

Acute ACL Surgery Decreases First Year Socio Economic Costs Compared to Delayed Reconstruction. A Randomized Controlled Trial

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Summary:

Acute ACLR seems to significantly reduce socio economic costs (compensation for sick leave) compared to delayed reconstruction and can be performed without increased risk of stiffness.

Abstract:

Clinical practice has been to avoid acute ACL reconstruction (ACLR) due to the risk of complications, especially arthrofibrosis. Thus, a general rule has been to wait with reconstruction until the knee is "calm", which usually means 4-8 weeks following injury. Furthermore, there is often also a prolonged waiting time due to operating space and other logistic factors. Since most of the patients undergoing ACLR are of working age, there is a potentially large socio-economic loss due to the fact that many of these patients are unable to work from the time of injury to the time of reconstruction. The aim of this RCT was to assess and compare the total number of sick leave days caused by the knee injury from the day of injury and over the first year between acute and delayed reconstruction.

Method: 70 patients with high recreational activity level, Tegner level of 6 or more, who presented with an acute ACL injury were randomized to a acute reconstruction within 8 days from the injury or delayed reconstruction 6-10 weeks post injury. Four surgeons performed the ACLR with quadrupled semitendinosus tendon grafts. Patients were assessed at 6, 12 and 24 months and these follow ups included Biodex strength test, Rolimeter, pivot shift, one leg hop, IKDC, KOOS, Lysholm and Tegner activity level.

With data from the Swedish Social Insurance Agency information about the number of sick leave days due to the knee injury and over the following twelve months was collected. The data was recalled based on diagnostic numbers related to the specific knee-injury and compared between the two groups.

Results: Seventy percent of the patients were males, mean age at the time of inclusion was 27 years (18 -41) and the pre-injury median Tegner level was 9 (5-10), with no differences between the groups. 15/70 (21%) patients were students without registered compensation for sick leave. 4 patients in the acute group and 1 in the delayed group were not registered for any compensation for sick leave from work. One patient from the delayed group resigned from the study before surgery. 49/69 (71%) patients received compensation for sick leave, 26 patients in the acute and 23 in the delayed group.

The delayed had one continuous or two separate periods depending on the job's physical demand. The mean number of total amount of sick leave days for the acute group was significantly lower ($M = 56,9$, $SD = 36,4$) compared to the delayed group ($M = 88,5$, $SD = 58,4$), $t(47) = -2,30$, $p < 0,05$. The acute group also had mean fewer days for recovery after surgery but not statistically different ($M = 52,0$ $SD = 36,1$) compared to the delayed group ($M = 65,6$, $SD = 45,5$), $t(47) = -1,17$, $p = 0,25$.

There were no differences between the groups in ROM and no differences in IKDC, activity level or laxity at 12 months

Conclusion: Acute ACLR seems to significantly reduce socio economic costs (compensation for sick leave) compared to delayed reconstruction and can be performed without increased risk of stiffness