Epilepsy Awareness
(Level 1)


Hello,
Thank you for choosing Healthier Business Group to conduct your Online Training.
Please see the next slide to see what you will require before starting your training. We will also give you a few handy tips on some of the additional features that assist you with your learning.

BEFORE BEGINNING

- If you are using a mobile device or laptop, please ensure that it is fully charged.
- You should also have a pen and notepad ready.
- Ensure you are in a quiet area with minimal distractions.

In addition to the above please make yourself familiar with some of the tools available above such as;

Resource Bank

Here you will find useful documents that will be relevant to the course you are undertaking but also you will have access to a CPD reflective learning template which you can download and complete to gain your points.

Highlighter/Pen tool

This feature allows to highlight, circle and write notes on parts of the material wherever you feel necessary.

Presenter Function

Selecting this function will give you instant access to our contact details without having to leave the course should you require support with the system or any assistance from one of our qualified trainers.

Audio Dictation

Please note this feature is auto-enabled. If this isn't required simply select the mute function or decrease the volume.

Hyperlinks

Should you click on a hyperlink within the course material you will be required to click your back button on your browser or device once you are ready to resume.

INTRODUCTION:

This module has been developed to provide an overview of epilepsy, including causes, symptoms, treatments and what to do if someone has a seizure caused by epilepsy. It is aimed at individuals who are in contact with colleagues, service users/patients and friends who have epilepsy.

OBJECTIVES:

On completing this module, the learner should be able to:

- Define epilepsy and identify possible causes of the condition
- Understand the basics of how the brain works and what causes seizures
- Identify the most common types of epileptic seizures and their symptoms
- Describe the methods used to diagnose epilepsy and exclude differential diagnosis
- Provide appropriate treatment to an individual who is suffering from an epileptic seizure

WHAT IS EPILEPSY?

Epilepsy is a neurological condition that affects the brain and nervous system. It is one of the most common serious neurological conditions in the world. It is estimated that over 500,000 people in the UK (around 1 in every 100 people) suffer from epilepsy and the condition affects different people in different ways.

KEY FACTS ABOUT EPILEPSY:

- Caused by sudden, temporary bursts of excess electrical activity in the brain and is one of the most common serious neurological conditions in the world
- Only 3% of individuals diagnosed with epilepsy are affected by flashing lights

THE BRAIN:

The brain is situated within the skull and is the control centre for all voluntary and involuntary movements in your body. It is made up of millions of nerve cells called neurons. These cells generate electrical impulses and messages to produce thoughts, feelings, movement and control body functions.

The brain can be split into two halves - the right and left hemisphere. The two hemispheres control the opposite side of the body i.e. the right hemisphere controls the left and vice versa, and both are responsible for different processes and actions:

LEFT HEMISPHERE	RIGHT HEMISPHERE
- Controls motor skills on right side of the body - Spoken language - Reasoning/rationale thought - Mathematics and science - Written language - Verbal	- Controls motor skills on left side of the body - Music/creativity - Intuitive thought - Emotional thought - Imagination - Non-verbal

When abnormal signals interrupt the brain's normal functioning, these can lead to you having a seizure. Depending on where they start, seizures are described as being **focal** (or partial) onset, **generalised** onset or unknown onset.

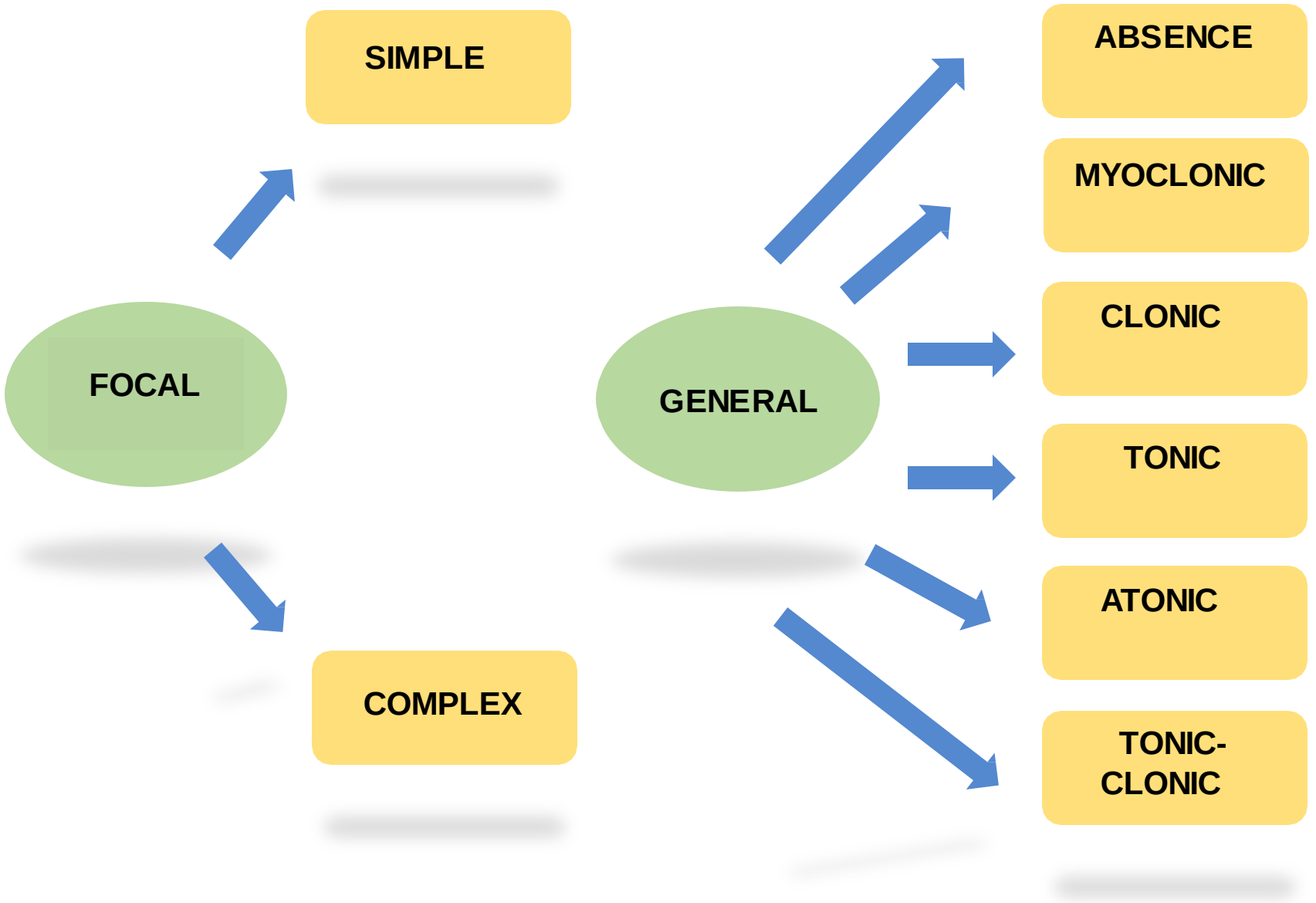
CAUSES OF EPILEPSY:

Seizures are not a disease in themselves. Instead, they are a symptom of many different disorders that can affect the brain. Some seizures can hardly be noticed, while others are totally disabling.

A cause of epilepsy can be confidently established in approximately 20-40% of the affected population, where the most common causes of epileptic seizures in adults are shown in the below table:

COMMON CAUSES OF ADULT ONSET EPILEPTIC SEIZURE
Cerebrovascular disease
Head injury (and neurosurgery)
Cerebral tumour
Vascular malformation
Disorders of the cortical development
Perinatal injury and hypoxia
Central nervous system infection (meningitis, encephalitis)
Genetic/inherited disorders
Degenerative brains disorders (Alzheimer's disease etc.)

TYPES OF SEIZURES:



FOCAL (PARTIAL) SEIZURES

Simple Focal/Partial Seizures:

- Affect around 60% of epileptic sufferers
- Normally affects one part of the brain and can be short lived, lasting only for a couple of minutes at most
- Symptoms can include localised jerking or twitching, signs of agitation, smacking of the lips, wandering around or plucking at garments, extreme responses to taste and smell or visual and auditory hallucinations
- The individual will not lose consciousness but may suffer confusion or disorientation

Complex Focal/Partial Seizures:

- Complex focal seizures (CFS) affect a bigger part of one hemisphere (side) of the brain than a simple focal seizure
- The person's consciousness is affected, and can result in the loss of judgement, involuntary or uncontrolled behaviour
- Symptoms can also include intense emotions or the individual appearing to be drunk.
- May last more than two minutes and is normally followed by an intense headache

GENERALISED SEIZURES

These involve abnormal electrical activity occurring in both hemispheres of the brain and would normally affect the whole body. The person will be unconscious (with the exception of myoclonic seizures) and in most instances will have no recollection of what happened during the seizure. Generalised seizures can be of any of the following types:

'Absent' Seizure:	**Brief loss of consciousness (previously known as *petit mal*). The individual may appear to be day-dreaming or in a trance. This normally lasts a few seconds.**
'Atonic' Seizure:	**Person falls suddenly due to general weakness and limbs becoming floppy.**
'Myoclonic' Seizure:	**Myoclonic seizures are brief shock-like jerks of a muscle or group of muscles. They occur in a variety of epilepsy syndromes that have different characteristics. During a myoclonic seizure, the person is usually awake and able to think clearly.**
'Tonic' Seizure:	**Every muscle in the body suddenly becomes rigid causing the person to fall. The back may arch, and the lips might turn blue (cyanosis). This phase normally lasts for 30 seconds.**
'Clonic' Seizure:	**The limbs of the body make sudden, violent jerking movements; the individual may lose control of their bladder or bowels, bite their tongue and clench their jaw. Breathing may also be erratic and loud, or lips may turn blue (cyanosis).**
'Tonic- Clonic'	**This type of seizure (previously known as a *grand mal* seizure) involves two stages – the tonic phase followed by the clonic phase as described above. After a tonic-clonic seizure, the person may have a headache and feel achy, tired and very unwell. Feeling confused, drowsy and needing to sleep, or having memory problems are very common following this type of seizure. Even hours later, they may still have a headache, feel sore and have aching muscles. The side effects following a tonic-clonic seizure are commonly referred to as the *postictal* phase.**

DIAGNOSIS:

A diagnosis of epilepsy is normally confirmed by a detailed history of previous seizure activities and, if possible, written accounts by the individual documenting how they were feeling before and after the seizure, what type of environment they were in at the time and a description of what happened during the seizures. Should the individual have no memory of seizures, a friend or family member can provide their observations or even video clips to assist in the diagnosing process.

Electroencephalogram (EEG):

Detects abnormal brain activity associated with epilepsy by recording the electrical activity of the brain via electrodes placed on the scalp. The patient is asked to close their eyes and take deep breaths, during which time they are asked to look for a flashing light. If there is any indication that a seizure could be triggered, the test is immediately stopped.

Magnetic resonance imaging (MRI) scan:

A larger tubular scan where the individual lies inside the tube which uses strong magnetic fields and radio waves to create pictures of tissues, organs and other structures inside the body, on a computer. It can show if there's a structural cause for someone's epilepsy.

DIFFERENTIAL DIAGNOSIS:

Conditions that produce symptoms like those that occur during seizures must be ruled out, such as the following:

- Breath-holding spells: bluish tint to the skin (cyanosis), loss of consciousness, loss of muscle tone
- Meniere's disease: vertigo, visual phenomena, speech impairment, altered consciousness
- Migraine: aura, loss of consciousness, nausea, photophobia, muscle weakness
- Movement disorder: tics, chorea, tremor
- Syncope: sudden loss of muscle tone and posture, loss of consciousness, vertigo, nausea, muscle spasm
- Individuals with learning disabilities can also be difficult to identify due to presentation of symptoms complicated by other factors:
- Speech/communication problems
- Behavioural problems

Seizures may also be triggered by any of the following:

- Missed medication (most common)
- Stress/anxiety
- Hormonal changes
- Dehydration
- Lack of sleep/extreme fatigue
- Photosensitivity
- Drug/alcohol use; drug interactions

TREATMENT:

Anti-Epileptic Drugs:

Anticonvulsant medication is the mainstay of treatment for seizures, although the choice of anticonvulsant drug varies with different seizure types and epileptic syndromes. The number of anticonvulsants has increased, offering many more medication choices for physicians and their patients. Whilst medication does not cure epilepsy, it is very effective in reducing the frequency and severity of seizure activity.

Surgery:

Surgical intervention may be considered in those individuals whose seizures are unresponsive to medical therapy or those who cannot take medications because of significant adverse effects or quality of life issues.

Vagus Nerve Stimulation:

Vagus Nerve Stimulation (VNS) is a procedure that involves a small implantable device being fitted under the skin just beneath the collarbone. The device sends electrical impulses via a small, thin wire through the vagus nerve to reduce the frequency, time scale and severity of seizures.

MANAGEMENT AND TREATMENT FOR FOCAL OR ABSENCE SEIZURES:

If you witness or are alerted to an individual suffering from a partial or absence seizure, the following actions should be carried out:

- Ensure there are no potential dangers around you or the casualty
- Gently guide them to a safe area
- Help the casualty to sit or lie down
- Make sure you remain calm and reassuring
- Stay with the casualty until they are alert and orientated
- If the casualty has no recollection of the epileptic event, advise them to see a doctor

MANAGEMENT AND TREATMENT FOR GENERALISED SEIZURES:

During the seizure:

- Try to protect the casualty's head to avoid any head trauma or injury by placing a cushion/jacket/blanket under their head. If not available, you can support their head with your hands
- Loosen any clothing around the neck to help the casualty to breathe and to avoid asphyxiation
- Where possible, move all surrounding objects away from the casualty as they may incur injury should they be fitting.
- If you are concerned about their airway, roll the casualty on to their side
- Document the exact time the seizure started and its duration. This should then be given to the casualty who can then inform their GP/specialist
- **NEVER** hold the casualty down or put anything in their mouth

WHEN TO CALL 112/999:

- The seizure lasts for more than 5 minutes
- The casualty's level of response deteriorates or doesn't improve within 5 minutes
- The casualty has a second seizure
- The casualty is not a known epileptic sufferer, and this is their first seizure
- The seizure lasts 2 minutes longer than normal for the casualty
- If you are unsure

FOLLOWING THE SEIZURE:

- Check airway and breathing. If necessary, commence CPR (this is covered in the Adult BLS e-learning module)
- Place the casualty into recovery position (refer to Adult BLS e-learning module)
- Keep the casualty warm as their body temperature will be raised due to the seizure
- Monitor airway and breathing
- Ensure all by-standers are moved away to maintain the privacy and dignity of the casualty
- Check levels of response. If they don't improve within 5 minutes, call for help and dial 112/999.

SUMMARY

- Epilepsy is a condition, not an illness, that affects the brain and nervous system
- Epilepsy is the tendency to have recurrent seizures
- Not all seizures are caused by epilepsy
- There are around 40 different types of seizure and a person may have more than one type
- Epilepsy can affect anyone, at any age and from any walk of life
- Many people with epilepsy can take part in the same activities as everyone else, with the help of simple safety measures where appropriate
- NEVER hold the casualty down or put anything in their mouth
- The area of the brain affected by the abnormal electrical activity will determine the physical, mental and emotional symptoms that are experienced by the person with epilepsy