



Mayo Case 2010-233: A Simple Device and Method for Measuring Ocular Counter Roll

Problem

Damage to the inner ear vestibular system can cause dizziness and imbalance, but accurate diagnosis is difficult to diagnose without sophisticated and expensive equipment. Because these symptoms are common, proper diagnosis of vestibular damage is often missed.

Solution

This invention offers an inexpensive and effective way to diagnose damage to the inner ear vestibular system. The otolith organs (the utricle and saccule of the inner ear) are the primary inertial sensors of the body. Activation of the otolith organs by linear acceleration generates spinal and ocular reflexes that act to maintain posture and gaze. When the head is tilted to the side, the eyes roll in the opposite direction. This head tilt induced reflex tends to align the eyes with the horizon. This invention includes a device and methods for quantifying ocular counter roll and detecting vestibular otolith damage.

Stage of Development

Prototype in development.

Intellectual Property

U.S. Patent [9,332,904](#) issued May 10, 2016.

Contact Information

Peter (Pete) A. Ball (507) 293-7378
ball.peter@mayo.edu

MAYO CLINIC VENTURES
Minnesota BioBusiness Center 4
200 First Street Southwest
Rochester, MN 55905

phone: 507-293-3900
web: ventures.mayoclinic.org
email: mayoclinicventures@mayo.edu
twitter: @MayoInvents