Learning, behaviour and epilepsy

Learning difficulties not learning disabilities
This information is about children with learning difficulties, rather than learning disabilities. This box shows the difference in the two conditions.

<table>
<thead>
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<th>Learning difficulties*</th>
<th>Learning disabilities *</th>
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<td>Children have specific learning problems, usually with reading, writing, comprehension or maths. They may need extra help at school, but will be able to use what they have learned in practical ways.</td>
<td>Children find it a lot more difficult to understand than other children. They may find it hard to use what they have learned in practical ways. This means they will need help and support with everyday living skills.</td>
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*UK definitions

Epileptic seizures
Electrical activity is happening in our brain all the time. A seizure happens when there is a sudden burst of intense electrical activity in the brain. This is often referred to as epileptic activity. The epileptic activity causes a temporary disruption to the way the brain normally works, so the brain’s messages become mixed up. The result is an epileptic seizure.

Learning difficulties and epilepsy
Some children and young people with epilepsy don’t achieve as much as they could. This is because they have some learning difficulties that may be directly or indirectly related to their epilepsy. Several studies found that these learning difficulties mainly affect a child’s reading, writing, and maths. In some children, their spelling or comprehension work is also affected.

There can be different reasons why some children with epilepsy have learning difficulties. Here are some of them.

The age when seizures start
Cognitive (learning) skills are the brain-based skills we need to carry out any task from the simplest to the most difficult. They relate to the way we learn, remember, problem-solve, and pay attention. Cognitive skills problems at an early age may cause

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problems with later learning. This is because young children have to have the basic tools of learning, before they can go on to more advanced learning.

**The type of epilepsy syndrome**

There are many different types of epilepsy. Some children have an epilepsy syndrome. An epilepsy syndrome is a group of signs and symptoms that suggest a particular medical condition. Children with some epilepsy syndromes are more likely to have learning difficulties than others. For example, at least one study showed that children with benign rolandic epilepsy (also known as BECTS) have more problems with reading, writing and maths than children with other types of epilepsy.

**Epilepsy medicine**

Epilepsy medicines have some effect on cognitive skills. The risk may be different with different medicines. Also, the risk is likely to be greater if a child is taking more than one epilepsy medicine. However, it may be difficult to reduce the problems caused by epilepsy medicines. This is because it is best for children to have good seizure control with as few seizures as possible. So, if their epilepsy medicine is controlling their seizures, this important benefit must be weighed against the risk of the medicine causing learning difficulties.

**Frequent epileptic activity**

Some children have a lot of epileptic activity in their brain, but don’t appear to be having any seizures. This can happen both when the child is sleeping and when awake. If this happens very frequently, it can affect their memory and how they learn.

**Support services for children with learning difficulties**

If you believe your child has some learning difficulties, talk to their school. In the UK, this could be the head teacher. They usually work with the school’s Special Educational Needs Co-ordinator (SENCO) to make sure that any child with special educational needs is identified. The school then has to make sure any identified needs are met, as far as possible.

Epilepsy Action has more information about support services for children with learning difficulties.

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Epilepsy and behaviour problems
We often speak to parents on the Epilepsy Helpline who are concerned about their child’s behaviour. Of course, all children have times when they don’t behave as we expect them to, whether or not they have epilepsy. They might have temper tantrums, be aggressive or damage things. With some help from the adults in their lives, most of them will learn to behave better in time. However, sometimes, difficult or unusual behaviour can be caused by the child’s seizures, frequent abnormal electrical activity in their brain, or epilepsy medicines. And for some children, behaviour problems can be caused by some damage to their brain, which also causes their epilepsy. This damage could happen before, during, or after birth.

Behaviour and damage to the brain
A number of things can cause epilepsy. These include brain damage or a brain malformation. Some people who have damage to their brain or a brain malformation may have behaviour problems.

Behaviour and seizures
Many children with epilepsy have their seizures controlled with epilepsy medicines, but some children continue to have seizures. These seizures can cause a child to behave differently in the run up to a seizure, during a seizure, and after a seizure.

Behaviour in the run up to a seizure
In the hours or even a few days before a seizure, a child’s mood or behaviour may also change. This is called a prodrome. Children who have frequent seizures have prodrome symptoms more often than children with better seizure control.

Behaviour during a seizure
It’s quite usual for a child who has focal (partial) seizures to appear to be behaving differently. These behaviours may range from gagging, lip smacking, running,

screaming, crying, and/or laughing. They may not be conscious of what they are doing, but they are in fact having a seizure.

**Behaviour after a seizure**

After a seizure, it’s quite usual for a child to be confused, have a headache, feel sleepy or have problems with vision or speech. This can change their behaviour. Very rarely, a child might have a condition called post-ictal psychosis. Post-ictal means after a seizure. Post-ictal psychosis can be very frightening and can change a child’s behaviour. It can cause a child to have delusions (strong belief that something unreal is true), or hallucinations (hearing or seeing things that are not there).

**Epilepsy medicines**

All medicines can have side-effects, including epilepsy medicines. Some of the more common epilepsy medicines that may cause side-effects such as hyperactivity, irritability, sleepiness, mood changes, aggression and confusion follow:

- Carbamazepine
- Clobazam
- Ethosuximide
- Gabapentin
- Lamotrigine
- Levetiracetam
- Sodium valproate
- Topirimate

For a full list of epilepsy medicines and side-effects go to: BNF.org

**What you can do to help your child**

If you are concerned about your child’s behaviour, keep a diary to show to their epilepsy specialist or nurse. You could also take a video on your mobile phone to show them.

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23 BNF 66 (September 2013) BMA/Royal Pharmaceutical Society, chapter 4.8.1 Available online at http://www.bnf.org/bnf/search.htm?q=epilepsy
24 BNF 66 (September 2013) BMA/Royal Pharmaceutical Society, chapter 4.8.1 Available online at http://www.bnf.org/bnf/search.htm?q=epilepsy
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If the epilepsy nurse or specialist thinks your child’s behaviour is related to their seizures or epilepsy medicine, they may need to make changes to their treatment. If they believe their behaviour is not related to their epilepsy or seizures, they may refer them to other professionals who can help them.

The organisation Young Epilepsy has information about helping a child with epilepsy and behaviour problems at: youngepilepsy.org.uk

Epilepsy Action has more information about:

- Seizures types
- Epilepsy syndromes
- Treating epilepsy

Useful sources of information

NHS Choices
Web: NHS.uk

The Challenging Behaviour Foundation
Web: challengingbehaviour.org.uk

Young Epilepsy
Tel: Epilepsy Helpline 01342 832243
Text: 07860 023 789
Email: helpline@youngepilepsy.org.uk
Web: youngepilepsy.org.uk

Youngminds Parent Helpline
Tel: 0808 802 5544
Web: youngminds.org.uk

About this information

This information is written by Epilepsy Action’s advice and information team, with guidance and input from people living with epilepsy and medical experts. If you would like to know where our information is from, or there is anything you would like to say about the information, please contact us at epilepsy.org.uk/feedback

Epilepsy Action makes every effort to ensure the accuracy of information but cannot be held liable for any actions taken based on this information.

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Your support
We hope you have found this information helpful. As a charity, we rely on donations to provide our advice and information. If you would like to make a donation, here are some ways you can do this.

- Visit [www.epilepsy.org.uk/donate](http://www.epilepsy.org.uk/donate)
- Text ACT NOW to 70700 (This will cost you £5 plus your usual cost of sending a text. Epilepsy Action will receive £5.)
- Send a cheque payable to Epilepsy Action to the address below.

Did you know you can also become a member of Epilepsy Action from as little as £1 a month? To find out more, visit epilepsy.org.uk/join or call 0113 210 8800.

Epilepsy Helpline
Freephone 0808 800 5050, text 0753 741 0044, email helpline@epilepsy.org.uk, tweet @epilepsyadvice

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