



STROKE TESTS: WHAT PATIENTS AND FAMILIES SHOULD KNOW

Advances in technology now make it possible to examine how the brain looks, functions and get its blood supply. These tests can outline the affected part of the brain and help define the problem created by stroke.

WHAT IMAGING TESTS MAY BE DONE?

Computerized Tomography (CT or CAT scan) is a test that uses a combination of x-rays and computer technology to produce pictures of the brain. For a CT Scan, the patient is placed flat on the x-ray table with their head placed inside the scanner. The patient is asked to remain very still. Sometimes contrast dye is used to outline areas of the brain. To do this an IV line will be placed and the dye will be injected as the pictures are taken. The time required to do the CT scan varies, but is usually about 15 minutes. Additional time is required for the patient to travel to and from the radiology department.

Magnetic Resonance Imaging (MRI/MRA, DWI) is a diagnostic procedure that uses a combination of large magnets, radiofrequencies, and a computer to produce detailed images of the brain and other parts of the body. During a MRI the patient will be asked to lie flat and still on a narrow table inside the round opening of a large magnet. During the exam, humming and clicking sounds will be heard as the images are taken. Because the MRI uses a magnet to produce pictures, a worksheet is completed by the patient or family to screen for metal prior to the MRI. The opening to the MRI scanner is small and makes some people feel claustrophobic, so medications may be given to help the patient relax during the MRI. The length of time needed for the MRI varies a lot depending on the type of pictures needed.

Carotid Doppler ultrasound test uses high-frequency sound waves to detect blockages in the carotid arteries that feed blood to the brain. A probe is placed on the patient's neck and ultrasound images are taken. This test may be done at the patient's bedside or in a special room in the radiology department.

Cerebral Angiography (A-gram) is a test that injects dye into the cerebral arteries, providing information about the blood vessels of the brain. A thin tube (catheter) is placed in the large artery of the leg and fed up to the neck and head. Dye is injected to outline the blood vessels. Several injections are required. After each injection of dye, x-rays are taken to look at the circulation of the blood in the brain. After the test, the catheter is removed from the leg and pressure is applied. The patient must lie still for several hours after the test is completed.

Echocardiogram (ECHO) is a test that uses ultrasound (high-frequency sound waves) to produce moving images of the heart beating on a video screen, evaluating the heart size and valves. One cause of stroke is a clot forming in the heart and then traveling to the brain, so an echo is often ordered on patients after a stroke.