# SUPRACONYLAR INTRAMEDULLARY (GSH NAIL)

An Essay

Submitted for partial Fulfillment of master Des

In Othopaedic Surgery

By

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Ibrahim Moustafa Elganzoury

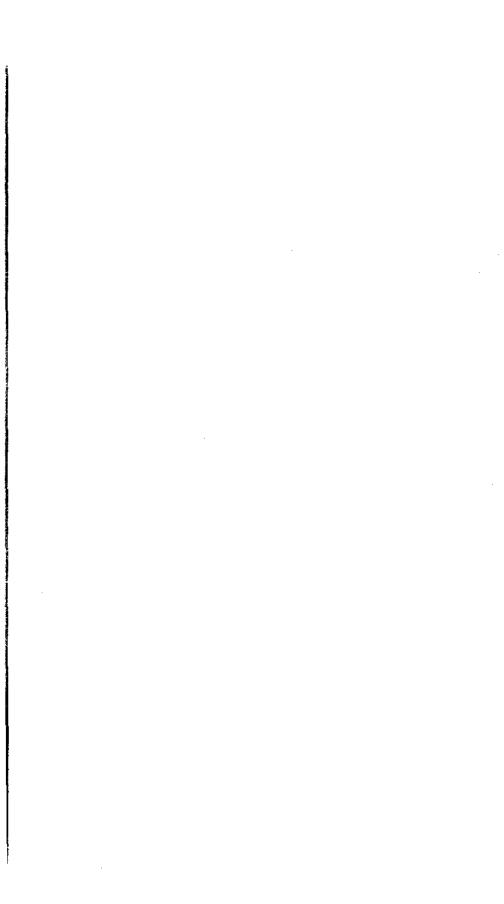


## **CONTENTS**

	Page
♦ Introduction	1
♦ Biomechanical aspects	3
♦ Design Features	18
♦ Indications, Contraindications	. 22
♦ Surgical Procedure	36
♦ Possible adverse effects	76
♦ Discussion	84
♦ Summary	89
♦ References.	9
♦ Arabic summary.	 > hus



# Introduction



#### INTRODUCTION

Treatment of supracondylar and intercondylar femoral fractures is controversial. Prior to the last quarter century, non surgical treatment, primarily skeletal traction followed by long leg cast, was the common recommendation.<sup>1</sup>

This was due to the fact that internal fixation had resulted in unacceptable incidence of non union. infection. inadequate fixation and prolonged confinement to bed. 1 Non operative treatment also had problems, namely of knee malrotation, malalignment and shortening.<sup>1,2</sup> Since the mid 1970s, newer devices for internal fixation, such as the AO supracondylar blade plate<sup>3</sup> and the AO dynamic side plate4 are being used. Results were screw and excellent with simple fractures, but were less than optimal with comminuted high-energy fractures those with osteoporotic bone.5,7

These injuries remain a challenge to the orthopedic community. Anatomic reduction of the distal femoral articular surface and realignment of the distal fragments to the proximal shaft are crucial for a good postoperative result. Unfortunately, in same instances this may be technically difficult to achieve.

An internal fixation device that provides rigid stability while minimizing soft-tissue dissection should improve fracture care and final results.<sup>6</sup>

The Green/ Scligson/ Henry (GSH) supracondylar nail, (Smith & Nephew/ Richards/ Memphis, Tennessee), which provides intramedullary fixation of supracondylar and intercondylar femoral fractures, addresses many of the short comings of the plate and screw systems.8

median parapatellar approach required for retrograde nail insertion into the distal femur provides direct visualization of the femoral condules. This the likelihood for an anatomic reduction of increases surface, ioint while decreasing soft-tissue of its intradissection. In addition, and by virtue medullary position, the GSH nail has a biomechanical advantage over the laterally placed conventional devices, the intramedullary position decreases the lever arm of the medio-lateral forces thus reducing varus/ valgus angulation.8

Other indications of the GSH nail include; pathological fractures, malunions, failed distal femoral osteosynthesis, distal fractures in osteoporotic patients. It can also be used in fractures proximal to a Total Knee Arthroplasty (TKA), provided the knee implant allows access to the intercondylar notch. 10

# Biomechanical Aspects

