

**O-0023**

## Comparison between Sexes of Incidence for Graft Rupture and Contralateral Injury after Anatomic Double-bundle Anterior Cruciate Ligament Reconstruction among Competitive Athletes

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### 【Purpose】

Although it is well documented that women are more likely to suffer anterior cruciate ligament (ACL) injuries than men, little is known about sex difference in subsequent injury after ACL reconstruction. The purpose was to compare rates of graft rupture and contralateral injury after ACL reconstruction between sexes among competitive athletes.

### 【Methods】

Two hundreds competitive athletes (91 men ; 18.4 years, 109 women ; 18.1 years) who underwent anatomic double-bundle ACL reconstruction using hamstring tendons between 2005 and 2012, participated in this study. They were followed-up at least 2 years. Semitendinosus (ST) or semitendinosus gracilis (STG) were used as the grafts. The rates of STG and graft sizes were obtained from operative reports and compared between sexes. The rates of graft rupture and contralateral injury were compared between sexes. The chi-square test, non-paired t-test and the wilcoxon test were used for comparison ( $P < 0.05$ ).

### 【Results】

The rates of STG in men was significantly lower than that in women (23% and 45%,  $P = 0.001$ ). Graft sizes of anteromedial and posterolateral bundles in men was significantly greater than those in women ( $P = 0.000$  and  $P = 0.002$ , respectively). Graft rupture rates were 11.0% in men and 6.4% in women ( $P = 0.249$ ). Contralateral injury rates were 11.0% in men and 8.3% in women ( $P = 0.512$ ).

### 【Discussion】

Sex differences were examined among same activity level, because it has been suggested that subsequent injury rate varies according to activity level. To our knowledge, this is the first study comparing subsequent injury rate between sexes among same activity level. Regardless of higher incidence of primary ACL injury and smaller graft size in women, no significant sex differences in subsequent injury rate were found. Therefore, careful attention should be paid to men as well as women to prevent graft rupture and contralateral injury.