What is a VEMP?

The Vestibular Evoked Myogenic Potential (VEMP) is an evoked potential that provides information about the integrity of the otolith organs and their afferent pathways. There are two types of VEMP test: Cervical VEMP (cVEMP) and Ocular VEMP (oVEMP).

The cVEMP is easily recorded using surface electrodes at four sites; vertex, left and right sternocleidomastoid (SCM) muscles and a ground electrode using loud clicks or tone bursts at slow stimulus rates.

CvEMP testing is used in addition to the traditional vestibular tests such as VNG as it is the only test to isolate the function of the saccule and inferior vestibular nerve. An automated Amplitude Asymmetry Ratio calculation allows comparison of vestibular function between the left and right ear. CvEMP is used to diagnose Superior Semicircular Canal Dehiscence (SSCD) and inferior nerve disorders.

Recently, the oVEMP, a test of the utricle and superior vestibular nerve function, has also become of interest to clinicians assessing vestibular function. The oVEMP is recorded using electrodes placed underneath the patient’s eyes.

The Eclipse comes with pre-programmed cVEMP & oVEMP protocols.
Combines with Interacoustics VNG to make a complete balance system.
The VEMP monitor assists the patient in maintaining adequate muscle contraction during testing.

**Pre-programmed VEMP protocols**

The Eclipse comes with pre-programmed VEMP protocols and is ready to use immediately. The pre-programmed VEMP protocols can also be modified easily to fit your clinic needs or new protocols can be created.

Simply choose the intensity and select the ear to test on the Record sheet, while instructing the patient to activate the SCM muscle for cVEMP testing using either the head turn or head lift activation technique or have the patient look upward at a 30 degree angle for oVEMP testing.

**Muscle tonus monitoring**

Among the several setup options, is the "EMG controlled recording", which means that the system will only collect data when the patient provides the correct muscle tonus. The VEMP monitor provides a visual ("Patient EMG Monitor") or audible ("Monitor Tone") indicator to assist the patient in maintaining adequate muscle contraction in real time (for cVEMP only).

**VEMP ratio - easy calculation**

Following VEMP waveform collection, the waveforms for use in the asymmetry calculation can easily be set. After collection, choose a left or right ear by double clicking on the waveform handle. Next, right click on the waveform handle of the opposite ear and select "Set as VEMP Partner". These two selected waveforms will be used in the automated Amplitude Asymmetry Ratio calculation. Comments can be added in the included report editor and printed with the graphs.

**Automatic Left / Right tonus compensation**

Varying muscle contractions normally occur during cVEMP testing, but can result in incorrect asymmetry calculations and lead to incorrect patient diagnosis. Interacoustics have developed a feature called “EMG scaling” to avoid this potential problem. Before or after the cVEMP recording, it is possible to right click on the waveform and choose EMG Scaling. Waveforms will then be scaled according to the average EMG values recorded throughout the collection. This will make individual waveforms comparable, even though slightly different degrees of muscle tonus may have been applied during the recordings.