

# Global Health Cast - Summary

## Three short lessons on Dengue



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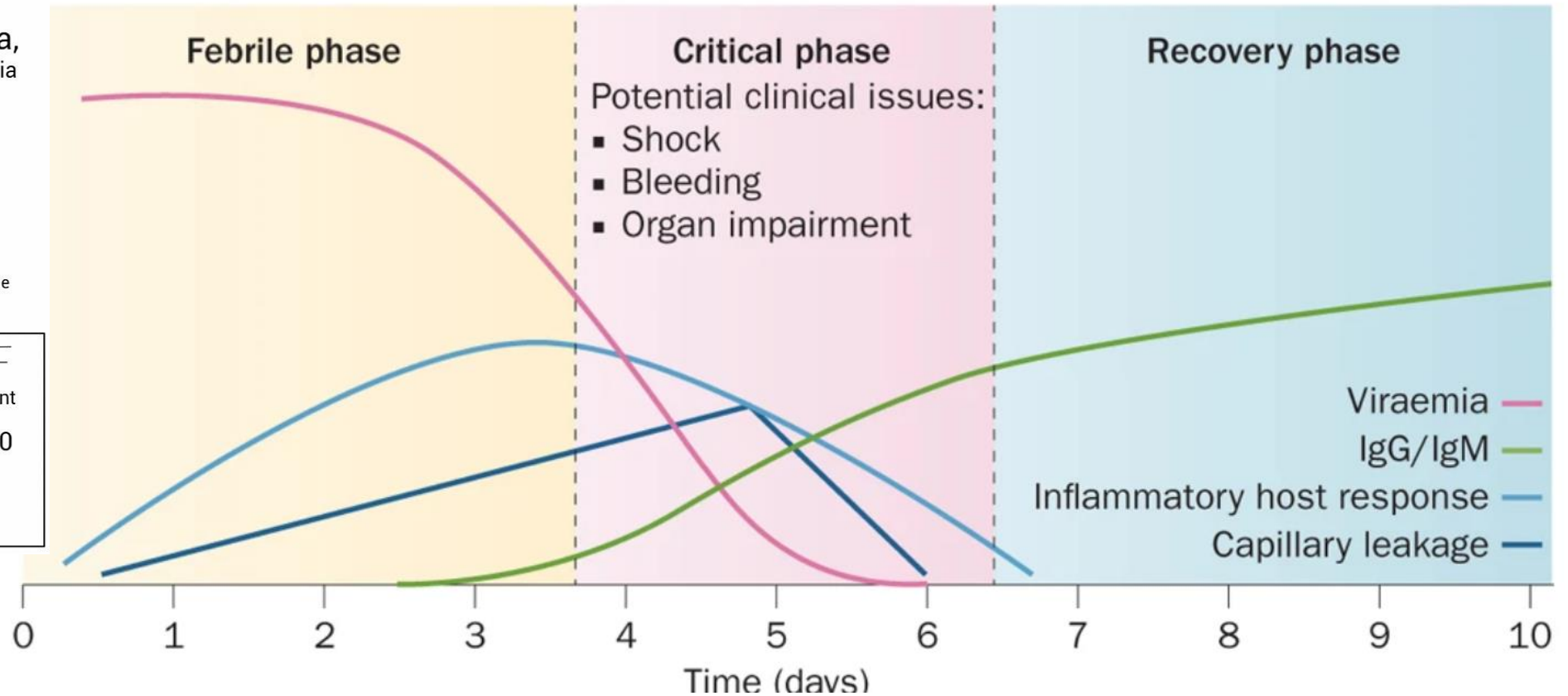
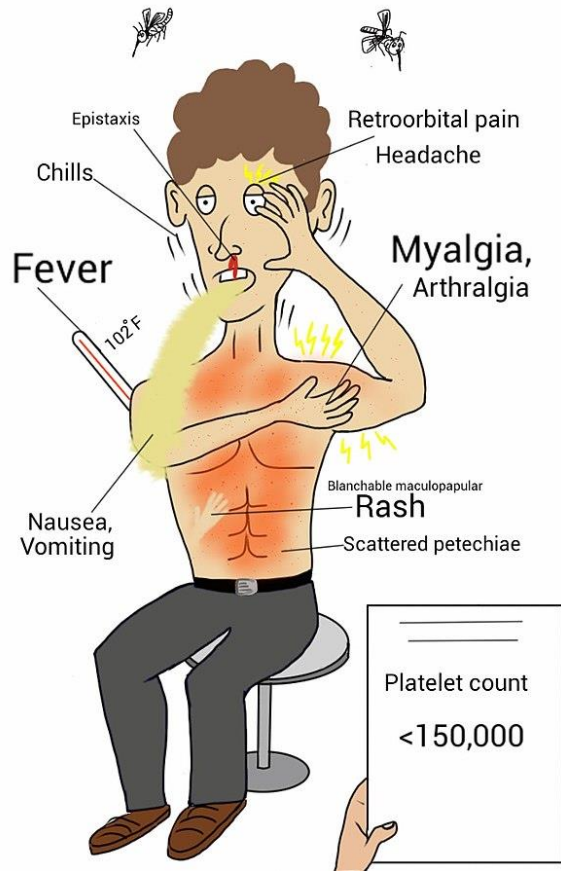
**Part 1: General Overview**

**Part 2: Clinical aspects**

**Part 3: Epidemiology**

# Global Health Cast – Key Points

## Clinical aspects of dengue



# Diagnosing DF: Clinical Warning Signs



Severe disease  
cannot be predicted  
and may develop  
without warning signs

## DENGUE WITHOUT WARNING SIGNS

Live in/travel to a dengue endemic area, fever and any two:

- Nausea or vomiting
- Rash
- Aches and pains
- Tourniquet test – positive
- Leukopenia

## DENGUE WITH WARNING SIGNS

- Abdominal pain or tenderness
- Persistent vomiting
- Fluid accumulation
- Mucosal bleed
- Lethargy or restlessness
- Liver enlargement
- Increased hematocrit with decreased platelet count

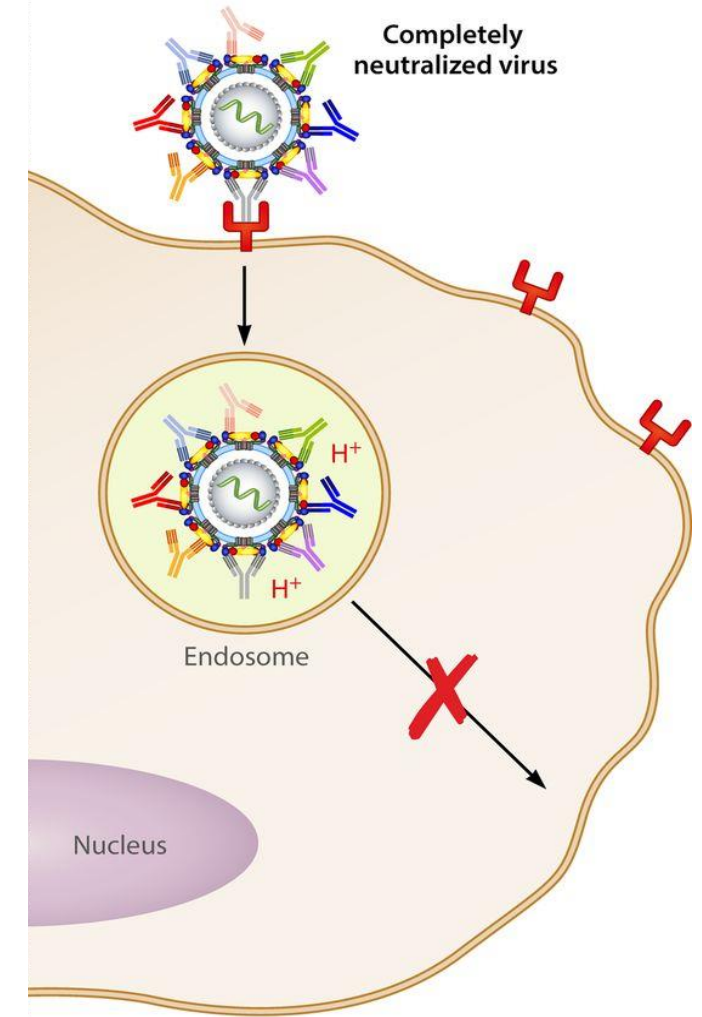


## SEVERE DENGUE/DHF

- Plasma leakage, shock, and/or fluid accumulation
- Severe bleeding
- Severe organ impairment

# Antibody Disease Enhancement (ADE)

1. Low titers of antibodies from previous DV-infections bind to DV
2. No killing, but  $Fc\gamma$  receptor binds to human cell and brings DV into cell
3. Viral replication



# DF: Differential Diagnosis

	Fever	Headache	Joint/muscle pain	Rash
Dengue	✓	✓	✓	✓
Influenza	✓	✓	✓	
Typhoid	✓	✓		✓
Chikungunya	✓	✓	✓	✓
Leptospirosis	✓	✓	✓	✓
Malaria	✓	✓	✓	
Zika	✓	✓	✓	✓



# Laboratory Confirmation of DF: The Options

Method	Assay	How does the test diagnose dengue?
<b>IgM antibody detection</b>	MAC-ELISA or RDT	<ul style="list-style-type: none"><li>• Detects IgM antibodies</li><li>• Used for routine diagnosis of dengue</li></ul>
<b>IgG antibody detection</b>	IgG ELISA or RDT	<ul style="list-style-type: none"><li>• Detects IgG antibodies from samples taken early and late in the illness</li><li>• Used to diagnose a past infection</li></ul>
<b>NS-1 antigen detection</b>	NS-1 ELISA or RDT	<ul style="list-style-type: none"><li>• Detects a specific dengue antigen called NS-1</li><li>• Used to diagnose an on-going infection as early as 1 day after symptoms develop</li></ul>
<b>Neutralizing antibody detection</b>	Plaque reduction and neutralization test (PRNT)	<ul style="list-style-type: none"><li>• Measures the amount of neutralizing antibodies</li><li>• Used to determine the serotype of the virus</li></ul>

# Dengue Podcasts:

[Global Health Cast – Dengue Vaccines – Global Health Press \(id-ea.org\)](#)

[Global Health Cast – Dengue: Clinical Aspects – Global Health Press \(id-ea.org\)](#)

[Global Health Cast – Dengue: a complex disease – Global Health Press \(id-ea.org\)](#)