STANDARD OPERATING PROCEDURE

Diagnosis and Management of Generalized Tonic–Clonic Seizure

Special Region (1)

Union of Myanmar

VERSION:**1.0**

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APPROVED BY:**Internal Medicine Unit**

1. Purpose

To provide a rapid, standardized, and safe approach for the recognition and management of generalized tonic–clonic seizures.

2. Definition

A generalized tonic–clonic seizure (GTCS) involves tonic stiffening followed by clonic jerking with loss of consciousness.

3. Clinical Features

Includes tonic phase, clonic phase, and post-ictal confusion.

4. Initial Assessment

ABCDE approach with immediate glucose check.

5. Acute Management

Benzodiazepines first-line if seizure ≥5 minutes, followed by AED loading.

6. Causes

Metabolic, infectious, structural, toxic, and chronic epilepsy causes.

> **Key Notes:**
>
> - At general medical ward, alcohol withdrawal syndrome is the first one should be considered.
> - In malaria endemic areas, cerebral malaria is one of the top differential diagnosis.
> - Lupus cerebritis should be first screened in young female patient with underlying SLE.

7. Post-Seizure Management

Observation and neurological reassessment.

8. Long-Term Management

For epilepsy: Levetiracetam preferred, valproate and lamotrigine alternatives.

Drug Quick Reference

Drug	Starting Dose	Maintenance Dose	Maximum Dose	Common Side Effects
Levetiracetam	500 mg BD	500–1500 mg BD	3000 mg/day	Somnolence, dizziness, behavioural changes (irritability, agitation)
Valproate (Sodium Valproate)	250–500 mg BD	500–1000 mg BD	2500–3000 mg/day	Weight gain, tremor, hair loss, hepatotoxicity, thrombocytopenia
Lamotrigine	25 mg OD (slow titration)	100–200 mg BD	400 mg/day	Skin rash (risk of Stevens–Johnson syndrome), dizziness, diplopia

In additional to seizure management, steroid and immunosuppressant for lupus cerebritis, anti-malaria for severe malaria with seizure and antibiotics and anti-viral for CNS infections.

9. Discharge Criteria

Stable patient, no recurrent seizures, safe follow-up.

10. Patient Education

Medication adherence, avoid triggers, safety precautions.

11. Referral Criteria

Status epilepticus, refractory seizures, CNS infection suspicion.

References

1. WHO. Epilepsy: a public health imperative. Geneva: WHO; 2019.
2. National Institute for Health and Care Excellence. Epilepsies in adults: diagnosis and management. NICE guideline NG217; 2022.
3. International League Against Epilepsy. Classification of seizure types. *Epilepsia*. 2017.
4. American Epilepsy Society. Guideline for treatment of convulsive status epilepticus. *Epilepsy Curr*. 2016.
5. European Society of Cardiology / neuro guidelines cross-reference for syncope vs seizure differentiation (clinical context).