

Dengue | Clinical Management

Key facts:

- Dengue is a viral infection caused by the dengue virus (DENV), RNA virus with four distinct serotypes: DENV-1, DENV-2, DENV-3 and DENV-4.
- While many DENV infections are asymptomatic or produce only mild illness, DENV can occasionally cause more severe cases, and even death.
- Dengue virus infection can be classified as Asymptomatic and symptomatic infection. **Symptomatic infection** is further classified into three categories:
 - ✓ Dengue without warning signs
 - ✓ Dengue with warning signs
 - ✓ Severe Dengue – severe plasma leakage, severe hemorrhage, organ impairment.
- There is no specific treatment for dengue.

Transmission	Dengue transmission occurs mainly through the bite of infected female <i>Aedes aegypti</i> mosquitoes, and less commonly <i>Aedes albopictus</i>.
Clinical features	Incubation period: 4-10 days. There are 3 phases of disease in dengue: Febrile phase: lasts from 2-7 days. Characterized by sudden high fever & usually accompanied by facial flushing, erythema, generalized body pain, myalgia, arthralgia, headache, and retro-ocular pain. Critical/leakage phase: 24-48 hours after febrile phase; a practical indicator for determining critical phase is platelets count $\leq 100,000/\text{mm}^3$. Problems that can occur – shock due to plasma leakage, severe bleeding, serious organ involvement. <i>Patients who worsen with the drop in fever and show alarm signs are cases of dengue with warning signs.</i> Reabsorption/Recovery phase: 3-5 days after critical phase; improvement in general state, appetite recovers, gastrointestinal symptoms improve, hemodynamic state stabilizes, and diuresis increases. Warning signs include abdominal pain or tenderness, persistent vomiting, clinical fluid accumulation, mucosal bleeding, lethargy, restlessness, liver enlargement of more than 2 cm and, on laboratory testing, an increase in haematocrit concurrent with a rapid decrease in platelet count.
Diagnosis	- Detection of NS1 antigen by Rapid Diagnostic Test (RDT) from day 1 to day 6 of illness. - Detection of IgM by RDT or ELISA from day 6 onwards. Some RDTs combine detection of NS1 and IgM/IgG, which increases the chance of confirming the diagnosis in the early stage of illness. - Detection of viral RNA → RT-PCR
Treatment	- Treatment is mainly supportive with adequate hydration, no specific antivirals. - Pain can be managed with medication such as paracetamol (acetaminophen). - Recognition of warning signs is essential to prevent progression to severe dengue. For people with severe dengue, hospitalization is often necessary. Start intravenous fluid resuscitation with normal saline or Ringer lactate at 5-10 mL/kg per hour and reassess the patient's condition and haematocrit. If the haematocrit decreases, this indicates bleeding; crossmatch and transfuse blood as soon as possible. - In hypotensive patients, 20 ml/kg NS or RL over 15 minutes, reassess, if improving then 10 ml/kg in one hour and decrease the fluid infusion based on assessment. <i>Non-steroidal anti-inflammatory medicines such as ibuprofen and aspirin should be avoided as they can increase the risk of bleeding.</i>
Prevention and control	- Protect yourself from mosquito bites: - Wear full-sleeved clothing to protect yourself from mosquito bites. - Used mosquito nets, mosquito repellents, coils and vaporizers - Window screens - Prevent mosquitoes from breeding: - Implement environmental management and modification practices to stop breeding. - Remove artificial habitats that can hold water. - Cover, empty and clean domestic water storage containers regularly.

*All cases should be reported in SORMAS platform

Reference:

- World Health Organization. Dengue [Internet]. Geneva: World Health Organization; 2025 Aug 21 [cited 2026 Sep 16].
- Pan American Health Organization. Dengue [Internet]. Washington (DC): Pan American Health Organization; [cited 2026 Sep 16]
- Epidemiology and Disease Control Division. Short guideline on dengue case management [Internet]. Kathmandu: Government of Nepal, Ministry of Health and Population; [cited 2026 Sep 16].



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