



Diagnostic Service: Balloon Test Occlusion

Several vascular diseases may be best treated by deconstructive endovascular procedures. These include giant cavernous carotid artery aneurysms and end stage head and neck cancer, which involve the carotid artery. Physicians need to know whether there is enough collateral circulation in the brain to supply the brain without the risk of stroke.

The angiogram and test occlusion is a 3-4 hour procedure done with the patient awake with conscious sedation. Following a standard angiogram of the head and cervical vessels, a temporary balloon is placed in the carotid artery to be tested. Patients are given heparin for anticoagulation to prevent strokes from occurring. The balloon is inflated to block flow in the artery, and our Neurology team helps to evaluate the patient with neurologic tests for the next 20-25 minutes. During this time our Anesthesiologists will give a closely monitored hypotensive challenge to mimic physical activity. We also perform a nuclear medicine agent for evaluation following the angiographic exam. The nuclide is administered at the time of lowered blood pressure. This is fixed during the first pass through the circulation and provides a snapshot of blood flow to the brain analogous to a cardiac stress test. At the end of the test, the balloon is deflated and another angiogram and final neurologic test are performed. Patients are then observed for a few hours before discharge. Some patients may be admitted to undergo a permanent occlusion of the artery on the following day if the angiographic study, neurologic exam and nuclear medicine study are in accord.

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

Interventional Neuroradiology Program, Neurovascular Service

Massachusetts General Hospital

Phone: 617-726-1767

Email: info@mgh-interventional-neurorad.org