Epilepsy in children

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Epilepsy is commonly diagnosed in children and can be confused with other conditions. An accurate diagnosis is essential. Seizures usually respond well to medication and most children with epilepsy will enjoy a normal and active childhood. The impact of epilepsy will vary for each child. Try to keep epilepsy in perspective for your child and your family. Remember to keep a balance between protecting your child and encouraging their independence.

Epilepsy can begin at any time of life, but it is most commonly diagnosed in children, and people over the age of 65.

A large number of children with epilepsy will outgrow their seizures or gain full seizure control as they mature. Some may have seizures that continue into adulthood.

**Recognising epilepsy in children**

Seizures may not always be recognised in children when they first occur. This will depend on the seizure type.

People often think of seizures as convulsive, but some seizures can be subtle and very brief, such as an ‘absence seizure’ in which the child has brief episodes of loss of awareness and responsiveness.

There are many ‘non-epileptic’ episodes that can mimic seizures, and epileptic seizures often do not look the way people expect them to. This can sometimes make diagnosis complicated.

Some childhood events that may be confused with seizures are:
- fainting spells
- breath-holding spells
- normal sleep jerks
- daydreaming
- night terrors
- migraine
- heart and stomach problems
- psychological problems.

**Epilepsy syndromes**

Some types of epilepsy are classified as syndromes, because they have specific signs and symptoms, such as:
- the type of seizures
- the age at which they start
- the specific pattern they show on EEG (electroencephalogram) (a medical test used to measure the electrical activity of the brain).

If the epilepsy fits a particular pattern or syndrome, this can help the doctor to select the best medication for that syndrome. It can also help to predict whether the
seizures are likely to be easily controlled, limited to childhood, or whether the condition may be more persistent.

Some more common types or epilepsy or epilepsy syndromes include:

- **childhood absence epilepsy** – these seizures usually start between ages two to 12. Absence seizures are very brief: the child will suddenly stop what they are doing and stare blankly, like they are daydreaming. Just as suddenly they stop and continue with the previous activity. Absence seizures can happen numerous times a day. They are usually well controlled with medication, and stop by puberty

- **juvenile absence epilepsy** – these seizures usually start between ages eight to 20. The seizures are similar to childhood absence seizures but may be longer and can include movements such as eyelid fluttering or chewing. They can occur several times a day, but are not as frequent as childhood absence epilepsy seizures. Up to 80 per cent of children with this type of epilepsy will also have tonic-clonic seizures. The seizures often are well controlled with medication but the syndrome is considered lifelong

- **childhood epilepsy with centrotemporal spikes or benign rolandic epilepsy** – these seizures are seen in children in their early school years. They are infrequent and typically involve twiching, numbness, or tingling of the child's face or tongue. The child may drool and not be able to speak. These are a type of focal seizure and last no more than two minutes. The child remains fully aware. Seizures are mostly associated with sleep and sometimes tonic-clonic seizures can occur. The seizures stop around puberty

- **juvenile myoclonic epilepsy** – this syndrome can be diagnosed anywhere between eight and 25 years. It typically starts with myoclonic seizures that occur on awakening from sleep either in the morning or from a nap. They are sudden, irregular muscle jerks of both arms. Sometimes these movements are not obvious, and make the person seem clumsy or prone to dropping things. Tonic-clonic seizures are also seen. Seizures can be well controlled with medication and lifestyle changes. This syndrome runs in families

- **West syndrome or infantile spasms** – onset of this syndrome is typically seen during the first year of life. The very brief spasms (seizures) cause the baby to stiffen suddenly. Often the arms are flung out as the knees are pulled up and the body bends forward (‘jack-knife seizures’). The baby will cry. The spasms usually occur in clusters. Sometimes they are mistaken for colic, but the cramps of colic do not occur in clusters. Most children with infantile spasms will have developmental disabilities later in life and develop other kinds of seizures or epilepsy

- **Lennox-Gastaut syndrome** – this complex syndrome has the onset of seizures from age one to seven years. It can include multiple seizure types and is often difficult to manage. Developmental delay is seen in 90 per cent of people with this syndrome

- **focal epilepsies** – seizure activity in the brain remains in a limited ‘focal’ area. Focal seizures will have different features according to what part of the brain is involved. The most common focal epilepsies are temporal lobe epilepsy and frontal lobe epilepsy.

**Treatment of epilepsy**

The decision whether to treat a child with antiepileptic medication after they have been diagnosed with epilepsy is made depending on the child’s situation. The risk of further seizures is weighed against the potential risks and benefits of antiepileptic medication. This decision also incorporates the family’s values and preferences.

Medication is the first line of treatment for epilepsy, and is intended to lessen or control the seizures, preferably with few or no side-effects. Medications are not a cure and are not always prescribed for every child who has a seizure.

Starting a child on medication can be a difficult choice for parents. Most parents worry about side effects and any long-term effects of taking medications. The doctor will consider the risks of having seizures versus the risks and benefits of taking medication for the child.

Whether or not to prescribe medication, and what type of medication, will depend on:

- the likelihood of further seizures
- the type of seizures the child has, and how often they occur
- the risks the seizures may pose
- the age of the child
- the presence of developmental or behavioural problems
- the wishes or willingness of the child and family to start medication.

If several medications fail to control seizures adequately, other options for treatment may be considered such as:

- surgery
- vagus nerve stimulation
- dietary management.

**General information about medications**

Medications used to control seizures are called antiepileptic medications. Most antiepileptic medications are started at a low dose and slowly increased until seizures no longer occur. The dose may need to be adjusted as the child grows and their weight increases, or if new medications are added for other problems.

A second antiepileptic medication may be added or substituted if the first medication was only partially effective in stopping seizures, or if it caused unwanted side effects.

Many antiepileptic medications mix with other medications, causing unwanted reactions or reducing their effectiveness. Speak to your doctor or pharmacist before giving your child any other medication or supplement, even over-the-counter medicines for coughs and colds.

Never stop antiepileptic medications suddenly. This can cause seizures – sometimes seizures that are more severe than usual. Instead, under the guidance of your doctor, wean your child off these medications slowly to avoid withdrawal side effects.

Antiepileptic medication is not prescribed long term for seizures that aren’t considered epilepsy, such as febrile convulsions.

**Febrile convulsions**

Febrile convulsions are seizures brought on by fever during times of illness. One in 25 children has a febrile convolution at some time, usually between the ages of six months and six years.

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One third of children who experience febrile convulsions will have further convulsions with consecutive fevers. This does not mean they have epilepsy and 97 per cent of all children with simple febrile convulsions have no higher risk of developing epilepsy later on.

Febrile convulsions tend to occur in families. If a child has had a febrile convulsion, the risk for a sibling of that child to have a febrile convulsion is about 10 per cent, or almost 50 per cent if a parent has febrile seizures as well.

Epilepsy and learning

It is easy to see the physical effects of epilepsy if someone falls and has a seizure. The effects on other aspects of functioning such as learning and behaviour tend to be overlooked.

Most children with epilepsy have the same range of intelligence and abilities as other children. However, some children with epilepsy will have learning difficulties. This may be due to:

- a co-existing condition
- seizure-related factors, such as tiredness
- medication side effects
- the underlying cause of the epilepsy
- emotional or social issues.

When a learning difficulty is identified in a child with epilepsy, there are supports available to help them develop to their full potential. Talk to your doctor or someone at your child’s place of learning for advice on assessments and supports for learning difficulties.

Epilepsy – sport and play

Children with epilepsy should be allowed to take part in usual childhood activities, including sporting activities. Exercise can lead to improved physical and emotional health, including positive effects on seizure control.

It is uncommon for seizures to be triggered by exercise or sports. Most sporting activities are suitable as long as the child avoids overexertion, dehydration, and low blood sugar (hypoglycaemia). Take special care with activities such as water sports, or activities from heights.

Striking a safe balance between epilepsy, its treatment, and appropriate exercise recommendations can bring children important health benefits.

Epilepsy and genetics

Some types of epilepsy can run in families. Even if your family has a genetic form of epilepsy, the chances of passing it on are relatively low. For instance:

- A sibling of a child with epilepsy may have a slightly higher risk of developing epilepsy if there is a genetic tendency in the family for seizures and epilepsy. Even so, most siblings will not develop epilepsy.
- The risk for children whose father has epilepsy is only slightly higher.
- If the mother has epilepsy and the father does not, the risk is still less than 5 in 100.
- If both parents have epilepsy, the risk is a bit higher. Most children will not inherit epilepsy from a parent, but the chance of inheriting some types of epilepsy is higher.

If you are planning on having a baby in the future and you are concerned about the potential risks of epilepsy, ask your doctor to explain the risks or refer you to a genetic counsellor for genetic testing. Genetic risks do not apply to all epilepsies.

Epilepsy support and information

If your child is diagnosed with epilepsy, it’s a good idea to learn as much as you can. Some suggestions that may help include:

- There are many types of epilepsy. Seek out the information that is specific to your child.
- Choose a doctor with whom you and your child can discuss your epilepsy questions freely.
- Your child will have questions. Answer these clearly. Your epilepsy organisation will have age-appropriate material you can use.
- Your child will sense any fear and embarrassment you may have about epilepsy. If you can adopt a positive approach to the condition, your child will have a positive model to follow.
- Make sure that anyone who cares for your child is informed and knows how to help your child if a seizure occurs.
- As your child gets older, it is important to help them take responsibility for their epilepsy – for example, remembering to take their medication at the right times without you prompting them.
- Remember to keep a balance between protecting your child and fostering independence.
- Epilepsy Parents Australia is an active Facebook support group for parents of children with epilepsy.

Where to get help

- Your GP (doctor)
- Your Paediatrician
- Your Paediatric neurologist
- NURSE-ON-CALL Tel. 1300 60 60 24
- Epilepsy Action Australia Tel. 1300 37 45 37
- Paediatric Epilepsy Network
- Epilepsy Foundation Victoria Information Line: 1300 761 487 or (03) 8809 0600

References

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Brains and nerves

The following content is displayed as Tabs. Once you have activated a link navigate to the end of the list to view its associated content. The activated link is defined as Active Tab

- Brain and nerve basics
- Brain and head injury
- Brain tumours
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- Spinal cord
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- Tests and procedures

Brain and nerve basics

- Brain
  Messages relay between the brain and the motor and sensory nerves of the body in a constant 'conversation'...

- Brain death
  Brain death differs from other states of unconsciousness in important ways...

- Brain surgery
  Brain surgery is performed for a number of reasons, including alterations in brain tissue, brain blood flow and cerebrospinal fluid...

- Central nervous system birth defects
  Folic acid taken before conception, and during at least the first four weeks of pregnancy, can prevent around seven out of 10 cases of neural tube defects...

- Coma
  A wide range of illnesses, conditions and events can cause coma...

- Epilepsy and Young People - Diagnosis (video)
  Epilepsy is the world's most common serious brain disorder and is characterised by a tendency to have recurrent seizures. Most seizures are spontaneous and brief yet self-limiting and can involve...

- Nervous system
  The nervous system helps all the parts of the body to communicate with each other...

Brain and head injury

- Acquired brain injury
  The long-term effects of brain injury will be different for each person and can range from mild to profound...

- Alcohol related brain impairment
  A person with alcohol related brain impairment (ARBI) might experience problems with coordination, thinking, planning and memory...

- Alcohol related brain impairment - memory loss
  If a person with alcohol related brain impairment is aware of their memory limits, they can learn how to deal with them...

- Alcohol related brain impairment - support
  People with alcohol related brain impairment benefit when their life is organised and follows a good structure...

- Brain injury and sexual issues
A brain injury can change the way a person experiences and expresses their sexuality.

- **Head and spinal injuries first aid**
  
  Head injuries can be serious and require urgent medical attention. A hard blow to the head from a fall, knock or assault can injure the brain, even when there are no visible signs of trauma to the...

- **Head injuries and concussion**
  
  There is no specific treatment for mild head injury other than plenty of rest, and not overdoing things.

- **Subarachnoid haemorrhage**
  
  A subarachnoid haemorrhage is any bleed located underneath one of the protective layers of the brain known as the arachnoid layer.

- **Subdural haematomas**
  
  Subdural haematomas are blood clots formed underneath one of the protective layers of the brain.

**Brain tumours**

- **Acoustic neuroma**
  
  In its earlier stages, an acoustic neuroma can present similar symptoms to other, less serious conditions, which may delay diagnosis and treatment.

- **Brain tumours - cancer**
  
  Brain cancer symptoms and treatment depend on which part of the brain is affected.

- **Brain tumours - gliomas**
  
  Gliomas are brain tumours associated with the three types of glial cell in the brain.

- **Meningioma**
  
  A meningioma is a non-cancerous brain tumour and responds well to treatment.

- **Pituitary tumour**
  
  Generally, pituitary tumours are benign and slow growing, and pituitary cancers are extremely rare.

**Brain related conditions**

- **Amnesia**
  
  Loss of memory can be temporary or permanent, but 'amnesia' usually refers to the temporary variety.

- **Creutzfeld-Jakob disease (CJD)**
  
  Creutzfeld-Jakob disease is characterised by physical deterioration of the brain, dementia and walking difficulties.

- **Dementia explained**
  
  Dementia is not a normal part of ageing and can happen to anybody.

- **Epilepsy and Young People - Diagnosis (video)**
  
  Epilepsy is the world's most common serious brain disorder and is characterised by a tendency to have recurrent seizures. Most seizures are spontaneous and brief yet self-limiting and can involve.

- **Headache**
  
  Although nearly all of us will experience a headache during our lifetime, persistent headaches need to be medically investigated with tests such as scans, eye tests or sinus x-rays.

- **Headache – migraine**
  
  Migraine causes a severe and throbbing headache, usually on one side of the head, as well as symptoms such as nausea.

- **Hydrocephalus**
  
  Hydrocephalus is the abnormal enlargement of the brain cavities (ventricles) caused by a build-up of cerebrospinal fluid.

- **Leukoedystrophy**
  
  Leukodystrophy refers to a group of inherited disorders that affect the white matter of the brain, which causes loss of normal brain functions.

- **Stroke explained**
  
  A stroke interrupts blood flow to an area of the brain and is a medical emergency.
Epilepsy and seizures

- Epilepsy and employment
  Many people living with epilepsy are successfully employed across a range of professional fields.

- Epilepsy
  Medication can provide seizure control for approximately 70 per cent of people with epilepsy.

- Epilepsy and exercise
  It is rare for a person with epilepsy to have a seizure during physical activity, but you should always take safety precautions when exercising.

- Epilepsy and Young People - Diagnosis (video)
  Epilepsy is the world's most common serious brain disorder and is characterised by a tendency to have recurrent seizures. Most seizures are spontaneous and brief yet self-limiting and can involve...

- Epilepsy - first aid and safety
  Good seizure management is an important part of reducing the risks associated with epilepsy.

- Epilepsy in children
  Children with epilepsy generally have seizures that respond well to medication, and they enjoy a normal and active childhood.

- Epilepsy - lifestyle issues
  Learn about your epilepsy so that you can make informed decisions about your lifestyle.

- Fever - febrile convulsions
  A febrile convolution is a fit that occurs in children when they have a high fever.

- Fibromyalgia
  Fibromyalgia is a condition associated with widespread pain and tenderness.

- Medicinal cannabis
  Medicinal cannabis is a legal, high quality medicine that can be prescribed for people by their doctor.

Nerve related conditions

- Bell's palsy
  The majority of people with Bell's palsy, around 90 per cent, will recover completely with time.

- Carpal tunnel syndrome
  Carpal tunnel syndrome can be caused by repetitive hand movements, pregnancy and arthritis.

- Complex regional pain syndrome (CRPS)
  Complex regional pain syndrome (CRPS) is a painful condition of a person’s arm, hand, leg or foot, which occurs after an injury, such as a fracture.

- Diabetes type 2
  Type 2 diabetes may be prevented, but it cannot be cured.

- Diabetic neuropathy
  Diabetes is the most common cause of neuropathy.

- Eyes - optic neuritis
  Optic neuritis is inflammation of the optic nerve that causes blurred, grey and dim vision.

- Friedrich's ataxia
  To the casual observer, a person with Friedrich ataxia may seem to be drunk.

- Guillain-Barré syndrome
  Most people with Guillain-Barré syndrome experienced some form of viral or bacterial infection before the onset of symptoms.

- Neuralgia
  Neuralgia is pain in a nerve pathway. Generally, neuralgia isn’t an illness in its own right, but a symptom of injury or a particular disorder.

- Pins and needles
Pins and needles is a sensation of uncomfortable tingling or prickling, usually felt in the hands or feet.

**Spinal cord**

- **Quadriplegics - tendon transfer surgery**
  Many quadriplegics could live more independent lives with a highly specialised operation called tendon transfer surgery.

- **Spina bifida**
  Folate can prevent up to 70 per cent of spina bifida cases if taken daily for one month before conception and during the first three months of pregnancy.

- **Spinal cord injury - paraplegia**
  Most people who have a spinal cord injury are young males, who have a greater tendency to indulge in risky behaviour.

- **Spinal muscular atrophy (SMA)**
  A child with spinal muscular atrophy type 1 rarely lives beyond three years of age.

- **Syringomyelia**
  Syringomyelia is the growth of a cyst in the spinal cord that may result in paraplegia or quadriplegia if not treated.

**Speech and language**

- **Childhood apraxia of speech**
  Childhood apraxia of speech affects a person’s ability to organise the muscles used in speech.

- **Dyslexia**
  Dyslexia is a type of specific learning difficulty (SLD) in which the person has difficulties with language and words.

- **Stuttering**
  Children who stutter should see a speech pathologist, preferably before they start school.

**Tests and procedures**

- **CT scan**
  The CT scan is a medical imaging procedure that uses x-rays and digital computer technology to create detailed images of the body.

- **EEG test**
  In a person with epilepsy, an electroencephalogram (EEG) may show bursts of abnormal discharges in the form of spikes and sharp wave patterns.

- **MRI scan**
  The MRI scan is a medical imaging procedure that uses a magnetic field and radio waves to take pictures inside the body.

- **PET scan**
  PET scans are tests that show how an organ or tissue is working.

- **X-ray examinations**
  An x-ray examination uses a special machine to take two-dimensional pictures of internal body structures to help diagnose conditions or injuries.

**Related Information**

- **No Jab No Play**
  No Jab No Play – from 1 January 2016, all parents/guardians seeking to enrol their child at an early childhood service in Victoria must provide evidence that the child is fully immunised for their age.

- **A Healthy Start to School**
  A Healthy Start to School – a guide for parents of children in their foundation year of school.

- **Epilepsy - lifestyle issues**
  Learn about your epilepsy so that you can make informed decisions about your lifestyle.

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Medication can provide seizure control for approximately 70 per cent of people with epilepsy...

Related information on other websites
- Children's Epilepsy Program
- Epilepsy Foundation

Support Groups
- Epilepsy Foundation

Content Partner
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