

# SAN FRANCISCO OTOLARYNGOLOGY

*Providing ear, nose, and throat care since 1940*

## **ADULT AUDITORY BRAINSTEM RESPONSE (ABR) TEST**

Your physician has referred you for an Auditory Brainstem Response (ABR) test because you are presenting with any of the following symptoms: difficulty hearing conversational speech, perceiving noises in your ears or inside your head, experiencing a sensation of fullness in one or both ears, or having balance problems. The audiologist has already completed a variety of tests to assess your hearing and results suggest further assessment is warranted.

The ABR is an objective test that measures “brain waves” produced when the ear hears sounds. This test assesses synchronous firing of neurons along the auditory (hearing) pathway, from the ear to the brainstem. This procedure is best performed while you are asleep. Upon completion of the test, the audiologist will discuss all the results. A report will be written to you as well as the referring physician discussing the results and any recommendations.

### **How is the test performed?**

Sensors called electrodes are placed on your forehead and behind your ears or on the earlobes. A series of sounds/clicks are presented to the ears through earphones. The electrodes pick up electrical energy produced by the auditory nerve and brain in response to the sound being introduced. A computer averages the signal and produces a waveform that shows the brain's response. You will be lying supine on a procedure table for the duration of the test. Many patients drift off into natural sleep. The test takes about 1 1/2 hours to complete and will not cause any discomfort.

### **What information does the ABR provide?**

The ABR can be used to identify the presence or absence of hearing loss and a possible cause. In addition, careful analysis of the ABR wave patterns can help identify the presence of certain medical conditions that affect hearing, such as tumors or growths along the auditory pathway or other neurological diseases like multiple sclerosis.

### **Is the ABR reliable?**

Yes, however, you should realize no single test is ever 100% accurate and this is true for ABR as well. All available patient information and test results contribute to an accurate evaluation and subsequent treatment plans.