Epilepsy

Assessment and Basic Management of Epilepsy (Convulsive Epilepsy)

1. Purpose

To guide field health workers in **identifying, assessing, and managing people with convulsive epilepsy**, and to provide **education and follow-up care**.

---

2. Identify Possible Epilepsy

Suspect **convulsive epilepsy** if a person has a **history of convulsive seizures**, including:

- Sudden shaking of body or limbs
- Body stiffness or rigidity
- Loss of consciousness
- Falling during seizures
- Injury during seizures

Epilepsy involves **recurrent seizures caused by abnormal electrical activity in the brain**.

---

3. Assessment Steps

Step 1: Confirm Convulsive Seizure

Ask the person or caregiver if the following occurred during the episode:

- Convulsive movements lasting **more than 1–2 minutes**
- Loss or impairment of consciousness
- Body or limb stiffness lasting **more than 1–2 minutes**
- Tongue biting or body injury
- Loss of bladder or bowel control

After the seizure, the person may have:

- Confusion
- Drowsiness or sleepiness

- Abnormal behaviour
- Fatigue, headache, or muscle pain

A **convulsive seizure is likely** if:

- Convulsive movements are present **plus at least two other symptoms**.

If only **1–2 symptoms** are present, consider **non-convulsive seizures or other medical conditions** and follow up in **3 months**.

Step 2: Check for Acute Causes

Check whether the seizure is caused by an **acute medical condition** such as:

Possible neuroinfection

- Fever
- Severe headache
- Stiff neck

Other possible causes

- Head injury
- Metabolic problems (e.g., low blood sugar, low sodium)
- Alcohol or drug intoxication or withdrawal

If an **acute cause is found**, treat the cause.
Long-term antiepileptic medication **is not required**.

Refer to hospital **immediately** if:

- Neuroinfection is suspected
- Head injury is present
- Metabolic abnormality is suspected

Step 3: Determine if the Person Has Epilepsy

Diagnose **epilepsy** if:

- The person had **two or more unprovoked convulsive seizures**

- Occurring on **different days within the last 12 months**

If the person had **only one seizure**, do not start medication yet.
Follow up after **3 months**.

---

4. Basic Management

1. Educate the Person and Caregivers

Explain that:

- Epilepsy is a **chronic brain condition**
- Seizures occur due to **abnormal electrical activity in the brain**
- **Most people can control seizures with medication**
- Epilepsy is **not contagious**
- It is **not caused by spirits or witchcraft**

People with epilepsy can:

- Marry and have children
- Work safely in most jobs
- Attend school

---

2. Lifestyle Advice

People with epilepsy should avoid:

- Working near **heavy machinery or fire**
- **Cooking over open fire**
- **Swimming alone**
- **Alcohol and recreational drugs**
- **Flashing lights**
- **Irregular sleep patterns**

Encourage **regular sleep and healthy lifestyle**.

---

5. What to Do During a Seizure

Teach caregivers the following steps:

Protect the person

- Help the person **sit or lie on the ground**
- Prevent injuries from falling

Ensure breathing

- Loosen tight clothing around the neck

Place in recovery position

- Turn the person on their **side**
- Keep airway open
- Allow saliva or vomit to drain

Important precautions

Do **NOT**:

- Restrain the person
- Put anything in the mouth

Remove **sharp or hard objects** nearby.

Stay with the person **until consciousness returns**.

---

6. Medication Management

If epilepsy is confirmed:

- **Start or resume antiepileptic medication**
- If a previous medication worked, **restart the same medication**
- If not available, start **one appropriate antiepileptic drug**

Principles:

- Start with **low dose**

- Increase **gradually until seizures are controlled**
- Use **only one medication at a time**

Explain to the person:

- Importance of **taking medication regularly**
- Medication should be taken **at the same time each day**
- Stopping medication suddenly can cause seizures

Treatment should continue **until the person has been seizure-free for at least 2 years**.

Table EPI 1: Antiepileptic medications

	Phenobarbital[a]	Carbamazepine	Phenytoin	Valproate
Starting dose in children	2–3 mg/kg/day	5 mg/kg/day	3–4 mg/kg/day	15–20 mg/kg/day
Typical effective dose in children	2–6 mg/kg/day	10–30 mg/kg/day	3–8 mg/kg/day (max. dose 300 mg/day)	15–30 mg/kg/day
Starting dose in adults	60 mg/day	200–400 mg/day	150–200 mg/day	400 mg/day
Typical effective dose in adults	60–180 mg/day	400–1400 mg/day	200–400 mg/day	400–2000 mg/day
Dosing schedule	Once daily at bedtime	Twice daily	In children, give twice daily; in adults, it can be given once daily	Usually 2 or 3 times daily
Rare but serious side-effects	• Severe skin rash (Stevens-Johnson syndrome*) • Bone marrow depression* • Liver failure	• Severe skin rash (Stevens-Johnson syndrome*, toxic epidermal necrolysis*) • Bone marrow depression*	• Anaemia and other haematological abnormalities • Hypersensitivity reactions including severe skin rash (Stevens-Johnson syndrome*) • Hepatitis	• Drowsiness • Confusion
Common side-effects	• Drowsiness • Hyperactivity in children	• Drowsiness • Trouble walking • Nausea	• Nausea, vomiting, constipation • Tremor • Drowsiness • Ataxia and slurred speech • Motor twitching • Mental confusion	• Lethargy • Sedation • Tremor • Nausea, diarrhoea • Weight gain • Transient hair loss (regrowth normally begins within 6 months) • Impaired hepatic function
Precautions	• Avoid phenobarbital in children with intellectual disability or behavioural problems			• Avoid valproate in pregnant women

[a] Available in the Interagency Emergency Health Kit (WHO, 2011)

Box EPI 1: Special management considerations for women with epilepsy

» If the woman is of **childbearing age:**
- Give folate 5 mg/day to prevent possible birth defects if she becomes pregnant.

» If she is **pregnant**:
- Consult with a specialist for management.
- Advise more frequent antenatal visits and delivery in a hospital.
- At delivery, give 1 mg **vitamin K** intramuscularly (i.m.) to the newborn.

» The decision to start an antiepileptic medication in a pregnant woman should be made together with the woman. The severity and frequency of the seizures as well as the potential harm to the fetus from either the seizures or the medication should be considered. If the decision is made to start medication, then either **phenobarbital** or **carbamazepine** can be used. Valproate and polytherapy* should be avoided.

» Carbamazepine can be used by women who are **breastfeeding**.

---

7. Seizure Diary

Ask the person or caregiver to **keep a simple seizure diary**, including:

- Date of seizure
- Duration
- Possible triggers
- Medication adherence

This helps monitor treatment effectiveness.

Figure EPI 1: Example seizure diary

When the seizure occurred		Description of seizure (including body parts affected and duration of seizure)	Medications that were taken	
Date	Time		Yesterday	Today

---

8. Follow-Up

First 3 months

Follow up **every month** until seizures are controlled.

After seizures are controlled

Follow up **every 3 months**.

During follow-up:

- Review seizure diary
- Assess seizure control
- Adjust medication if needed
- Check medication side effects
- Reinforce education and lifestyle advice

---

9. Referral

Refer to a specialist if:

- Seizures are **not controlled after two medications**
- Severe side effects occur
- Diagnosis is uncertain

Box EPI 2: Assessment and management of a person who is convulsing or is unconscious following a seizure

Assessment and management of acute seizures should proceed simultaneously.

» Assessment of seizures

- Stay calm.
  Most seizures will stop after a few minutes.
- Check **airway, breathing and circulation**, including blood pressure, respiratory rate and temperature.
- Check for **signs of head or spinal injury** (e.g. dilated pupils may be a sign of serious head injury).
- Check for **stiff neck** or **fever** (signs of meningitis).

» Ask the carer:

- *When did this seizure start?*
- *Is there a past history of seizures?*
- *Is there is a history of head or neck injury?*
- *Are there other medical problems?*
- *Did the person take any medication, poison, alcohol or drugs?*
- If **female**: *Is she in the second half of pregnancy or first week after delivery?*

» Refer *urgently* to a hospital:

- If there is any sign of **major injury, shock* or breathing problem**
- If the person may have had a **serious head or neck injury**:
  - Do not move the person's neck.
  - Log-roll* the person when transferring them.
- If the person is a woman in the **second half of pregnancy or less than 1 week after delivery**
- If **neuroinfection** is suspected
- If it has been **more than 5 minutes** since the seizure started.

» Management of seizures

- Put the person on their side in the **recovery position** ***(see Basic management plan and Figures A–D above)***.
- If the seizure does not spontaneously stop after 1–2 minutes, insert an intravenous (i.v.) line as quickly as possible and give **glucose** and **benzodiazepines** slowly (30 drops/minute).
  - If an i.v. line is difficult to establish, give the benzodiazepines through the rectum.
  - Caution: **benzodiazepines can slow down breathing.** Give oxygen if available and monitor the person's respiratory status frequently.
  - **Child glucose dose**: 2–5 ml/kg of 10% glucose
  - **Child benzodiazepines dose**:
    - diazepam rectally 0.2–0.5 mg/kg or
    - diazepam i.v. 0.1–0.3 mg/kg or
    - lorazepam i.v. 0.1 mg/kg.
  - **Adult glucose dose**: 25-50 ml of 50% glucose
  - **Adult benzodiazepines dose**:
    - diazepam rectally 10–20 mg or
    - diazepam i.v. 10–20 mg slowly or
    - lorazepam i.v. 4 mg.
  - **Do not give benzodiazepines intramuscularly (i.m.).**
- Give the **second dose** of benzodiazepines if the seizure continues for 5–10 minutes after the first dose.
- Use the same dose as the first dose.
- **Do not give more than 2 doses of benzodiazepines. If the person needs more than 2 doses, they should be sent to a hospital.**
- Suspect **status epilepticus** if:
  - Seizures occur frequently and the person does not recover in between episodes, or
  - Seizures are not responsive to 2 doses of benzodiazepines, or
  - Seizures last for more than 5 minutes.

» Refer urgently to a hospital:

- If status epilepticus is suspected (see above)
- If the person does not respond to the first 2 doses of benzodiazepines
- If the person is having breathing problems after receiving benzodiazepines.