

Preface

Like many other surgical methods intramedullary fixation has passed the way of changes with climbs and drops, too. The first attempts of surgeons like Ernest Hey Groves were associated with many (particularly septic) complications and were thus abandoned (forgotten). A dramatical change occurred when Gerhard Küntscher in 1939 performed his first intramedullary nailing of femoral fracture. He influenced the philosophy of intramedullary fixation so much that we can call him the father of modern intramedullary nailing.

The first indications were limited to simple fractures in the middle third of the shaft due to fixation with simple incarceration of the nail in the isthmus of canal. Reaming with greater contact surface in the intramedullary canal has further extended the indications. Interlocking in the 1970's enabled the possibilities of nailing towards all fracture types in the whole shaft of the long bones. In the 1980's the change of concept towards less invasive surgical procedures changed the nails to become thinner, but with a thicker wall and thus stronger and less flexible. They are inserted with less and less reaming and disturbance of the cortical blood supply and are used more and more even in fractures with severe soft tissue damage without higher infection risk. New materials like titanium further reduce the infection risk as adhesion of bacteria is lower than in stainless steel implants.

New nail designs with multiple interlocking possibilities in different planes and angle-stable interlocking have made nailing of metaphyseal and even some intraarticular fractures reproducible and safe. The philosophy of "*simply hammer a nail into the intramedullary canal*" has changed to briefly planned operation procedures with specific position of the patient and optimal fracture reduction and fixation. Promising developments and changes will probably further push the limits of intramedullary nailing towards the epiphysis – but knowing the basic principles is (still) the key to a successful treatment of fractures. We hope this book could be of help on your way to this "beautiful world" of intramedullary fixation...

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