Analysis of femoral torsion in patients with recurrent patellar dislocation

Rika Shigemoto¹, Takehiko Matsuhashi¹, Kyohi Nishida¹, Kanto Nagai¹, Noriyuki Kanzaki¹, Yuichi Hoshino¹, Ryosuke Kuroda¹
¹ Department of Orthopaedic Surgery, Kobe University Graduate School of Medicine, Kobe, Japan
rikashigemoto@gmail.com

DISCUSSION: Increased femoral neck anteversion and proximal torsion were suggested as risk factors for recurrent patellar dislocation. Moreover, among patients with recurrent patellar dislocation, those with larger proximal femoral torsion and smaller counter-directional torsion at the shaft exhibited greater femoral torsion. Increased femoral torsion has been reported to be associated with patellar instability [2] and poor clinical outcomes after medial patellofemoral ligament reconstruction and tibial tubercle transfer for RPD [3]. Investigating at which position of the femur excessive torsion occurs will be helpful in determining the correction position when performing derotational osteotomy.

SIGNIFICANCE/CLINICAL RELEVANCE: Increased femoral neck torsion could be a risk factor for patellar dislocations and femoral neck torsion may be a predominant pathological component of the increased torsion. However, the contribution of femoral torsion to the pathology of RPD still remains to be investigated.


IMAGES AND TABLES:

**Figure 1.** Comparison of each torsion of the femur among the two groups. Statistically significant difference between groups: ***p < 0.001, ****p < 0.0001.

**Figure 2.** Comparison of each torsion of the femur among the three groups. Statistically significant difference between groups: *p < 0.05, **p < 0.01, ***p < 0.001.