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## **The Critical Size Bone Defects - *In-Vivo* Experimental Method of the Treatment with the Decellularized Vascularized Bone Allografts**

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### **Abstract**

The critical sized defects occur due to various factors (trauma, tumor resection, congenital anomalies, infections). Contemporary reconstructive orthopedic surgery cannot offer standardized treatment for all CSD, so now it's a therapeutic dilemma. Modern methods that users have a high level of morbidity and complications. Transplantation of live allogeneic vascularized bone can be potentially the “perfect” solution, only if significant and unjustified risks of long-term immunosuppression will be avoidable. For these reasons, the scientific community has focused its activity on studying simple or combined vascularized bone grafting (with local and systemic factors that grow bone bioactivity). Our work aims to study the local and paraclinical postoperative manifestations after the plasty of the critical bone defect with vascularized bone allotransplantation in the rabbit model

**METHODS:** The 12 rabbits (New Zealand White Rabbits) were divided into three groups, weighing 2.6–4.6 kg. Lot 1 - plasty of critical bone defects with vascularized bone autograft. Lot 2 - plasty of critical bone defects with native vascularized bone allograft. Lot 3 - plasty of critical bone defects with decellularized vascularized bone allograft. We have studied the local (on the 1st, 5th, 10th, and 15th postoperative days) and the paraclinical postoperative manifestations (at 14 and 30 days postoperatively) after the lateral intermuscular and the medial approach of the thigh.

*Keywords: bone defects, decellularized composite grafts, in-vivo experiments, bone defects plasty*



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