

Subarachnoid haemorrhage



Brain & Spine
Foundation

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A guide for patients and carers

The Brain and Spine Foundation provides support and information on all aspects of neurological conditions. Our publications are designed as guides for people affected by brain and spine conditions - patients, their families and carers. We aim to reduce uncertainty and anxiety by providing clear, concise, accurate and helpful information, and by answering the common questions that people ask. Any medical information is evidence-based and accounts for current best practice guidelines and standards of care.

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Introduction

This booklet provides information on subarachnoid haemorrhage (SAH). It provides information on the acute stage of SAH, describing the condition, what happens in hospital, tests and investigations, and possible treatments. It also provides information on recovery from SAH, common symptoms and feelings, and returning to everyday activities. Sources of further support and information are listed in the Useful Contacts section. References are available on request.

Common questions

What is a subarachnoid haemorrhage (SAH)?

A subarachnoid **haemorrhage** (SAH) is a sudden leak of blood over the surface of the brain. The brain is covered by layers of membranes, one of which is called the arachnoid. An SAH occurs beneath this layer. The blood vessels supplying blood to the brain lie in this space, surrounded by clear **cerebrospinal fluid**.

SAH is a medical emergency. It is a serious, life-threatening condition.

What causes SAHs?

In 75% of cases, there is a weakness in the wall of one of the blood vessels supplying blood to the brain. The resulting balloon-like swelling is called an **aneurysm**. The haemorrhage occurs when the aneurysm wall tears because of the pressure of the blood as it is pumped through the brain. When this happens, blood bursts into the surrounding brain tissue.

Haemorrhage: the escape of blood from a ruptured blood vessel.

Cerebrospinal fluid (CSF): the clear, watery fluid that surrounds and protects the brain and spinal cord.

Aneurysm: a balloon-like swelling in the wall of an artery.

Aneurysms can also occur in blood vessels in other parts of the body but there is no link between these aneurysms and brain aneurysms. We do not fully understand why aneurysms develop, but there is a greater risk of them occurring in people with high blood pressure and in people who smoke. They also become more common as people get older. There is no established link between aneurysms and stress.

A very small number of SAHs are caused by arteriovenous malformations (AVMs). AVMs are an abnormal arrangement of blood vessels in the head.

(You might be interested in reading our booklet with information on vascular malformations of the brain for further details.)

Could I have prevented it?

No. People who smoke and people with high blood pressure have a greater risk of developing aneurysms but will not necessarily do so. Aneurysms can occur in people without these known risk factors.

Are there warning signs?

Very rarely, an aneurysm can press on a particular part of the brain and symptoms might develop as a result. However, usually, aneurysms go undetected and there are no symptoms until they burst.

Why me?

We do not know why it happens and, in most cases, there is no way of identifying the people who are at risk. There is a slight hereditary factor: a very small number of people can inherit from their family a greater risk of having an aneurysm.

Are my family at risk?

Because of the slight hereditary risk, it might be that members of your family are advised to have an MRA scan (see below) to check for possible aneurysms. This would usually happen if more than one person in your close family has had an SAH. The people advised to have scans would be your first line relatives – parents, children, brothers and sisters.

Common questions

Why now?

There is no reason why the haemorrhage occurs on one day rather than another. The bleed often, though not always, happens at a time of physical effort like coughing, going to the toilet, heavy lifting, straining, or during sex.

What are the symptoms?

Most people have a sudden, severe headache, often at the back of the head, followed by vomiting (being sick). The headache usually persists for more than an hour. People usually describe it as the worst headache they have ever had. It is common to have a stiff neck. People might also slur their speech, experience a disturbance in their vision, or have physical problems like weakness in an arm or leg.

In more severe cases, people can collapse and lose consciousness. Some people might also have a seizure (a “fit”).

Symptoms:

- Sudden, severe headache
- Vomiting (being sick)
- Stiff neck
- Slurred speech
- Visual problems
- Physical problems
- Loss of consciousness
- Seizure

What happens in hospital?

Most people are admitted to their local hospital where the haemorrhage is confirmed by a **CT scan** of the brain. You might also have a sample of fluid taken from your spine (**lumbar puncture**).

You will then usually be seen at a regional centre by a neurosurgeon who has particular expertise in dealing with SAHs. You will be admitted to a neurosurgical ward for further investigations which could include an **angiogram**, an **MRI scan**, an **MRA scan**, or a **CTA scan** (see below).

After an SAH there is a risk that the blood vessels in the brain will contract suddenly and block the blood supply to the brain. This might cause a stroke. The sudden contraction of blood vessels is called vasospasm. The drug Nimodipine is used to reduce the risk. It is given for three weeks after the bleed by which time the risk of vasospasm is usually over.

Doctors usually rate the severity of SAHs using a grading system. A common grading system ranks haemorrhages from Grade 1 (minor) to Grade 5 (very serious). You might be told what grade your haemorrhage is, or hear the grade referred to in hospital.

Tests and investigations

CT scan

This is a special type of X-ray which takes pictures of the brain from different angles.

During the test you will be asked to lie on a scanner table while the scanner rotates around your head. It is a quick and painless examination.

The scan can show the location of the haemorrhage and any problems it might be causing. Sometimes a dye is injected to show the blood vessels that might be the source of the bleeding.



Lumbar puncture

The brain and spinal cord, which extends from the brain down through the centre of your spine, are surrounded by clear liquid called cerebrospinal fluid (CSF). If there is bleeding into the subarachnoid space (the space that surrounds the brain and the spinal cord), there will be blood in the cerebrospinal fluid.

To take a sample of this fluid, a needle is passed between two vertebrae (spinal bones) at the lower end of the spine (the lumbar area) into the space containing the CSF. A small amount is drawn off in a syringe and sent to a laboratory for examination.

MRI scan

This scan produces pictures of the head and brain using strong magnetic fields and radio waves.

During the test, you will lie in a long tube. The scan is painless but, unfortunately, the scanner is very noisy.

The scan is able to show the blood vessels, the haemorrhage, and occasionally the aneurysm.

MRA scan

This is a special type of MRI scan to produce images of the blood vessels. It is quicker and less invasive than an angiogram (see below). It is safe with a low risk of any problems or complications.

A dye is injected into the back of your hand or into the crook of your elbow and flows around your bloodstream to highlight the blood vessels in your brain.

CTA scan

This is a special type of CT scan. It is similar to the MRA scan (see above), involving injections with a dye, but uses the CT scanner equipment.

Angiogram

An angiogram is an X-ray test used to produce pictures of blood vessels. A cerebral angiogram shows the blood vessels in your head and neck.

An angiogram is the key test for SAH.

After you have had a local anaesthetic, a very small, flexible tube (catheter) is inserted into the blood vessel in your groin (the femoral artery). This is passed through other blood vessels in your body until it reaches your neck. You will not feel it moving inside you.

The tube will be positioned into different blood vessels in the neck.

Tests and investigations

While this happens, you will receive injections of a special dye (called contrast agent) to produce more detail in the pictures. The injections might give you a general warm feeling, but this goes away quickly.

Before taking the first picture, the equipment around you will be moved into position. More dye is injected for further pictures.

It is very important that you remain still throughout the procedure to ensure the pictures taken are as clear as possible.

CT (Computerised Tomography) scan: an X-ray system using computers to produce a series of pictures of cross-sections of the body.

Lumbar puncture: a procedure to extract cerebrospinal fluid for diagnosis by inserting a hollow needle into the subarachnoid space in the region of the lower back.

Angiogram: an X-ray examination of blood vessels.

MRI (Magnetic Resonance Imaging) scan: a scan using magnetic fields and radio waves to produce images of the internal structure of the body.

MRA (Magnetic Resonance Angiography) scan: a special type of MRI scan to produce images of blood vessels.

CTA (Computerised Tomography Angiography) scan: a special type of CT scan to produce images of blood vessels.

Possible treatments

The aim of treatment is to prevent bleeding or re-bleeding. There are different possible treatments and the decision about which particular method should be used is made by a neurosurgeon, an interventional neuroradiologist (a specialist who treats aneurysms via the blood vessels), and other members of the health care team, in discussion with you and your family.

The chosen method will be the one most suitable for your particular situation.

The decision will depend on a number of factors, including the size and position of the aneurysm.

Conservative management

The decision to go ahead with a treatment is made when the benefits are deemed to outweigh any possible risks. Due to the individual nature of SAHs, it might be that a decision is made not to go ahead with any interventional treatment like coiling or clipping (see below). Instead, you will be managed “conservatively”. Treatment will focus on managing your symptoms rather than treating the aneurysm.

Coiling

In the 1990s, coiling was introduced as a way of treating ruptured and unruptured aneurysms without the need for a craniotomy (see below). Coiling involves approaching the aneurysm from inside the blood vessel, avoiding the need to open the skull. Small metal coils are inserted into the aneurysm through the arteries that run from the groin to the brain. The coils remain in the aneurysm: they are not removed. They prevent blood flowing into the aneurysm and therefore reduce the risk of a bleed or a re-bleed. Blood then clots around the coils sealing off the weakened area.

Coiling is the most common treatment for SAH.

Possible treatments

What happens before the procedure?

Although the coiling procedure is similar to an angiogram, involving a catheter being fed up to the brain via the femoral artery, it is much more complex and is carried out under a general anaesthetic in the radiology department.

This means you must not eat or drink anything for four to six hours before the procedure. The staff on the ward will advise you on this.

Before you leave the ward, a nurse might shave a small area of your groin at the entry site through which the coils will be passed. If you are well enough, and if you prefer, you might be able to shave yourself.

On arrival at the radiology department, an anaesthetist will give you a general anaesthetic and you will be asleep throughout the procedure.

What happens during the procedure?

The room will have several large pieces of high-technology scanning equipment which are needed to perform the coiling.

The radiologist will make a small incision in your groin through which they will insert the small tube into your femoral artery. This is then guided through other blood vessels in your body until it reaches your neck and then into your brain.

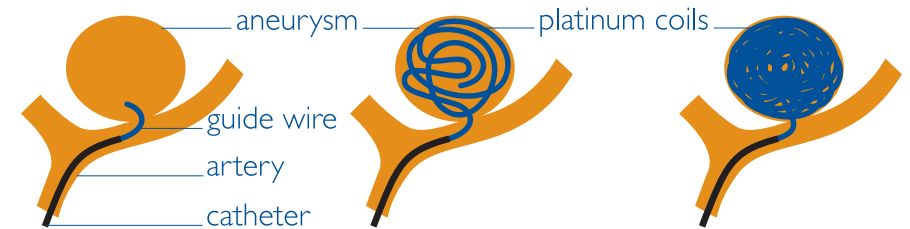
Using a guide wire, one by one, the coils are slowly inserted into the aneurysm. The coils are made of platinum, are twice the width of a human hair, and can vary in length. The number of coils needed depends on the size of the aneurysm. The largest coil is inserted first and then smaller coils are inserted until the aneurysm is filled. Usually, several coils will be used.

Each coil has a small electric current passed through it to detach it from the guide wire. This small current also helps the blood to clot and helps to seal the aneurysm.

The radiologist will remove the catheter. Occasionally, the entry point in the groin will need to be sealed or stitched. It might be slightly painful, and there might be some bruising.

Coiling is a complex and delicate procedure that will take at least three hours and often longer.

An aneurysm being packed with platinum coils



What happens after the procedure?

You will probably spend some time in the high dependency unit – usually at least two hours.

During this time, regular neurological observations will be performed by the nursing staff. This is to check that you are waking up properly from the anaesthetic. It involves asking you simple questions, testing the strength of your arms and legs, and shining a light in your eyes. Your blood pressure, heart rate, respiratory rate, and oxygen levels will also be monitored.

The nurse will check the small wound in your groin for any bleeding and also check the pulse in your foot. This is to ensure that your blood circulation to your legs has not been affected.

It might be that the opening in the artery in your groin is plugged closed after the procedure. This is done with a device called an angioseal which dissolves within a few weeks.

Possible treatments

You will have to lie flat, or at an angle of no more than 30 degrees, for at least six hours following the procedure. This helps with your blood pressure and prevents any excess pressure on the artery which could increase the chance of bleeding at the puncture site in your groin. Depending on your recovery after this time, you will be able to sit up gradually. The nurses will assist you with this.

Throughout this time, the nurses on the ward will continue to monitor you and carry out neurological observations. Pain-killers will be given for any discomfort or headaches you might be experiencing. You are also likely to have a drip to prevent dehydration, and possibly a urinary catheter. Because you are restricted to bed rest, you will have to wear pressure stockings to help prevent blood clots forming in your legs (deep vein thrombosis).

What are the risks of coiling?

It is likely that the benefits of coiling will strongly outweigh any possible risks, and your doctor will have discussed this with you fully before you give your consent to go ahead with the procedure.

However, as with any invasive procedure, there are certain risks associated with coiling. Possible complications include stroke-like symptoms such as weakness or numbness in an arm or leg, problems with speech, or problems with vision.

There is also a risk of bleeding, infection or arterial damage at the entry site in the groin.

How successful is coiling?

Research is still being conducted to explore the benefits and risks of coiling. Various studies have been published. The largest is the International Subarachnoid Aneurysm Trial (ISAT) which was established to explore the effectiveness of coiling compared to clipping (see below) of ruptured aneurysms. The trial involved

different neurosurgical centres and a total of 2,143 patients participated. The ISAT trial showed that the long-term risks of further bleeding are low for both coiling and clipping, and the results positively supported coiling as a treatment for ruptured aneurysms, both in terms of survival and in the reduction of long-term disability.

The National Institute for Health and Clinical Excellence (NICE) have approved coiling as a treatment of ruptured aneurysms and have published guidelines on the procedure.

Can the coils move?

Once the coils are securely in place they will not move out of the aneurysm.

Will I need more coils?

Although the coils do not move, they might settle into the space within the aneurysm. This might mean that more coils are required to block off the aneurysm fully. This is why you will have a follow-up angiogram. Around one in five patients will require further treatment.

Craniotomy

A craniotomy is an operation to open the head in order to expose the brain. The word craniotomy means making a hole (-otomy) in the skull (cranium). The operation is carried out by a neurosurgeon who specialises in surgery of the brain and spine.

What happens before the operation?

The general state of your health and condition you are in can affect when you have the surgery. The surgeon and anaesthetist might delay the operation if you are very ill as a result of the haemorrhage, or another medical condition, because this can increase the risks of surgery.

Possible treatments

The operation is carried out under a general anaesthetic which means you will be asleep throughout and will not feel anything.

A small horseshoe-shaped area of your hair is shaved over the point at which the aneurysm can be reached.

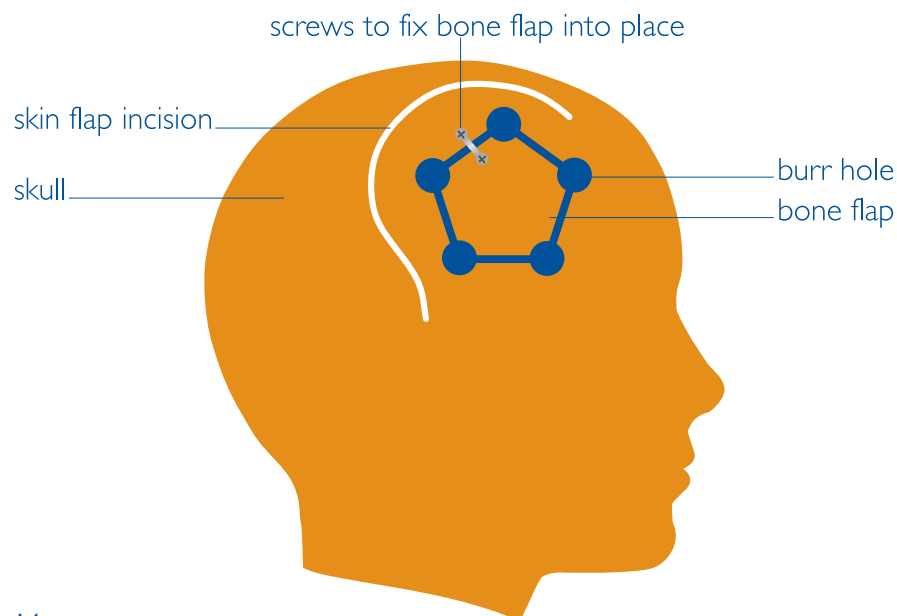
What happens during the operation?

An incision (cut) is made in the scalp, a skin flap is peeled back, burr holes are drilled in the skull, and then a piece of bone ("bone flap") is cut out like a trap-door to reveal the brain underneath.

The surgeon then looks for the aneurysm and permanently closes the connection between the blood vessel and the aneurysm using a small plastic or titanium clip.

The bone flap is then replaced and the scalp is stitched together. The bone flap is usually fixed into place with small metal screws to prevent movement and encourage better healing.

Craniotomy incision and replacement of the bone flap



The operation takes approximately four to six hours. This includes the time taken to transport you from the ward to the operating theatre, give you the anaesthetic, the operation itself, and the time you spend recovering from the anaesthetic.

What happens after the operation?

You will usually be woken up as soon as the operation is over. You will regain consciousness in the recovery area where specialist nurses monitor your progress very closely. Occasionally, intensive monitoring is required, and you might be transferred to an intensive therapy unit or a high dependency unit. You might then be kept asleep on a breathing machine for a period of time after the operation to allow your brain to recover. If this is likely to be necessary, your surgeon will discuss it with you before the operation.

Once you have been transferred back to the ward you will be carefully observed and monitored. You will be given fluids through a drip into your vein. You might also have a drain to remove any fluid oozing from the wound. Sometimes a fine tube (catheter) is placed into the bladder to help you pass urine. All of these tubes will gradually be removed as your condition improves.

What problems might I experience after the operation?

Very rarely, a blood clot might form on the surface of the brain at the site of the operation. If this happens, depending on the size of the clot, you might need a second operation to remove it. Otherwise, the doctors and nurses will monitor your condition.

During a craniotomy, a small cut is made in the muscle that helps with chewing. As it heals after the operation, the muscle can be slightly shortened causing the jaw to feel stiff. You might have difficulty in opening your mouth. This problem usually begins to clear up after a couple of months. Chewing gum can help to resolve this problem.

Possible treatments

It is common for there to be swelling and bruising to your face. Your eye might be closed for a day or two. The nurses will bathe your eyes for you.

As the wound in your head heals, it might feel painful and you will be offered pain-killers to help relieve any discomfort. This gradually improves and is usually better by the time the stitches are removed, three to five days after the operation. Some surgeons use stitches that dissolve and so do not need to be removed.

The skin around the edges of the wound might feel a bit numb until the healing is complete. This numbness might be painful or unpleasant and the wound might also feel itchy, or very cold. This might persist for a few months.

Wound infection is not usually a problem. Antibiotics are often given around the time of the operation as a preventative measure. Lumps or indentations around the wound are common.

The bone flap (the piece of bone cut out during the operation) might feel like it moves. Because the pressure in your head can vary, the flap of bone can move in and out very slightly. You might experience a “clicking” sensation. Although this feels strange, it is not dangerous. The bone flap is not loose: it is secured when it is replaced and will heal back into place.

Headaches are common and might last for several months before they gradually settle down. Some people find that their headaches persist for a longer period of time.

Can the clip come off?

The risk of the clip coming off is extremely small. Modern clips are not affected by airport security systems. Most people are also safe to have MRI scans, but you should discuss this with your doctor or nurse.

Other treatments

Medication

The following are the most common medications prescribed during and after a haemorrhage:

Nimodipine

Nimodipine is a drug used to reduce the risk of stroke related to spasm (sudden contraction) of the blood vessels. It is used for three weeks after the haemorrhage.

Pain relief

In the acute stage, it is common to use strong opiate-based pain-killers like morphine. Other pain-killers like paracetamol are used for headaches, as needed. Stronger pain-killers like pethidine are avoided because they are also sedatives (calming drugs) and are not recommended after SAHs.

Anti-epilepsy drugs

Anti-epilepsy drugs might be used to control seizures. Some people might only need to take them for a few months, but some people need them for life. It is important not to forget to take this medication. As your memory might not be reliable in the first few months after the haemorrhage, it can be helpful to use a special reminder pill box which shows you when your pills should be taken.

High blood pressure medication

If you have high blood pressure, you might need drugs to lower it. Because having high blood pressure is known to increase the risk of haemorrhages, it is important that your blood pressure is monitored and controlled. When you return home, you should have regular blood pressure checks with your GP.



Other treatments

Diet, nutrition, fluids

It is important to maintain a healthy diet so that your body is getting the nutrition it needs for strength and recovery. It is also very important to keep up your fluid intake and prevent dehydration. You should aim to drink two to three litres each day. A healthy diet and plenty of fluids will also help prevent you becoming constipated which can cause a strain on the body.

Why is another patient having different treatment to me?

Because each person is affected differently. Each SAH affects different areas of the brain and differs in severity. Treatments vary for each individual.

Rare complications after SAH

Hydrocephalus: a build-up of the cerebro-spinal fluid (CSF) which surrounds the brain and spinal cord. The build-up occurs because the CSF cannot drain away. Symptoms include generalised headache and problems with your balance. A small operation can be performed to drain the fluid away from the brain or spinal cord into the abdomen through a tube called a shunt.

Epilepsy: seizures can occur at any time after the haemorrhage. If you do have seizures they can usually be controlled with medication.

(You might be interested in reading our fact sheets with information on hydrocephalus and epilepsy for further details.)

Going home

You might be discharged home or back to your first hospital. This will depend on the speed of your recovery, what support you have at home, and how far you have to travel. Most people return to their first hospital to begin their convalescence. Depending on the effects of your SAH, arrangements might be made for you to have physiotherapy, occupational therapy, or speech and language therapy.

What follow-up tests and investigations will I need?

It is likely that you will have a further angiogram and/or an MRA scan after six months. You are then likely to have MRA scans once or twice a year for up to five years. The timing of the follow-up tests will differ depending on the set-up in your local area.

What precautions should I be taking now?

- Continue to take your medication as prescribed
- Keep up your fluid intake (two to three litres a day)
- Give up smoking, if you smoke
- Don't drive; contact the DVLA (see below)
- Avoid activities like climbing ladders for the first three months
- Make sure your blood pressure is controlled

Is the damage permanent?

Not necessarily. Many people make a full recovery. Some people might experience various disabilities and problems which can continue to improve several years after their SAH.

Physiotherapy: helps physical recovery and the recovery of movements: for example, walking.

Occupational Therapy: helps redevelop the skills you need to perform everyday activities like using equipment around the home.

Speech and Language Therapy: helps the recovery of communication skills.

Recovery

Recovery from an SAH is an individual process and there is no standard pattern. It is very difficult to predict what sort of recovery you might make, or what timescale might be involved.

The outcome will depend on which part of the brain is affected and how much damage is done by the bleeding.

Tiredness and restlessness

It is common to experience severe tiredness, especially in the first few months after the haemorrhage. You might find that you become exhausted even after commonplace activities like going to the shops, watching television, or talking with your friends. This is because your brain has to concentrate hard to process everything going on around you and so becomes tired very quickly. It is your body's way of telling you to slow down. Taking regular short breaks can help. Try to do this at least three times a day for around 20-30 minutes. Listening to your favourite music can help, but try to avoid anything too stimulating like watching television or reading.



You might also find that you have difficulty sleeping at night and can only sleep for short periods. Some people find that aromatherapy helps them relax and sleep. Lavender is a popular fragrance. Citrus oils can help with relaxation but are less likely to make you sleepy. You can place a few drops on a handkerchief by your pillow or use the fragrances in an oil burner. If you wake in the night and cannot get back to sleep, try getting up and making a hot drink rather than lying there worrying about not sleeping.

It can help to have a daily routine. Try to get up and go to bed at the same times each day. Plan some relaxation breaks during the day. If you have returned to work, you could talk to your employer about the possibility of being given time for extra breaks during the working day.

Headaches

Headaches following your discharge from hospital are common but usually ease with time. They tend not to be as severe as when you had the haemorrhage and can often be controlled with pain-killers like paracetamol and codeine. They might become worse when you are tired. Again, this is your body's way of telling you to slow down. It is important you drink plenty of fluids throughout the day: at least two to three litres. This helps blood circulation in the brain and prevents dehydration. Alcohol, and caffeine-based drinks like cola and coffee, can dehydrate the brain and increase the risk of headaches. Try to avoid caffeine-based drinks, or at least cut down for the first three to six months of your recovery.

It is also important to avoid things that put too much strain on your body like becoming constipated or lifting heavy weights as these can increase the pressure in the brain and so cause headaches.

Unusual sensations

People often say that they experience odd or unusual sensations in their brain which are different from headaches. They are very difficult to explain but people sometimes describe them as "tickly" and something like water running across the surface of the brain. No-one knows why these sensations occur but they are common and are nothing to be concerned about. They will usually ease in time.

Recovery

Loss of movement and/or feeling

An SAH can cause a loss of movement and/or feeling in your arms or legs. Each individual is affected differently and the severity of the problems can vary from a slight arm or leg weakness to a complete loss of power.

You might also feel odd sensations in your arms and legs. These can be difficult to describe. The feeling of clothes against the skin or the touch of another person might be exaggerated. Limbs might feel heavy and numb. Some people experience pins and needles. It might be difficult to distinguish between hot and cold, so you should be careful when taking a bath or shower to avoid getting burned.

You can experience any combination of these problems so will need an individual assessment and exercise plan. This plan will be devised for you by a physiotherapist either in hospital or in your home. Try not to over-exercise as this can lead to injury and might delay your recovery. It is better to do little and often.

It can be helpful to apply body lotion or massage oil regularly to your affected limbs. This maintains good skin condition and helps keep your muscles supple.

Senses

Following an SAH, some or all of your senses might be affected, including your sight, smell, taste and touch. The problems will depend on the particular part of the brain affected. Some of the symptoms might be temporary; some might be permanent.

Sight

Your vision might be disturbed in various ways: blurring, blind areas, black spots, or double vision. The doctors will test your vision before you are discharged from hospital. This enables them to monitor any changes over a period of time. These tests will be repeated at follow-up appointments. If you do have visual problems as a result of the haemorrhage, you might be referred to an eye specialist. Improvements in vision usually take place gradually over weeks and months.



Double vision (diplopia) can be very disturbing. It can help to wear an eye patch over the affected eye for one to two hours, then transfer the patch to the other eye for the same period of time. This will encourage the eye muscles to strengthen and stabilise. Both eyes should be treated the same to prevent one eye from becoming weaker. Your neurologist or optician will be able to advise you further on this technique.

Recovery

If you already wear glasses or contact lenses it is a good idea to wait for two or three months after the haemorrhage before having your eyes tested regularly again. This is because your vision might take a while to settle down and your glasses or lenses might need changing lots of times while this happens. Of course, this can then become expensive. Your optician will be able to advise you further on the best course of action to take.

Memory

Memory and concentration problems are common following an SAH. You might find it difficult to concentrate for long periods of time and this might make even simple tasks like reading a book or making a cup of tea difficult and frustrating. Try to break tasks down into small steps so you only have to concentrate for short periods of time before taking a rest.

After an SAH, certain parts of your memory might be affected. You might not remember very much about the haemorrhage itself or what happened when you were admitted to hospital. You might find that you can remember things that happened to you a few years ago but find it difficult to remember new information like the name of the person you have just met or a new telephone number. Many people find that their memory improves with time, although it might never be quite as good as it was before the haemorrhage.

You can ask your GP or neurologist to arrange for you to see a psychologist who can carry out a neuropsychological assessment. Typically, this will involve doing a number of different tests to assess what specific memory and concentration problems you are experiencing.

Here are some tips to help you remember things:

Keep a book or diary where you write down all the important things you need to remember. Try to keep it in the same place: for example, by the telephone.

Write down telephone numbers or people's names on a piece of paper as soon as you can. Post-it notes in bright colours can be really useful memory aids as you can stick them everywhere.

Pictures are often easier to remember than abstract facts. For example, if you meet someone called Anne Fisher you might think of Princess Anne and imagine the person you met wearing a crown and fishing by a river bank. The more bizarre the picture, the easier it will be to remember.

Try not to get too anxious or stressed as this will make it more difficult to remember information. If you do become anxious, take some deep breaths, breathing in through your nose and out through your mouth.

Use an alarm clock to help you to remember to do something like make a telephone call or go to an appointment.

Recovery

Speech

Speech, language and comprehension are complex forms of communication and often disturbed following an SAH. Commonly, people experience problems finding the right word. This is called expressive dysphasia. You might find it difficult to understand what another person is saying. This is called receptive dysphasia.

Communication problems can be very frustrating and you might need the help of a speech and language therapist who can assess your problems and needs. Following the assessment, the speech and language therapist will give you guidance and exercises for you to practise at home.

You might find it helpful to use a picture board. This could be a sheet of paper displaying pictures of everyday items and the alphabet. If you are having difficulty finding words you can point to a specific picture on the board or use the alphabet to spell out what you want to say.

(You might be interested in reading our fact sheet with information on speech and language problems for further details.)

Emotions

Many people find it difficult coming to terms with having had an SAH. You might feel depressed, tearful, angry or anxious for no apparent reason. These feelings can be physical (related to what has happened to your brain), emotional (a reaction to the traumatic experience), or both. Many of these changes are temporary and will improve over time. It can be helpful to stick to a routine and plan what you are going to do each day, even if it is just going to the shop to buy a newspaper or going for a walk in the park.

As time goes by, it can be hard to express and explain to others how you feel and how you have changed, especially as you might appear to have recovered physically. This can lead to feelings of isolation. It often helps if you can talk to a friend or relative about how you are feeling rather than keeping your feelings bottled up inside. You might want to talk to your GP about seeing a clinical psychologist or a counsellor.

Feelings and worries

It is natural to feel anxious and to worry about the future, especially when you are back at home. Many people are concerned that the haemorrhage might happen again, although this is very unlikely. It can be difficult recovering from such a major life event. The first few weeks and months can be a very intense time and you might find that friends and family treat you differently. Everybody has different ways of coping. If you are struggling to come to terms with what has happened it might be helpful to keep a simple diary of your thoughts and your physical recovery. This will also help you to record how you are improving as time passes.

Will it happen again?

It is extremely unlikely and you should now have a normal life expectancy.

What if I bang my head?

A bang on the head will do no more harm than before the haemorrhage.

Everyday activities

Can I drive?



Having an SAH is likely to affect your right to hold a current driving licence. You are legally obliged to notify the Driver and Vehicle Licensing Agency (DVLA; see Useful Contacts) about your condition and must not drive until you have DVLA approval.

You might be permitted to resume driving once a doctor has confirmed that you have made a full recovery. If you are experiencing problems as a result of the haemorrhage you might not be allowed to drive for a given period of time (often one year). The DVLA will give your GP this information and might not give it directly to you. If you have seizures, this period might be extended until the seizures are controlled.

If you continue driving without DVLA approval, insurers will not be obliged to meet any costs and you might be uninsured. This would make you personally liable for any damage you cause to others.

If you have any disabilities you will probably need a medical examination to be certain you can control a vehicle safely. Modifications to your vehicle might be required. Your vision will also be checked.

You can re-apply for your licence before the date you are scheduled to return to driving so that it is ready by the time this date comes around. You will probably only be given a three year licence.

Many insurance companies increase the rates for people who have had an SAH so you might need to consider changing your insurance provider to get a cheaper policy.

Regulations are stricter for HGV (Heavy Goods Vehicle) or PSV (Public Service Vehicle) licences.

Can I fly?

Yes, depending on your recovery. There is nothing to stop you from flying once you are fit enough to do so.

You might experience headaches during take-off and landing due to pressure changes. You should increase your fluid intake, but try to avoid alcohol and caffeine as these can dehydrate the brain and increase the risk of headaches.

You are advised to avoid flying for at least ten days after a craniotomy. And, up until six weeks after the operation, you should inform the airline with whom you are travelling and your insurance company about the operation.

It is worth bearing in mind that air travel can be stressful for people in good health so it can be especially stressful if you are feeling unwell.

Will the coils or clips affect airport security machines?

No. It is perfectly safe to pass through security machines.



Everyday activities

Can I play sport?

Yes, but you should avoid all contact sports like rugby, boxing or martial arts, and strenuous exercise like lifting weights, for at least six months. You can then discuss with your specialist the possibility of resuming these sports if you wish to.

Can I swim?

Swimming is fine once any wounds have healed, but it is a good idea to be accompanied for the first few months while the risk of having seizures is at its highest.

Can I have sex?

You can resume sexual activity as soon as you feel ready. There is no risk. Women are advised to avoid becoming pregnant for the first six months.

Can I wash or colour my hair?

Yes. You can use any hair products like shampoo, conditioner or hair dyes. You can also have treatments like perms. After a craniotomy, you should wait until the wound on your head has healed.



Can I drink alcohol?

You should not drink any alcohol for the first three weeks. After that, small amounts of alcohol are safe, although you are likely to feel the effects more than you used to. There is also a risk of provoking a seizure if you drink too much. Some people find that they have more severe hangovers after an SAH. If you are taking any medication, you should check with your doctor if it is safe to drink alcohol.

When can I go back to work?

It is common for people who have had an SAH to take several months off work. Many people find it helpful to go back part-time or for a few hours each week before returning to full-time work. Other people find it helpful to do a less stressful or less physical job than the one they used to do. It depends on the individual. You might like to see if there are any clubs or voluntary organisations with whom you can volunteer as a stepping stone to returning to work.

Can I have MRI or MRA scans?

Yes. Modern platinum coils and plastic or titanium clips are designed to be safe with MRI scanning equipment. However, each individual case should be discussed with the consultant neuroradiologist. Scanning equipment varies in different hospitals.

Getting back to normal

Am I progressing quickly enough?

There is no set timescale. Each person is different. You can expect to have good days and bad days during your recovery. Tiredness and fatigue are common after any serious illness, especially if you have had surgery.

Am I doing too much?

You will know if you are doing too much if you become exhausted and need to rest. Try to recognise when your body is letting you know that you need to slow down.

Will I ever be the same again?

It can take many months after an SAH to feel that life is getting back to “normal” and people often ask whether they will ever be the same again. This is a very difficult question to answer as everyone’s recovery is different.

There is not a great deal that you can do to speed up your recovery. The main advice is to take it easy and listen to what your body is telling you.

You might find some of the following tips helpful:

Pace yourself

Keep a diary

Take regular breaks

Do not push yourself too hard

Drink at least two litres of caffeine-free fluids a day

Establish a daily routine

For friends and family

It can be difficult for friends and family to understand what has happened to someone who has had an SAH. They might look fine physically, but it can take a long time to get back to “normal”.

Often, friends and family find it hard to know what to say. They do not know whether to ask someone if they are OK, or to behave as if nothing has changed. People who have had an SAH can find it difficult to talk about the problems they are experiencing and might feel isolated as a result. You could mention that you have read this booklet as a way to introduce talking about how the person is feeling.

Irritability or angry outbursts can be very difficult for friends or family to cope with. It is common for people to become irritable or angry after an SAH, but they might not be aware that their behaviour or personality has changed.

A few tips for friends and family:

Keep a routine and avoid surprises

Try not to take remarks personally

Try to keep calm at all times

Try not to let too many people visit at the same time or have too many distractions going on

Health professionals

Neurosurgeon: a specialist doctor who performs brain and spine operations.

Neurologist: a doctor who does not perform operations but specialises in the diagnosis and treatment of people with neurological conditions.

Interventional radiologist: a specialist doctor who performs procedures like the coiling of brain aneurysms.

Radiologist: a specialist doctor who performs, reports and reads scans such as angiograms, CT scans, MRI scans, and X-rays.

Nurse specialists: a nurse who specialises in a particular condition, for example, subarachnoid haemorrhage.

Neuropsychologist: a psychologist specialising in the functions of the brain, particularly memory, concentration and problem solving.

Neurophysiotherapist: a chartered physiotherapist who specialises in treating people with neurological conditions. A neurophysiotherapist will assess, plan and treat people with physical problems.

Speech and language therapist: a specialist health professional who assesses, plans and treats people with communication and swallowing problems.

Occupational therapist: a specialist health professional who offers practical support and advice on everyday skills and activities, for example, using equipment at home.

Counsellor: a person trained to give guidance on personal or psychological problems.

Useful contacts

Subarachnoid haemorrhage:

Brain and Spine Helpline

Brain and Spine Foundation
7 Winchester House
Kennington Park
London SW9 6EJ

0808 808 1000

www.brainandspine.org.uk

Run by neuroscience nurses, providing support and information on all aspects of neurological conditions for patients, their families and carers, and health professionals.

Brain and Spinal Injury Charity (BASIC)

Brain and Spinal Injury Centre
554 Eccles New Road
Salford M5 5AP

0870 750 0000

www.basiccharity.org.uk

Support and information on neurological conditions.

Different Strokes

9 Canon Harnett Court
Wolverton Mill
Milton Keynes MK12 5NF

0845 130 7172

www.differentstrokes.co.uk

Support and information for younger people affected by stroke.

Useful contacts

The Stroke Association

240 City Road
London EC1V 2PR

0845 303 3100

www.stroke.org.uk

Support and information on stroke.

Communication problems:

Connect

16-18 Marshalsea Road
London SE1 1HL

020 7367 0840

www.ukconnect.org

Support and information on communication problems (aphasia).

Speakability

1 Royal Street
London SE1 7LL

0808 808 9572

www.speakability.org.uk

Support and information on communication problems (aphasia).

Visual problems:

Royal National Institute of Blind People (RNIB)

105 Judd Street
London WC1H 9NE

0845 766 9999

www.rnib.org.uk

Support and information on visual problems and sight loss.

Epilepsy:

Epilepsy Action

New Anstey House
Gate Way Drive
Yeadon
Leeds LS19 7XY

0808 800 5050

www.epilepsy.org.uk

Support and information on epilepsy.

National Society for Epilepsy

Chesham Lane
Chalfont St Peter
Buckinghamshire SL9 0RJ

01494 601400

www.epilepsynse.org.uk

Support and information on epilepsy.

Useful contacts

Driving:

Driver and Vehicle Licensing Agency (DVLA)

Drivers Medical Group

Longview Road
Swansea SA99 1TU

0870 600 0301

www.dvla.gov.uk

www.direct.gov.uk/motoring

Information on medical rules for drivers.

Flying:

Aviation Health

17c Between Towns Road
Oxford OX4 3LX

01865 715999

www.aviation-health.org

Information on health and flying.

General health:

NHS Choices

www.nhs.uk

NHS Direct

0845 46 47

Medical advice and information on health services.

Support groups

There is a dedicated section on SAH at the Brain and Spine Foundation's on-line discussion forum offering the opportunity to post messages, exchange views, share experiences and ask questions.

www.brainandspine.org.uk/applications/discussion/

Further reading

The Brain and Spine Foundation produces further information on the following related subjects: angiogram, craniotomy, CT scans, epilepsy, hydrocephalus, MRI scans, perimesencephalic haemorrhages, unruptured aneurysms, vascular malformations of the brain, speech and language problems.

A Dented Image: Journeys of Recovery from Subarachnoid Haemorrhage, Alison Wertheimer

Personal accounts of recovery from SAH.

References

Details of medical references used for this booklet are available at www.brainandspine.org.uk/references or on request from the Brain and Spine Helpline 0808 808 1000.

Thank you

We would like to thank everyone who contributed to this booklet, especially Lesley Foulkes (Neurovascular Clinical Nurse Specialist), Tina Stephen (Neurovascular Clinical Nurse Specialist), Rosalind Taylor (Neurovascular Nurse Practitioner), Edith Wood (Clinical Nurse Specialist in Interventional Neuroradiology), Dr P. White (Consultant Neuroradiologist), Andrew Watson, and members of the Wessex Neurological Centre subarachnoid haemorrhage patient support group.

Brain and Spine Foundation



The Foundation provides support and information to those affected by the many conditions associated with the brain and spine. The charity relies heavily on voluntary donations and fundraising events to provide the services which have helped many thousands of people across the UK.

You can help the future work of the Brain and Spine Foundation by

- Making a donation
- Organising or taking part in a fundraising event
- Offering your time as a volunteer
- Remembering the Brain and Spine Foundation in your will

Further details available from the address/telephone number below or from www.brainandspine.org.uk.

Brain and Spine Foundation

7 Winchester House, Kennington Park, London SW9 6EJ

Telephone (switchboard): 020 7793 5900

Helpline: 0808 808 1000

www.brainandspine.org.uk

Registered Charity Number: 1098528

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Do you need more help or information?

We hope you found the information in our booklet useful. If there's anything you are still unclear about, or if you'd like to ask a question, please feel free to contact our Brain and Spine Helpline.

The neuroscience nurses on our Helpline are available to talk things through with you - call free on 0808 808 1000 (weekday mornings) or email us at helpline@brainandspine.org.uk.

The Helpline covers all brain and spine conditions and can offer information and support on any medical or related social and emotional issues of concern.

Can you help maintain this service with a donation?

Our information services are free, but we rely heavily on donations in order to keep publications like this one, as well as our Helpline and website available to people affected by brain and spine conditions. Any amount you can spare, however small, will be very gratefully received - thank you.



3 ways to donate:

- Click www.brainandspine.org.uk/donate
- Send a cheque to Brain and Spine Foundation, Freepost LON10492, London SW9 6BR
- Or call us on 020 7793 5900 (office hours)