

Telestroke Eye Examination Accessory

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Technology description

Background:

With more than 17 million deaths annually, Stroke is a leading cause for adult disability. About 87 percentage are made up by acute ischemic stroke that occur due to obstruction of blood vessels are triaged via telemedicine. Some strokes are present with visual symptoms or vertigo with visual disturbances. However, it is difficult to assess posterior circulation strokes via telemedicine. Curative, time-sensitive treatment is sometimes withheld due to inaccurate evaluation. Thus, there is a need in the art for new and improved devices, systems, and methods for evaluating patients for symptoms of strokes.

Invention Description:

Researchers at the University of Toledo have developed a telestroke eye examination device for accurately assessing visual fields and monitoring eye movements without relying on a person at the bedside of the patient. The novel device consists of a custom made head-mounted eye gear with a camera pointed towards the eyes of the wearer and allows the practitioner to remotely assess a patient's field of vision without the help from a person to observe the patient's eye movements. Additionally, a mobile application will aid the practitioner to control the cameras, control light synchronization, collect live data on eye movement, and act as a wireless communication between the accessory device and the practitioner. The novel device can also work with existing telestroke apps and software.

Application area

Treatment of acute ischemic stroke.

Advantages

- The novel tool can act as a detection tool for emergency medical respondents in ambulance, hospital ER, transport helicopters.
- The accompanied software is compatible with existing telestroke apps.
- The novel device eliminates the need of CT technician, Nurse, emergency staff as the Neurologists can directly see the patient information through mobile app.

- The novel device allows patients who are away from a Stroke center to remotely access to stroke specialists who can evaluate their symptoms in real-time with less reliance on bedside personnel for assistance.
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Institution

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