5 important features in VisualEyes™

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It can be challenging to narrow down the list of features of VisualEyes™, and the list may differ according to your clinical practice need. Having said that, here is my top five.

Torsional analysis

The addition of a torsion algorithm allows for objective assessment of rotary nystagmus. This provides much more precise data when compared to observing torsion with the naked eye. Torsional analysis is a valuable supplement to horizontal and vertical assessment in the oculomotor test battery, as it can help to support or exclude an initial diagnosis in certain clinical scenarios. A handy feature is that the torsional nystagmus is plotted over time so you can monitor the changes in the torsional eye movements throughout the entire maneuver.

VORTEQ™ sensor protocols

The addition of the VORTEQ™ wireless IMU allows you to add several new protocols to your clinic without the need to add a lot of extra hardware. With this addition, you can perform Active Head Rotation, Dynamic Visual Acuity and the more advanced Dix-Hallpike; the latter using torsional analysis mentioned above.

3D modeling

The 3D head model that was introduced in EyeSeeCam vHIT in 2019 has made its way to VisualEyes™ and oculomotor testing. This is very helpful for the clinician, as it gives an animated picture of the patient's head orientation, thereby providing an assurance of correct testing. For example, the 3D head model is a very useful guide when performing BPPV maneuvers.

Saccadometry

Saccadometry has been used in neurology for several years. It quantifies saccades in depth and with precision to identify acute and degenerative central vestibular disorders. You can choose between two discrete tests: pro-saccades and anti-saccades. Pro-saccades are volitional saccades directed toward a rapidly presented target, whereas anti-saccades are directed opposite to the target and include a cognitive task. The error rate is a very sensitive measure that quantifies how many times the patient incorrectly performs the task. Our pilot research studies already show this to be a promising diagnostic measure in concussion injuries.

EyeSeeCam vHIT in VisualEyes™

Having EyeSeeCam vHIT included in VisualEyes™ allows you to generate a single report with both your vHIT and VNG results combined. You can also now perform monocular oculomotor testing using the EyeSeeCam vHIT goggle. This can save time when you just need a quick look at how the eyes are moving and to check for gaze nystagmus or abnormal eye movements. If you decide you need to take a more detailed look, simply switch to your binocular VNG goggle and continue the testing.

Dr. Michelle Petrak is the Director of Clinical Audiology and Vestibular Research for Interacoustics. Her primary role is development and clinical validation of new technologies in the vestibular and balance areas. She is located in Chicago where she is a licensed private practice clinical audiologist at Northwest Speech and Hearing (NWSPH).