

Neuro-ophthalmological examination



최 광 동

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Eye movements can be best understood by considering their functions. Of the conjugate types of eye movements, vestibular, optokinetic, and visual fixation systems act to hold images of the seen world steady on the retina; their function is to hold gaze steady. Saccades, smooth pursuit, and vergence eye movements, working together, acquire and hold images of objects of interest on the fovea; their function is to shift gaze. With the evolution of the fovea and frontal vision, saccadic, smooth pursuit, fixation, and vergence systems became necessary. These gaze-shifting movements are under voluntary control so that it is possible to choose which part of the visual scene one wants to scrutinize using the fovea. The performance of the ocular motor system is undergoing constant recalibration and readjustments to assure optimal visual capabilities. The cerebellum plays an important role in this adaptive control of eye movements. An understanding of the properties of each functional class of eye movements will guide the physical examination. Knowledge of the neural substrate of each class of eye movements will aid topological diagnosis. Knowledge of current hypotheses of the control of eye movements aid the interpretation of disorders of ocular motility and may advance understanding of how the brain controls movements of the eyes in normal human beings.
