

Supplementary Material 1.

Patellofemoral instability magnetic resonance imaging parameters

- Insall-Salvati index: The ratio of the patellar tendon length to the patella height was measured on the midsagittal magnetic resonance imaging (MRI) slice. The distance between the apex of the patella and the tibial tuberosity along the inner contour of the patellar tendon was measured for patellar tendon length, and the maximum craniocaudal dimension of the patella was measured for patella height.
- Lateral patellofemoral angle: Measured on the axial image passing through the mid-point of the patella, it is the angle between the tangent line of the anterior femoral condyle and the patellar lateral facet joint line.
- Lateral trochlear inclination angle: Determined by measuring the angle between the lateral femoral trochlea axis and the posterior condylar tangent line on the first cranial slice where the trochlear cartilage is fully visualized.
- Trochlear sulcus depth: Calculated by subtracting the distance between the trochlear groove and the posterior condylar tangent line from the average distance between the most anterior points of the medial and lateral facets and the posterior condylar tangent line. This measurement is performed approximately 3 cm proximal to the tibiofemoral joint line.
- Trochlear sulcus angle: The angle between the medial and lateral facets, measured on the first cranial axial MRI slice where the trochlear cartilage is visualized.
- Tibial tubercle–trochlear groove distance: The mediolateral distance between the deepest point of the trochlear groove and the midpoint of the tibial tuberosity, measured by superimposing the axial slices where both points are visible.
- Medial trochlea/lateral trochlea length ratio: Calculated by multiplying the ratio of the medial trochlea facet length to the lateral trochlea facet length by 100, measured on the axial slice 3 cm proximal to the tibiofemoral joint line.