SUMMARY

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Kuntcher in troduced the technique of intermedullary nailling of fractures of long bones in 1940 . Probably the most important technique advance was made in 1950 s, when kuntcher initiated the procedure of reaming of the medullary cavity prior to nailing .

(Karlstrom 1986).

Intramedullary nailing is one of the frequently used methods in operative treatment of femoral shaft fractures, although the degree of rotational stability that is achieved with this technique is usually insufficient for fractures of the proximal and distal parts of the shaft . Also, communited fractures in all locations, have a tendency toward rotational and longitudinal malalignment, which can not be controlled by the conventional, non locking intramedullary nail .

(Thoresen et al., 1985).

The interlocking intramedullary nail has developed to ovecome these problems with longitudinal and rotational instability, through the use of screws that are placed through the bone and into holes in the proximal and distal ends of the nail *(Kempf et al., 1988).*

The interlocking nail has expanded the indications for use of closed intramedullary nailing in the treatment of complex femoral fractures . The incidence of infection and non union is remarkabely low . Immediate stability of the fracture allows for immediate mobilization of the patient, early rehabilitation of the limb and a shorter hospital stay *(Wiss et al., 1986).*

In comparative study of the efficacy of roller traction , cerclage wires and an intramedullary nail, and interlocking nails , **Johnson et al., (1984)** found an earlier union rate , a lower incidence of complications , and improved functional results in patients managed with interlocking .

Wiss et al., (1986) , similarly reported excellent results in a series of 112 unstable fractures treated at Los Angeles County Hospital .

Interlocking nailing has now gained recognition as the standerd method of treatment in femoral shaft fractures . This achievement is not restricted to closed fractures only but also to open fractures ***(Kaltenekur et al., 1990)*** .

The reamed nailing causes circulatorys disturbance of the disphyseal cortex but this doesn't impede the formation of external callus . Delay in healing process due to disruption of blood supply to fracture fragments is not known ***(Kesseler et al., 1988)*** .

Femoral fractures with ipsilateral fractores of the femoral neck are still a demanding task in fracture stability with intrmedullary nailing ***(Wiss et al., 1992)*** .

Third generation interlocking nail with smaller diameter made of titanum alloy is benficial as the nail dosen't need reaming in treating open fractures and in ipsilateral femoral neck, intertrochanteric and subtrchanteric associated with femoral shaft fractures ***(Kropfl et al., 1995)*** .

The standard interlocking nailing has expanded the indications for intramedullary fixation of fractures and pseudoarthrosis . Essentially all fractures between . The lesser trochanter and femoral condyles can be stabilized with the device, regardless of the fracture configuration or the degree of communition . Further more impending and frankly pathological fractures, non union and in special instances infected pseudoarthrosis .

Reconstrutive nails can stabilize ipsilateral femoral shaft, in tertrochanteric and femoral neck fructures .

The closed nailing technique reduce blood loss, surgical stress and complications ossociated with open reduction and offers the patient the advantage of early joint and muscle rehabilitation . However the technique is complex and needs training .

(Browner 1986).

Distal locking has been the most techniqually demanding technique . A number of different targeting devices exist, but non is ideal .

It is helpful to be familiar with the free hand method that can be safely used whenever attempts with other devices are aborted .

(Browner 1990).

Interlocking nailing is a complex technique and has unique complications including, positioning of the implant, proximal screw placement, unreduced butlerfly fragments and distal targeting complications ***(Browner, 1986).***

The American experience has paralleled closely that in Europe. A consecutive series of 520 femoral fractures nailing performed at Harborriew Medical Center in Seattle resulted in a union rate of 99%. Functional results were excellent, with on average 150-degree range of motion of the knee at follow up complication, involved mainly shortening and malrotation, which were prevalant prior to the introduction of interlocking nails at that center ***(Bucholz , 1990)*** .

The timing of weight bearing is individualized according to the stability of each fracture and full weight bearing is started when fracture callus is evident radiologically . Most of the fracture sites are capable of withstanding full weight bearing loads by six to eight weaks after the surgical procedure ***(Brumback et al., 1988)*** .

The years since the late 1970s have witnessed radical changes in the surgical treatment of femoral shaft fractures . The universal introduction of closed intramedulary nail instrumentation and techniques was followed rapidly by the appearance of interlocking nails . It can be anticipated that the next decade will see similar major changes in the surgical managment of these injuries .

(Buchols and Browner 1990).