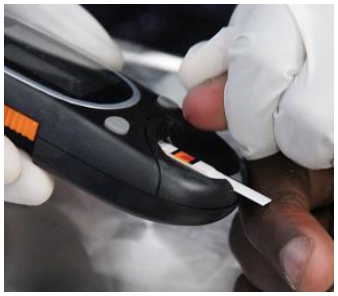
Chapter 15: Central Nervous System Conditions



NATIONAL DEPARTMENT OF HEALTH

AFFORDABLE MEDICINES DIRECTORATE
ESSENTIAL DRUGS PROGRAMME

PRIMARY HEALTHCARE STANDARD TREATMENT GUIDELINES AND ESSENTIAL MEDICINES LIST 2020-4 REVIEW CYCLE

EVIDENCE

Please access the National Essential Medicines List Committee (NEMLC) report for detailed evidence (including rationale, references and costings) informing decision-making on medicine addition, amendments and deletions:

NHI webpage: https://www.health.gov.za/nhi-edp-stgs-eml/

DISCLAIMER

This slide set is an implementation tool and should be used alongside the most recently published STG available on the EML Clinical Guide Application. This information does not supersede or replace the STG itself.

Notice

The Epilepsy Subcommittee was constituted in October 2024 following the receipt of numerous external comments on the draft epilepsy sections of the Primary Healthcare (PHC) and Adult Hospital level (AHL) Standard Treatment Guidelines (STGs) and Essential Medicines List (EML).

The purpose of the Epilepsy Subcommittee was to align the STGs on epilepsy across all levels of care (i.e. primary, secondary, and tertiary/quaternary care) and age groups (i.e. children, adolescents and adults) to ensure a continuum of care, using the medicines currently on the EML, and to identify gaps in EML treatment.

These implementation slides are to be read in conjunction with the Epilepsy Subcommittee Report on the process and rationale for the changes made and the updated STGs.

Chapter section

15.4 Epileptic seizures

15.5 Status Epilepticus

- 15.5.1 Epileptic seizures and status epilepticus in children < 13 years of age
- 15.5.2. Epileptic Seizures and status epilepticus in adolescents (13 – 18 years) and adults

15.6 Febrile seizures

15.7 Epilepsy

- 15.7.1 Epilepsy in children <13 years of age
  - 15.7.1.1 Epilepsy syndromes
- 15.7.2 Epilepsy in adolescents and adults

Medicine Amendments

DESCRIPTION

15.5.1 Epileptic seizures and status epilepticus in children ≤ 13 years, Early status epilepticus – level 1 intervention

Medicine/ Management	Decision
Lorazepam, IM or Buccal	Not Added at PHC level
Diazepam, rectal (0.5mg/kg)	Retained, if no vascular access
Midazolam, IM and Buccal (0.5mg/kg)	Retained, if no vascular access
Lorazepam, IV	Not Added at PHC level
Diazepam, IV (0.25mg/kg)	Added
Midazolam, IV (0.25mg/kg)	Added
Lorazepam/diazepam/midazolam IO	Not Added at PHC level

Medicine Amendments

DESCRIPTION

15.5.1 Epileptic seizures and status epilepticus in children ≤ 13 years, Established status – level 2 intervention

Medicine/ Management	Decision
Phenobarbital, IM (20mg/kg)	Added (if no vascular access)
Levetiracetam oral crushed and given by nasogastric tube (60mg/kg)	Added, if no IM Phenobarbital formulation available (if no vascular access)
Phenobarbital, oral, crushed and given by nasogastric tube (20mg/kg)	Retained (if no vascular access)
Phenytoin, IV or IO	Not Added
Phenobarbital, IV or IO	Not Added

Medicine Amendments

DESCRIPTION

15.5.1 Epileptic seizures and status epilepticus in children ≤ 13 years, Refractory status

Medicine/ Management	Decision
Considerations for Midazolam infusion	Not Added

Medicine Amendments

DESCRIPTION

15.4.2 Epileptic Seizures and status epilepticus in Adolescents (13 – 18 years) and Adults, Early status epilepticus – level 1 intervention

Medicine/ Management	Decision
Midazolam, IM or Buccal (10mg)	Retained (no IV access)
Diazepam, rectal (0.2-0.5mg/kg)	Added, if no midazolam available, no IV access
Lorazepam, IV	Not Added at PHC level
Midazolam, IV (10mg)	Added
Clonazepam, IV	Not Added at PHC level
Diazepam, IV (10mg)	Retained

Medicine Amendments

DESCRIPTION

15.4.2 Epileptic Seizures and status epilepticus in Adolescents (13 – 18 years) and Adults, Established status epilepticus– level 2 intervention

Medicine/ Management	Decision
Levetiracetam, oral via NGT (60mg/kg)	Added
Phenytoin, IV (20mg/kg)	Not Added at PHC level

Medicine Amendments

DESCRIPTION

15.4.2 Epileptic Seizures and status epilepticus in Adolescents (13 – 18 years) and Adults, Refractory status

Medicine/ Management	Decision
Propofol, IV	Not Added at PHC Level
Midazolam, IV	Not Added at PHC Level

Medicine Amendments

DESCRIPTION

15.6 Febrile seizures

Medicine/ Management	Decision
Paracetamol, Oral	Retained
Midazolam, buccal OR Diazepam, rectal	Cross referenced to status epilepticus

Medicine Amendments

DESCRIPTION

15.7.1 Epilepsy in children <13 years, Focal seizures

Medicine/ Management	Decision
First line: Lamotrigine	Added for all populations
Second line: Carbamazepine	Added for all populations but to be avoided in children with HIV on ART and girls likely to need treatment when of childbearing potential
Second line: Levetiracetam	Added for all populations
Third line: Consider combination therapy, or add-on topiramate	Not Added at PHC Level

Medicine Amendments

DESCRIPTION

15.7.1 Epilepsy in children <13 years, Generalised epilepsy - Tonic-clonic, atonic, clonic, or tonic seizures

Population : Boys and girls unlikely to need treatment after age 10 years or to develop childbearing potential

Medicine/ Management	Decision
Phenobarbital or Carbamazepine	Deleted
First line: Lamotrigine (low-risk) OR Levetiracetam (high-risk)	Added
Second line: Levetiracetam or lamotrigine (whichever not used as first line) OR Valproate	Added Valproate should not be used unless lamotrigine and levetiracetam are poorly tolerated or ineffective
Third line: Combination therapy, with add-on: Lamotrigine, or Levetiracetam, or Valproate, or Topiramate	Not Added at PHC Level

Medicine Amendments

DESCRIPTION

15.7.1 Epilepsy in children <13 years, Generalised epilepsy - Tonic-clonic, atonic, clonic, or tonic seizures

Population: girls likely to need treatment after age of 10 years

Medicine/ Management	Decision
First line: Lamotrigine (low-risk) OR Levetiracetam (high-risk)	Added
Second line: Levetiracetam or lamotrigine (whichever not used as first line) OR Consider combination therapy with lamotrigine and levetiracetam	Added
Third line: Consider Valproate OR Add-on Topiramate	Not Added at PHC Level

Medicine Amendments

DESCRIPTION

15.7.1 Epilepsy in children <13 years, Generalised epilepsy – absence seizures

Population: Boys and girls unlikely to need treatment after age 10 years or unlikely to develop child-bearing potential

Medicine/ Management	Decision
First line: Valproate	Added
Second line: Lamotrigine	Added
Third line: Levetiracetam **OR Consider combination therapy**	Not Added at PHC Level

Medicine Amendments

DESCRIPTION

15.7.1 Epilepsy in children <13 years, Generalised epilepsy – absence seizures

Population: Girls likely to continue treatment after age of 10 years

Medicine/ Management	Decision
First line: Lamotrigine	Added
Second line: Levetiracetam	Added
Third line: Consider combination treatment OR Valproic acid	Not Added at PHC Level

Medicine Amendments

DESCRIPTION

15.7.1 Epilepsy in children <13 years, Generalised epilepsy – myoclonic seizures

Population: Boys and girls unlikely to need treatment after age 10 years/ develop child-bearing potential.

Medicine/ Management	Decision
First line: Valproate	Added,
Second line: Levetiracetam	Added,
Third line: Lamotrigine OR Topiramate, OR combination therapy	Not Added at PHC Level

Medicine Amendments

DESCRIPTION

15.7.1 Epilepsy in children <13 years, Generalised epilepsy – myoclonic seizures

Population:Girls likely to continue treatment after age of 10 years

Medicine/ Management	Decision
First line: Levetiracetam	Added
Second line: Lamotrigine	Added
Third line: Topiramate OR Combination therapy OR Valproate	Not Added at PHC Level

Lamotrigine is the preferred first line treatment - All adult patients, including women of child-bearing potential, pregnant women, and people living with HIV.

Medicine Amendments

DESCRIPTION

15.7.2 : Epilepsy In Adolescents And Adults-Focal epilepsy:With and without evolution to bilateral tonic-clonic seizures

Population: Adolescent boys, men and women not able to have children.

Medicine/ Management	Decision
First line: Lamotrigine	Added
Second line: Carbamazepine	Added
Third line: Consider combination therapy	Not Added at PHC Level

Medicine Amendments

DESCRIPTION

15.7.2 Epilepsy In Adolescents And Adults- Focal epilepsy:With and without evolution to bilateral tonic-clonic seizures

Population:Pregnant women and women of child-bearing potential.

Medicine/ Management	Decision
First line: Lamotrigine	Added
Second line: Levetiracetam	Added
Third line: Carbamazepine	Not Added at PHC Level

Medicine Amendments

DESCRIPTION

15.7.2 Epilepsy In Adolescents And Adults, Generalised Epilepsy - Tonic-clonic, atonic, clonic or tonic seizures

Population:Adolescent boys, men and women not able to have children.

Medicine/ Management	Decision
First line: Lamotrigine (low-risk)	Retained
First line: Levetiracetam (high-risk)	Added
Carbamazepine	Deleted
Second line: Lamotrigine or levetiracetam (whichever not used as first line) OR Valproate	Added
Third line: Valproate OR consider combination therapy	Not Added for PHC Level

Medicine Amendments

DESCRIPTION

15.7.2 Epilepsy In Adolescents And Adult, Generalised Epilepsy - Tonic-clonic, atonic, clonic or tonic seizures

Population: Pregnant women and women of child-bearing potential.

Medicine/ Management	Decision
First line: Lamotrigine (low-risk)	Retained
First line: Levetiracetam (high-risk)	Added
Second line: Levetiracetam or lamotrigine (whichever not used as first line) OR Consider combination therapy with lamotrigine and levetiracetam	Added
Third line	Not Added for PHC Level

Medicine Amendments

DESCRIPTION

15.7.2 Epilepsy In Adolescents And Adults, Generalised Epilepsy – Myoclonic

Population: Adolescent boys, men and women not able to have children

Medicine/ Management	Decision
First line: Valproate	Added
Second line: Lamotrigine	Added
Third line: Consider levetiracetam OR Consider combination therapy	Not Added for PHC Level

Medicine Amendments

DESCRIPTION

15.7.2 Epilepsy In Adolescents And Adults: Generalised Epilepsy – Myoclonic,

Population: Pregnant women and women of child-bearing potential

Medicine/ Management	Decision
First line: Lamotrigine	Added
Second line: Levetiracetam	Added
Third line: Consider combination therapy	Not Added for PHC Level

Medicine Amendments

DESCRIPTION

15.7.2 Epilepsy In Adolescents And Adults, Generalised Epilepsy – Absence seizures

Population: Adolescent boys, men and women not able to have children

Medicine/ Management	Decision
First line: Valproate	Added
Second line: Lamotrigine	Added
Third line: Consider levetiracetam OR Consider combination therapy.	Not Added for PHC Level

Medicine Amendments

DESCRIPTION

15.7.2 Epilepsy In Adolescents And Adults, Generalised Epilepsy – Absence seizures

Population: Pregnant women and women of child-bearing potential.

Medicine/ Management	Decision
First line: Lamotrigine	Added
Second line: Levetiracetam	Added
Third line: Consider combination therapy OR Consider Valproic acid	Not Added for PHC Level

Summary: antiseizure medicines for epilepsy

Medicine	Indications and notes
Lamotrigine Suitable for all populations	**1st line** • Focal epilepsy ± evolution to bilateral tonic-clonic seizures • Generalised epilepsy with tonic-clonic seizures, 'low-risk' • Absence epilepsy in girls and women of childbearing potential (GWOCBP) **2nd line** • Absence epilepsy in boys, men and girls <10 years, women *not of CBP* • Myoclonic epilepsy in GWOCBP
Levetiracetam Suitable for all populations	**1st line** • Generalised epilepsy with tonic-clonic seizures, 'high-risk' • Myoclonic epilepsy in GWOCBP **2nd line** • Focal epilepsy ± evolution to bilateral tonic-clonic seizures in GWOCBP • Absence epilepsy in GWOCBP • Myoclonic epilepsy in boys, men, girls <10 years, women *not of CBP*

Summary: antiseizure medicines for epilepsy

Medicine	Indications and notes
Carbamazepine Avoid in GWOCBP	**2nd line** • Focal epilepsy ± evolution to bilateral tonic-clonic seizures in boys, men, women not of CBP
Valproate Avoid in GWOCBP Any use in GWOCBP must be justified with SAHPRA form attached to script	**1st line** • Absence epilepsy in boys, men, girls <10 years, women *not of CBP* • Myoclonic epilepsy in boys, men, girls <10 years, women *not of CBP* **2nd line** • Generalised epilepsy with tonic-clonic seizures, 'high-risk' in boys, men, girls <10 years, women *not of CBP* If initiated at hospital level in GWOCBP and continued at PHC, SAHPRA acknowledgement of risk form must be completed annually.
Phenytoin, oral Avoid in GWOCBP	No specific recommendation. Retained in STG and EML for patients already well controlled on phenytoin and in whom phenytoin is well tolerated

Medicine Amendments

DESCRIPTION

15.8.1 Acute meningitis

Medicine/ Management	Decision
Ceftriaxone, IV (100mg/kg/dose – Children)	Added, *dose and route of administration aligned to Paediatric Hospital Standard Treatment Guidelines*
Ceftriaxone, IM (100mg/kg/dose – Children; 2g – Adults)	Retained, with dose adjustment

Rationale:

- IM administration is listed first in line with the IMCI guidance and for pragmatic reasons (i.e., inserting an IV line in children may be challenging for nursing staff at PHC level of care).
- IV administration is ideally the preferred route for meningitis due to the severity of the condition, however any limitations with obtaining IV access should not delay initiating antibiotic treatment.

Medicine Amendments

DESCRIPTION

15.8.1 Acute meningitis

Medicine/ Management	Decision
Paracetamol, oral *(10-15kg/dose – Children; 500mg-1g - Adults)*	Added, *dose and route of administration aligned to Paediatric Hospital Standard Treatment Guidelines*
NSAID e.g. Ibuprofen, oral *(5-10mg/dose – Children; 400mg - Adults)*	Retained, with dose adjustment
Tramadol, oral *(50-100mg - Adults only)*	Added

Rationale:

Paracetamol AND/OR NSAIDS as a therapeutic class with ibuprofen as an example were included for adults and children. Tramadol was added for severe pain in adults. Doses for paracetamol and ibuprofen were aligned to the standard dose regimen for children included throughout the PHC STG and cross referenced to the standard paediatric dosing tables included in Chapter 23 of the STG

Medicine Amendments

DESCRIPTION

15.8.2 Meningococcal Meningitis, Prophylaxis

Medicine/ Management	Decision
Ciprofloxacin, oral	Retained
Ceftriaxone, IM	Retained, *(Children < 6 years of age and Pregnant Women)*

Thank you