Facet tropism

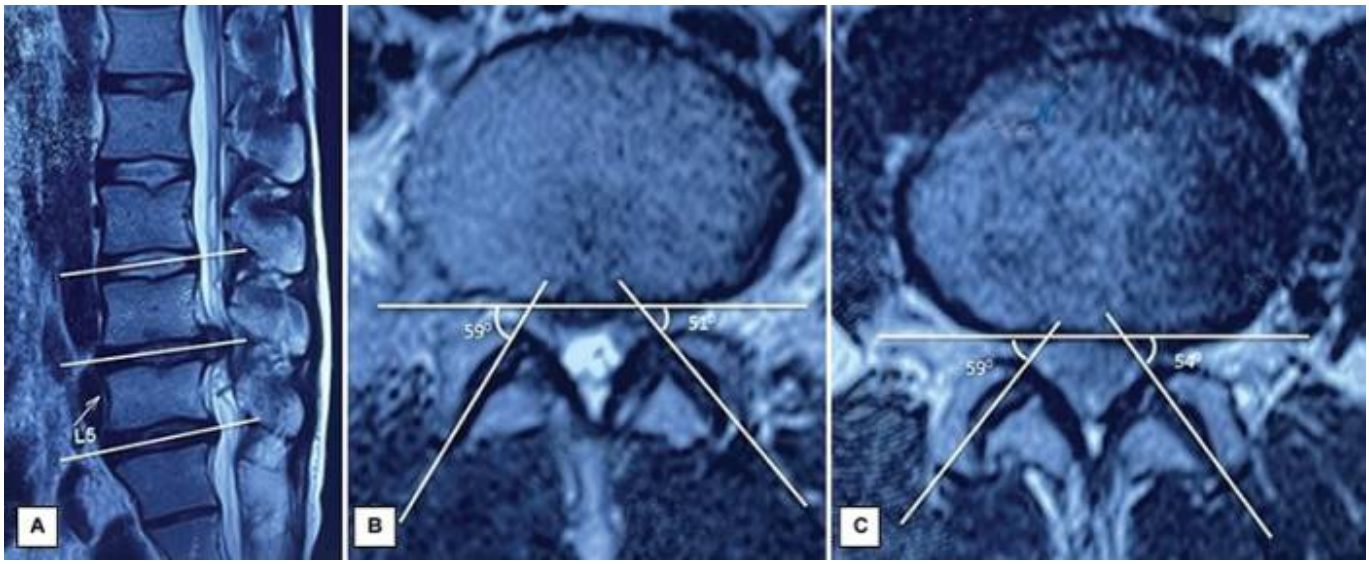
Facet tropism (FT) is defined as an asymmetry in the angles of the facet joints of left and right sides.

[1] [2]

No facet tropism (no asymmetry) Grade 0 ≤ 6°

Moderate facet tropism (moderate asymmetry) Grade 1 7°–15°

Severe facet tropism (severe asymmetry) Grade 2 ≥ 16°



(A) T2-weighted magnetic resonance imaging scan on sagittal view showing mid-disc cut at the levels from L3 to S1; (B,C) axial sections of T2- weighted images showing the angles of the left and right facets and disc prolapse with facet tropism at different levels. (Facet angle measurement: a reference line is drawn along the posterior border of the vertebra in the coronal plane. Facet lines joining the anteromedial and posterolateral ends of the facet joints are drawn on both sides intersecting the reference line. The angle between the facet lines and the coronal reference line are the facet angles.)

Yadav et al. found a positive association between FT and disc herniation at the L3-L4 level, but no association at the L4-L5 and L5-S1 levels. [3].

[1]
Boden S D, Riew K D, Yamaguchi K, Branch T P, Schellinger D, Wiesel S W. Orientation of the lumbar facet joints: association with degenerative disc disease. J Bone Joint Surg Am. 1996;78(03):403–411.
[2]
Karacan I, Aydin T, Sahin Z. Facet angles in lumbar disc herniation: their relation to anthropometric features. Spine (Phila Pa 1976) 2004;29(10):1132–1136.
[3]
Yadav S, Arya R, Dakshinamoorthy R, Jha AA, Jain S, Kumar I. Facet Tropism/Inclination and Its Association with Intervertebral Disc Herniation in the Lumbar Spine - A Radiological Evaluation. Rev Bras Ortop (Sao Paulo). 2022 Apr 19;57(6):941-946. doi: 10.1055/s-0042-1742338. PMID: 36540729; PMCID: PMC9757969.