



Diagnostic Service: Diagnostic Angiography

Diagnostic angiography is a procedure which physicians use to investigate abnormalities of the blood vessels. For the procedure a catheter is placed in the selected blood vessel and contrast is administered while a rapid set of x-rays is obtained analogous to time lapsed photography. It is the most accurate method to identify and define aneurysms, arteriovenous malformations, carotid stenosis and many other disease processes of vessels supplying the central nervous system. It is a relatively safe procedure, but a full explanation of the risks is given to each patient before the test.

Conscious sedation and local anesthesia is given before catheters are placed. For most angiography access to the arterial or venous system is safely via the femoral artery or vein in the hip area. The catheter is navigated into the aorta and then up into the cervical vessels under fluoroscopy. Contrast is administered and xrays are taken to examine the arteries and veins in the head or spine. Typically, the two carotid arteries in front and the two vertebral arteries in the back of the head are studied, so the angiogram may last from 1-3 hours. As part of this we may obtain a 3-D Rotational Angiogram. Here the x-ray tube rotates around the patient collecting images. The tube then moves in reverse while contrast is given. The images are subtracted and reconstructed into a 3 dimensional model. Afterwards, the puncture site must be compressed manually and the leg held straight for up to 3-6 hours to allow the artery to heal sufficiently before discharge. Most patients undergoing diagnostic angiography need to stay in the hospital for 3-6 hours depending on the type of catheter used and the type of closure used. This may include hemostatic patch with manual compression. Patients are always seen by a physician prior to discharge. After angiography, patients are instructed to avoid heavy lifting or exercise for 10 days and avoid swimming for 5 days. If bleeding should occur patients are instructed to go to have someone apply direct pressure to the site and go to the nearest emergency room.

Interventional Neuroradiology Program, Neurovascular Service

Massachusetts General Hospital

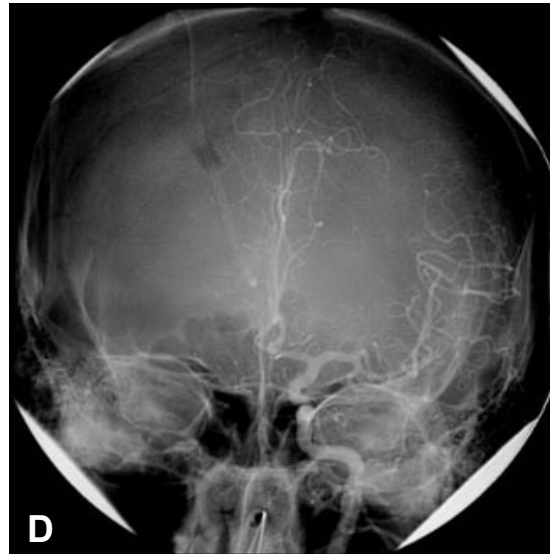
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(A) Angiogram of the left carotid artery in the neck shows the internal and external carotid arteries - subtracted view.

(B) Unsubtracted view.



(C) Angiogram of the left carotid artery supply to the brain with the internal carotid artery, the anterior and middle cerebral arteries - subtracted view.

(D) Unsubtracted view.

The Neurovascular Service at Massachusetts General Hospital provides a multidisciplinary approach to patient care that combines neurosurgery, neurology and interventional neuroradiology. Based in the Department of Radiology, the Neurovascular Service's Interventional Neuroradiology Program uses minimally invasive procedures to treat a range of neurovascular disease and spinal disorders. For more information, visit www.mgh-interventional-neurorad.org

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