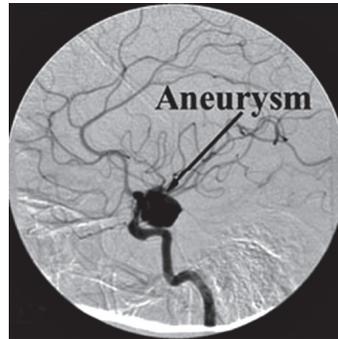


# Endovascular Treatment of Cerebral Aneurysms

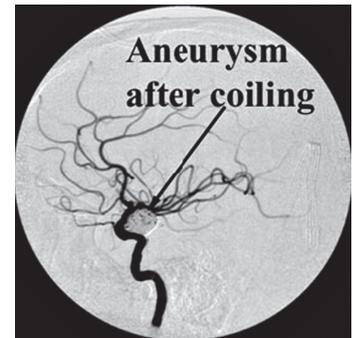
An **aneurysm** is an abnormal, outward swelling of the wall of an artery due to a weakness in the wall. A **cerebral aneurysm** involves an artery of the brain. It can either rupture, which causes bleeding and results in death or stroke, or it can compress surrounding brain tissue or cranial nerves (nerves from the brain that pass through separate openings in the skull), which can result in progressive neurological deficits.



Cerebral aneurysms are usually associated with aging. The average age is 40-60 years old. The most significant risk factors are cigarette smoking and family history (heredity). Aneurysms affect more females than males (3:2) and 20% of patients have two or more aneurysms.

Traditionally, treatment had been provided by a neurosurgeon who performed a craniotomy (opening of the skull) and placed a clip across the aneurysm. However, **endovascular treatment** has more recently been developed as a less invasive option. Today, the type of treatment chosen is dependent upon numerous factors such as the size, shape and location of the aneurysm, and the patient's condition. Some patients require both treatments.

Endovascular treatment involves inserting a catheter into a large artery, usually above the leg, and threading it through the blood vessels to the site of the aneurysm. Platinum coils are then dispensed through the catheter and placed carefully inside the aneurysm. (The number of coils used depends on the aneurysm's size.) The goal of "coiling" is to pack the aneurysm tightly in order to prevent blood flow into the aneurysm, thereby, avoiding rupture. It is sometimes necessary to add more coils at a later time to complete treatment and in certain situations, a stent is required to keep the coils inside the aneurysm. Some aneurysms may require occlusion (blocking off) of the blood vessel from which it arises.



## Know the Symptoms

Most cerebral aneurysms do not show symptoms until they become very large or rupture. Symptoms may include pain above and behind the eye, numbness, weakness or paralysis on one side of the face, dilated pupils and vision changes. Should an aneurysm rupture, the bleeding in the brain is called a subarachnoid hemorrhage and is life threatening. An individual may experience a sudden and extremely severe headache, double vision, nausea, vomiting, stiff neck and/or loss of consciousness.

Patients often describe the headache associated with a subarachnoid hemorrhage as "the worst headache of my life". It is generally different in severity and intensity from other headaches patients may experience. "Sentinel" or warning headaches may result from an aneurysm that leaks for days to weeks prior to rupture, however, only a minority of patients experience these warning headaches.

Other signs that a cerebral aneurysm has burst include nausea and vomiting related to a severe headache, a drooping eyelid, sensitivity to light, and change in mental status or level of awareness. Individuals may lose consciousness briefly or go into a prolonged coma. Some also have seizures. People who experience these symptoms should seek immediate medical attention.

yoUR imaging. yoUR location. yoUR Radiologist.