

Perinatal stroke

Information for patients, parents and guardians

We have written this factsheet to give you more information about perinatal stroke. It explains what a perinatal stroke is, the signs to look out for, and how it is treated. We hope it will help to answer some of the questions you may have. If you have any further questions or concerns, please speak to a member of our team.

What is a perinatal stroke?

When a stroke occurs in the last part of the pregnancy (before birth) or in the first few weeks of a baby's life (up to 28 days), it is called a perinatal stroke. There are three different types of perinatal stroke:

Perinatal arterial ischaemic stroke (PAIS)

This type of stroke occurs when an artery supplying blood to an area of the brain narrows or becomes blocked. The blockage limits the amount of blood reaching the area of the brain and causes brain damage.

Cerebral venous sinus thrombosis (CVST)

A condition where a blood clot forms in a vein and/or sinuses (channels) inside the brain (as opposed to in an artery). CVST may affect veins near the outer surface of the brain (superficial) or veins deeper inside the brain tissue. This type of blood clot can block the drainage of blood and fluids from the brain, which can lead to brain swelling and a stroke.

Haemorrhagic stroke

A stroke caused by a broken blood vessel within the brain.

Is perinatal stroke common?

Although stroke is commonly thought to affect mainly people in old age, a person's risk of having a stroke is actually highest in their first year of life. At least one in every 2300 newborns will have a perinatal stroke each year.

The majority of perinatal strokes (80 to 90%) are caused by blockages in either arteries (PAIS) or veins (CVST).

What causes perinatal stroke?

In many cases, babies with perinatal stroke are otherwise healthy, born after an uncomplicated pregnancy, and the cause for stroke is not found. However, research suggests that infections in the mother or baby, complicated pregnancies or traumatic deliveries, blood clotting disorders (which can be inherited), dehydration, cardiac problems and placental disorders are contributing risk factors.

What are the signs to look out for?

Babies who have had a perinatal stroke may not show any obvious signs and symptoms initially. The most common sign of perinatal stroke is seizures in the first few days of life. Babies with perinatal stroke can also be floppy, weak, sleepy or have unusual movements. Babies may also experience feeding difficulties, breathing difficulties or sleep apnoea (where they stop breathing for a short period of time during sleep).

How is perinatal stroke diagnosed?

If we suspect your baby has had a perinatal stroke, we will carry out some tests to confirm whether they have had a stroke and what type of stroke. To help us find out what may have caused your baby's stroke, we will ask you about:

- your (the mother's) health during pregnancy
- your family's medical history
- your baby's birth and whether they have any medical problems or illnesses
- your baby's recent behaviour and sleeping pattern
- any other medical issues that could be related (infections and medications)

What tests will my baby have?

MRI brain scan

An MRI scan is a type of scan that uses magnetic fields and radio waves to produce detailed images of the inside of the body. It will allow us to check your baby's brain tissue, blood flow and fluid inside their skull. The images we take will show whether the stroke was due to a blood clot (an ischaemic stroke) or bleeding (a haemorrhagic stroke).

Blood tests

We may carry out some blood tests to help us identify the cause of your baby's stroke. We will check their blood cell count and their blood clotting system. We will also test for infections and diseases that might have caused the stroke.

Echocardiogram (echo)

An echocardiogram, or 'echo', is a type of scan used to look at the heart and nearby blood vessels. It will help us to identify if your baby has any heart problems that may lead to a stroke, such as structural problems, poor functioning, blood clots or infections.

Electrocardiogram (ECG)

An ECG is a test to measure the electrical activity and rhythm of the heart. It will help us to identify any problems with your baby's heart rate or rhythm that might lead to a stroke.

Electroencephalogram (EEG)

An EEG is a test to record the electrical activity of the brain. It will give us information about your baby's brainwaves, which may be used to help us understand seizures that can happen after a stroke.

How will my baby be treated?

Depending on your baby's symptoms, we may prescribe:

- medication to control seizures
- fluids for dehydration
- antibiotics for infection or meningitis
- medication or surgery to correct heart abnormalities

If your baby's stroke is due to congenital heart disease or a serious blood clotting disorder, we may prescribe blood-thinning medications called anticoagulants. We may also prescribe blood-thinning medication if your baby has cerebral venous sinus thrombosis (when a blood clot forms in the brain's venous sinuses) to help dissolve clots and prevent further ones from forming.

If your baby has a build-up of fluid in their brain, we may insert a small tube called a shunt to drain the fluid and reduce the pressure on their brain.

Will my baby need any follow-up appointments?

A baby's brain is still growing and developing, and constantly learning new things. Rehabilitation, or early intervention, is generally believed to improve a baby's recovery in the long-term. After your baby leaves hospital, we will book them in for follow-up appointments with a multidisciplinary team. The number of appointments and when they are required will be different for each baby. We will provide you with information and training on how to help your baby during their recovery. Contact us if your baby's symptoms change or seem to become worse after they leave hospital.

After perinatal stroke, your baby has a higher risk of developing epilepsy during childhood and they may require further tests and treatment.

What is the risk that my baby will have another stroke?

The risk that your baby will have another stroke is very low (less than a 1% chance). However, some children are more likely to have another stroke if they have a complex congenital heart disease or a rare serious blood clotting disorder.

Recurrence of perinatal stroke is extremely rare for future pregnancies.

What questions should I ask before my baby leaves hospital?

- Will my baby's growth and development be affected by the stroke?
- What will my baby's recovery be like?
- What do I need to consider for my baby once we leave hospital?
- Is there any financial, rehabilitation or educational support available for my baby?
- What services and resources are available in my community to help a child who has had a stroke?

Contact us

It is normal to feel overwhelmed when your baby is first diagnosed with perinatal stroke. If you have any questions or concerns, please contact us.

Neonatal neurology team

Telephone: **023 8120 8392** or **023 8120 5765**

Email: uhs.neonatalneurology@nhs.net

Useful links

www.stroke.org.uk/childhood-stroke

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