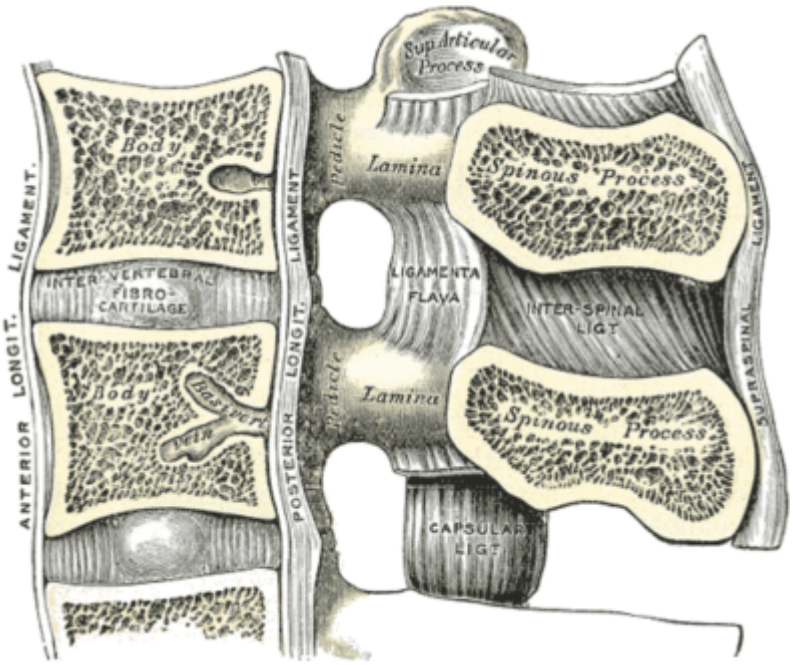

The facet capsular ligaments encapsulate the bilateral spinal facet joints and are common sources of painful injury due to afferent innervation. These ligaments exhibit architectural complexity, which is suspected to contribute to the experimentally observed lack of co-localization between macroscopic strain and microstructural tissue damage. The heterogeneous and multiscale nature of this ligament, combined with challenges in experimentally measuring its microscale mechanics, hinders the ability to understand sensory mechanisms under normal or injurious loading [1)].

1)

Zhang S, Zarei V, Winkelstein BA, Barocas VH. Multiscale mechanics of the cervical facet capsular ligament, with particular emphasis on anomalous fiber realignment prior to tissue failure. Biomech Model Mechanobiol. 2017 Aug 18. doi: 10.1007/s10237-017-0949-8. [Epub ahead of print] PubMed PMID: 28821971.