Introduction
Impaired quadriceps muscle function following ACL reconstruction (ACLR) is associated with worse clinical outcomes and risk of re-injury. Yet, we know very little about quadriceps muscle function in patients reconstructed with quadriceps tendons (QT), a graft with increasing popularity worldwide. The purpose of this study was to describe and compare isokinetic quadriceps strength in patients undergoing ACLR with QT, hamstring tendons (HT) or patellar tendon (BPTB) autograft.

Materials and Methods
In this cross-sectional study we included QT-patients (n=104) and matched them to BPTB - (n=104) and HT-patients (n=104) according to age, gender, and associated meniscus surgeries (Mean time from ACLR [SD]: 7 months [1]). Data were collected through clinical follow up routines and the Swedish ACL registry. Isokinetic strength was measured at 90°/seconds and expressed through leg symmetry index (LSI). Group differences were assessed by analysis of variance with post-hoc pair wise comparison.

Results
QT patients had significantly lower peak knee extension torque than BPTB- (Mean LSI difference [95%CI]: -6.9% [-11.2 to -2.7], p < 0.01) and HT-patients (Mean LSI difference [95%CI]: -17.4% [-21.7 to -13.2], p < 0.01). None of the graft groups reached a mean LSI in peak knee extension torque of >90% [Mean LSI [95%CI]: QT = 67.5% [64.8-70.1]; BPTB = 74.4% [72-76.9]; HT = 84.9% [82.4-87.4].

Conclusion
Seven months following ACLR, patients operated with QT-grafts present with significantly worse isokinetic quadriceps strength than patients operated with BPTB- and HT grafts. None of the three groups reached an LSI of >90% in quadriceps strength.