

Stroke Factsheet

What is a stroke?

A stroke happens when the blood supply to the brain is disturbed in some way. As a result, brain cells are starved of oxygen. This causes some cells to die and leaves other cells damaged.

Types of stroke

Strokes fall in to two main categories: clots and bleeds.

1. Clots:

most (c.70%) strokes happen when a blood clot blocks one of the arteries (blood vessels) that carry blood to the brain. This type of stroke is called an ischaemic stroke.

- Cerebral thrombosis is when a blood clot (thrombus) forms in an artery that supplies blood to the brain. Blood vessels that are furred up with fatty deposits (atheroma) make a blockage more likely. The clot prevents blood flowing to the brain and cells are starved of oxygen.
- Cerebral embolism is a blood clot that forms elsewhere in the body before travelling through the blood vessels and lodging in the brain. In the brain, it starve cells of oxygen. An irregular heartbeat or recent heart attack may make you prone to forming blood clots.
- Transient ischaemic attack (TIA) or 'mini-stroke' is a short-term stroke that lasts for less than 24 hours. The oxygen supply to the brain is quickly restored and symptoms disappear. A transient stroke needs prompt medical attention because it indicates a serious risk of a major stroke.

2. Bleeds:

much less common. They happen when a blood vessel bursts inside the brain and bleeds (haemorrhages). With a haemorrhage, blood seeps into the brain tissue and causes extra damage.

Scale of the problem

In England, strokes are a major health problem. In the UK there are over 1.2 million stroke survivors with two thirds of survivors leaving hospital with a disability. They are the largest cause of adult disability in the UK.

Common signs of a stroke

Strokes usually happen suddenly. No two strokes are the same and people can be affected in quite different ways.

To an extent it depends on which area of the brain is damaged, because different parts control different abilities such as speaking, memory, swallowing and moving.

The most common signs of a stroke are:

- weakness down one side of the body, ranging from numbness to paralysis that can affect the arm and leg
- weakness down one side of the face, causing the mouth to droop
- speech may be difficult or become difficult to understand
- swallowing may be affected
- loss of muscle coordination or balance
- brief loss of vision
- severe headache
- confusion

Causes of strokes

A number of factors have been identified as being linked to strokes. These include:

- high blood pressure: this is the most important contributor to strokes – leading to 50% of clotting strokes
- age: 75% of people who have a stroke are over 65 years old
- smoking: the risk of stroke in smokers is approximately two to four times the risk in non- smokers
- diet: research has shown that insufficient consumption of fruit and vegetables and excessive consumption of salt lead to an increased likelihood of a stroke
- alcohol consumption: male drinkers of over 35 units a week have double the risk of mortality from stroke than non drinkers
- diabetes: people with diabetes are two to three times more likely to have a stroke compared to those without the condition
- Atrial fibrillation (a type of irregular heart rhythm) is an important risk factor for stroke and is found in 15% of all stroke patients

Diagnosis

Strokes can vary hugely in terms of severity and effect. Much depends on where in the brain a stroke occurs and how rapidly the patient receives medical attention. This is why it is essential to remain alert to the typical symptoms suffered by those experiencing a stroke and call an ambulance immediately if you spot any of them.

If it is suspected that a person has experienced a stroke, then accurate diagnosis is essential for a number of reasons:

- Confirming the symptoms were indeed caused by a stroke.
- Identifying the type of stroke, its location in the brain and its severity.
- Identifying the causes so the most appropriate treatment can be administered: different types of stroke require different treatment, so rapid diagnosis is crucial.
- Monitoring the person's ongoing condition to ensure there are no additional complications.

There are a range of tests and procedures for stroke diagnosis. Doctors are unlikely to need all of them and will use those which are most appropriate for your symptoms and condition.

Stroke Diagnosis Tests

1. Neurological Examination:

if the person is conscious, this is probably the first stage of diagnosis. A doctor will assess various functions to establish whether a stroke is likely, including:

- Speech and memory
- Sensation and movement in the limbs and face
- Awareness
- Walking and balance
- Vision and eye movements

2. Brain Scan:

the main diagnostic tool for strokes. Even if the symptoms are very obviously those of a stroke a scan is usually necessary to establish its location and severity. It will also reveal whether the cause was a blocked artery or burst blood vessel. There are two types of scan:

- CT Scan: the computer tomography scan is like an X-ray, but multiple images are put together to create a 3D picture of your brain. This is the quickest scan so is best for obvious and severe cases of stroke, identifying if the cause was a clot, thereby enabling clot-busting drugs to be administered rapidly, which greatly aids recovery.
- MRI Scan: the magnetic image resonance scan uses a strong magnetic field and radio waves to create a detailed picture of the body's interior. This provides much greater detail than a CT scan and is therefore appropriate where symptoms are more complex.

3. Heart and Blood Vessel Tests:

tests are likely to take place later and are intended to confirm the cause of the stroke. They can include:

- Ultrasound: used on the neck to assess the condition of the carotid artery (which supplies blood to the brain). It is sometimes called a Doppler or Duplex scan.
- Echocardiogram: an ultrasound probe produces images of the heart, highlighting the problem areas. This could be from a probe passed over the body or sometimes a clearer image is produced by a probe passed down the food pipe (oesophagus).
- Electrocardiogram (ECG): measures the rhythm and activity of your heart through small electrodes placed on the body.

4. Swallow Tests:

as many as a third of people who suffer a stroke experience difficulty swallowing, leading to threats of choking. Patients' ability to swallow water may be assessed in order to assess this risk.

5. Blood Tests:

can reveal any conditions which may have led to the stroke, such as diabetes, blood clotting disorders or high cholesterol.

Living with the after effects of a stroke

Life after a stroke varies from person to person, depending upon the area of the brain affected by the interruption in blood supply. The range of recovery states can include everything from almost full recovery to needing help with everyday tasks such as eating.

The effects of a stroke can include physical effects such as problems with mobility, swallowing, continence, vision and speech. Stroke survivors may also have numbness or strange sensations. The pain is often worse in the hands and feet and is made worse by movement and temperature changes, especially cold temperatures.

However, strokes can also cause psychological or emotional changes, which may be more difficult to cope with. Common changes include depression, tiredness, memory problems, loss of concentration, mood swings, personality changes or irritability.

Recurrent stroke is frequent; about 25 percent of people who recover from their first stroke will have another stroke within 5 years.

Treatment

Medication

If the stroke was caused by a blood clot, then anti-clotting medication (e.g. warfarin) may be used. However, this will not be used in the case of strokes caused by bleeding as it will cause the bleeding to worsen.

Non-medical therapy

The main treatment for those who have experienced a stroke comes in the form of therapy delivered through a range of health professionals including:

- Physiotherapists: working on muscle control, balance and mobility to help with weakness and paralysis.
- Orthotist: also helping with mobility by using splints for limb support.
- Occupational Therapist: supporting people to return to normal functioning both at home and work, helping with daily activities such as washing and dressing.
- Speech and Language Therapist: helping with communication. May also assist with swallowing problems.
- Dietitian: helping create a healthier diet to aid recovery and reduce the risk of secondary strokes.
- Clinical Psychologist: the ability to process information can be affected by stroke and a clinical psychologist can help with this.

In addition to this, emphasis is placed upon trying to reduce the chances of experiencing secondary strokes as the risk of experiencing secondary strokes is high (25% of people who recover from their first stroke will have another stroke within 5 years).

Ways to reduce your risk of having a stroke

- Exercise: even moderate exercise can reduce the risk of a stroke by around 25%.
- Reduce cigarette smoking: five years after stopping smoking, the risk of stroke is reduced to that of non-smokers, regardless of age at starting to smoke and the number of cigarettes smoked per day.
- Eat more fruit and vegetables: for each extra portion eaten, the risk of ischaemic stroke reduces by 6%.

Care

In addition to therapy, many people need care in the post-stroke period. The level of care typically declines with time as the effects of therapy are witnessed.

Our post-stroke care services can include respite care (to give family carers a break) as well as rehabilitation care or ongoing care in order to avoid going into residential care or hospital.