

## Electrocochleography (ECoChG)

Electrocochleography (ECoChG) is an ABR protocol where the electrode is placed as close to the tympanic membrane or the cochlea as is realistic depending on the type of electrode and the skill and training of the professional placing the electrode. The ECoChG stimulus is a click or tone burst presented at a relatively slow rate (11.1/sec). The response is collected from 0 to 5 msec. The test is used to identify Ménière's disease, particularly hydrops, and for other applications.

The components of ECoChG are:

◆ **CM (cochlear microphonic)**

a stimulus-dependent cochlear response, which changes direction with changing polarity. Hence, it is not detected when averaging is performed to alternating polarity.

◆ **SP (summing potential)**

direct current response from the Organ of Corti hair cells. SP is often seen as a leading hump on the AP or wave I, although sometimes it can appear as a separate hump.

◆ **AP (action potential)**

alternating current response generated by the cochlear end of the 8th nerve (wave I). The AP represents the summed response of thousands of firing auditory nerve fibers. ECoChG testing is used to:

- ◆ Identify and monitor Ménière's disease
- ◆ Enhance ABR wave I for identification of the Wave I-V interval
- ◆ Monitor cochlear function during surgical procedures

An ECoChG test is indicated for a patient who complains of:

- ◆ Unilateral hearing loss
- ◆ Buzzing or fullness sensation in the ear
- ◆ Balance difficulties
- ◆ When there is a suspicion of acoustic neuroma.