DESCRIPTION

This volume provides a snapshot of the state of the art of oculomotor and vestibular research, focusing on the bridge between laboratory and clinical research and the interdisciplinary relationships among ophthalmology, neurology, and otology.

A common theme in contemporary neuroscience is how the brain learns and adapts at the most basic levels and how patients can benefit from this type of research. Recent advances in the physiology and anatomy of the eye muscles and other orbital structures and their relevance to strabismus sets the stage in the first section. Then, attention shifts to the vestibular system, beginning with the peripheral applications to clinical neuro-otology, including adaptive control of vestibular reflexes and the implications for programs of physical rehabilitation of patients. Further chapters are directed toward the mechanisms of eye movement control developed specifically in foveate species -- saccades, pursuit, and vergence -- here with an emphasis on applications to clinical neurology and neuro-ophthalmology. Finally, the role of higher-level cerebral processing in the control of eye movements is presented in the framework of state-of-the-art brain imaging and sophisticated behavioral testing paradigms in both humans and experimental animals.

The volume provides a critical update from a number of disciplines -- both clinical and basic -- to bring basic physiology to the bedside and vice versa.

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Stefano Ramat and Dominik Straumann are the authors of Clinical and Basic Oculomotor Research: In Honor of David S. Zee, Volume 1039, published by Wiley.

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