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Sciatic nerve movement in the deep gluteal space during hip rotations maneuvers

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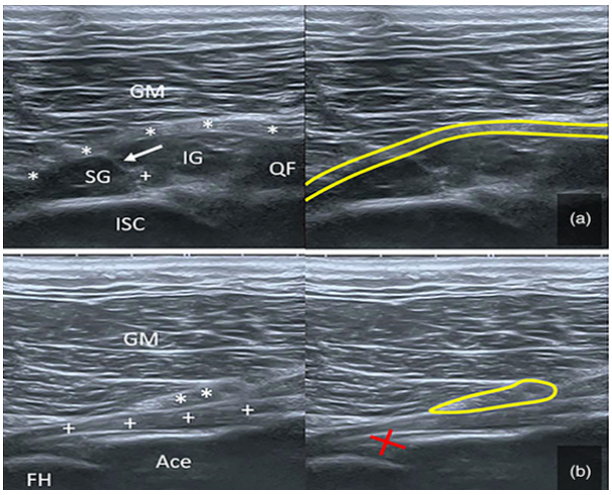

We hypothesize that the sciatic nerve in the subgluteal space has a specific behavior during internal and external coxofemoral rotation and during isometric contraction of the internal and external rotator muscles of the hip. In 58 healthy volunteers, sciatic nerve behavior was studied by ultrasound during passive internal and external hip rotation movements and during isometric contraction of internal and external rotators. Using MATLAB software, changes in nerve curvature at the beginning and end of each exercise were evaluated for longitudinal catches and axial movement for transverse catches. In the long axis, it was observed that during the passive internal rotation and during the isometric contraction of external rotators, the shape of the curve increased significantly while during the passive external rotation and the isometric contraction of the internal rotators the curvature flattened out. During passive movements in internal rotation, on the short axis, the nerve tended to move laterally and forward, while during external rotation the tendency of the nerve was to move toward a medial and backward position. During the isometric exercises, this displacement was less in the passive movements. Passive movements of hip rotation and isometric contraction of the muscles affect the sciatic nerve in the subgluteal space. Retrotrochanteric pain may be related to both the shear effect of the subgluteus muscles and the endoneural and mechanosensitive aggression to which the sciatic nerve is subjected.

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