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Chapter 14 The Vestibular System

Overview

The vestibular system provides the sense of balance and the information about body position that allows rapid compensatory movements in response to both self-induced and externally generated forces. The peripheral portion of the vestibular system is a part of the inner ear that acts as a miniaturized accelerometer and inertial guidance device, continually reporting information about the motions and position of the head and body to integrative centers located in the brainstem, cerebellum, and somatic sensory cortices. Although we are normally unaware of its function, the vestibular system is a key component in both postural reflexes and eye movements. If the system is damaged, balance, control of eye movements when the head is moving, and sense of orientation in space are all adversely affected. These manifestations of vestibular damage are especially important in the evaluation of brainstem injury. The circuitry of the vestibular system extends through a large part of the brainstem, and simple clinical tests of vestibular function can be performed to determine brainstem involvement, even on comatose patients.

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