

Emergency medication

Most seizures are short, will stop on their own and do not require any medical intervention. Seizures can become a medical emergency if:

- * a tonic-clonic seizure lasts for five minutes or more
- * a focal seizure lasts 10 minutes or more
- * an absence seizure lasts 10-15 minutes or more

This is called status epilepticus.

Status epilepticus

Status epilepticus is more likely to happen if you have uncontrolled seizures. It is more commonly linked to tonic-clonic seizures (**convulsive status**) but can also occur in any type of seizure, such as complex partial or absence seizures (**non-convulsive status**). If the seizures are non-convulsive, status epilepticus may be more difficult to detect.

During convulsive status epilepticus, the body struggles to circulate oxygen which can eventually leave the brain starved of oxygen. Without intervention, this could lead to permanent brain damage or even death. Emergency medication will usually stop a prolonged seizure or series of seizures and should be given long before a medical emergency arises to prevent the person going into status epilepticus.

What is emergency medication?

Emergency medication is usually **midazolam**, which can be given buccally (ie into the area between the inside of the cheek and gum) or sometimes into the nasal cavity (the nose).

If given **buccally**, midazolam will be absorbed through the lining of the mouth. Avoid putting the medication between the teeth as the person may accidentally bite

the dosing pipette during a seizure making it difficult to administer the medication. This could also lead to the medication getting into the stomach. If it does, it will take a lot longer to be absorbed and vital minutes may be lost to stop a prolonged seizure.

If given **into the nasal cavity**, you should put half of the dosage into each nostril, provided the prescribing doctor has allowed this.

Occasionally, **diazepam** is used and given rectally (into the anus) using a specially prepared tube.

Both are benzodiazepines, which get absorbed into the blood stream and act by reducing the brain's excitability and suppressing seizure activity. Midazolam clears quicker out of the system so the sedative effect is shorter than that of diazepam.

A small number of adults and children use rectal **paraldehyde** as a second line drug, ie if midazolam or rectal diazepam does not work for them. It also has a sedative and anti-convulsant effect and a very distinctive smell.

Care plan

Emergency medication needs to be prescribed. This comes with an emergency care plan, also called an emergency protocol. This is a document drawn up by a doctor or epilepsy specialist nurse, providing information on the person's usual seizure types and pattern. It will also state the dosage, when and how the emergency medication should be given and when to call an ambulance.

Some care plans include a list of people who can administer this medication, but usually, anyone with current training can give it. The care plan must be signed and dated by a doctor. It may also be signed by the person receiving the medication or someone who can sign on their behalf, ie a legal guardian.

Anyone administering emergency medication should have been trained on the correct administration of emergency medication by an epilepsy specialist nurse or other training provider such as Epilepsy Scotland.

Emergency medication can also be given by medical staff including most paramedic staff should it be necessary to call an ambulance.

Side effects of emergency medication

When giving emergency medication, it is important to look out for possible side effects. Common side effects for benzodiazepines (midazolam and diazepam) include drowsiness, confusion, lightheadedness, unsteadiness, or an unusual increase in aggression. More serious side effects, often as a result of receiving too much of the medication, include low blood pressure, excessive drowsiness, confusion, overexcitement or shallow breathing.

Side effects for paraldehyde include breathing difficulties, irritability, rash or sedation.

If you have any concerns about side effects or recovery time, phone an ambulance. Otherwise, stay with the person until their breathing has completely returned to normal and they have fully recovered.

Storing emergency medication

Emergency medication needs to be stored at room temperature, ie not on a sunny window sill or in the fridge. If it is stored incorrectly it can go off and become ineffective. Always check the bottle before using it to make sure the liquid has a clear colour. Also check the liquid has not crystallised around the top of the bottle. If it is cloudy or crystallised, do not use it. The bottle should be kept upright at all times and the cap properly closed as this can also lead to crystallisation or clouding.

Keep the medication in a secure place, especially if there are small children in the house, but somewhere you can get to it easily and quickly should it be needed.

Emergency medication should be taken with you when out and about but make sure it is not exposed to extreme temperatures and direct sunlight. Usually, keeping it in a bag provides enough insulation to keep it at the correct temperature.