

CNMRI_{PA}

NEUROLOGY • SLEEP DISORDERS CENTER • PHYSICAL MEDICINE • REHABILITATION
(302) 678-8100 • (877) 678-8100 • www.cnmri.com

INFORMATION REGARDING YOUR CEREBROVASCULAR STUDY

NAME: _____ APPT ON: _____ LOCATION: _____

Your physician has requested that you have an examination of your carotid, vertebral and intracranial blood vessels. This evaluation primarily detects atherosclerotic disease (commonly referred to as blockage or hardening of the arteries). The two carotid and two vertebral arteries (total of four) supply blood to the brain. Disease in these vessels may be responsible for stroke, transient ischemic attack or other neurologic symptomatology.

WHAT IS AN ULTRASOUND EXAMINATION? An ultrasound examination is a safe, non-invasive and painless test. A soft, comfortable scan head, which sends inaudible high frequency sound waves is placed on the neck. The sound waves reflect off various structures in the neck, including blood vessels, and are picked up by the scan head. This allows one to visualize blood vessels and determine blood flow, vessel blockages and wall abnormalities.

FOR THE TECHNICALLY MINDED: The study consists of two parts. First, a two-dimension color image or picture of the area is produced by B-mode ultrasound and angiodynographic techniques. This 2-D image allows direct visualization of blood vessels supplying the brain. The Doppler and angiodynographic portion of the test is used to evaluate blood flow. Movement of blood cells within blood vessels produces a "doppler shift" which is analyzed mathematically, allowing determination of blood cell velocity. It works very much like police radar. By convention, red is coded to arterial or forward flow whereas blue represents venous or reversal of flow.

The combination of color flow imaging or angiodynography with spectral analysis of the doppler frequency shift is called triplex (3 part) ultrasound. These three modes of examination allow a sensitive and specific assessment of blood vessel narrowing or blockage, vessel compliance and vessel wall structure.

PREPARATION FOR THE TEST: It is suggested that you wear a casual, loose shirt or blouse. This may allow you to avoid undressing. Necklaces and earrings have to be removed before the test is performed. The test takes about 30 minutes to complete.

A detailed, dictated report regarding your test is sent to your doctor. It is suggested that you discuss the results with him in detail.