Introduction

Bones in children are softer and more pliable than in adults. Children's bones are more porous with a greater proportion of Haversian canals and as a result can tolerate a greater degree of deformation than adult bones and allow the possibility of failure in compression as well as in tension. They do not fracture so easily and, relative to his size; a child can sustain a fall of much greater magnitude than an adult without breaking any bones.

The site at which a bone may be likely to fracture (whether in the diaphysis, metaphysis or epiphysis) depends on alterations in the proportions of types of bone (laminar, lamellar or trabecular), that are present, which vary with the age of the child. Diaphyseal fractures involve the central shaft, which is composed of laminar and lamellar bone. **(*Veransky et al , 2002)***

Indications for operative treatment of long-bone fractures have to be examined individually in each child. There are some relatively frequent clinical situations in which it is best to treat child by either external or internal fixation. These situations include displaced and shortened fractures of a long-bone after failed conservative treatment, open or closed fracture with a large wound or skin loss (Open fractures in the pediatric population are uncommon), a fracture associated with compartment syndrome, a fracture associated with vascular injury and floating joint fracture (long-bone fracture on both side of the joint). ***(Tolo, 2000)***

The majority of pediatric fractures can and should be treated with closed reduction, immobilization, and close follow-up. However some surgeons claim better results after surgical management. ***(Flynn et al 2002)***

Treatment of pediatric fracture dramatically changed in 1982, when **Metaizeau** and the team from **Nancy**, **France**, developed the technique of the flexible stable intramedullary pinning by titanium pins. The procedure represents a compromise between conservative and surgical therapeutic approaches. The method, originally invented for femur fractures, gradually became applied in the treatment of all fractures of the long bones in children. The primary purpose of intramedullary nailing is to align the fracture fragments enough to allow healing, to facilitate the care of the child, and to prevent complications that may be associated with immobilization of the extremity. Since non-union of fractures is unusual in children, the fixation does not need to be as rigid as it needs to be in adults. ***(Tolo, 2000)***

Flexible intramedullary nail fixation provides excellent fixation in children with unstable fracture. ***(Goodwin et al, 2005)***

Beaty prefers flexible intramedullary nailing for younger children (6-10 years old) & locked nailing for adolescents. ***(Beaty, 2005)***

Stable elastic intramedullary nailing uses two flexible nails which are introduced percutaneously. This technique does not disturb the healing of the fracture and is very efficient. ***(Metaizean, 2004)***

Intramedullary fixation of displaced fractures in children with flexible titanium nails is safe, minimally invasive and the surgical technique produces excellent function and cosmotic result. ***(Jurbel et al , 2004)***