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Unilateral centrifugation

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In this test, subjects are rotated about an earth vertical axis at a velocity that is relatively high, e.g., 400 degrees per second. After rotating at a constant velocity for several seconds, the subject is gradually moved 4 cm first to the right, and then to the left, along an interaural axis, to a position at which one utricle and then the other becomes aligned with the axis of rotation. At these points, one utricle is exposed to the combination of gravity and a centrifugal acceleration of 0.4 g, corresponding to an apparent roll-tilt of 21.7 degrees. The other utricle is only exposed to gravity. This stimulus induces ocular counter-rolling, *i.e*., ocular torsion, which is measured using three-dimensional video-oculography (VOG). This test dates from the early 1990s, as described by Wetzig *et al*.,[1] and was further developed by Clarke *et al*.[2] The amount of ocular counter-rolling is a linear function of the apparent gravito-inertial tilt of the head during the lateral translation.[3] Using this method, utricular sensitivity and the preponderance of the right or left utricle can be assessed separately. This method is much more powerful than the simple lateroflexion test because it permits the localisation of the side of utricular dysfunction.[4]

References

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