What is ECOG (electrocochleography)?

This is a test that helps diagnose inner ear disease. The inner ear contains the organs for balance and hearing. These organs are part of a single chamber filled with fluid.

What does it do?

**Meniere’s disease**

This test can help find Meniere’s disease, a condition caused by too much fluid in the inner ear. When there is too much fluid, pressure develops in the ear.

Symptoms include:

- Dizziness
- Ringing in the ear (tinnitus)
- Fullness in the ear
- Hearing loss.

**Bone thinning in semicircular canals**

ECOG can also help find a condition caused by thinning or absence of bone around the semicircular canals. Changes in the semicircular canals can make people more sensitive to pressure changes and loud sounds.

Symptoms include:

- Hearing loss
- Dizziness due to loud noises
- Self-made noises sound extra loud
- Fullness in the ear
- Ringing in the ear (tinnitus).
How is the test done?

The test records electrical signals made by the inner ear and auditory nerve.

- First, we clean the skin before placing sticky patches (electrodes) in several places on the head and shoulders.

- One more electrode is placed in the ear canal. This is a small piece of cotton, soaked in water, connected by a tiny wire.

- The examiner looks through a microscope to place the electrode on the eardrum. Most patients feel a tickle or slight pressure when this is done. A few patients feel mild discomfort.

- After the cotton is in place, most patients do not feel it at all. A foam plug placed in the ear canal holds the electrode in place.

- The plug also serves as an earphone for sounds presented as part of the test. The patient hears very rapid clicks that are loud but usually not uncomfortable.

- The patient lies on a bed and should try to relax. Many people sleep through the test.

ABR (auditory brainstem response) test

The ABR test is usually done at the same time as ECOG. This test records electrical signals made by the brain when it hears sounds. The electrodes can also record brain signals so that both tests can be done at the same time. The two tests together can help find out where your symptoms come from.

The two tests usually take about 2 hours. It takes another hour to read the results and write a report. The report is sent to the referring doctor who will choose a treatment.