



# Diagnostic Tests Non structural protein 1 (NS1) for Dengue

พญ. พรอำภา บวรจงมณี  
ภาควิชากุมารเวชศาสตร์  
คณะแพทยศาสตร์  
มหาวิทยาลัยธรรมศาสตร์

# TOPICS

- Acute phase reactants
- **Non structural protein 1 (NS1) for dengue**
- Galactomannan
- *Clostridium difficile* toxin

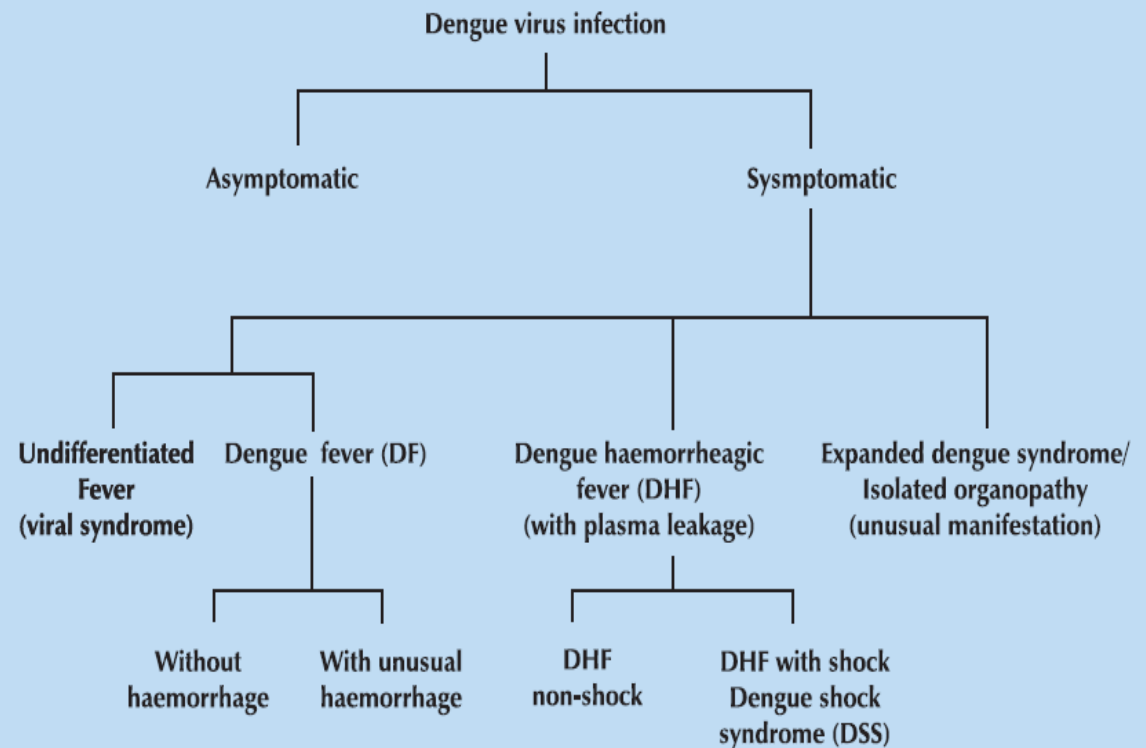
# NS1 for Dengue

Comprehensive Guidelines for  
Prevention and Control of  
**Dengue** and  
Dengue Haemorrhagic Fever

Revised and expanded edition



*Box 5: Manifestations of dengue virus infection*



# NS1 for Dengue

**Table 4:** WHO classification of dengue infections and grading of severity of DHF

| DF/ DHF | Grade | Signs and Symptoms   | Laboratory  |
|---------|-------|--|---|
| DF      |       | Fever with two of the following: <ul style="list-style-type: none"> <li>• Headache.</li> <li>• Retro-orbital pain.</li> <li>• Myalgia.</li> <li>• Arthralgia/bone pain.</li> <li>• Rash.</li> <li>• Haemorrhagic manifestations.</li> <li>• <b>No evidence of plasma leakage.</b></li> </ul> | <ul style="list-style-type: none"> <li>• Leucopenia (wbc <math>\leq</math> 5000 cells/mm<sup>3</sup>).</li> <li>• Thrombocytopenia (Platelet count &lt; 150 000 cells/mm<sup>3</sup>).</li> <li>• Rising haematocrit (5% – 10% ).</li> <li>• No evidence of plasma loss.</li> </ul> |
| DHF     | I     | Fever and haemorrhagic manifestation (positive tourniquet test) and <b>evidence of plasma leakage</b>  | Thrombocytopenia < 100 000 cells/mm <sup>3</sup> ; HCT rise $\geq$ 20%  |
| DHF     | II    | As in Grade <b>I plus</b> spontaneous bleeding.  | Thrombocytopenia < 100 000 cells/mm <sup>3</sup> ; HCT rise $\geq$ 20%.   |
| DHF#    | III   | As in Grade <b>I or II plus</b> circulatory failure (weak pulse, narrow pulse pressure ( $\leq$ 20 mmHg), hypotension, restlessness).  | Thrombocytopenia < 100 000 cells/mm <sup>3</sup> ; HCT rise $\geq$ 20%.   |
| DHF#    | IV    | As in Grade <b>III plus</b> profound shock with undetectable BP and pulse  | Thrombocytopenia < 100 000 cells/mm <sup>3</sup> ; HCT rise $\geq$ 20%.   |

Source: <http://www.who.int/csr/resources/publications/dengue/Denguepublication/en/>

#: DHF III and IV are DSS

# NS1 for Dengue

- **The laboratory tests for diagnosis DF/DHF**
  - : Virus isolation
    - serotype/genotype
  - : Viral nucleic acid detection
  - : Viral antigen detection
  - : Immunological response based tests
    - IgM and IgG antibody assays