

Rotational Geometry of Lower Limbs in Patients with Patellar Instability

Identification of torsional factors of lower limb extremities can improve the treatment of patients with patellar instability



Examination of 83 patients with patellar instability

Computed tomography of the lower limb

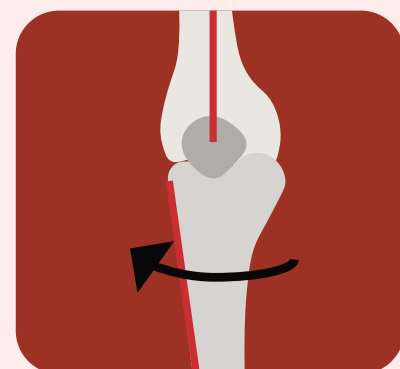


Measurement of

Femoral torsion



Tibial torsion



Significant differences in femoral and tibial torsion

Normal-torsion patient group



Vs.



High-torsion patient group

Average proximal femoral torsion

$1.9^{\circ} \pm 7.1^{\circ}$

Angle between the femoral neck and the foot orientation



$81.3^{\circ} \pm 9.4^{\circ}$

$89.1^{\circ} \pm 12.0^{\circ}$

$98.2^{\circ} \pm 11.7$

$p < 0.001$

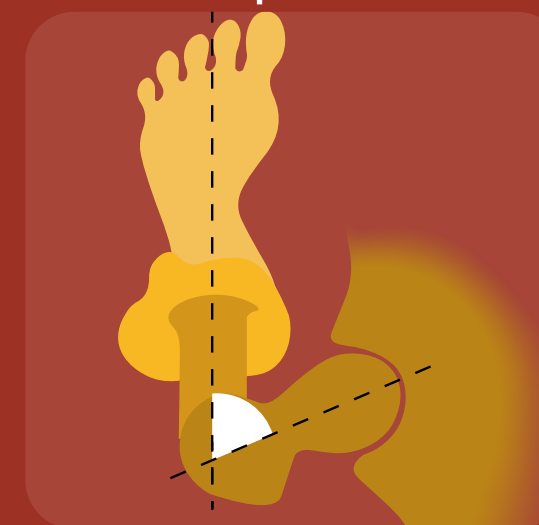
High-torsion tibial group

Normal-torsion group

Combined high-torsion femoral and tibial groups

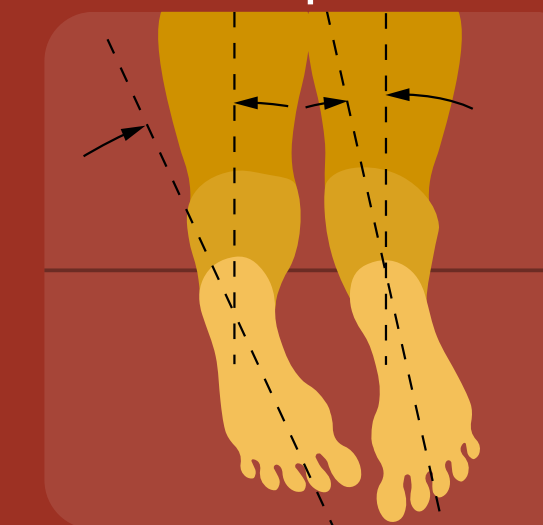
Major contributors to

Total femoral torsion



Shaft and distal femoral torsion

High tibial torsion



Proximal and distal segments of the tibia

Distal femur and proximal tibia rotated simultaneously, not individually

Torsional deformity develops over the length of the tibia and in the shaft and distal regions of the femur among patients with patellar instability

Internal Torsion of the Knee:
An Embodiment of Lower-Extremity Malrotation in Patients with Patellar Instability

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