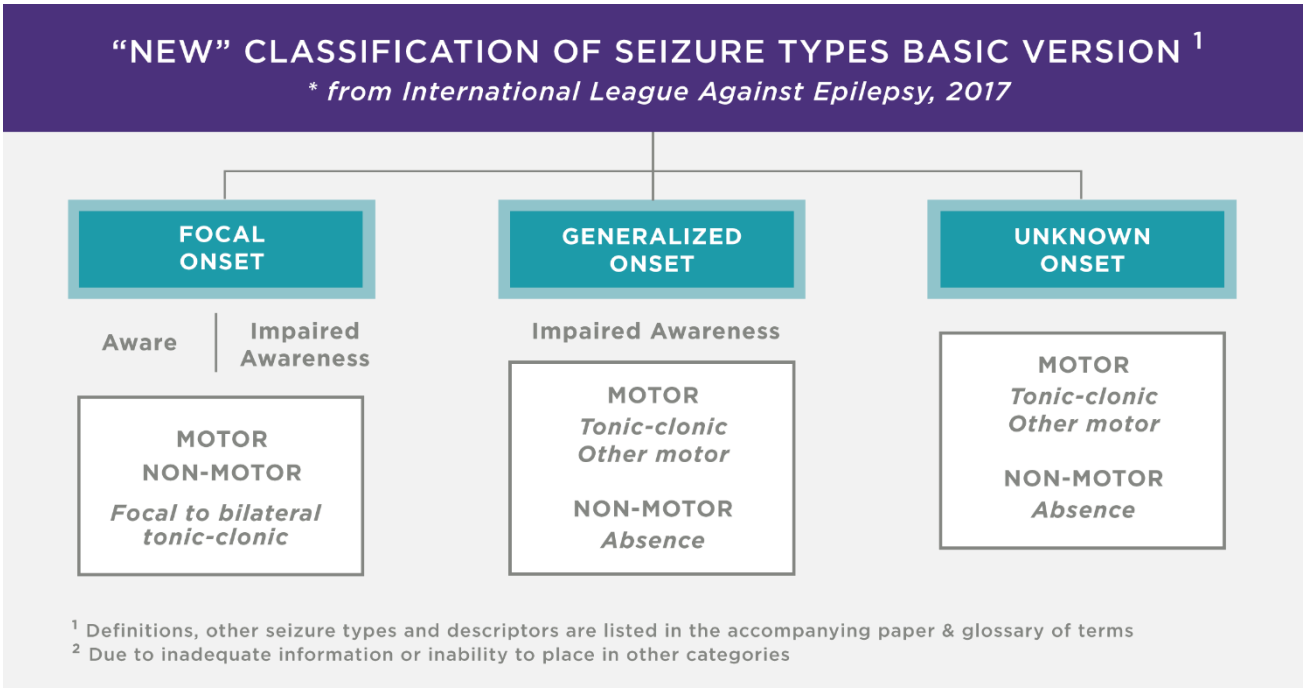
Short Guide to Understanding Epilepsy and its Impact on Learning

Definition
Epilepsy is the fourth most common neurological disorder in the world. If you have epilepsy, surges of electrical activity in your brain can cause recurring seizures. A seizure is caused by a sudden burst of excess electrical activity in the brain, causing a temporary disruption in the normal message passing between brain cells. This disruption results in the brain's messages becoming halted or mixed up. The brain is responsible for all the functions of your body, so what you experience during a seizure will depend on where in your brain the epileptic activity begins and how widely and rapidly it spreads. For this reason, there are many different types of seizure, and each person will experience epilepsy in a way that is unique to them.

Main types of epileptic seizures



Generalized onset seizures:

These seizures affect both sides of the brain or groups of cells on both sides of the brain at the same time. This term was used before and still includes seizures types like tonic-clonic, absence, or atonic to name a few.

Focal onset seizures:

The term focal is used instead of partial to be more accurate when talking about where seizures begin. Focal seizures can start in one area or group of cells in one side of the brain.

- **Focal Onset Aware Seizures**: When a person is awake and aware during a seizure, it's called a focal aware seizure. This used to be called a simple partial seizure. May affect memory, emotions, interpreting sound and understanding language. These are the most common seizures.
- **Focal Onset Impaired Awareness**: When a person is confused or their awareness is affected in some way during a focal seizure, it's called a focal impaired awareness seizure. This used to be called a complex partial seizure. Starting in the **temporal lobe** it may affect

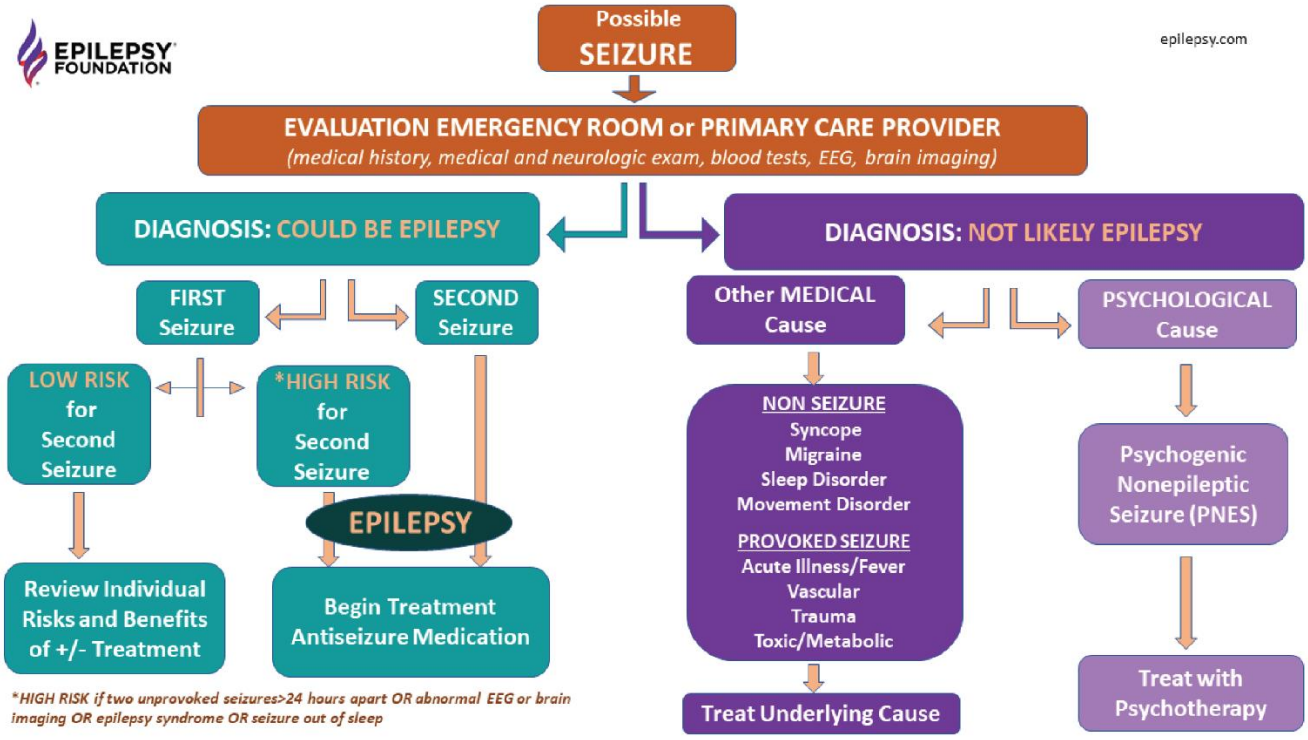
consciousness, responsiveness, and memory. In the **frontal lobe** it may affect movement, decision making, problem solving and emotions. **Occipital lobe** seizures affect vision and may cause flashing lights and hallucinations similar to migraine headaches.

Unknown onset seizures:

When the beginning of a seizure is not known, it's now called an unknown onset seizure. A seizure could also be called an unknown onset if it's not witnessed or seen by anyone, for example when seizures happen at night or in a person who lives alone.

- As more information is learned, an unknown onset seizure may later be diagnosed as a focal or generalized seizure.

There may be other causes for seizures and the chart below gives an indication of how diagnosis is made. This is the type of decision tree which would be followed following recognition of unknown onset seizures.



Treatment of epilepsy

At the moment there is no cure for epilepsy. However, with the right type and dosage of antiepileptic medication, about 70 per cent of people with epilepsy could have their seizures completely controlled. For persistent, uncontrolled seizures, or where parents are concerned about drug side-effects, other treatments include:

- ❖ Surgery to remove a small part of the brain that's causing the seizures (80% effective)
- ❖ Neuromodulation - Implanting a small device to give an electrical stimulation which changes how the brain behaves, eg Vagus Nerve Stimulation
- ❖ Following a specific diet, eg Ketogenic or Low Glycaemic Index. Many families of younger children prefer this approach to using drugs.

Psychogenic Nonepileptic Seizures (PNES)
These are seizures which are not caused by abnormal brain activity. They resemble epileptic seizures, but the cause is usually psychological – understanding the cause can be difficult. Types of psychological disorders associated with PNES include:

- History of mood disorders
- Psychosis
- Post-traumatic stress disorder
- Anxiety
- Personality disorder
- Family conflict
- Substance abuse

Treatment of Psychological Nonepileptic seizures
The treatment of PNES is focused on **addressing the underlying psychological problem or psychiatric disorder**. A person with PNES will not respond to treatment with antiseizure medication. Anti-seizure drugs that cause psychiatric symptoms can sometimes worsen PNES. There are no medications that have been proven to treat PNES. For some people with other psychiatric disorders and PNES, medication may be given to treat the psychiatric problem. Recently there has been some success with Cognitive Behaviour Therapy (CBT) and Selective Serotonin Re-uptake Inhibitors (SSRIs).

Once a diagnosis of PNES is reached, the treatment usually involves a multidisciplinary team that includes your neurologist and a psychologist and/or psychiatrist, a nurse specialist, and your primary care doctor.

Educational implications of Epilepsy
Individuals with epilepsy cover the whole range of intelligence and accomplishments, However, evidence suggests that a disproportionate number of pupils with epilepsy do not achieve well academically, which has implications for teachers and schools.
Epilepsy may impact on:

- Learning
- Concentration
- Memory
- Behaviour
- Language and communication
- Self-esteem

How memory might be affected

- Pupils with absence seizures will not only fail to hear instructions, but the disruption to the electrical activity in the brain will also result in poor concentration and difficulty staying on task.
- Disruptive electrical activity may impair the development of long-term memory, eg in temporal lobe seizures, therefore there may be gaps in learning resulting in specific difficulties.
- Anti-epileptic medication may result in a "dampening" effect on the brain activity with consequences for concentration and memory.

Classroom strategies to support pupils with poor memory or concentration skills

- Provide visual clues e.g. photographs / objects of reference; cue cards; display key words / ideas; visual timetables etc.
- Make "cue" cards - pictorial for younger pupils
- Teach organisational skills e.g. list making; use of post-its; remembering by association; mind-mapping, flow charts etc.
- Revisit work done on a regular basis - overlearning
- Teach the pupil how to make effective notes
- Help the pupil plan and structure revision

How behaviour might be affected

- Influential factors may include the stress of having unpredictable seizures, low self-esteem, or a consciousness of feeling different from their peers.
- Sometimes medication can affect mood, making pupils depressed, irritable, aggressive, or hyperactive. This may happen when a dose needs adjusting or with new drugs during a settling period. It may be that the particular drug prescribed is not a good fit for that student
- Pupils with partial or focal seizures may demonstrate bizarre or repetitive behaviours as symptoms of the seizure. It is important that teachers recognize this and do not confuse it with physical or verbal aggression.

Classroom strategies to support pupils with behaviour difficulties

- Be firm, set clear boundaries for behaviour and state consequences of actions
- Give simple, concise instructions with visual cues if necessary
- Be consistent in expectations
- Recognise and understand how seizures impact on the pupil
- Give adequate time to recover after a seizure
- Ensure all staff are aware of the strategies being used and involve parents wherever possible
- Extreme emotions can lead to seizures, however, firm handling of challenging behaviour should not lead to seizures

How language and communication might be affected

- Seizures can cause dysfunction in one or more areas of the brain. If these areas are concerned with the understanding and organization of language and communication, this will have a consequence for the pupil.
- Effects vary from delayed or interrupted development of language skills to more specific problems, e.g. difficulties with word-finding, social communication, auditory processing and slow or slurred speech.
- Pupils with certain types of epilepsy may also have pragmatic difficulties such as poor turn-taking, excessive or restrictive topic maintenance, and poor communicative intentions

Classroom strategies to support pupils with language and communication difficulties

- Always ensure that you have the pupil's attention and that he / she makes eye contact during the conversation / discussion
- Check the pupil has understood instructions through sensitive questioning
- Support understanding through multisensory learning strategies
- For problems in the area of social communication try to structure situations in which the pupil can practice a specific skill
- When planning work give as many opportunities as possible for the pupil to use language meaningfully – adult modelling may be helpful
- If a speech and language therapy programme is in place, try to integrate as many aspects as possible into daily classroom interaction.
- ICan https://www.icancharity.org.uk/ TALK strategies for all ages

How self-esteem might be affected

There are many issues that may arise for children and young people with epilepsy. These will vary considerably with each individual according to the type and frequency of seizures, age, stage of development and level of confidence. A sense of low self-esteem, anxiety or depression can be caused by a wide variety of issues such as:

- fear of the seizures and their body being "out of control" during a seizure

- being dependent on adults for care when their friends are becoming increasingly independent
- coping with parental anxiety – some young people can deliberately take risks
- coping with medication and possible side-effects
- coping with a change in medication and even, for the seizure free, coming off medication
- a lack of understanding from friends or school staff.

Classroom strategies to support pupils with low self-esteem

- Aim to find out as much as possible about the pupil's epilepsy from their parents, the student and all then professionals involved. It will help to reduce the pupil's anxiety if the condition can be treated in a "matter of fact" way as any other condition such as asthma or diabetes.
- Personal, social, health and education (PHSE) or science lessons can be good opportunities to make students aware of epilepsy and its effects. This can be done without referring to an individual student with epilepsy, but if they are happy to talk about their experiences this can be very valuable.
- Various organizations can come into school to talk to staff or teach groups about epilepsy (see "Useful Sources of Information")
- Allow the pupil to take as much responsibility for themselves as appropriate.
- Some children need professional support for emotional issues e,g, GP; CAMHs team
- It may be necessary to remove stress if the pupil is struggling to keep up because of tiredness or slower pace of learning e.g. reduce homework load; renegotiating deadlines etc.

Useful sources of information

The Childhood Epilepsy Information Service
Helpline: 01342 831342
enquiry@ncype.org.uk
www.ncype.org.uk
(Contact NCYPE for a free parents handbook and a seizure diary for young people with epilepsy)
Epilepsy Action
Helpline: 0808 800 5050
www.epilepsy.org.uk
The National *Society* of Epilepsy
Helpline: 01494 601400
www.epilepsysociety.org.uk
Youthhealthtalk: www.youthhealthtalk.org/epilepsy
Young people talking openly about all aspects of living with epilepsy
Sibs www.sibs.org.uk supports brothers and sisters of
disabled children or adults Tel: 01535 645453