ABSTRACT FORM

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TITLE	**Effect of Pattellofemoral Pain Syndrome on isokinetic profile following Anterior Cruciate Ligament Reconstruction**
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TEXT (250 words or 3000 characters maximum spaces included /Arial 10)

Introduction:

While Patellofemoral Pain Syndrome (PFPS) is one of the most prevalent complications after Anterior Cruciate Ligament (ACL) reconstruction, its origin is still not fully understood. Studies using isokinetic measurements have in particular led to contradictory results. We therefore analyzed here the isokinetic profile of male athletes with and without PFPS depending on graft choice to gain further understanding on PFPS risk factors.

Material and Methods:

The isokinetic profile of the hamstring and quadriceps muscles of 621 individuals with (n=69) and without (n=552) PFPS was assessed bilaterally six month (± 20 days) after ACL reconstruction through autograft BPTB (patellar tendon, n=98), ST (semitendinosus tendon alone, n=135) or Hamstring (semitendinosus combined with gracilís, n=388). The maximal peak torque values were extracted in eccentric and concentric modes at 3 different speeds (30°/s, 90°/s and 240°/s) and normalized by body weight. Analysis of covariance were applied to determine the effect of graft and PFPS, with healthy leg used as covariable.

Results:
Occurrence of PFPS was significantly ($p<0.001$) higher for BPTB (22.4%) than for ST or hamstring graft (9%). Regardless the graft, participants with PFPS were characterized by significantly weaker quadriceps than asymptomatic participants, with peak torque decreased by 28.7 % for concentric contractions and by 20.7% for excentric contractions.

Conclusion:
The isokinetic profiles have revealed quadriceps' déficits in participants with PFPS as compared to asymptomatic participants for both the concentric and excentric contractions. Particular care should thus be placed on quadriceps strengthening before return to play after ACL reconstruction in order to limit the occurrence of PFPS.