

## Vascular Conditions of the Brain

### Cerebral Aneurysm

A **cerebral aneurysm** is a balloon-like outpouching of an artery of the brain (Figure 3). They typically occur at the bifurcations of the arteries of the base of the brain, i.e. the circle of Willis. Cerebral aneurysms sort of resemble berries, and may be called berry aneurysms.

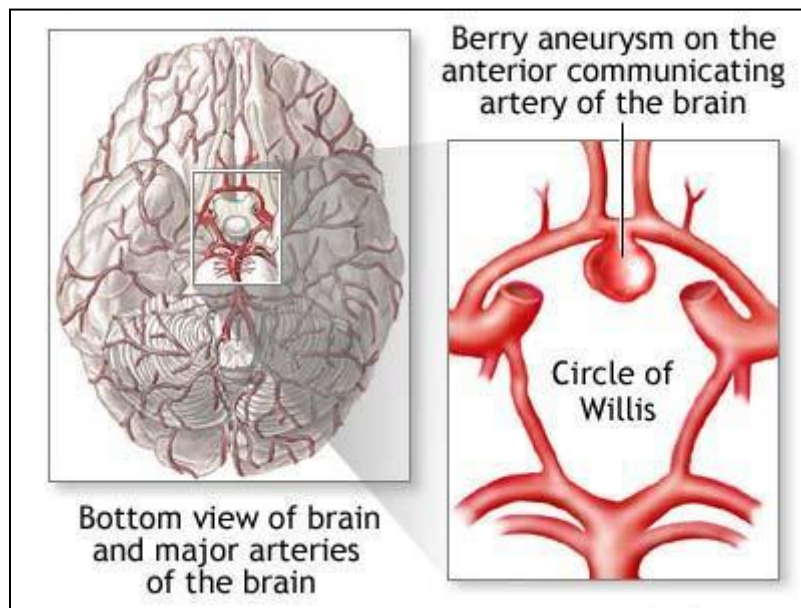


Figure 3: Drawing of Inferior View of the Brain Showing Circle of Willis and Cerebral Aneurysm

Cerebral aneurysms can rupture, causing hemorrhage within the subarachnoid space (subarachnoid hemorrhage). They can also hemorrhage into the brain itself and into the ventricles. About 50% of aneurysm ruptures are fatal. Of the remaining 50%, half of these end in good outcome, and half in poor outcome despite treatment.

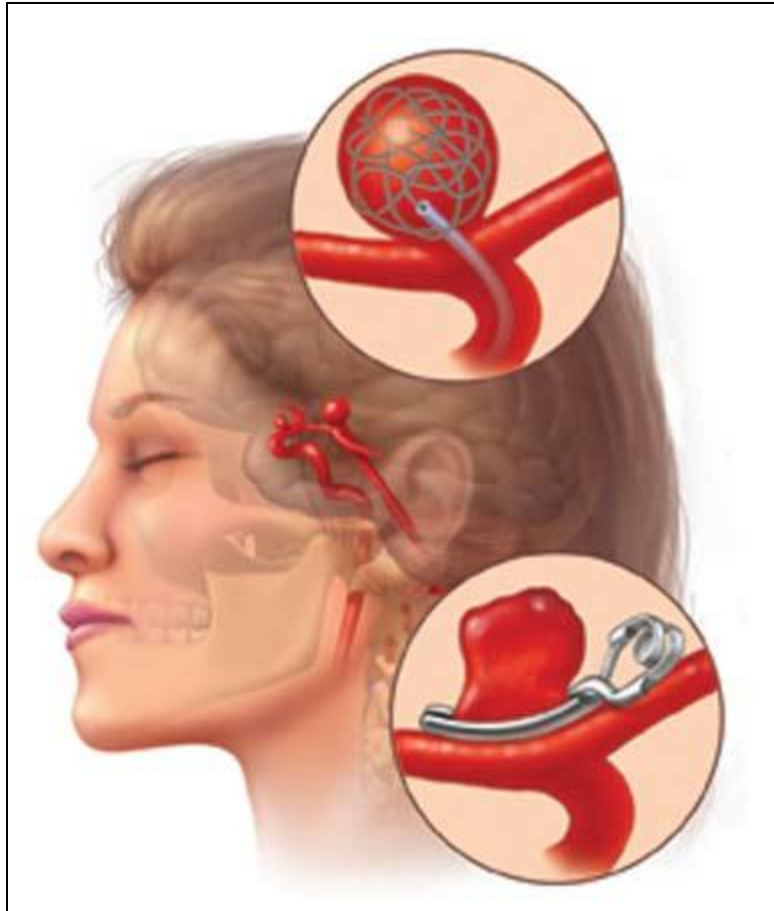


Figure 4: Drawing depicting coiling (upper) and clipping (lower) of a cerebral aneurysm.

Treatment of cerebral aneurysms involves either surgical clipping or endovascular treatments such as coiling, stenting and/or use of a glue-like material (Figure 4). These treatments prevent the aneurysm from rupturing further. However the damage done by the original rupture cannot be reversed. Secondary problems stemming from aneurysm rupture include cerebral vasospasm and hydrocephalus, which are treated after securing the aneurysm.