### Normal Vital Signs

<table>
<thead>
<tr>
<th>Time</th>
<th>Normal</th>
<th>Low</th>
<th>High</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pulse</td>
<td>60-100</td>
<td>50</td>
<td>110</td>
</tr>
<tr>
<td>Heart Rate</td>
<td>Normal</td>
<td>Bradycardia</td>
<td>Tachycardia</td>
</tr>
<tr>
<td>Blood Pressure</td>
<td>Systolic</td>
<td>Diastolic</td>
<td></td>
</tr>
<tr>
<td>Normal</td>
<td>120-160</td>
<td>80</td>
<td>90</td>
</tr>
<tr>
<td>10 years</td>
<td>50 kg</td>
<td>60-110</td>
<td>100</td>
</tr>
<tr>
<td>≥14 years</td>
<td>50 kg</td>
<td>60-110</td>
<td>85</td>
</tr>
<tr>
<td>50 kg</td>
<td>60-110</td>
<td>85</td>
<td>122</td>
</tr>
<tr>
<td>32 kg</td>
<td>60-110</td>
<td>85</td>
<td>162</td>
</tr>
<tr>
<td>10 years</td>
<td>20 kg</td>
<td>60-130</td>
<td>100</td>
</tr>
<tr>
<td>6 years</td>
<td>12 kg</td>
<td>90-150</td>
<td>120</td>
</tr>
<tr>
<td>1 month</td>
<td>4 kg</td>
<td>110-180</td>
<td>145</td>
</tr>
<tr>
<td>6 months</td>
<td>8 kg</td>
<td>110-170</td>
<td>155</td>
</tr>
<tr>
<td>12 months</td>
<td>10 kg</td>
<td>110-200</td>
<td>170</td>
</tr>
<tr>
<td>2 years</td>
<td>12 kg</td>
<td>110-200</td>
<td>190</td>
</tr>
</tbody>
</table>

### Hemodynamic Assessment

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Normal</th>
<th>Low</th>
<th>High</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stroke Volume</td>
<td>40-60</td>
<td>&lt;40</td>
<td>&gt;60</td>
</tr>
<tr>
<td>Cardiac Output</td>
<td>2.5-4.5</td>
<td>&lt;2.0</td>
<td>&gt;7.0</td>
</tr>
<tr>
<td>Systemic vascular</td>
<td>80-85</td>
<td>&lt;70</td>
<td>&gt;100</td>
</tr>
<tr>
<td>Resistance</td>
<td>7.5-10</td>
<td>&lt;5.5</td>
<td>&gt;12.5</td>
</tr>
</tbody>
</table>

### Dengue Management DOs and DON'Ts

**DO**
- Use ideal Body Weight to calculate IV fluid rates in patients who weigh more than their Ideal Body Weight (i.e. in overweight patients).
- Ins and outs should be measured at least every 6–12 hours at minimum during the critical period.
- DO closely monitor fluid intake and output, vital signs, and clinical signs.
- DO recognize the critical period. The critical period begins with defervescence and lasts for 24–48 hours. During this period, some patients may rapidly deteriorate. DO medicate patients with antipyretics.
- DO administer colloids (such as albumin) for refractory shock.
- DO tell outpatients when to return. Teach them about warning signs and their timing, and the critical period that follows defervescence.

**DON'T**
- DON'T use corticosteroids. They are not indicated and can increase the risk of GI bleeding, glycosuria, and immunosuppression.
- DO give platelet transfusions for a low platelet count. Platelet transfusions do not decrease the risk of severe bleeding and may instead lead to fluid overload and prolonged hospitalization.
- DON'T give normal Haemoglobin (0.45%) saline. Normal saline should not be given, even as a maintenance fluid, because it leaks into third spaces and may lead to worsening of ascites and pleural effusions.
- DON'T assume that IV fluids are necessary. Only use the minimum amount of IV fluid to keep the patient well-perfused. Decrease IV fluid rate as hemodynamic status improves or urine output increases.

### Dengue Case Management

#### Presumptive Diagnosis

- **Severe abdominal pain or tenderness**
- **Persisted vomiting**
- **Mucosal bleed**
- **Lower limb enlargement >2cm**
- **Clinical fluid accumulation**
- **Lethargy; restlessness**
- **Hypotension**

#### Warning Signs

- **Severe abdominal pain or tenderness**
- **Persisted vomiting**
- **Mucosal bleed**
- **Lower limb enlargement >2cm**
- **Clinical fluid accumulation**
- **Lethargy; restlessness**
- **Hypotension**

#### ASSESSMENT

### Inpatient management

- **Warning Signs**
  - **Severe abdominal pain or tenderness**
  - **Persisted vomiting**
  - **Mucosal bleed**
  - **Lower limb enlargement >2cm**
  - **Clinical fluid accumulation**
  - **Lethargy; restlessness**
  - **Hypotension**

#### Presumptive Diagnosis

- **Group A**
  - Severe plasma leakage with shock
  - Accumulation of ascitic fluid
  - Severe bleeding
  - Severe organ impairment

#### Group B

- **Antibiotic management**

#### Group C

- **Inpatient management**

#### Dengue Management

**DOs and DON'Ts**

- **DO**
  - When hematocrit is dropping with unstable vital signs or significant bleeding, immediately transfuse blood.
  - DO administer colloids (such as albumin) for refractory shock.
  - DO closely monitor fluid intake and output, vital signs, and clinical signs.
  - DO tell outpatients when to return. Teach them about warning signs and their timing, and the critical period that follows defervescence.

- **DON'T**
  - DON'T use corticosteroids. They are not indicated and can increase the risk of GI bleeding, glycosuria, and immunosuppression.
  - DON'T give platelet transfusions for a low platelet count.
  - DON'T assume that IV fluids are necessary. Only use the minimum amount of IV fluid to keep the patient well-perfused. Decrease IV fluid rate as hemodynamic status improves or urine output increases.
Advising patient or their family to do the following:

- Prevent spread of dengue within your house
  - Place patient under bed net or have patient use insect repellent while in bed net to avoid infecting mosquitoes that can infect others within 2 weeks.
  - Kill all mosquitoes in house.
  - Empty containers that carry water on a regular basis.

- Prevent dehydration
  - Preventing dehydration occurs when a person loses too much fluid (from high fever, vomiting, or poor oral intake).
  - Give plenty of fluids (not only water) and watch for signs of dehydration.

- Watch for warning signs, including decreasing hematocrit and increasing hematocrit.
- Watch for dehydration (indicating beginning of critical phase)

During the febrile phase (may last 2–7 days) and subsequent critical phase (1–2 days), your clinic should

- Follow CABC
- Watch for dehydration
- Watch for warning signs, including decreasing hematocrit and increasing hematocrit
- Watch for dehydration (indicating beginning of critical phase)