

## The morphology of acute disc herniation: a clinically relevant model defining the role of flexion.

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OBJECTIVE: To investigate how flexion affects the anulus' ability to resist rupture during hydrostatic loading, and determine how the characteristics of the resulting disc failures compare with those observed clinically.

CONCLUSION: Flexion places the anulus at risk by facilitating nuclear flow, limiting circumferential disruption while promoting radial rupture, and rendering the endplate/vertebra junction vulnerable to failure. Flexion may play a developmental role in those herniations possessing a central posterior radial rupture that incorporates a short span of endplate disruption along the apex of the vertebral rim.