

# مقارنة بين اثنتين من تقنيات الخياطة في إصلاح إصابه الوتر العميق القابض للإصبع في منطقه (٢)

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غى جفح بطة ج لوك

## مقدم من

ض/ ع لند موك عانك بچك طس ا  
ماجستير الطب و الجراحة

## تحت إشراف

أ.د / مصطفى عبد الرحمن عوض

آزئند جفح بطة ج لوك - قى بطس ا - ج لعل ب عى م سلا ز

أ.د / عبده محمد عبد الله درويش

آزئند ه قى ز غزل جفح بطة ج لوك - قى بطس ا - ج لعل بلك لوى

د. / أحمد محروس محمد

آزئند لزئع جفح بطة ج لوك - قى بطس ا - ج لعل بلك لوى

د. / حسام محمد أبو العطا

آزئند لزئع جفح بطة ج لوك - قى بطس ا - ج لعل ب عى م سلا ز

كلية الطب

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Comparison Between Two Techniques in Repair  
of Flexor Digitorum Profundus Tendon Injury in  
Zone (II)

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*By*  
**Amr Nabil Abd-El Galil Kotb**  
*M.B.B.CH., M.Sc.*

*Under Supervision Of*

**Prof. Mostafa Abd-El Rahman Awad**  
*Prof. of Plastic & Reconstructive Surgery*  
*Faculty of Medicine - Ain Shams University*

**Prof. Abdou Mohamed Abdallah Darwish**  
*Prof. and head of the Plastic & Reconstructive Surgery Depart.*  
*Faculty of Medicine - Minia University*

**Dr. Ahmed Mahrous Mohamed**  
*Ass. Prof. of Maxillofacial & Plastic Surgery*  
*Faculty of Medicine - Minia University*

**Dr. Hossam Mohamed Abo El-Atta**  
*Ass. Prof. of Plastic & Reconstructive Surgery*  
*Faculty of Medicine - Ain Shams University*

**Faculty of Medicine**  
**Ain Shams University**  
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بِسْمِ اللَّهِ الرَّحْمَنِ الرَّحِيمِ

قالوا

سبحانك لا علم لنا  
إلا ما علمتنا إنك أنت  
العليم العظيم

صدق الله العظيم

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# Dedication



This work is dedicated to .....

My Father

My Mother

My Wife

My Daughters

Hala & Farah

for being the light of my life  
and encourage me all the time  
to produce this work in this form





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## List Of Abbreviations

<b>5-FU</b>	5-fluorouracil
<b>A pulley</b>	Anular pulley
<b>b-FGF</b>	Basic fibroblast growth factor
<b>BMP</b>	Bone morphogenetic proteins
<b>C</b>	Cervical
<b>C pulley</b>	Cruciate pulley
<b>DIP joint</b>	Distal inter phalangeal joint
<b>DNA</b>	Deoxyribonucleic acid
<b>FDP</b>	Flexor digitorum profundus
<b>FDS</b>	Flexor digitorum superficialis
<b>FPL</b>	Flexor pollicis longus
<b>ICF</b>	International Classification of Functioning
<b>IGF</b>	Insulin-like growth factor
<b>IP joint</b>	Inter phalangeal joint
<b>MCP joint</b>	Metacarpo phalangeal joint
<b>MSCs</b>	Mesenchymal stem cells
<b>N</b>	Neaten
<b>PA</b>	Palmar aponeurosis
<b>PDGF</b>	Platelet-derived growth factor
<b>PDS</b>	Polydioxanone
<b>PIP joint</b>	Proximal inter phalangeal joint
<b>RAM</b>	Range of motion
<b>T</b>	Thoracic
<b>TGF-<math>\beta</math></b>	Transforming growth factor beta
<b>VBP</b>	Vinculum brevis profundus
<b>VBS</b>	Vinculum brevis superficialis
<b>VLP</b>	Vinculum longum profundus
<b>VLS</b>	Vinculum longum superficialis
<b>WHO</b>	World health organization

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## INTRODUCTION

**T**he functional biomechanics of the flexor tendons depend on a number of factors, including an intact pulley system, synovial fluid, supple joints, and tendon excursion. An intact pulley system prevents flexor tendon bowstringing. The synovial fluid not only provides nutrients to the tendons but also is a constant source of lubrication, permitting frictionless gliding between the tendons. Adhesions between the tendons and other tissues restrict excursion. Stiff joints limit motion and function despite a normal tendon system (*Manske, 2005*).

The zone (II) of the flexor tendons lies within the digital fibro-osseous tunnel and has always been difficult to repair satisfactorily because the healing tendon tends to adhere to its fibro-osseous tunnel. It has been termed "**no man's land**" by Bunnell because of the poor outcome in range of motion following tendon repair (*Chan et al., 2006*).

The initial strength of the repair depends on the material properties and knot security of the sutures as well as on the holding capacity of the suture grip of the tendon. Postoperatively tenomalacia may develop at the suture-tendon junction decreasing initial repair strength (*McDowell et al., 2002*).