We are now a smoke-free site: smoking will not be allowed anywhere on the hospital site. For advice and support in quitting, contact your GP or the free NHS stop smoking helpline on 0800 169 0 169.

Other formats:

If you would like this information in another language, large print or audio, please ask the department where you are being treated, to contact the patient information team: patient.information@addenbrookes.nhs.uk.

Please note: We do not currently hold many leaflets in other languages; written translation requests are funded and agreed by the department who has authored the leaflet.

Children’s Services
Information for parents
Stroke in Childhood

Document history

Authors
Adapted from the Stroke Association information for parents by Dr Manal Issa

Department
Cambridge University Hospitals NHS Foundation Trust, Hills Road, Cambridge, CB2 0QQ

www.cuh.org.uk

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01223 245151

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What is a stroke?
A stroke is a sudden disruption to the blood supply to the brain. It affects neurological functions – that is, functions that are controlled by the brain; for example, movement and speech.

There are two major types of stroke:
1) Ischemic – this is caused by a blockage of the blood supply to an area of the brain
2) Haemorrhagic – this is caused by blood leaking from blood vessels into the brain.

Both types of stroke cause damage to brain cells. The resulting difficulties experienced by the child depend on which area of the brain is affected.

When a stroke happens, some brain cells are damaged and others die. Brain cells that have died cannot start working again. However, those just outside the area of the dead cells may recover as the swelling caused by the stroke goes down. Recovery can also occur as other parts of the brain take over from areas that have died. Stroke may affect children in different ways, and some of these changes may be longer lasting than others. These changes may vary as the child grows and develops.

What causes stroke in children?
The causes of ischaemic stroke in children are not the same as in adults. With adults, strokes are often brought on by smoking, high blood pressure or ‘furring up’ of the arteries. In contrast, there are many possible causes of stroke in children; for example, sickle cell disease or heart problems.

Useful Organisations:

The Stroke Association
Helpline: 0845 3033100
www.stroke.org.uk

Childrens Brain Injury Trust
Helpline: 0303 3032248
www.childbraininjurytrust.org.uk

Childrens Hemiplegia and Stroke Association
www.ahasa.org

Contact a family
Freephone: 08088083555
www.cafamily.org.uk

Different Strokes
Helpline: 0845 1307172
www.differentstrokes.co.uk

Headway
Helpline 08088002244
Will the stroke happen again?
This very much depends on the underlying cause of the stroke. Some children, such as those with sickle cell disease, are at relatively higher risk than others. It is difficult to be specific without considering each individual separately. Your child’s doctors will be able to discuss this with you.

How can another stroke be prevented?
Various treatments are available to try to reduce the chances of further stroke. In children with sickle cell disease, regular blood transfusions are used. In other children with ischaemic stroke, long-term blood-thinning medication (for example aspirin or warfarin) is recommended. In children with a rare condition called moyamoya, surgery is sometimes possible to try to improve the blood flow to the brain. Recommendations will be made according to your child’s individual needs.

It is common to find narrowing of blood vessels which carry blood to the brain. The cause of this narrowing, despite tests, is often not found; rarely, it may be associated with previous chickenpox infection. In around 10% of children who have a stroke, no cause is identified despite extensive tests. The causes of strokes in children and adults are very different and so the fact that an older member of the family might have had a stroke is usually not relevant.

Haemorrhagic stroke is most commonly due to bleeding from abnormal blood vessels in the brain. There are also other possible causes such as blood-clotting problems.

What are the signs that a child has had a stroke?
As with adults, the most common effect of stroke in a child is weakness of one side of the body (hemiplegia). A child’s face may droop on one side and their speech may be affected. Some strokes affect areas of the brain responsible for balance and coordination. Some children may complain of a headache and others may have fits at the time of the stroke. Signs of a stroke may be difficult to recognise in a young child, depending on the child’s age and stage of development.

Are strokes common in children?
In the UK, about five out of every 100,000 children per year have a stroke (a total of several hundred). Ischaemic and haemorrhagic strokes are equally common.
How is healthcare organised for children affected by stroke?

Most children will be admitted to hospital for initial care and assessment.

A number of tests may be carried out, for example brain scan, blood tests and ECHO (ultrasound scan of the heart), as finding the cause of the stroke will help the planning of your child’s medical treatment. Medical, nursing and therapy assessments will also be made to help plan your child’s care.

Immediately after the stroke, your child’s healthcare may be provided in your local hospital or at a specialist centre. A consultant paediatric neurologist should be involved in or consulted about your child’s care. In the longer term, community child health services should coordinate services according to your child’s needs. This may involve health, education and social services and include doctors, nurses, therapists, teachers, social workers and many other professionals.

Medical treatment

This will depend on the factors that caused the stroke in the individual child. Drugs that make the blood thinner and therefore less likely to clot (such as aspirin, heparin or warfarin) may be considered for children who have had an ischaemic stroke. Those on warfarin will require regular blood monitoring.

Rehabilitation

Rehabilitation following stroke should begin immediately. In the first few days, assessment of movement and positioning, swallowing, speech and communication may take place. These assessments may involve a number of different health professionals, and they will inform the community health team in your local area so that care can continue once your child goes home. As parents, you should be involved in all these processes and express your concerns.

In the longer term, rehabilitation may take place in a hospital or rehabilitation unit, or at home with community therapy input. Areas to be considered may include:

1) Improving abilities affected by the stroke; for example, movement or speech
2) Finding ways of adapting to changes in ability
3) Developing skills in daily activities such as self-care, leisure, school and play
4) Social, emotional and practical support following discharge from hospital.

The exact nature of your child’s rehabilitation will vary according to their needs, which should be assessed to see which treatments and therapies are needed to bring about as good a recovery as possible.

Returning to school full-time following a stroke will be a major milestone for your child and needs to be carefully planned. A gradual return may be advisable. Keeping in touch with friends during the recovery period can assist your child in settling back into school. The Local Education Authority (LEA) is responsible for planning your child’s return, and you should be a part of this process.