

osteosynthesis with 3 Kirschner pins, and external plaster cast immobilization. After immobilization and removal of pins, the rehabilitation treatment was performed through physical therapy with independent forceless and painless movements. **Results.** Treatment outcomes depend on the duration after trauma, the quality of anatomical adaptation of fragments, protection of periarticular tissues, fine fixation of fragments with pins, prevention of hematomas and bone consolidations. The compliance with all the requirements of surgical treatment allowed to obtain good results in over 96% of operated children.

**Discussions.** Intraarticular fractures in children, regardless of their age and degree of fracture displacement, require surgical treatment in specialized clinics, conducted by highly qualified specialists. Pseudoarthrosis in intraarticular fractures develops after orthopedic treatment or poorly performed surgical treatment. Fine osteosynthesis with Kirschner pins ensures the necessary stability. Osteosynthesis with plates and bolts is inadmissible, while olecranon osteotomy is a major error. Any postoperative varus deformity should be considered as an unsatisfactory result. This deformation may trigger secondary distal humeral epiphysiolysis with irreversible disability. For this reason, we disagree with the views of some authors who consider varus deformity in children up to 20 degrees a good result and varus deformity up to 40 degrees is considered a satisfactory result, which, in fact is erroneous for child development.

**Conclusion.** In intraarticular fractures in children it is necessary to appreciate in detail the intricate anatomical and topographical changes. The surgical treatment of complicated fractures has to be performed in specialized clinics by highly qualified doctors in the field.

**Keywords:** intraarticular fractures, osteosynthesis.

## OSTEOSYNTHESIS IN MULTIPLE FRACTURES IN CHILDREN



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**Objective of study.** To estimate the surgical treatment tactics and technique in multiple fractures in children in order to improve results.

**Material and methods.** Over the past 25 years 131 children with multiple fractures of long bones received specialized treatment in the pediatric orthopedic clinic. There was prevalence of male patients (59.5%) aged over 10 years (65.6%). Of the total number of children, 294 fractures were assessed. Of them, 81 femoral fractures, 66 forearm fractures, 65 leg fractures, 60 arm fractures and others. Fractures due to road accidents prevailed (over 52%). After clinical and laboratory examinations carried out in intensive care unit and necessary preparation, the children were subjected to surgery under general anesthesia in order to appropriately reposition fragments and to perform osteosynthesis (except 29 fractures without displacement of fragments).

**Results.** In metaphyseal, epi-metaphyseal, epiphyseal, and metaphyseal-diaphyseal fractures osteosynthesis was performed with Kirschner pins through cross insertion. In all operated cases fragments were consolidated without complications. Intramedullary osteosynthesis with metal rods, especially elastic ones was used in transversal diaphyseal fractures of the femur and forearm; while in oblique and spiroid diaphyseal fractures, osteosynthesis was additionally associated with cerclage wiring. Stable osteosynthesis was performed with the external Ilizarov apparatus in diaphyseal fractures of the leg. In diaphyseal humeral fractures, osteosynthesis was performed with elastic rods or Ilizarov pins, using the principles of TEN method. In open fractures, after primary surgical wound treatment, osteosynthesis was performed with pins or external devices.

**Discussions.** The outcomes of surgical treatment in multiple fractures directly depend on the location of fractures, the quality of surgery, compliance with the requirements of biological osteosynthesis with endosteal and periosteal protection. We consider inadmissible to perform on children osteosynthesis with massive screwed plates as well as major removal of periosteum from bone.

**Conclusion.** The basic treatment in multiple fractures is the surgical one, being carried out in one stage in the following order: open fractures, intra-articular fractures, fractures of the femur, leg, upper arm, forearm; biological minitraumatic osteosynthesis.

**Keywords:** multiple fractures, osteosynthesis, baby.

## COMBINED FINE OSTEOSYNTHESIS OF COMPLICATED DIAPHYSEAL FRACTURES IN CHILDREN



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