

## Paper #134

# The Effect of Vancomycin Pre-Soaking of the Graft on Postoperative Infection-Rate, Graft Failure and Arthrofibrosis in ACL Reconstruction

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### Summary:

Prophylactic vancomycin pre-soaking of autografts during ACLR significantly reduces postoperative infection rates without any adverse effects on outcome or rates of arthrofibrosis and graft failure.

### Abstract:

### Purpose

To investigate whether, during anterior cruciate ligament reconstruction (ACLR), pre-soaking the graft in vancomycin reduces the post-operative infection rate and whether this technique is associated with an increased rate of complications, including graft failure or arthrofibrosis.

### Methods

A retrospective review of a prospective database was performed in 1779 patients who underwent ACLR over a period of 5 years, analysing the rate of postoperative deep knee infection. Group 1 and 2 both received perioperative IV antibiotics, while only group 2 underwent ACLR with grafts pre-soaked in a 5mg/ml vancomycin solution. To analyse possible side effects associated with vancomycin use, 500 patients out of the overall study population (100 patients per year) were randomly selected and retrospectively interviewed for further postoperative complications including graft failure and arthrofibrosis as well as subjective evaluation of their knee by completing the IKDC form with a mean follow up of 37 months.

### Results

In group 1, 2.4% (22 out of 926) of patients suffered a post-operative deep knee infection. In contrast, there were no post-operative infections (0%) in the second group (0 out of 853). Almost 75% of infections were caused by coagulase negative staphylococcus. Statistical analysis revealed a significantly reduced post-operative infection rate when bathing the autograft in vancomycin ( $p < 0.01$ ). Analysis of the random sample revealed a significant decrease of graft failure in the vancomycin group (9.6% vs. 3.1%,  $p < 0.05$ ). No differences were found in the rate of post-operative arthrofibrosis, Tegner and subjective outcome scores.

### Conclusion

Prophylactic vancomycin pre-soaking of autografts during ACLR appears to be a viable and safe option to reduce the rate of deep infection compared to systemic antibiotics alone.