

# Aneurysm Clipping

## *University Neurosurgery Information Sheet*

### **General indications for the procedure:**

Aneurysms are small blisters that balloon off blood vessels. An aneurysm clipping is a procedure by which a craniotomy (opening in the skull) is made so that the aneurysm can be found and a very small metal clip be applied to it to keep it from bleeding.

### **Description of the procedure:**

After the patient is put to sleep with the help of the anesthesiologist, the head is secured on a special head holder. After the scalp is shaved and marked, an incision is made on the scalp. Then the skull is opened with a special drill designed for this purpose. The microscope is brought to the area and used to carefully get around the brain to find the aneurysm. Once localized, a small metal clip (compatible with MRI) is then applied to clamp off the aneurysm. Once this is done, the bone window is reattached to the skull.

### **Procedure alternatives, if any:**

An alternative to clipping is the endovascular (from inside the blood vessel) treatment of aneurysms. This is done by a doctor specifically trained to do this procedure. The pros and cons of these treatment modalities are discussed with the patient. Depending on several factors, not all aneurysm ought to be treated. In other words, some can be carefully observed over time with follow up studies.

### **Probable consequences of refusing procedure:**

If a ruptured aneurysm is not treated, there is a high percentage that it may bleed again. But if your aneurysm is unruptured, the patient may choose to not have it immediately treated and instead have it followed up with serial studies over time.

### **Risks of the procedure:**

Risks include, but are not limited to: Incomplete clipping of aneurysm with need to return to O.R. to reapply clip, need to reposition clip if it is affecting blood flow through blood vessels nearby, re-growth of aneurysm, and/or the need for endovascular treatment. Also, personality changes, inability to smell out of one or both nostrils, complete or partial blindness, injury to the nerves that control eye movements resulting in double vision and/or a droopy eye lid, facial numbness, stroke from involvement of arteries and or veins near the area of surgery with possible inability to move one half of the body, injury or stroke of speech areas, injury to the pituitary gland with possible need for replacement of hormones for life (includes hormone that prevents excessive urination), brain swelling, leakage of brain fluid, hydrocephalus (the inability to circulate brain fluid), incomplete removal, re-growth of the tumor, need for radiation therapy of area of removal, need for re-operation to drain a blood clot after surgery, infection, seizures, breakdown of incision, atrophy of the temple muscle, pain, coma, and death. If the craniotomy involves the middle fossa (mid portion of skull) and/or the posterior fossa (the part where the brain meets the spinal cord and the brain stem), the risks also include: Facial paralysis from involvement of facial nerve, deafness, vertigo, difficulty walking due to cerebellar

manipulation, difficulty swallowing with unlikely need for a tracheotomy and feeding tube, difficulty moving the tongue, instability of the skull on the first cervical vertebra, and pain in the posterior aspect of the head.

**Person(s) performing the procedure:**

The surgical team for this procedure is large. This involves, but is not limited to, the attending surgeons, resident surgeons, surgical nurses, physician assistants, surgical technologists and anesthesiologists. Everyone involved will be performing important tasks related to the surgery in accordance with the hospital policies, and based on their skill set and under the supervision of the responsible practitioners.