Seizure Smart

Complex
Altered awareness and behaviour e.g. confusion, repetitive movements.

Simple
Patient remains alert e.g. jerking of a limb, déjà vu, nausea, strange taste or smell

PARTIAL
Seizure activity starts in one area of the brain.

GENERALISED
Seizure involves whole brain – consciousness is lost at the onset.

May become generalised (spreading from one area to the whole brain).

Tonic Clonic
‘grand-mal’ or convulsion with loss of consciousness, stiffening of body then jerking of limbs.

Absence
‘petit-mal’ or staring or trance-like state.

Tonic or Atonic
‘drop attack’ or abrupt fall, either with stiffening (tonic) or loss of muscle tone (atonic or astatic attacks).

Myoclonic
Sudden muscle jerks.

This information is given to provide accurate, general information about epilepsy. Medical information and knowledge changes rapidly and you should consult your doctor for more detailed information. This is not medical advice and you should not make any medication or treatment changes without consulting your doctor.
The brain is made up of millions of nerve cells called neurons. They generate electrical impulses and messages to produce thoughts, feelings and movement. A seizure occurs when the normal pattern of these impulses is disrupted, caused by the neurons rapidly firing all at once. This can cause changes in sensation, awareness and behaviour, or sometimes convulsions, muscle spasms or loss of consciousness, depending on where the seizure starts and spreads in the brain.

There are many different types of seizures. Having some basic knowledge about seizures can help to recognise and know what to do when a seizure occurs.

Most seizures are classified into two groups, partial and generalised.

**Partial seizures**

Partial seizures are often very subtle or unusual, and may go unnoticed or be confused with other events. They occur in one small area of the brain and can sometimes spread to other regions. When they spread, they can become a (secondarily) generalised seizure, most commonly a tonic clonic seizure. Around 60% of people with epilepsy have partial seizures and these seizures are sometimes very resistant to antiepileptic medications.

**Simple partial seizures**

These short seizures are often termed an ‘aura’ or warning and they can occur before a complex partial or tonic clonic seizure or on their own. *There is no loss of awareness or consciousness and they usually last less than a minute and include:*

- Sensory – numbness, tingling or burning sensation in a region of the body
- Motor – jerking of a limb, twitching of the face
- Autonomic – blushing, pallor, racing heart-rate, nausea
- Psychic – déjà vu, hallucinations (visual, sound, taste or smell), anxiety or panic

**Complex Partial seizures**

These seizures can vary greatly, depending on where they start and spread within the brain. Many complex partial seizures begin with a vacant stare, loss of expression or a vague, confused appearance. Consciousness or awareness is altered, and the person may or may not respond. If they do respond, it is usually inappropriate. Sometimes people have unusual and repetitive behaviours. Common behaviours include chewing, fidgeting, walking around or mumbling. These partial seizures can last from 30 seconds to three minutes. After the seizure, the person is often confused and may not remember anything about the seizure.

**Generalised seizures**

There are many kinds of generalised seizures. These occur when there is seizure activity in the entire brain. As a result, consciousness is lost at the beginning of the seizure. Generalised seizures can also occur following a simple or complex partial seizure. When this happens, they are termed a secondarily generalised tonic clonic seizure.
**Generalised tonic clonic seizures (‘grand mal’)**

These are the most recognised seizures. They begin with a sudden loss of consciousness and often the person will cry out. If standing, the person will fall, their body stiffens (tonic) followed by jerking of the muscles (clonic). Breathing is shallow or temporarily suspended causing the lips and complexion to look grey/bluish. Saliva may accumulate in the person's mouth, sometimes with blood if they have bitten their tongue. There may be loss of bladder control. The seizure usually lasts approximately two minutes or less. It is often followed by a period of confusion, agitation and sleep. Headaches and soreness are also common afterwards.

**Absence seizures (‘petit mal’)**

These seizures usually start in childhood (but can occur in adults), and are sometimes mistaken for daydreaming and inattentiveness. There is often a family history. They start suddenly and are characterised by staring, loss of expression, unresponsiveness and, stopping any activity they are doing. Sometimes eye blinking or upward eye movements are seen. They can last from two to 10 seconds and end abruptly. The person usually recovers immediately and resumes their previous activity, with no memory of the seizure. People with absence seizures usually have normal intelligence, but because the seizures occur many times a day, they can create gaps and disrupt learning if not managed. Children often outgrow this seizure type by puberty.

**Myoclonic seizures**

These seizures are very brief but intense muscle jerks usually involving the upper body. Many people mistake them for clumsiness as they often occur after awakening resulting in dropping or spilling things. Although consciousness is not impaired, the person may feel confused or drowsy if several seizures occur over a short period. They can sometimes lead to a tonic clonic seizure.

**Tonic seizures (‘drop attacks’)**

These cause a sudden, brief stiffening of the muscles of the whole body, causing the person to become rigid and fall rapidly if they are standing. Recovery is swift, but injuries can be sustained. Tonic seizures can also occur in sleep.

**Atonic seizures (‘drop attacks’)**

Atonic seizures are sudden, brief loss of muscle tone of the body. The person will go limp and collapse, usually head first, so facial and head injuries are common. There is no noticeable loss of consciousness and recovery is swift unless the person is injured.

**Important points to remember about seizures:**

- Most seizures last approximately 1-3 minutes, although there may be a period of confusion afterwards.
- Sometimes confusion after a seizure can be prolonged, lasting up to several hours.
- Exhaustion often follows a seizure, especially a tonic clonic seizure, and rest or sleep is needed.
- Seizures cannot be stopped or slowed by restraint. The brain almost always stops the seizures naturally.
- It is physically impossible to swallow the tongue so there is no need to insert anything into a person’s mouth. Doing this is dangerous and fingers may be bitten or teeth broken.
- In emergencies, medications can be used to stop prolonged seizures.
- After seizures, most people remember little, if anything about what has happened.

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