**Procedure information**

**EEG (Electroencephalogram)** An electroencephalogram (EEG) is a test that detects electrical activity in your brain using small, metal discs (electrodes) attached to your scalp. Your brain cells communicate via electrical impulses and are active all the time, even when you are asleep. This activity shows up as wavy lines on an EEG recording. Disorders diagnosed with EEG’s include, but not limited to, epilepsy and other brain disorders.

**Ambulatory EEG (Electroencephalogram)** An Ambulatory EEG uses a digital recording system to record brain activity for 24-72 hours while you go about your daily routine.

**EMG/NCS (Electromyography/Nerve Conduction Study)**

**EMG (Electromyography)** An EMG is a diagnostic procedure to assess the health of muscles and the nerve cells that control them. EMG results can reveal nerve dysfunction, muscle dysfunction or problems with nerve-to-muscle signal transmission. Motor neurons transmit electrical signals that cause muscles to contract. During a needle EMG, a needle electrode inserted directly into a muscle records the electrical activity in that muscle. A nerve conduction study is another part of an EMG.

**NCS (Nerve Conduction Study)** A nerve conduction study measures peripheral nerve function. During the test, you nerve is stimulated with mild amounts of electricity and the stimulation is recorded. Conditions diagnosed with NCS include, but are not limited to, compressive mononeuropathy, such as carpal tunnel syndrome and cubital tunnel syndrome, peripheral polyneuropathy, and brachial plexus injury.

Your doctor may order an EMG/NCS if you have signs or symptoms that may indicate a nerve or muscle disorder. Such symptoms may include:

* Tingling
* Numbness
* Muscle weakness
* Muscle pain or cramping
* Certain types of limb pain

**VNG (Videonystagmography)** A VNG is a series of tests that evaluate the health of your vestibular (balance portion of inner ear) and your central motor function. There are 3 main parts of the VNG: 1) **Ocular mobility**. The patient watches steady and moving dots on a wall, 2) **Positional nystagmus:** The patient’s head and body are moved into different positions to determine if this causes nystagmus. 3) **Caloric testing**: Air is instilled into the ear canal at different temperatures to stimulate the inner ear. This determines if one ear reacts differently from the other indicating an inner ear weakness.

**TCD (Transcranial Doppler)** TCD is a non-invasive, painless ultrasound technique that uses high-frequency sound waves to measure the rate and direction of blood flow inside intracranial vessels.

**VEP (Visual Evoked Potential)** A visual evoked potential is a non-invasive vision test used to objectively measure neurological responses of the entire visual pathway. VEP measures neurological responses by measuring the electrical activity in the vision system. **The VEP test measures the strength of the signal reaching your visual cortex and how fast it gets there.**

# SSR (Sympathetic skin response): A test for Dysautonomia. Measures changes of the electrical potential of the skin. The recorded skin potential comes from the activated eccrine sweat gland. The amplitude and configuration are adjusted by sweat gland epithelium and the overlying epidermis.