



## Craniotomy & Resection of Arteriovenous Malformation (AVM)

The options for treatment of an arteriovenous malformation (AVM) include:

1. Operative intervention and resection of the AVM.
2. Endovascular interventions ie coiling, gluing.
3. Radiosurgery (which will be discussed elsewhere).

### OPERATION

#### Craniotomy & resection of AVM

The neurosurgical treatment of an AVM involves the patient being put to sleep with a general anaesthetic. A curved incision and a bone window is created (craniotomy). A microscope is used to carefully identify the AVM which is removed. Any associated blood clot is removed if safe and the bone is replaced with rivets and the patient awoken. If an intracerebral haemorrhage has occurred often patients will require a one to two-week hospital stay ensuring a safe recovery.

### ENDOVASCULAR

#### Intravascular treatment of AVM

This procedure is performed by the neuroradiologist following discussion with the neurosurgeon. It is usually associated with another treatment modality ie, surgery or radiosurgery and is rarely done alone. This procedure is often performed before and operation in some cases to make the surgical removal of the AVM as safe as possible. Rarely it may be too dangerous to surgically remove the AVM and it may be treated only by this procedure. It is essentially the same procedure as a digital subtraction angiogram however a general anaesthetic is required. A thin catheter and guidewire are passed upwards through the arteries to the feeding vessels of the AVM. Several options are then possible including:

- Coiling.
- Gluing.

The procedure will take several hours. Depending on what option is used you may be required to continue taking blood thinning medication like aspirin or plavix for a period of time. The neuroradiologist will discuss this with you. Monitoring angiograms and/or MRI will be required following this procedure.

#### *Risks of this procedure:*

The risks of this operation include the following. A detailed discussion with your surgeon is recommended prior to surgery.

- Infection – superficial wound infection or deeper infections including meningitis, osteomyelitis.
- Bleeding – which may be superficial or deep causing intracerebral haematoma and stroke-like symptoms such as weakness, numbness and speech disturbance or speech disturbance (which are stroke like symptoms).
- Epilepsy which may require medication.
- Permanent neurological damage in the form of weakness, numbness, paralysis.
- Loss of smell or cerebrospinal fluid leak through the nose if a frontal approach is required.
- Coma and death.