## ABSTRACT

The intramedullary supracondylar nail extends the indications for interlocking nails to include supracondylar fractures of the distal femur. It is an attractive option for the surgeon familiar with the treatment of diaphyseal fractures with interlocking nailing and is technically less demanding than other methods of fixation of supracondylar fractures. As with all fracture surgery, the technical demands depend on the complexity of the problem. The procedure does not require open reduction of the metaphyseal fragments of the femur and, therefore, causes less damage to the blood supply of these fragments. With the use of the drill guide, the interlocking screws are placed percutaneously to avoid unnecessary incisions, soft tissue dissection, and blood loss.This nail is primarily indicated for comminuted fractures of the supracondylar region of the femur which extend into the articular surface. Proper fixation requires precise, rigid anatomic reconstruction of the articular surface. This technique is indicated for all age groups with complicated distal femoral fractures . In our study ,46 supracondylar fractures in 44 patients who were treated by supracondylar GSH nail, were evaluated, 6 were lost before union was documented leaving 40 fractures in 38 patients who were followed up until fracture union.- 32 of the immediate post operative reduction were exellent, 6 were good , 2 were fair .- Fair reduction occoured in 2 fractures that have been nailed in 25 degrees of flexion . 12.5 % of the cases showed delayed union and 5 % showed non union , however, 100% complete union was the end result after bone grafting .-33 fractures (83.5 %) healed in an average time of 4 months (with a range of 3 to 7 months) .. Follow-up radiographs revealed that in all patients who went on union, the exellent or good initial post operative fracture alignment was maintained .Clinically the average knee ROM was 110 degrees with an average range of 5 degrees short of full extention to 115 degrees of flexion .- 18 of the 40 patients had full knee extention with 11 of them achieved full ROM .- Evaluation of the results using the criteria of **Mize et al** yielded the following results:

-13excellent (32.5% )

-15 good (37.5%)

-7 fair (17.5%)

-5 poor (12.5%)



## Key words

Supracondylar fractures-- --Management----Characters&Biomechanics-----

Complicatios ----Materials –Results –Cases –Conclusion -Summary

# علاج الكسور فوق اللقميه لنهاية عظمة الفخذ باستخدام المسمار النخاعي الفوق لقمي التشابكي العكسي

رسالة مقدمة توطئة للحصول علي درجة الدكتوراه في جراحة العظام


المقدمة من

**حسين سعد حسن زهران**

ماجستير جراحة العظام

المشرفون

**الأستاذ الدكتور / محمد هاني محمدي**

أستاذ جراحة العظام بكلية الطب جامعة القاهرة

**الأستاذ الدكتور / احمد مرة**

أستاذ جراحة العظام بكلية الطب جامعة القاهرة

**الأستاذ الدكتور / إيهاب نجم**

أستاذ جراحة العظام بكلية الطب جامعة القاهرة

كلية الطب

جامعة القاهرة


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# TREATMENT OF SUPRACONDYLAR DISTAL FEMUR FRACTURES USING THE SUPRA-CONDYLAR INTRA-MEDULLARY NAIL

***Thesis***

***Submitted for partial fulfillment of M.D. Degree in Ortho. Surg.***


By

***Hussein Saad Hassan Zahran***

*M.Sc. Ortho.*


***Supervisors***


***Prof. Dr. M. Hani Mohamadi***

***Professor of Ortho. Surg.***
***Faculty of Medicine, Cairo University***

***Prof. Dr. Ahmed Morrah***

***Professor of Ortho. Surg.***
***Faculty of Medicine, Cairo University***

***Prof. Dr. Ehab Negm***

***Professor of Ortho. Surg.***
***Faculty of Medicine, Cairo University***



**Faculty of Medicine**
**Cairo University**
**2005**

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# *ANATOMY OF THE DISTAL FEMUR*

# *CHARACTERS* & BIOMECHANICAL ASPECTS *OF THE SUPRACONDYLAR INTRAMEDULLARY NAIL*

# BIOMECHANICAL ASPECTS
# *OF*
# OF THE SUPRACONDULAR INTRAMEDULLARY NAIL

# *MATERILS AND METHODS*

# *COMPLICATIONS OF INTRAMEDULLARY FIXATION*

# *FRACTURE HEALING AFTER INTRAMEDULLARY FIXATION*

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