

STANDARD OPERATING PROCEDURE

Management of Progressive Multifocal Leukoencephalopathy (PML) in HIV Patients

Special Region (1)

Union of Myanmar

VERSION **1.0**

EFFECTIVE DATE **5 March 2026**

REVIEW DATE **5 March 2028**

APPROVED BY **Internal Medicine Unit**

Standard Operating Procedure — PML in HIV Patients

1. Purpose

To provide a standardized protocol for early recognition, diagnosis, and management of Progressive Multifocal Leukoencephalopathy (PML) in HIV-infected patients.

2. Definition

PML is a demyelinating disease caused by JC virus reactivation in immunocompromised patients, especially HIV with CD4 <100 cells/ μ L.

3. Risk Factors

- CD4 <100 cells/ μ L
- High viral load
- Poor ART adherence
- Previous opportunistic infections

4. Clinical Features

- Focal neurological deficits (hemiparesis, aphasia)
- Cognitive decline
- Visual field defects
- Usually NO fever

5. Differential Diagnosis

- Toxoplasmosis
- CNS lymphoma
- Tuberculoma
- HIV encephalopathy

6. Diagnosis

- **MRI:** Non-enhancing white matter lesions
- **CSF:** JCV PCR positive
- **CT:** If MRI unavailable

7. Management

- Start or optimize ART immediately
- Preferred regimen: TDF + 3TC + DTG
- Supportive care (antiepileptics, rehabilitation)
- PML-IRIS: steroids if severe

8. Monitoring

- Neurological status weekly
- CD4 and viral load every 3–6 months

9. Prognosis

- Poor without ART
- Improved with immune restoration

10. References

- [1] Panel on Opportunistic Infections in Adults and Adolescents with HIV. Progressive multifocal leukoencephalopathy. In: *Guidelines for the Prevention and Treatment of Opportunistic Infections in Adults and Adolescents with HIV*. National Institutes of Health (NIH); 2024.
- [2] World Health Organization. *Guidelines for Managing Advanced HIV Disease and Rapid Initiation of Antiretroviral Therapy*. Geneva: WHO; 2022.
- [3] Tan CS, Koralnik IJ. Progressive multifocal leukoencephalopathy and other JC virus diseases: clinical features, pathogenesis, and treatment. *Lancet Neurology*. 2010;9(4):425–437.
- [4] Gheuens S, Pierone G, Peeters P, Koralnik IJ. Progressive multifocal leukoencephalopathy in individuals with HIV infection: a review of the literature. *Lancet Infectious Diseases*. 2010;10(10):675–686.
- [5] Berger JR. Progressive multifocal leukoencephalopathy. *Continuum (Minneapolis, Minn)*. 2015;21(6 Neuroinfectious Disease):1662–1681.

- [6] Cinque P, Koralnik IJ, Clifford DB. The evolving face of human immunodeficiency virus-related progressive multifocal leukoencephalopathy: defining a consensus terminology. *Journal of Neurovirology*. 2003;9(Suppl 1):88–92.
- [7] Clifford DB, Ances BM. HIV-associated neurocognitive disorder. *Lancet Infectious Diseases*. 2013;13(11):976–986.