
**Classification of damages:**

Treatment of distal tibia fracture

<table>
<thead>
<tr>
<th>Type I</th>
<th>Type II</th>
<th>Type III</th>
<th>Type IV</th>
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<tbody>
<tr>
<td>Anterolateral</td>
<td>Anteromedial</td>
<td>Posteroexternal</td>
<td>Posteromedial</td>
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**Objective:** Evaluate advantages and define indications for carrying out of osteosynthesis with biodegradable implants in children’s distal tibial fractures.

**Materials and methods:** Pediatric juxta- and intra-articular fractures are considered to be indications for using biodegradable implants. 81 children with juxta- and intra-articular fractures were admitted and operated since November 2011 until today in our institute.

All patients had an X-ray examination on admission as well as CT scan to clarify the kind and severity of damage of articular surface. X-ray control was made intraoperatively.

Therapeutic exercises started on the first day after surgical treatment. X-ray and ultrasound investigations were done on the 10th day and after that the child was dismissed from hospital for outpatient follow-up observation.

**Results:**

36 operations were done on children with fractures in the epiphysis area. All intraoperative X-ray revealed satisfactory standing of the fragments, external immobilization was not needed. Ultrasound confirmed local reactions for implants and radiographic examination showed the satisfactory standing of fracture fragments, revealed stable osteosynthesis. No complaints, no generalized or local reaction were mentioned during the early postoperative stage. The average hospital stay was 10 days; children were discharged from the hospital in satisfactory condition, non weight-bearing ambulation on crutches, with full range of motion in related joints.

Full weight-bearing was allowed after the X-ray investigation on 3th the 0th-40th day after the surgical treatment. Fracture union took place within the established age time limits. On the follow-up visits after 3 weeks, 6 months and 1-2 years there were no complaints: children were not limping; they had full range of motions in the joints; no local reaction on the clinical examination and ultrasound investigation was mentioned.

Such complications as dislocation of bone fragments, implant migration, fracture union delay, inflammation and stiffness in the damaged joint as well as local reaction to the implant were not mentioned in a period of follow up study for a year and a half.

**Conclusion:** Analyzing the treatment results it was found out that there were no difficulties installing these implants. One more advantage of using biodegradable implants is that there is no need for fixation removal after the bone union is formed, which is very important in children. Such complications as local or generalized reaction for the implant, in the early postoperative period and during the follow-up study (for one and a half years and next years were not noticeable during the ultrasound control. Juxta- and intra-articular fractures of tibial metaphyseal area are considered to be indication for using biodegradable implants, given the very positive treatment results.

**References:**


