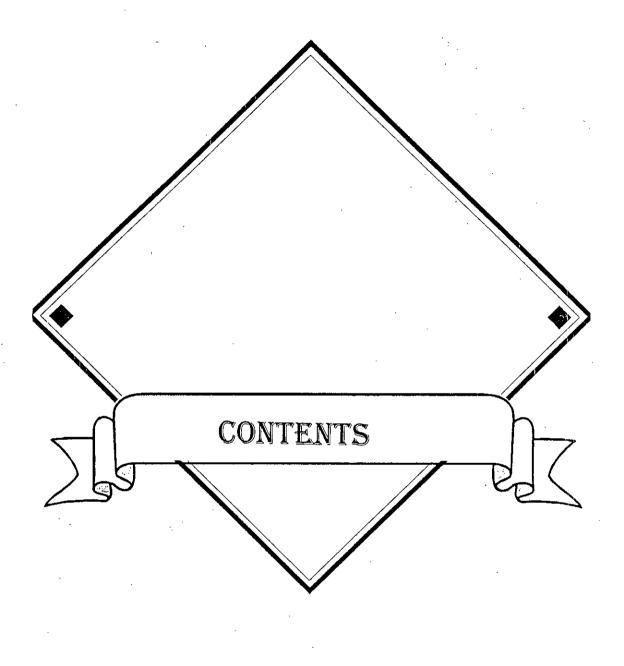
I would like to express my sincere gratitude, deepest acknowledgment and appreciation to my Professor Dr. Moustafa A. El-Sonbaty, Professor of Plastic Surgery, Faculty of Medicine, Assiut University, who reviewed my work at every stage of its development and generously offered his cooperation, encouragement, assistance, advice and suggestions for improvement.

I would also like to express my deepest gratitude and appreciation to **Dr. Taric A. El-Gammal,** Assistant Professor of Orthopaedic Surgery, Faculty of Medicine, Assiut University. I sincerely feel indept for his encouragement and for continuous advice, support and guidance throughout this work.

I would like to express my sincere gratitude to **Dr. Sonia M. Rashad**, Lecturer of Physiotherapy, Faculty of Medicine, Assiut University, for her constructive suggestions, valuable assistance and continous enthusiatic stimulation she offered throughout this work.

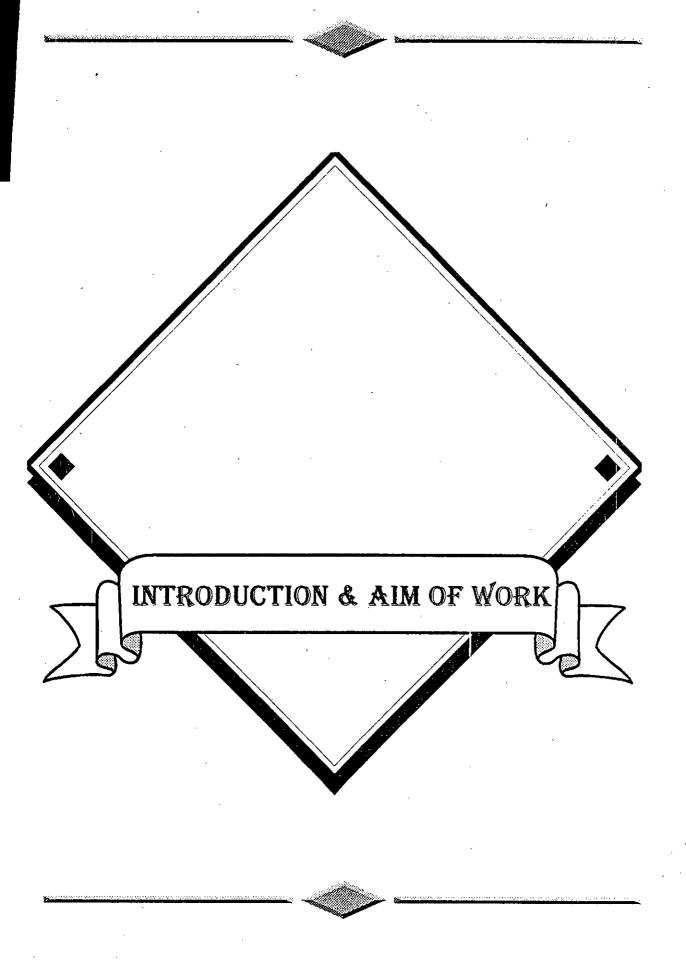
I am also thankful to all my colleagues in the Plastic Surgery Departement for their continuous help.

Ayman M. Moustafa



## CONTENTS

· ·	Page
INTRODUCTION AND AIM OF WORK	1
REVIEW OF LITERATURE	4
- Anatomy of the hand	4
- Examination of the injured hand	26
- Classification of hand injuries	34
- Treatment of hand injuries	36
- Skin closure and replacement	39
- Hand rehabilitation	66
MATERIALS AND METHODS	73
RESULTS	78
DISCUSSION	99
SUMMARY AND CONCLUSION	105
REFERENCES	108
ARABIC SUMMARY	



#### INTRODUCTION

The hand, more than any other organ system, enables us to manipulate and control our environment. From the drawn of human existence, man's place on earth has been hand carved. Primitive man fashioned weapons and later tools by hand. Through the cinturies art, literature, music and science have been drawn, written, composed and discovered by hand. Civilizations have been created, destroyed, and rebuilt by human hands. We are a product of our hand function, and when hand injuries occur, the quality of human life is altered.

The hand is a remarkable and versatile instrument that performs complex and intricate functions. For the majority of the population, the hand provides employment. Medicine's goal should be to return the injured hand as fully and rapidly as possible to a functional state. A rapid return to the work force is desirable, as people whose rehabilitation extends beyond six months rarely attain pre-employment status (Scott, et al., 1981).

The complexity of the hand necissitates careful assessment of an injury. Wound coverage requires careful appraisal of the tissue available for coverage and consideration of its functional and cosmetic aspects (Rockwell and Lister, 1993).

Management of injured hand requires constant attention to the component of hand function (sensibility, mobility and power grip), aknowledge of how function may be compromised or threaten by trauma on its treatment. Only one who is expert in hand surgery, can adequately manage all of the structures (skin, muscles, tendons, nerves, vessels, bones

and joints) and give the care necessary to preserve or restore the function of the hand.

The initial treatment of hand injuries is of paramount importance and it shoud be adequately proper since in most cases it determines the final result.

The main brunt of this study has been devoted towards skin and soft tissue injuries of the hand and this entailed most of this work.

#### AIM OF THE WORK

The present research aims to:

- 1- Identify the common sources of hand injuries (not including the burns)
- 2- Study all types of hand injuries in patients with different age groups comming to the trauma unit of Assiut University Hospital with either isolated hand injuries or hand injuries as a part of multiple body trauma.
- 3- Apply the different lines of soft tissue reconstructions according to the type of soft tissue defects in the injured hand.
- 4- Start early post-operative rehabilitation of the injured hand by consultation of hand plysiotherapist.
- 5- Follow up the hand injured-patient untill reaches to the pre-injury or functional state which should be as early as possible.