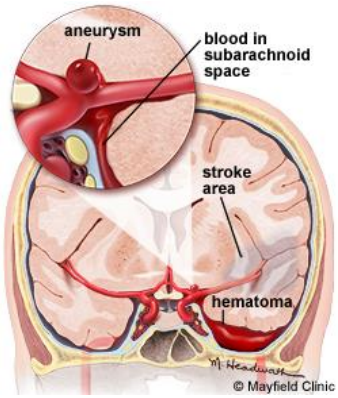
Aneurysmal Subarachnoid Haemorrhage (SAH)

BRAIN & SPINE CENTRE SYDNEY



A Subarachnoid haemorrhage (SAH) is a release of blood into a subarachnoid space between two layers of membrane that cover the surface of the brain.

An aneurysm is outpouching on a vessel in the brain that supplies blood to the brain. They can rupture and release blood into the subarachnoid space.

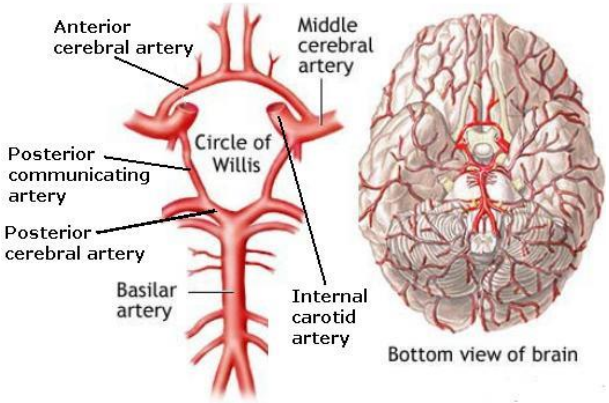
Why are they dangerous?

A subarachnoid haemorrhage can be fatal. The released blood from the ruptured aneurysm can irritate the brain and blood vessels and lead to a stroke and permanent disabilities.

RISK FACTORS FOR SAH

Risks factors may include: age (generally 40-60 years old), females more likely than males, smoking and heavy alcohol use and those with a connective tissue disease. Aneurysm sites are most likely at:

- PCOM (40%)
- ACOM (35%)
- MCA (20%)
- Vertebrobasillar (4%)

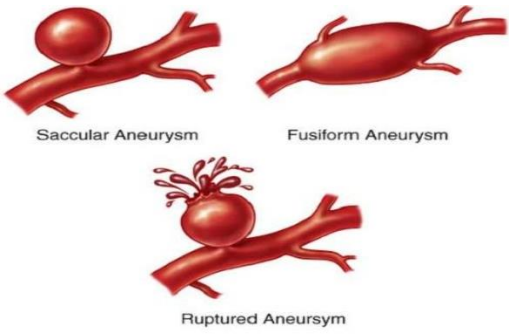


DIAGNOSIS OF SAH

The diagnosis is confirmed radiologically via urgent computed tomography (CT) scan without contrast however non-contrast CT followed by CT angiography (CTA) of the brain can rule out **SAH** with greater than 99% sensitivity.

POSSIBLE SIGNS AND SYMPTOMS

Signs and symptoms of a SAH may include; severe headache (described as a thunder clap or the worst headache of your life), nausea & vomiting, confusion, seizures, altered level of consciousness or coma, visual changes, dizziness, and an inability to move or feel parts of body.



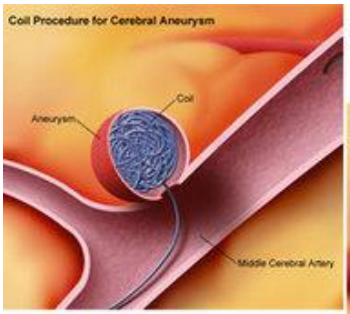
REASONS FOR INTERVENTION

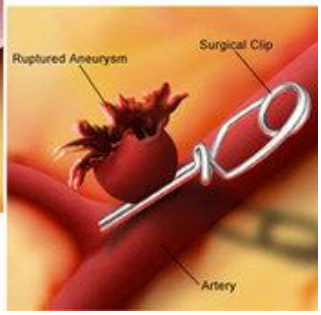
The aim of intervention is to secure the aneurysm to prevent further bleeding and further brain injury. This can be achieved several ways depending on the characteristics of the aneurysm and the patient condition.

Surgical treatment to prevent rebleeding includes the following options:

- Clipping the ruptured aneurysm
- Endovascular treatment (coiling)

The choice between coiling and clipping usually depends on the location of the lesion, the neck of the aneurysm, and the availability and experience of hospital staff.



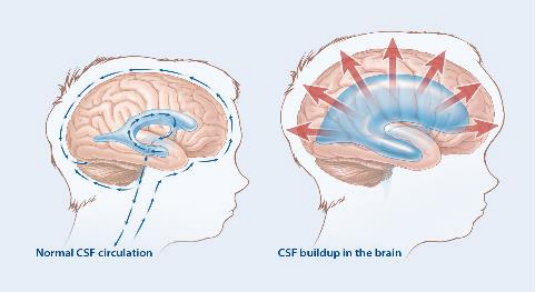


A surgical approach involves a craniotomy which is the surgical removal of part of the bone from the skull to expose the brain then one of the following depending on the position and accessibility of the aneurysm is completed: a clipping— places a clip on the aneurysm to exclude further leakage of blood or a wrapping—surrounding the aneurysm with muscle/material to prevent it leaking blood. After the aneurysm is secured the layers of the brain are closed, the bone flap is replaced and the skin is stitched or stapled.

An endovascular approach involves: coiling—filling the inside of the aneurysm with small coils, stenting—encouraging blood to flow past the aneurysm instead of into the aneurysm or a combination of coiling and stenting. An endovascular approach involves a puncture through the artery in your groin and a catheter is feed up although the vessel to the aneurysm

Most people with a SAH will spend 2 weeks in ICU/ HDU and may require rehabilitation before they go home. They may require medications to help with blood pressure control, seizures and pain relief.

COMPLICATIONS WHICH MAY OCCUR AFTER A SAH



- Hydrocephalus—accumulation of (normal) fluid in the brain, usually requires temporary or permanent drainage of the fluid into a bag or other part of the body
- Vasospasm—reaction of other blood vessels to the released blood which causes them to become narrow and can lead to a stroke. Medications and procedures are used to prevent this causing permanent damage
- Stroke—can happen when the aneurysm first ruptures or later because of vasospasm
- Rebleeding—further bleeding from the aneurysm
- Infection—chest infections, blood infections, infections at the site of any operations
- Electrolyte disturbances
- Seizures
- Dangers of being in bed—blood clots, chest infections, constipation, pressure sores

WHAT ELSE SHOULD YOU BE AWARE OF WITH SAH?

A subarachnoid haemorrhage can affect people in many ways and so there can be many outcomes. It can be difficult to predict how any person will recover from this condition.

Even after treatment of an aneurysm, further follow up will be needed to ensure the aneurysm does not return or others develop. This will be directed by your neurosurgeon.

Current guidelines recommend screening for people with 2 or more first degree relatives with aneurysms or subarachnoid haemorrhages.

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