

# Epilepsy

# Session outline

- Introduction to epilepsy.
- Assessment of epilepsy.
- Management of epilepsy.
- Follow-up of a person with epilepsy.
- Review of materials and skills.

# Activity 1: Person's story

- Present a person's story of what it feels like to live with epilepsy.
- First thoughts.

# Local descriptions and understanding of epilepsy

- What are the names and local terms for epilepsy?
- How does the community understand epilepsy? What causes seizures and epilepsy?



# Overview of Priority MNS Conditions

1. These common presentations indicate the need for assessment.
2. If people present with features of more than one condition, then all relevant conditions need to be assessed.
3. All conditions apply to all ages, unless otherwise specified.
4. **1** For emergency presentations, please see the table on page 18.

## COMMON PRESENTATION

## PRIORITY CONDITION

- » Multiple persistent physical symptoms with no clear cause
- » Low energy, fatigue, sleep problems
- » Persistent sadness or depressed mood, anxiety
- » Loss of interest or pleasure in activities that are normally pleasurable

### DEPRESSION (DEP)

- » Marked behavioural changes; neglecting usual responsibilities related to work, school, domestic or social activities
- » Agitated, aggressive behavior; decreased or increased activity
- » Fixed false beliefs not shared by others in the person's culture
- » Hearing voices or seeing things that are not there
- » Lack of realization that one is having mental health problems

### PSYCHOSES (PSY)

- » Convulsive movement or fits/seizures
- » During the convulsion: loss of consciousness or impaired consciousness, stiffness, rigidity, tongue bite, injury, incontinence of urine or faeces
- » After the convulsion: fatigue, drowsiness, sleepiness, confusion, abnormal behaviour, headache, muscle aches, or weakness on one side of the body

### EPILEPSY (EPI)

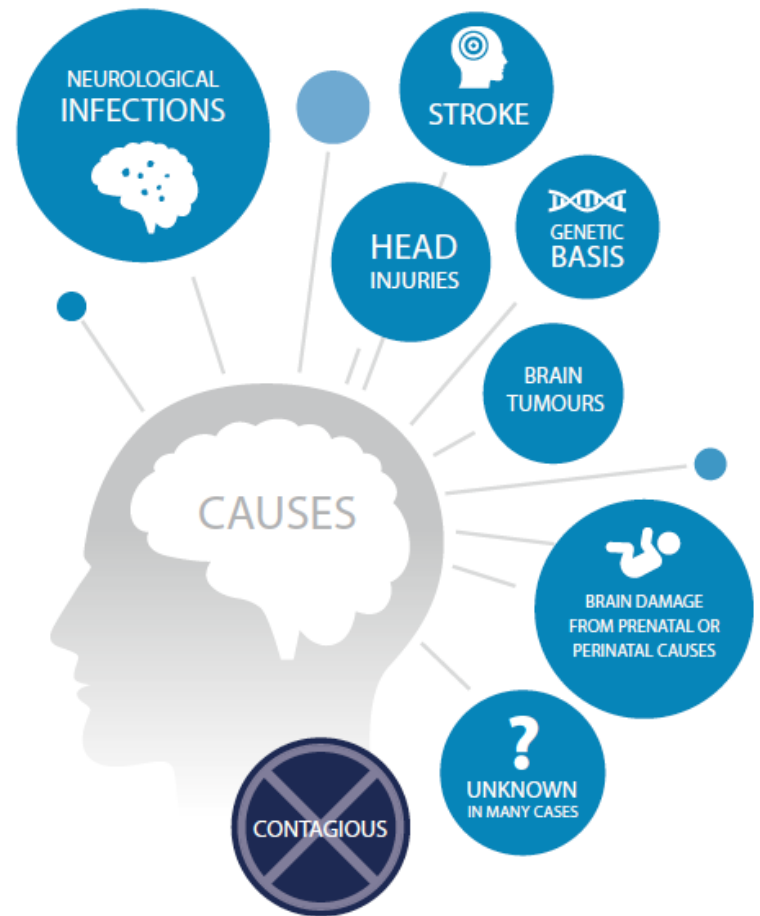
# WHAT IS epilepsy?

A NEUROLOGICAL CONDITION  
characterized by *recurrent seizures*

Seizures are due to  
*brief disturbances* in the  
*electrical functions*  
of the brain



*Epilepsy affects people of all ages*



# Signs and symptoms of epilepsy

- Epilepsy is a chronic disorder of the brain.
- It is characterized by recurrent unprovoked seizures (at least 2 in the past 12 months).
  - Recurrent = usually separated by days, weeks or months.
  - Unprovoked = there is no evidence of an acute cause of the seizure (e.g. febrile seizure in a young child).

# Types of epilepsy

- There are two types of epilepsy: convulsive and non-convulsive.
- **Convulsive epilepsy** has features such as sudden abnormal movements including stiffening and shaking the body (due to a convulsive seizure).
- **Non-convulsive epilepsy** has features such as changes in mental status (due to non-convulsive seizures).



# What are seizures?

- Seizures are episodes of brain malfunction due to abnormal surges of electrical activity.
- A seizure usually affects how a person appears or acts for a short time.
- 70% of all seizures are convulsive.

# Signs and symptoms of a convulsive seizure

## **During the seizure:**

- Loss of awareness or consciousness.
- Convulsive movements (involuntary shaking of the body).
- Incontinence of urine or stool.
- Tongue-biting.
- Loss of vision, hearing and taste.

## **After the seizure:**

- Low mood, anxiety, worry.
- Injuries sustained during seizures.
- Muscle aches.
- Tiredness/sleepiness.
- Abnormal behaviour.
- Confusion.
- Fatigue.
- Pains on one side of the body.

# Causes of epilepsy

- Brain damage from prenatal or perinatal injuries (e.g. a loss of oxygen or trauma during birth, low birth weight).
- Congenital abnormalities or genetic conditions with associated brain malformations.
- A severe head injury.
- A stroke that restricts the amount of oxygen to the brain.
- An infection of the brain such as meningitis, encephalitis, neurocysticercosis.
- Certain genetic disorders.
- Brain tumour.

# Epilepsy and non-specialized health settings

- **70%** of children and adults with epilepsy can be successfully treated (i.e. their seizures completely controlled with anti-epileptic medication).
- **Two to five years:** After two to five years of successful treatment and being seizure-free, medication can be withdrawn in 70% of children and 60% of adults.
- **US\$ 5:** This medication costs US\$ 5 per year.

# Local names for epilepsy

- Are the names/local descriptions of epilepsy negative?
  - Some of the local terms may imply a person is mad, possessed, stupid or cursed.
  - How might this impact on a person and their family?
  - How might this impact on their likelihood to seek help?

# What is the **IMPACT** of epilepsy?

50 000 000

More than 50 million people are living with epilepsy globally

3-6 <sup>TIMES</sup>

↑  
GREATER  
**RISK**  
OF PREMATURE  
DEATH



**STIGMA & DISCRIMINATION**



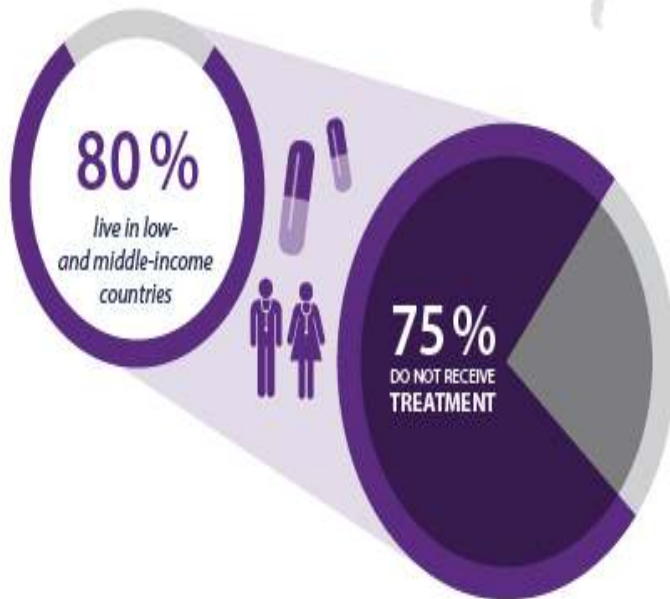
FAMILY



WORK



SOCIAL  
STANDING



## CAUSES OF TREATMENT GAP:

- lack of trained staff
- poor access to anti-epileptic medicines
- societal misconceptions
- poverty
- low prioritization for the treatment of epilepsy

## EPI » Quick Overview

Acute presentation of seizures/convulsions warrants emergency treatment & management



### ASSESSMENT

- » **EMERGENCY:**  
Assessment & management of acute convulsions
- » Assess if person has convulsive seizures
- » Assess for an acute cause (e.g. neuroinfection, trauma, etc.)
- » Assess if the person has epilepsy and for any underlying causes (by history or examination)
- » Assess for concurrent priority MNS conditions



### MANAGEMENT

- » **Management Protocol and Special Populations**
  1. Epilepsy
  2. Special Populations (women of childbearing age, children/adolescents, and people living with HIV)
- » **Psychosocial Interventions**
- » **Pharmacological Interventions**



### FOLLOW-UP

# Why are seizures treated as an emergency?

- Treatment can end seizures or shorten seizure duration, which limits the damage they can cause.
- Prolonged or repeated seizures can result in brain injury.
- Prolonged or repeated seizures can result in death if not treated immediately.
- Seizures can be a symptom of a life threatening problem, like meningitis.

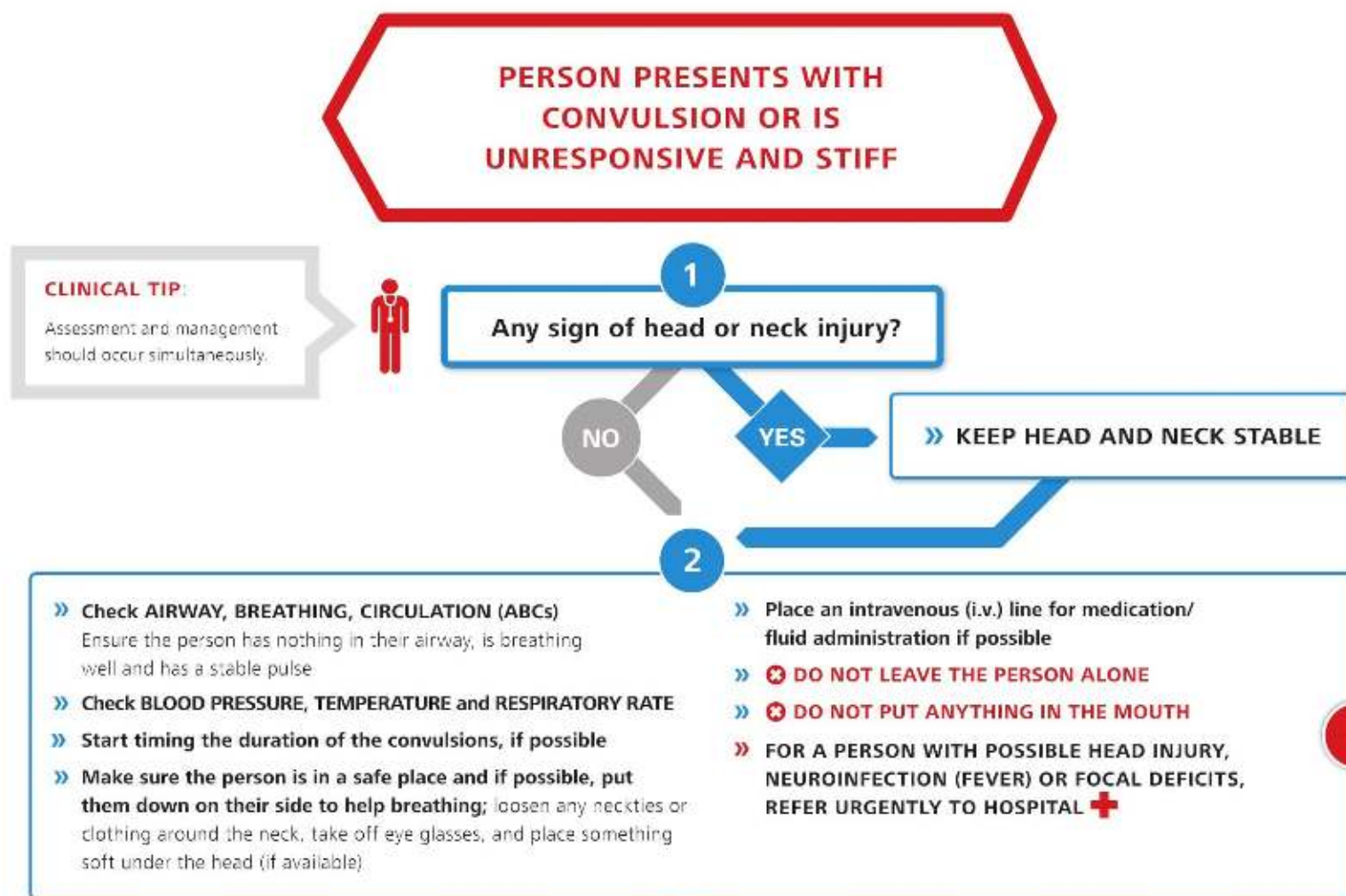


# Group discussion

A person is brought into the clinic and is unconscious after a reported seizure.

What are your first actions?

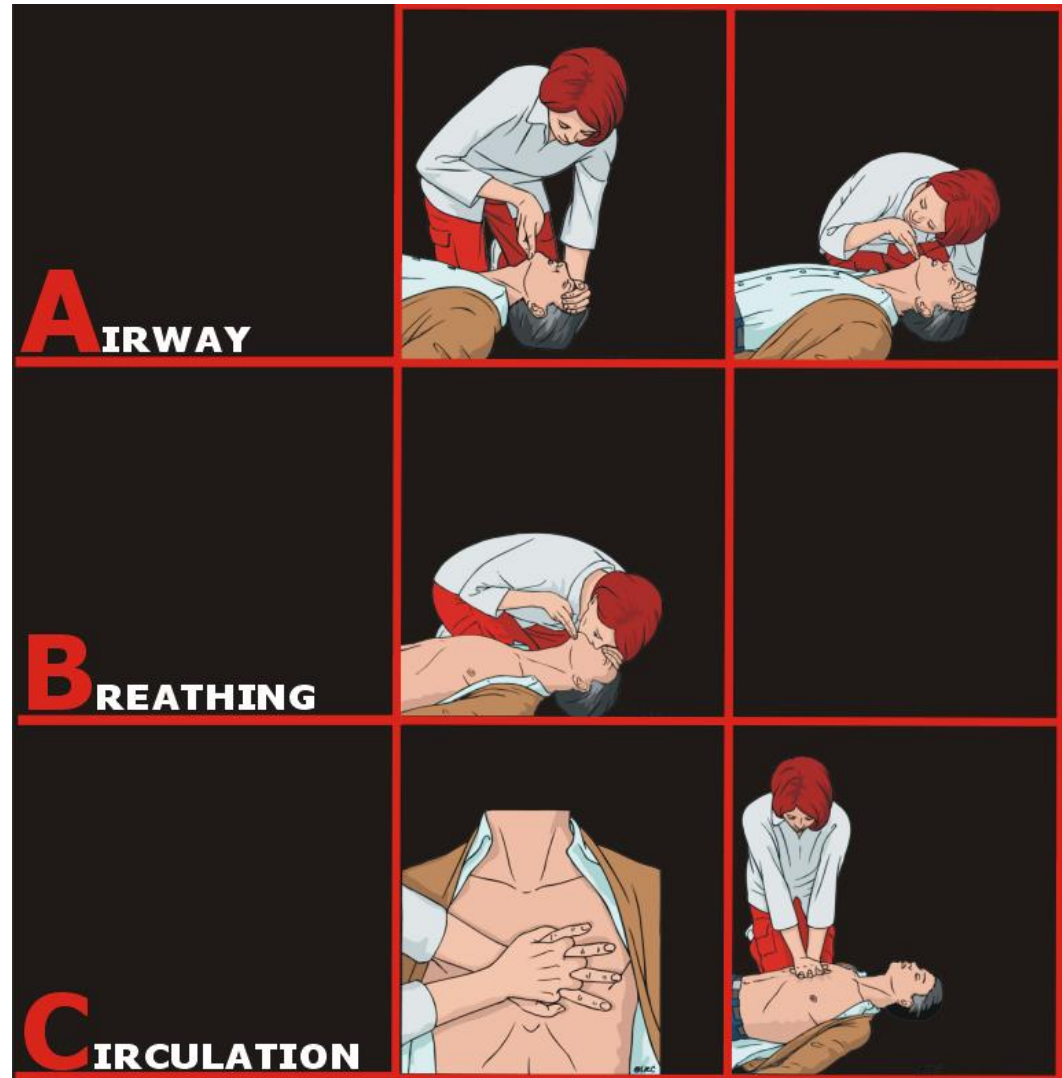
# ! EPI » EMERGENCY



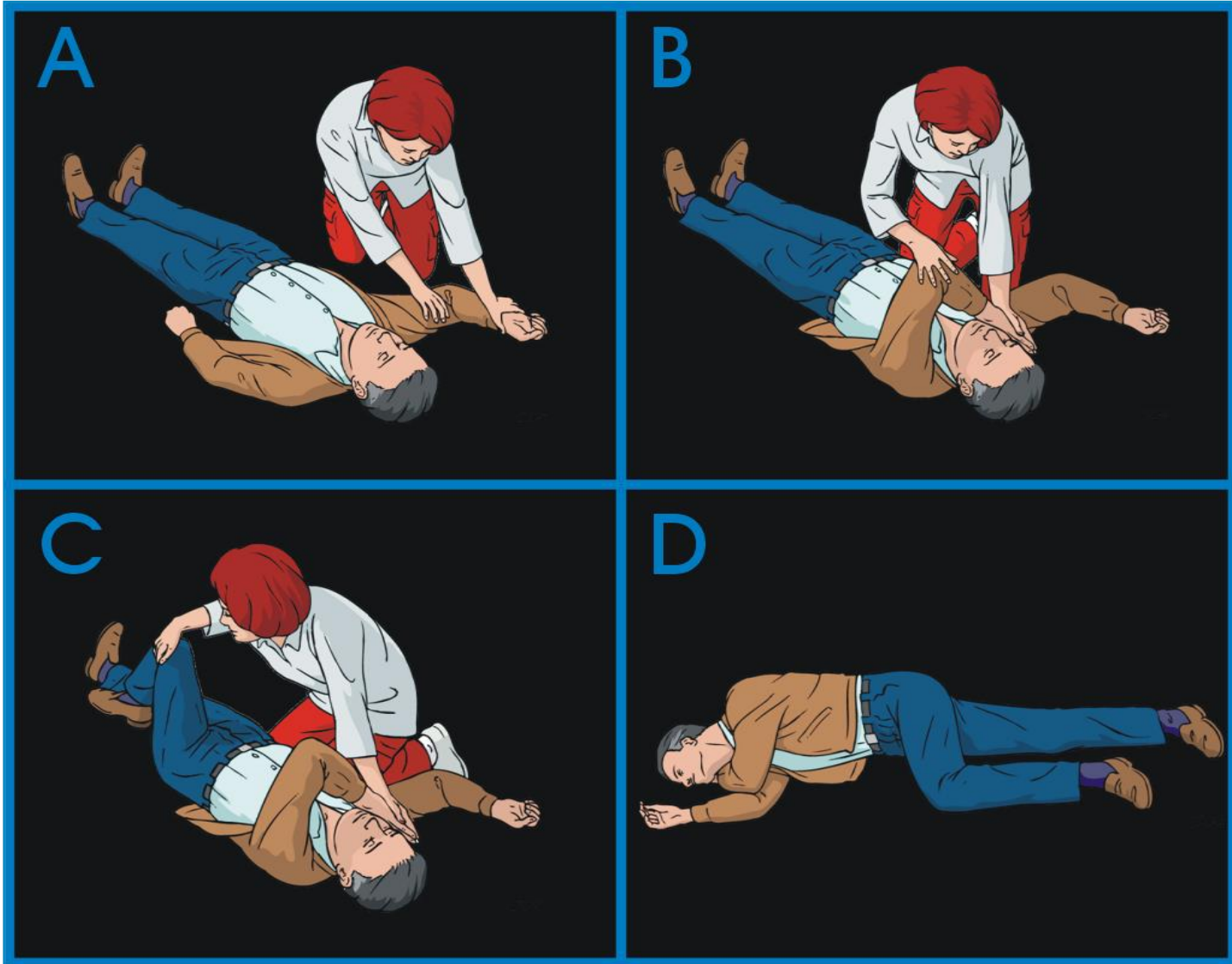
# First action in all cases: Check ABCs

- **A**irway
- **B**reathing
- **C**irculation

- DO NOT leave the person alone.
- Place in recovery position.
- Make sure NOTHING is in the mouth.



If the person is still unconscious,  
use the recovery position

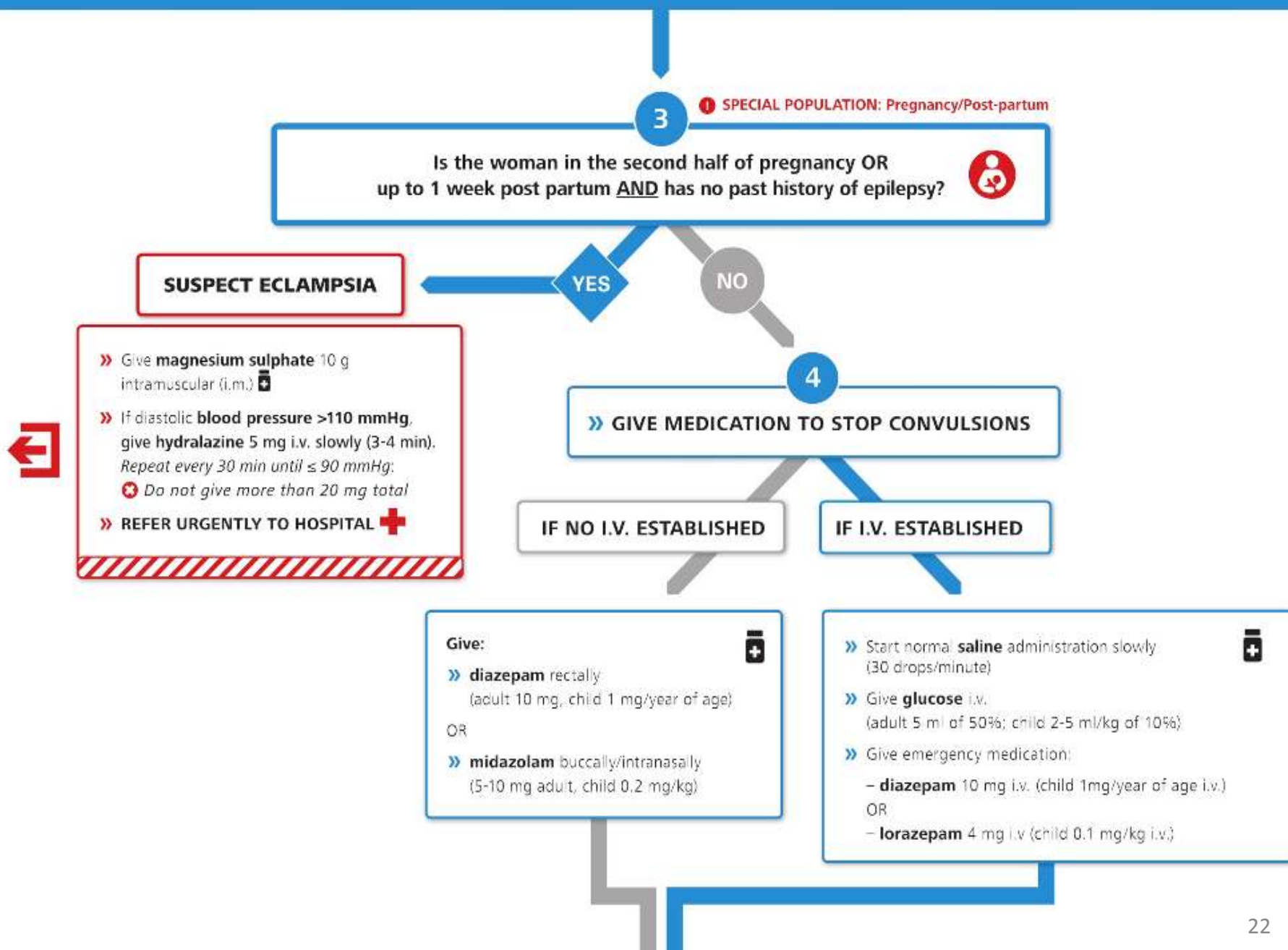


# Measure and document vital signs

1. Blood pressure.
2. Temperature.
3. Respiratory rate.

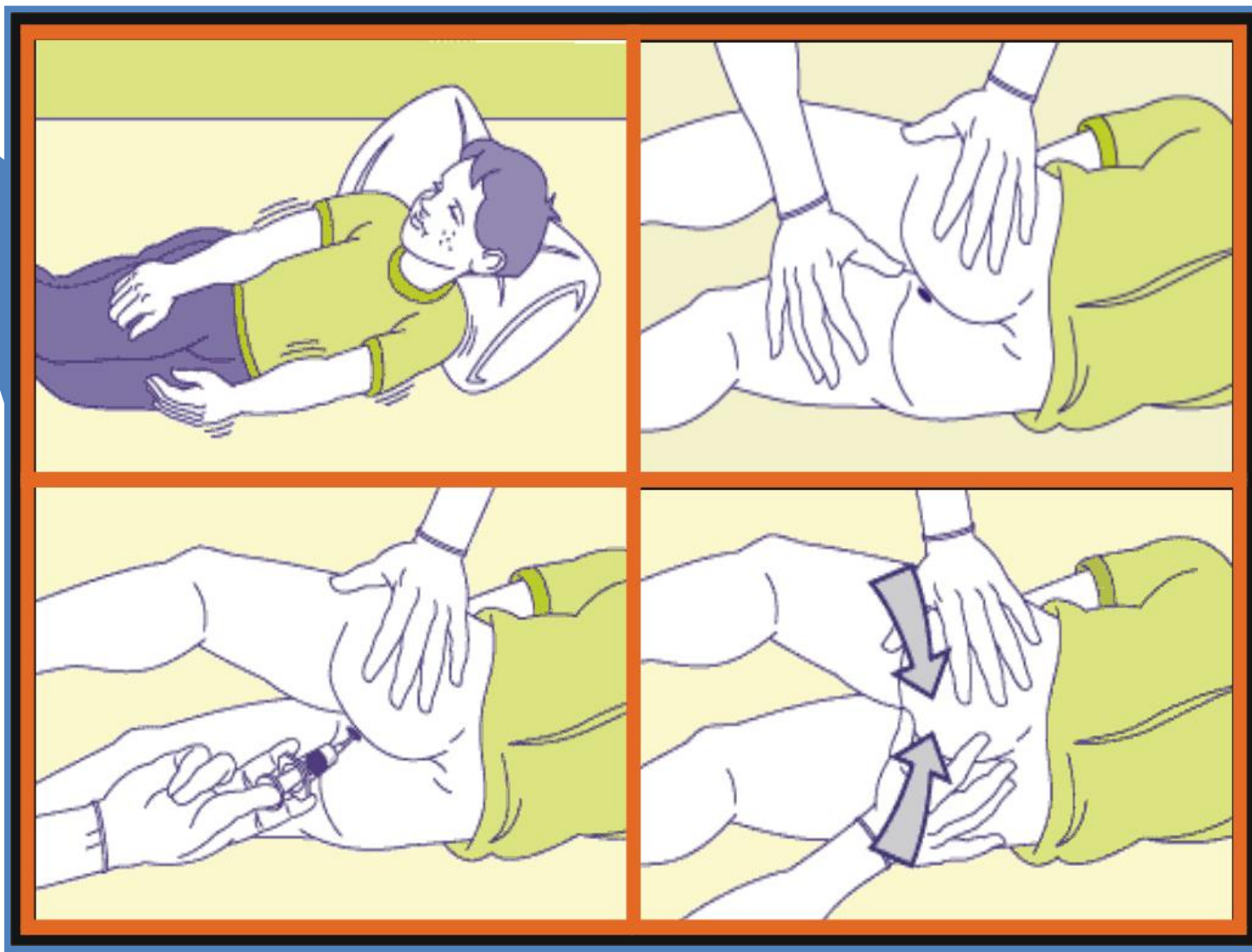
These must be measured and documented.

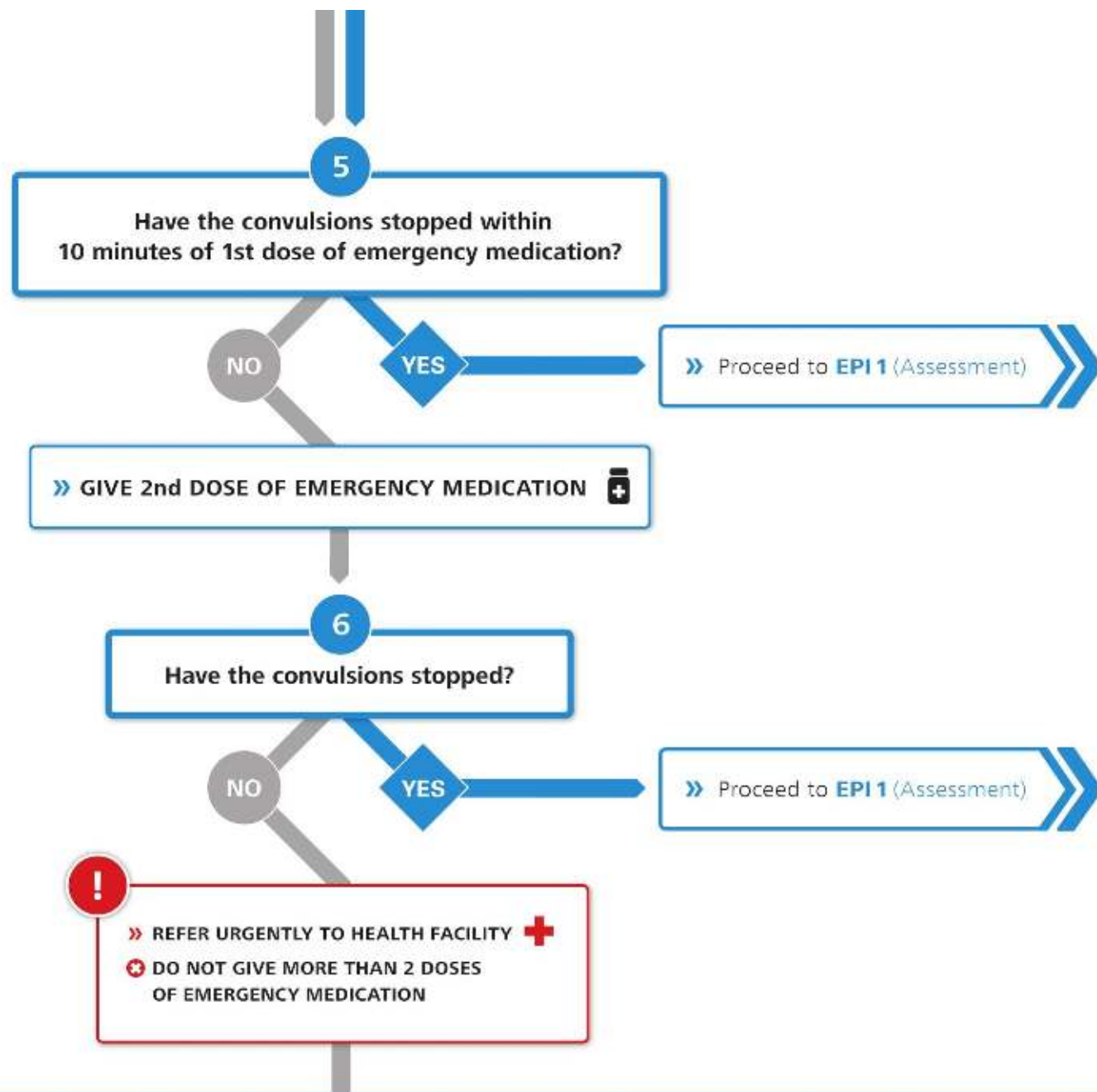
In particular, the respiratory rate should be counted. You may be using drugs that cause respiratory depression.



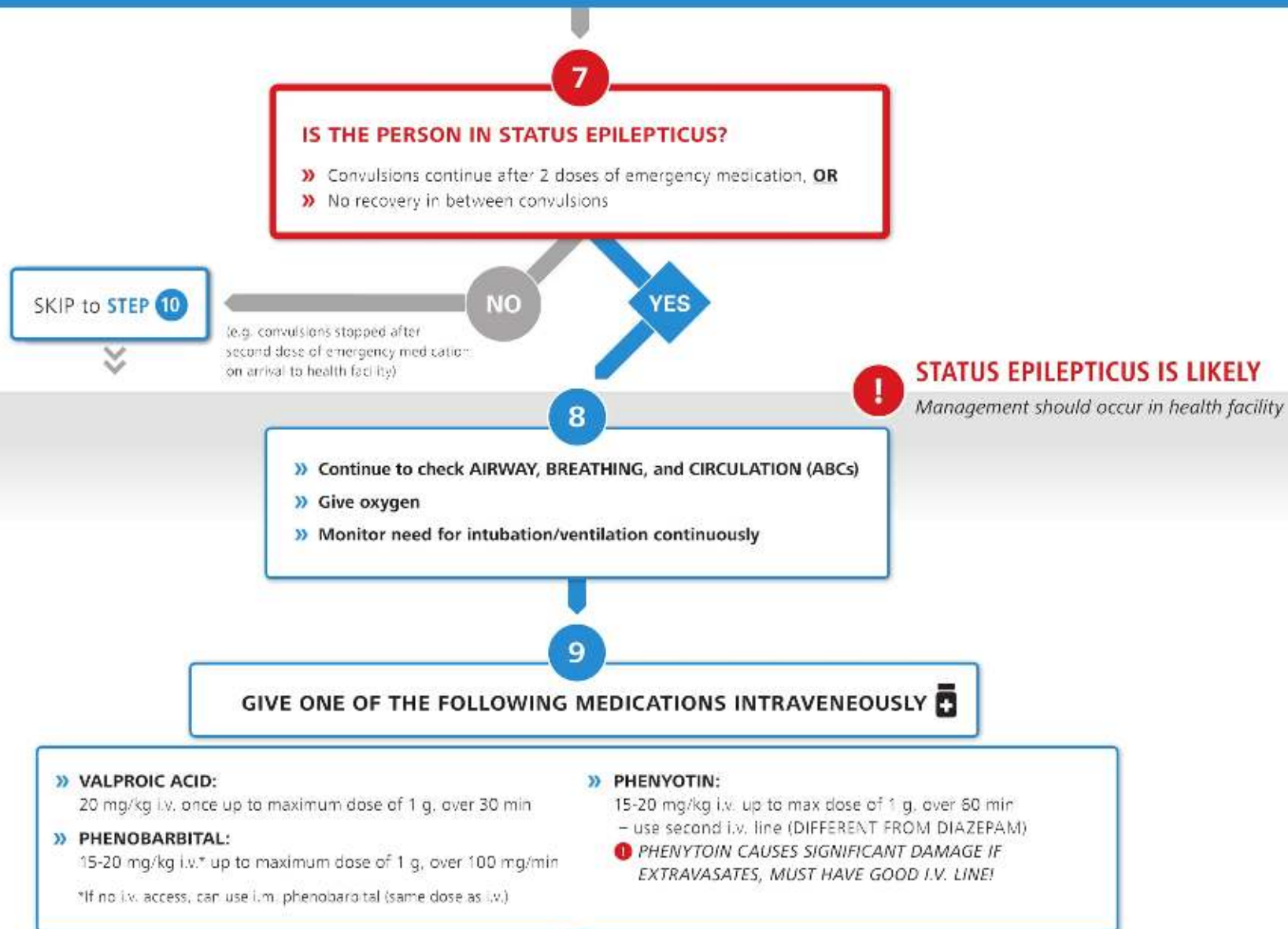


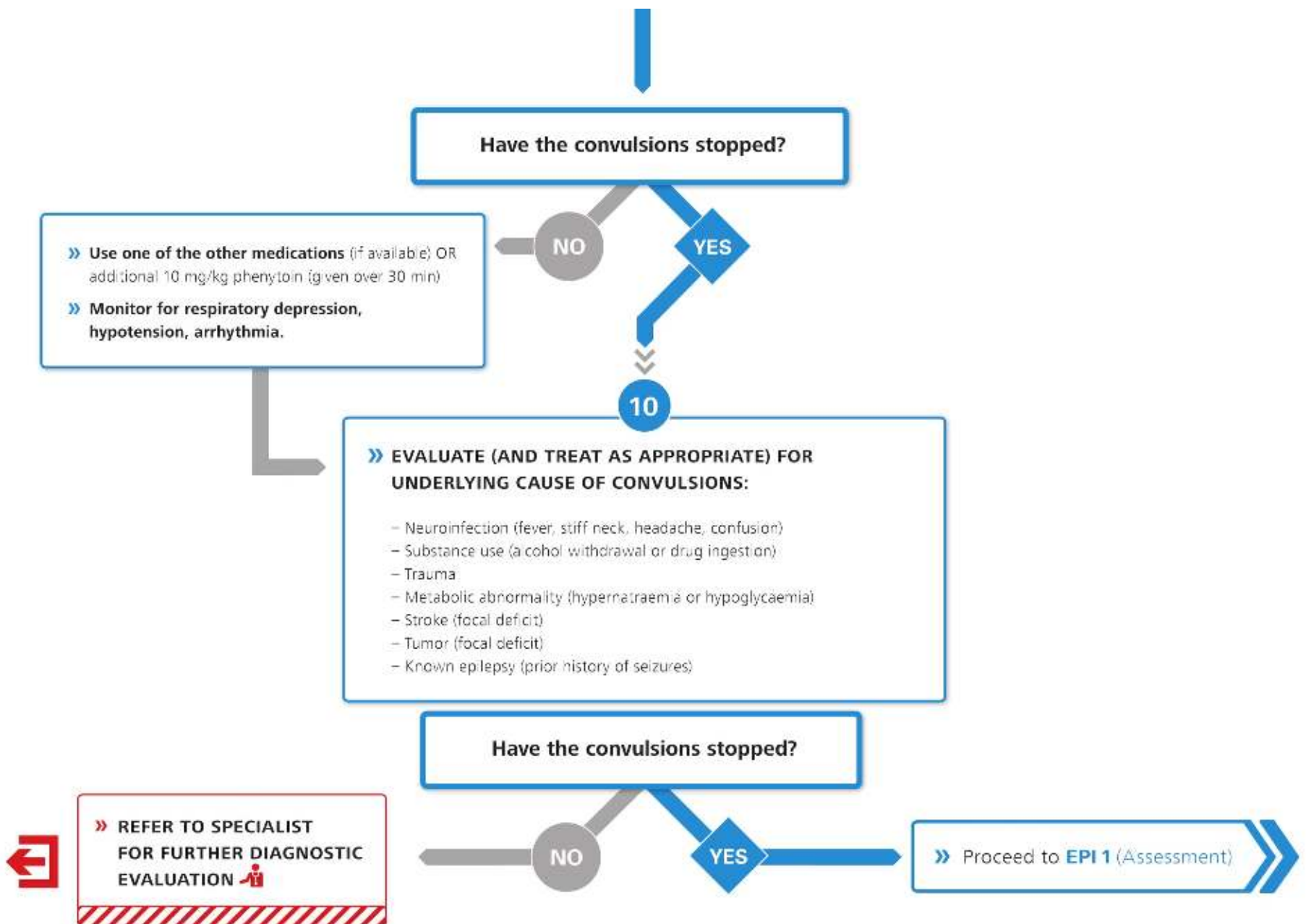
# Rectal diazepam











# What if you suspect a brain infection?

- If there are signs and symptoms (e.g. fever, vomiting, rash):
  1. Manage the seizure as we have discussed.
  2. Initiate treatment for the underlying brain infection (such as i.v. antibiotic for meningitis).
  3. Refer to hospital as this is an emergency.

# What if you suspect trauma?

1. Manage the seizure as we have discussed.
2. Stabilize the neck:
  - DO NOT move the neck.
  - There could be a cervical spine injury.
  - Log roll the person when moving.
3. Assess for other evidence of trauma.
4. Refer to the hospital as this is an emergency.

# How to check for other evidence of trauma ?

1. Remove all clothing and check whole body for evidence of trauma.
2. Look/feel for deformity of the skull.
3. Check if pupils are not equal or not reactive to light.
4. Check for blood/fluid from the ears or nose.
5. Look for associated traumatic injuries (spine, chest, pelvis).

From: IMAI District Clinician Manual: Vol 1, section 2 page 7.

# What if the person is a child with fever?

- It could be a febrile seizure.
- Febrile seizures are events occurring in children (three months to five years of age), who are suffering from fever and don't have any neurological illness or brain infection.
- There are two types of febrile seizure:
  - Complex (these need to be ruled out).
  - Simple febrile seizures.

# What is a complex febrile seizure?

It is a complex febrile seizure if one of the following criteria is present:

- **Focal:** Starts in one part of the body.
- **Prolonged:** More than 15 minutes.
- **Repetitive:** More than one episode during the current illness.

A complex febrile seizure needs to be referred to hospital.

# Management of simple febrile seizures

1. Look for possible causes and manage fever according to the local IMCI guidelines.
2. Observe for 24 hours.
3. Follow-up in one to two months to assure no further seizures.



## EPI » Quick Overview

Acute presentation of seizures/convulsions warrants  
emergency treatment & management



### ASSESSMENT

- » **EMERGENCY:**  
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(e.g. neuroinfection, trauma, etc.)
- » Assess if the person has epilepsy and  
for any underlying causes (by history or  
examination)
- » Assess for concurrent priority MNS  
conditions



### MANAGEMENT

- » **Management Protocol and  
Special Populations**
  1. Epilepsy
  2. Special Populations (women of childbearing age,  
children/adolescents, and people living with HIV)
- » **Psychosocial Interventions**
- » **Pharmacological Interventions**



### FOLLOW-UP

# Activity 3: Video demonstration

- Watch the mhGAP-IG video.
- During the video follow the epilepsy assessment algorithm on page 58 mhGAP-IG Version 2.0.

<https://www.youtube.com/watch?v=RUIRg555xl0&index=6&list=PLU4ieskOli8GicaEnDweSQ6-yaGxhes5v>



## EPI 1 » Assessment



### CLINICAL TIP

Syncope and pseudoseizures should be considered during initial evaluation and in cases of treatment failure.

- » Syncopal (fainting) spells often are associated with flushing, sweating, palor, and occasionally a feeling of vision darkening prior to an episode. Mild shaking may occur at the end.
- » Pseudoseizures are typically associated with a stress trigger. Episodes are often prolonged and can involve nonrhythmic jerking of the body; eyes may be closed, and pelvic thrusting is often seen. There is typically a rapid return to baseline after the episode. If pseudoseizures are suspected, go to » OTH.

### COMMON PRESENTATIONS OF EPILEPSY

- *Convulsive movement or fits/seizures*  
During the convulsion:
  - Loss of consciousness or impaired consciousness
  - Stiffness, rigidity
  - Tongue bite, injury, incontinence of urine or faeces
- *After the convulsion: fatigue, drowsiness, sleepiness, confusion, abnormal behaviour, headache, muscle aches, or weakness on one side of the body*

1

Does the person have convulsive seizures?

Has the person had convulsive movements lasting longer than 1-2 minutes?

NO

YES

Convulsive seizures unlikely

- » Consult a specialist for recurrent episodes 
- » Follow-up in 3 months 

**Has the person had at least 2 of the following symptoms during the episode(s)?**

- Loss of consciousness or impaired consciousness
- Stiffness, rigidity
- Bitten or bruised tongue, bodily injury
- Incontinence of faeces/urine
- After the convulsion: fatigue, drowsiness, sleepiness, confusion, abnormal behaviour, headache, muscle aches, or weakness on one side of the body

NO

YES

**Convulsive seizures unlikely**

- » Consult a specialist for recurrent episodes
- » Follow-up in 3 months

**Suspect  
CONVULSIVE SEIZURES**

2

**Is there an acute cause?**

**Is there neuroinfection or other possible causes of convulsions?**

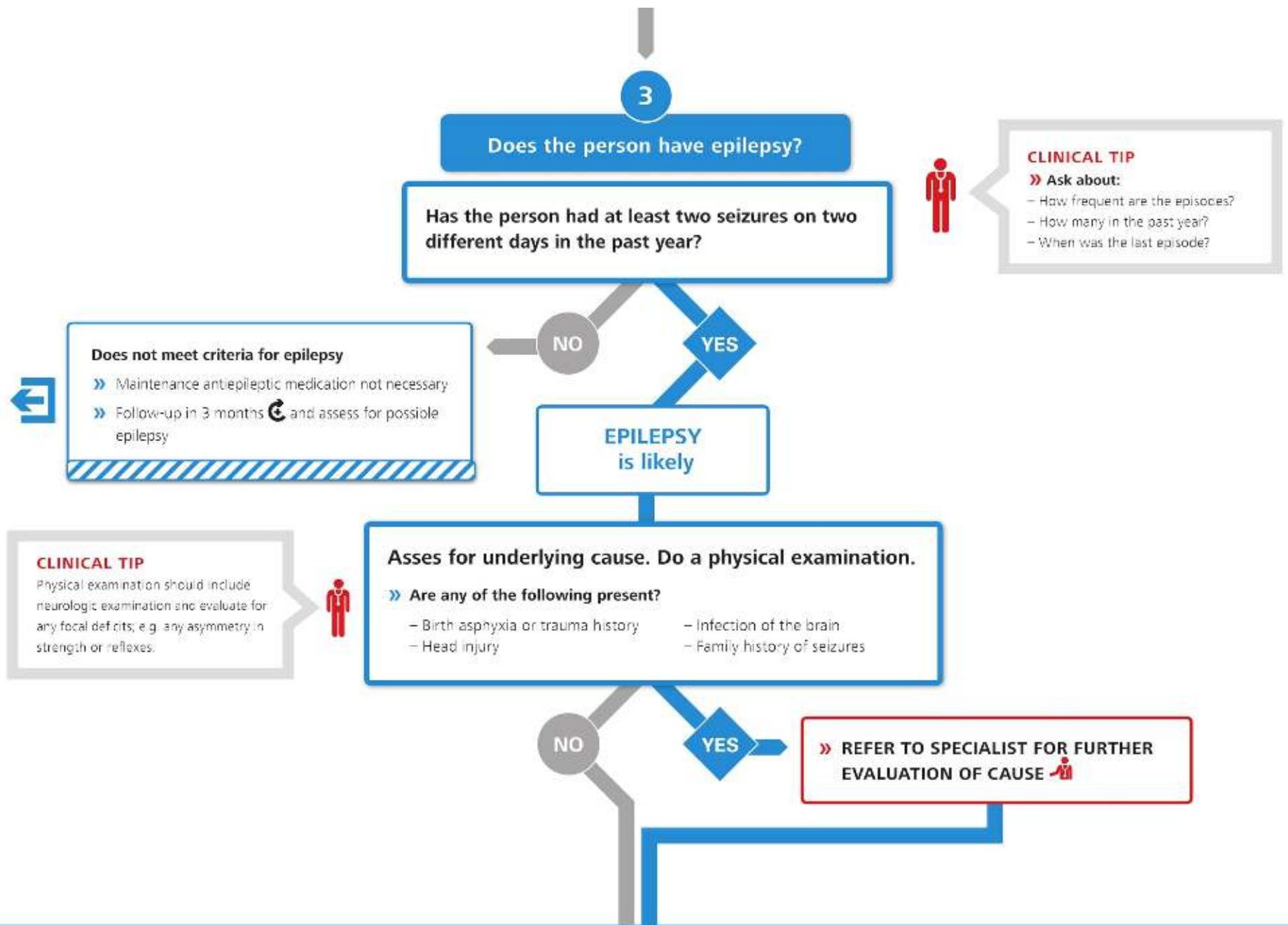
» Check for signs and symptoms:

- |             |  |   |  |
|-------------|--|---|--|
| – Fever     | – Meningeal irritation (e.g. stiff neck) | – Metabolic abnormality (e.g. hypoglycemia/ hyponatremia) | – Alcohol or drug intoxication or withdrawal |
| – Headache  | – Head injury                            |   |  |
| – Confusion |  |   |  |

YES

NO

**Suspect EPILEPSY**



# What to look for on physical examination?

- Signs of head and/or spinal trauma.
- Pupils: Dilated? Pinpoint? Unequal? Unreactive?
- Signs of meningitis: stiff neck, vomiting.
- Weakness on one side of body or in one limb.
  - In unconscious people who are unresponsive to pain, you may notice that one limb or side of the body is “floppy” compared with the other.

# Ask about other medical conditions

1. Are they diabetic? Are they on any medications?
  - Could this be low blood sugar?
2. Are they HIV positive? Are they on any medications?
  - Could this be an infection (e.g. meningitis)?
3. Is there any chance of poisoning?
4. Is this person a drug user or a heavy drinker?
  - If yes, in addition to managing their acute seizures, you will need to do an assessment according to the drug and alcohol use sections of the mhGAP-IG.



4

Are there concurrent MNS conditions?

» Assess for other concurrent MNS conditions according to the mhGAP-IG Master Chart (MC)



1 Please note persons with EPILEPSY are at higher risk for DEPRESSION, DISORDERS DUE TO SUBSTANCE USE. CHILDREN AND ADOLESCENTS MAY HAVE ASSOCIATED MENTAL AND BEHAVIOURAL DISORDERS. SUBSTANCE USE DISORDERS

» Go to PROTOCOL 1

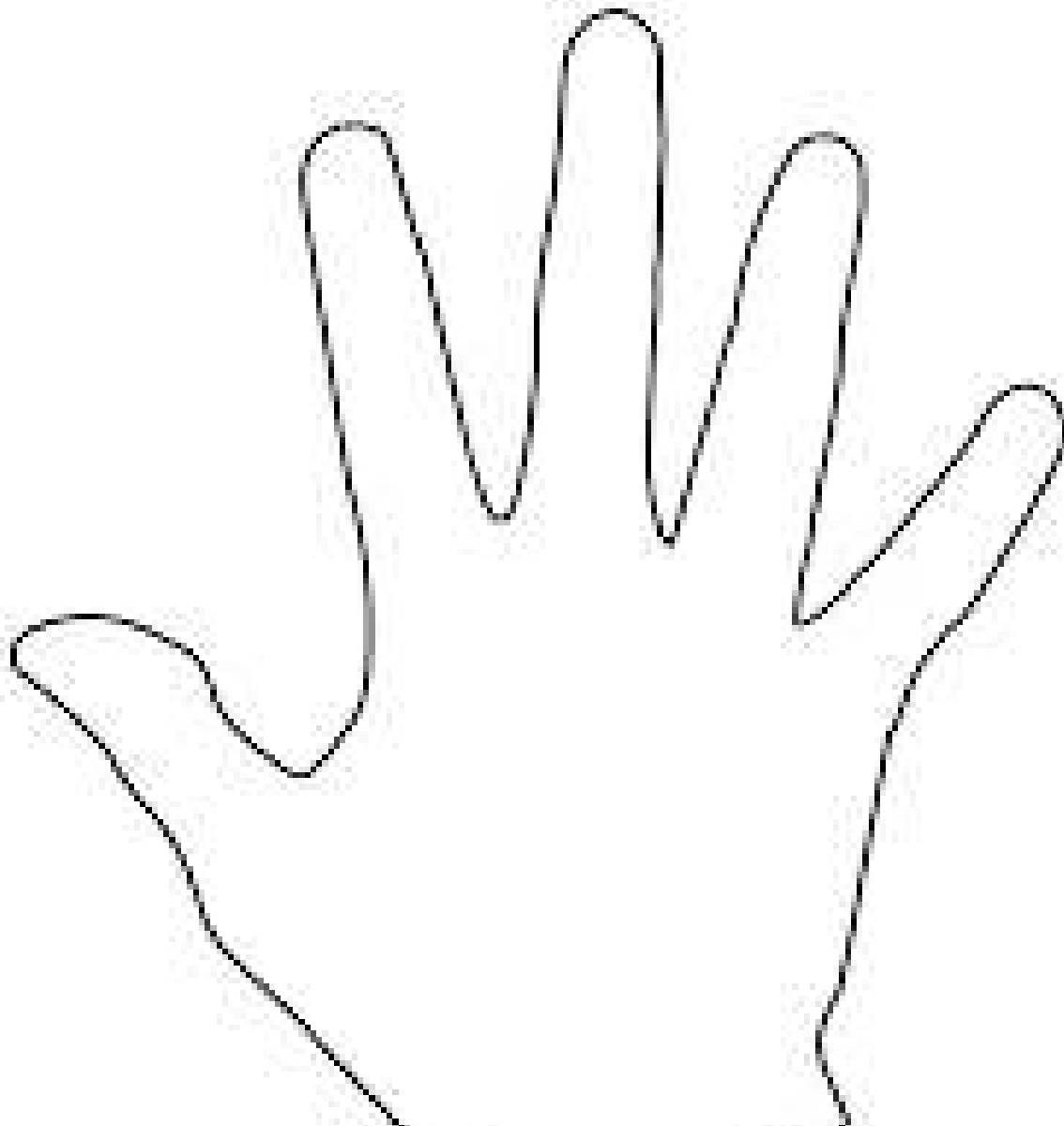
1 IF THERE IS IMMINENT RISK OF SUICIDE, ASSESS AND MANAGE before continuing to Protocol. Go to »SUI.





## Activity 4: Role play

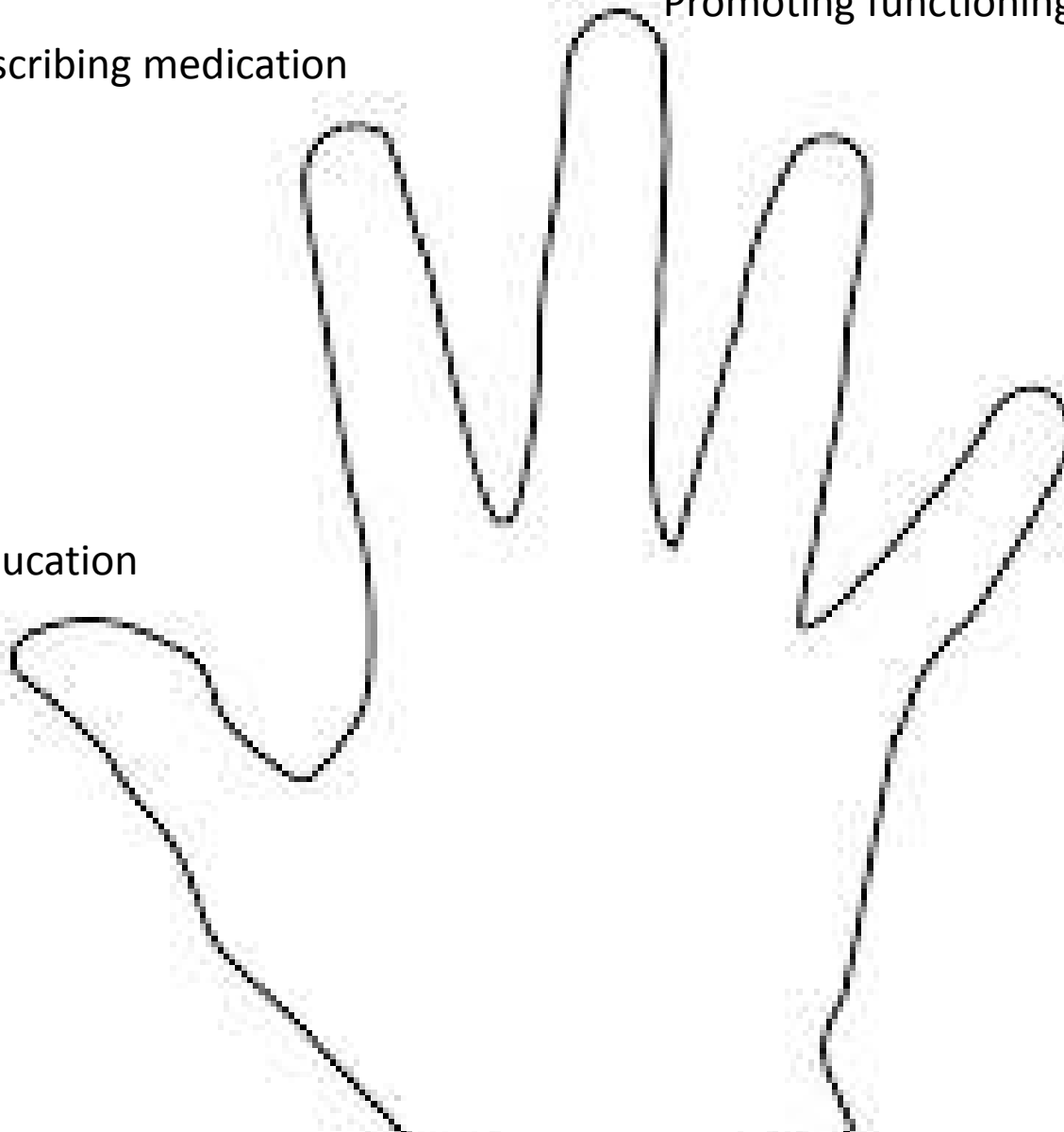
- A person comes to a primary health-care clinic for the first time after they had a fainting spell the week before.
- The person comes with their spouse.
- The health-care provider conducts an assessment using the algorithm on page 58 of the mhGAP-IG Version 2.0.



Promoting functioning in daily activities

Prescribing medication

Psychoeducation





## EPI 2 » Management

### PROTOCOL

1

- » Provide **psychoeducation** to the person and carers (2.1)
- » Initiate **antiepileptic medications** (2.3)
- » Promote functioning in daily activities (2.2)

### Special populations

Note that interventions are different for EPILEPSY in these populations



#### WOMAN OF CHILDBEARING AGE

Concern: Risk of antiepileptic medication to fetus/child

- » Advise folate (5 mg/day) to **prevent neural tube defects**, in **ALL women of childbearing age**.
- » AVOID VALPROATE.
- » **CAUTION If Pregnant:**
  - Avoid polytherapy. Multiple medications in combination increase the risk of teratogenic effects during pregnancy.
  - If medications are stopped during pregnancy, they should always be tapered.
  - Advise delivery in hospital.
  - At delivery, give 1 mg vitamin K i.m. to the newborn to prevent haemorrhagic disease.
- » **If breastfeeding**, carbamazepine preferred to other medication.



#### CHILD / ADOLESCENT

Concern: Effect of antiepileptic medication on development and/or behavior

- » For those with a **developmental disorder**, manage the condition. Go to » CMH.
- » For children with behavioural disorder, avoid phenobarbital if possible. Manage the condition. Go to » CMH.



#### PERSON LIVING WITH HIV

Concern: Drug interactions between antiepileptic medications and antiretrovirals

- » When available, refer to specific drug interactions for person's antiretroviral regimen and antiepileptic medication.
- » **Valproate** is preferred due to fewer drug-drug interactions.
- » **AVOID PHENYTOIN AND CARBAMAZEPINE WHEN POSSIBLE.**

## PSYCHOSOCIAL INTERVENTIONS

### 2.1 Psychoeducation

*Provide information on: "What is a convulsion/epilepsy" and the importance of medication.*

- » "A convulsion is caused by excess electrical activity in the brain – it is not caused by witchcraft or spirits."
- » "Epilepsy is the recurrent tendency for convulsions."
- » "It is a chronic condition, **but if you take your medicine as prescribed, in the majority of people it can be fully controlled.**"
- » The person may have several people helping them take care of their convulsions. Discuss this with the person.
- » Ask the person to let you know if they are seeing a traditional or a faith healer, showing respect for this, but emphasizing the need for being seen at a healthcare facility. The person should also be informed that medicines and herbal products can sometimes have adverse interactions, so the health care providers must know about everything they take.

#### CLINICAL TIP:

- » Seizures lasting greater than 5 minutes are a medical emergency – one should seek help immediately.
- » Most people with epilepsy can have normal lives with good adherence to treatment.

*Provide information on: How carers can manage convulsion at home.*

- » Lay person down, on their side, head turned to help breathing.
- ✗ DO NOT PUT ANYTHING IN THEIR MOUTH OR RESTRAIN THE PERSON.
- » Ensure the person is breathing properly.
- » Stay with person until the convulsion stops and they wake up.
- » Sometimes people with epilepsy know that a convulsion is imminent. They should lie down somewhere safe if they have that feeling.
- » Epilepsy is not contagious. You cannot catch the disorder by assisting the person experiencing convulsions.

*Provide information on: When to get medical help. *

- » When a person with epilepsy appears to have trouble breathing during a convulsion, they need immediate medical help.
- » When a person with epilepsy has a convulsion lasting longer than 5 minutes outside of a health facility, they need to be taken to one.
- » When a person with epilepsy is not waking up after a convulsion, they need to be taken to a health facility.

### 2.2 Promote functioning in daily activities and community life

- » Refer to Essential Care and Practice (ECP) for interventions that promote functioning in daily living and community life.
- » In addition, inform carers and people with epilepsy that:
  - People with epilepsy can lead normal lives. They can marry and have children.
  - Parents should not remove children with epilepsy from school.
  - People with epilepsy can work in most jobs. However they should avoid jobs with high risk of injury to self or others (e.g. working with heavy machinery).
  - People with epilepsy should avoid cooking on open fires and swimming alone.
  - People with epilepsy should avoid excessive alcohol and recreational substances, sleeping too little, or going to places with flashing lights.
  - Local driving laws related to epilepsy should be observed.
  - People with epilepsy may qualify for disability benefits.
  - Community programs for people with epilepsy can provide assistance in jobs and support for both the person and family.




# Example of a seizure diary

Ask the person (and carer) to keep a record of seizure history

What happened? (description of seizure)	When? (day, time)	What medication did the person take?	
		Yesterday	Today


# PHARMACOLOGICAL INTERVENTIONS

## 2.3 Initiate antiepileptic medications

- » Choose a medication that will be consistently available.
- »  If special population (children, women of childbearing age, person living with HIV), see relevant section of this module.
- » Start with only one medication at lowest starting dose.
- » Increase dose slowly until convulsions are controlled.
- » Consider monitoring blood count, blood chemistry and liver function tests, if available.

### CAUTION!

- » Check for **drug-drug interactions**. *When used together, antiepileptics may increase or reduce the effect of other antiepileptics. Antiepileptics may also reduce effect of hormonal birth control, immunosuppressants, antipsychotics, methadone, and some antiretrovirals.*
- » Rarely, can cause severe bone marrow depression, hypersensitivity reactions including Stevens-Johnson Syndrome, altered Vitamin D metabolism and Vitamin K-deficient hemorrhagic disease of newborns.

- »  When possible, avoid use of sodium valproate in pregnant women due to **risk of neural tube defects**.
- » All anticonvulsant medications should be discontinued slowly as stopping them abruptly can cause seizure breakthrough.

**TABLE 1: Antiepileptic medications**






MEDICATION	ORAL DOSING	SIDE EFFECTS	CONTRAINDICATIONS / CAUTIONS
<b>CARBAMAZEPINE</b>	<p><b>Adults:</b> Start 100-200 mg daily in 2-3 divided doses. Increase by 200 mg each week (max 1400mg daily).</p> <p><b>Children:</b> Start 5 mg/kg daily in 2-3 divided doses. Increase by 5 mg/kg daily each week (max 40mg/kg daily OR 1400mg daily).</p> <p> <b>Women who are pregnant or breastfeeding:</b> Use with caution.</p>	<p><b>Common:</b> Sedation, confusion, dizziness, ataxia, double vision, nausea, diarrhea, benign leukopenia.</p> <p><b>Serious:</b> Hepatotoxicity, cardiac conduction delay, low sodium levels.</p>	<p>Caution in patients with history of blood disorders, kidney, liver or cardiac disease.</p> <p>Dose may need to be adjusted after 2 weeks due to induction of its own metabolism.</p>



TABLE 1: Antiepileptic medications (cont.)

MEDICATION	ORAL DOSING	SIDE EFFECTS	CONTRAINDICATIONS / CAUTIONS
<b>PHENOBARBITAL</b>	<p><b>Adults:</b>  <b>Start</b> 60 mg daily in 1-2 divided doses.            Increase weekly by 2.5-5 mg (maximum 180 mg daily).</p> <p><b>Children:</b>  <b>Start</b> 2-3 mg/kg daily in 2 divided doses.            Increase weekly by 1-2 mg/kg daily depending on tolerance (<b>maximum</b> 5mg daily).</p>	<p><b>Common:</b> Sedation, hyperactivity in children, ataxia, nystagmus, sexual dysfunction, depression.</p> <p><b>Serious:</b> Liver failure (hypersensitivity reaction), decreased bone mineral density.</p>	<p>Contraindicated in patients with acute intermittent porphyria.</p> <p>Lower doses for patients with kidney or liver disease.</p>
<b>PHENYTOIN</b>	<p><b>Adults:</b>  <b>Start</b> 150-200 mg daily in two divided doses.            Increase by 50 mg daily every 3-4 weeks (max 400 mg daily).</p> <p><b>Children:</b>  <b>Start</b> 3-4 mg/kg daily in 2 divided doses.            Increase by 3 mg/kg daily every 3-4 weeks (maximum 300 mg per day).</p> <p> <b>Women who are pregnant or breastfeeding:</b> Avoid</p> <p> <b>Older adults:</b> Use lower doses</p>	<p><b>Common:</b> Sedation, confusion, dizziness, tremor, motor twitching, ataxia, double vision, nystagmus, slurred speech, nausea, vomiting, constipation.</p> <p><b>Serious:</b> Hematologic abnormalities, hepatitis, polyneuropathy, gum hypertrophy, acne, lymphadenopathy, increase in suicidal ideation.</p>	<p>Lower doses for patients with kidney or liver disease.</p>
<b>SODIUM VALPROATE</b>	<p><b>Adults:</b>  <b>Start</b> 400 mg daily in 2 divided doses.            Increase by 500 mg daily each week (maximum 3000 mg daily).</p> <p><b>Children:</b>  <b>Start</b> 15-20 mg/kg daily in 2-3 divided doses.            Increase each week by 15 mg/kg daily (max 15-40 mg/kg daily).</p> <p> <b>Women who are pregnant:</b> Avoid</p> <p> <b>Older adults:</b> Use lower doses</p>	<p><b>Common:</b> Sedation, headache, tremor, ataxia, nausea, vomiting, diarrhea, weight gain, transient hair loss.</p> <p><b>Serious:</b> Impaired hepatic function, thrombocytopenia, leukopenia, drowsiness/confusion (valproate-induced hyperammonemic encephalopathy; a sign of toxicity), liver failure, hemorrhagic pancreatitis.</p>	<p>Use with caution if underlying or suspected hepatic disease.</p> <p>Drug-drug interactions: Valproate levels decreased by carbamazepine, increased by aspirin.</p>



# Group discussion

- What drugs are available in your setting?
- How much does the medication cost?
- How can you ensure medication adherence?
- What can you do if the medication is not consistently available?

# Psychoeducation for medication management

Explain to the person and the family:

- The need for prompt medical treatment.
- Explain that this is a chronic condition and the medication must be taken as prescribed.
- If you take the medication as prescribed then the majority of people find that the seizures are fully controlled.
- Explain the potential side-effects and what to do if they occur.
- Explain the risk of further seizures if doses are missed
- Plan for regular follow-ups.



# EPI 2 » Management

## PROTOCOL

1

- » Provide **psychoeducation** to the person and carers (2.1)
- » Initiate **antiepileptic medications** (2.3)
- » Promote functioning in daily activities (2.3)

## Special populations

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### WOMAN OF CHILDBEARING AGE

Concern: Risk of antiepileptic medication to fetus/child

- » Advise folate (5 mg/day) to **prevent neural tube defects**, in **ALL women of childbearing age**.
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- » **Valproate** is preferred due to fewer drug-drug interactions.
- » **AVOID PHENYTOIN AND CARBAMAZEPINE WHEN POSSIBLE.**

# Activity 5: Role play

- A health-care provider assessed this person and their spouse and decided that the person has epilepsy.
- The health-care provider now has the responsibility of developing a treatment plan with the person.
- The treatment plan should include psychosocial and pharmacological interventions as well as instructions to the spouse on how to help the person if they have a convulsive seizure at home and when to refer for medical help.



## EPI 3 » Follow-up

1

### REVIEW THE CURRENT CONDITION



#### RECOMMENDATIONS ON FREQUENCY OF CONTACT



- » Follow up should occur every 3-6 months

Does the person have more than 50% seizure reduction in convulsion frequency?

NO

YES

#### IF THE PERSON IS NOT IMPROVING ON CURRENT DOSE:

- » Review adherence to medications.
- » Consider increase in medication dose as needed to maximal dose if no adverse effects.
- » If response is still poor,
  - Consider switching medication. The new medication should be at an optimum dose before slowly discontinuing the first.
- » If response is still poor,
  - Review diagnosis.
  - REFER TO SPECIALIST. 
- » Follow-up more frequently. 

#### CLINICAL TIP:

- » **ADVERSE EFFECTS** (e.g. drowsiness, nystagmus, diplopia, ataxia) are from too high doses of medication for the person.
- » If there is an **IDIOSYNCRATIC REACTION** (allergic reaction, bone marrow depression, hepatic failure), switch antiepileptic medication.



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## MONITOR TREATMENT

## At every contact:

- » Evaluate side-effects of medication including adverse effects and idiosyncratic reactions (clinically and with appropriate laboratory tests when available).
- » Provide psychoeducation and review psychosocial interventions. 
- » Is the person a woman of childbearing age and considering pregnancy? If so, consult specialist. 
- » Does the patient have any new symptoms of concern?  
Review for any new symptoms of depression and anxiety given high risk of co-morbidity with epilepsy.
- » Is the patient on any new medications that may have interactions?  
(Many anticonvulsants have interactions with other medications). If so, consult a specialist. 

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## CONSIDER MEDICATION DISCONTINUATION WHEN APPROPRIATE


Has the person been convulsion free for several years?

NO

YES

## IF THERE ARE NO PROBLEMS WITH MEDICATIONS

- » Continue at current dose. *Correct dosing is lowest therapeutic dose for seizure control, while minimizing adverse side-effects.*
- » Continue close follow-up and review for possible discontinuation of medications once seizure free for at least two years.

- » Discuss risk of seizure occurrence with person/carer (if epilepsy is due to head injury, stroke or neuroinfection, there is a higher risk of seizure recurrence off medication), and risks and benefits of discontinuing medications.
- » If in agreement, gradually take the person off medication by reducing the doses over 2 months and monitoring closely for seizure recurrence. 

# How to reduce stigma and discrimination?

1. Why is it important that you respect, protect and promote the rights of people with epilepsy?
2. Can you think of some concrete actions that you could undertake to make the rights of people with epilepsy a reality?
3. What would be the positive impact of these actions for all the groups concerned?

# REVIEW