Goggles for at-home eye movement monitoring

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Technology description

Background
Many patients with episodic vertigo and dizziness cannot be diagnosed because their problem is not present when they see their doctor. Much like episodic cardiac disorder wherein the recording of the cardiogram is performed at home in the ambulatory setting, there is a need to record a physiologic measure that reflects balance function at home during attacks of dizziness and vertigo. Technology Description Investigators at the University of Pittsburgh have developed a device that will enable patients to record their eye movements during episodes of dizziness and vertigo. These data will enable physicians to evaluate physiologic data collected during attacks of dizziness and vertigo and thereby improve diagnostic accuracy and thus treatment of many common balance disorders. The recording of eye movements at home will be accomplished by portable, rugged goggles that will record infrared images of the eye using infrared illumination with a frame rate of at least 60Hz. These data will be analyzed by the ordering physician with the video images of eye movements and incorporated into the diagnostic process much like Holter monitor data for cardiac evaluations.

Application area

The new device will enable the recording of eye movements of patients with intermittent neurologic disorders and vertigo that cause abnormal eye movements.

Advantages

-Portable
-Can be given to patients to take home with them
-Captures abnormalities during episodes that would not otherwise be seen
-Provides useful clinical data unavailable otherwise that will be useful for diagnosis and treatment

Institution

University of Pittsburgh

Inventors

Joseph Furman
Mark Redfern