

Neurology Associates

Explanation of Tests

Computerized tomography or computer assisted tomography (CT or CAT scan). This test uses x-rays and computers to create multi-dimensional images of selected body parts. Dye may be injected into a patient's vein to obtain a clearer view. Other than needle insertion for the dye, this test is painless.

Magnetic Resonance Imaging (MRI). An MRI is an advanced way of taking pictures of the inner brain. It is harmless and involves magnetic fields and radio waves. It is performed when a patient is lying in a small chamber for about 30 minutes. It is painless, but may be stressful for individuals with claustrophobia (fear of closed areas). A physician can offer options to help you relax.

Carotid Doppler. This test uses sound waves to measure blood flow in the vessels of the neck (carotid arteries). It can detect any blockages or narrowing of the vessels. This test is painless.

Electroencephalogram (EEG). The EEG records the brain's continuous electrical activity through electrodes attached to the scalp. It is used to help diagnose structural diseases of the brain and episodes such as seizures, fainting or blacking out. This test is painless.

Electromyogram (EMG) and Nerve Conduction Studies (NCS). An EMG measures and records electrical activity in the muscles and nerves. This may be helpful in determining the cause of pain, numbness, tingling, or weakness in the muscles or nerves. Small needles are inserted into the muscle and mild electrical shocks are given

to stimulate the nerve. Nerve conduction studies measures the ability of the peripheral nerves to conduct electricity. It detects areas in the nerves which may be pinched or compressed and where this process may be occurring (i.e., this is the test used to diagnose carpal tunnel syndrome). The EMG and NCS are typically done at the same time. There may be some mild discomfort associated with this test.

Evoked Potentials. This test records the brain's electrical response to visual, auditory and sensory stimulation. This test is useful in evaluating and diagnosing symptoms if dizziness, numbness and tingling, as well as visual disorders. Discomfort may be associated with this test.

Sleep Studies. These tests are used to diagnose specific causes of sleep problems. To perform the tests, it is often necessary for a patient to spend the night in a sleep laboratory. Brain wave activity, heart rate, electrical activity of the heart, breathing and oxygen in the blood are all measured during the sleep test. The test is painless.

Cerebrospinal Fluid Analysis (Spinal Tap or Lumbar Puncture). This test is used to check for bleeding, hemorrhage, infection, inflammation or other disorders of the brain, spinal cord and nerves. In this test, the lower back is numbed with local anesthesia and a thin needle is placed into the space that contains the spinal fluid. The amount of spinal fluid that is needed for the tests is removed and the needle is withdrawn. Discomfort may be associated with this test.