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Sommario/riassunto	<p>Eye movements provide rich source of information about brain functioning for neurologists and neuroscientists. They provide diagnostic clues, define, and localize motor and cognitive disorders. Objective eye movement assessments associated with clinical observation and genetic testing in neurodegenerative, neurometabolic, and neurogenetic diseases provide insight into their pathophysiology and disease mechanism. Finally the eye movements may be used for testing and following the response to therapies. The concrete value of studying eye movement stems from a number of advantages compared to the study of movements of axial or limb muscles.</p> <p>The eye movements are accessible to clinical inspection, they can be measured precisely, their interpretation is clear and therefore ocular motility examination has high localization value. There are several standardized tasks to study of each subclass of eye movements that are recognized for motor or cognitive behavior. Indeed the studies of eye movement had allowed test of motor and cognitive functions of the brain in a vast range of neurological disease. Both cortical and subcortical dysfunctions may be detected with the analysis of subclasses of eye movements and interpreted in association with other clinical, laboratory and neuroimaging features.</p> <p>The goal of this topic-focused volume of Frontiers in Neurology is to gather seminal studies, from well-known scientists and laboratories from across the world, delineating the features of eye movements and vestibular system in</p>

neurogenetic, neurometabolic, and neurodegenerative disorders. Such collection of articles, to our knowledge, is unique and never done in the past. The topics and the compilation will be of interest to broad groups of neuroscientists and neurologists for the reasons as follows:

1) Neurodegenerative diseases represent a large portion of neurological diseases encountered in neurological clinical practice. Eye movement changes may occur early in their course and may be specific, thus orienting the diagnosis.

2) Neurometabolic and neurogenetic conditions, although rare, show specific and characteristic eye movements that represent the hallmark of the disease. Such disorders often represent a pathologic model that helps to understand the normal functioning of specific brain regions and networks.

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