



Epidemiology Unit,  
Ministry of Health,  
231, De Saram place,  
Colombo 10

# Dengue illness Fact sheet

## First Contact Management of Dengue illness in adults and children for General Practitioners and Primary Care Doctors

### Early detection of Dengue illness

Early identification and management of Dengue illness can minimize morbidity and mortality. In the present hyper-endemic setting in Sri Lanka, **Dengue illness** (Dengue Fever - **DF** /Dengue Haemorrhagic Fever - **DHF**) should be considered in the differential diagnosis of patients presenting with **acute onset of fever with headache, retro-orbital pain, myalgia, arthralgia, rash (diffuse, erythematous, macular), haemorrhagic manifestation (petechiae, positive tourniquet test), leukopenia (<5000/ mm<sup>3</sup>), platelet count ≤150,000/mm<sup>3</sup> and rising haematocrit of 5-10%.**

The patients may present with atypical manifestations like respiratory symptoms such as cough, rhinitis or injected pharynx and gastrointestinal symptoms such as constipation, colicky abdominal pain, diarrhoea or vomiting without the classical clinical presentation described above.

In any patient who presents with shock (particularly afebrile at presentation with cold extremities and tachycardia with low volume pulse and hypotension) consider **Dengue Shock** as a likely diagnosis.

If a patient with high fever is seen with flushed face/extremities (diffuse blanching erythema in adults) and a positive tourniquet test (even with normal platelet count) with leukopenia (WBC <5000 /mm<sup>3</sup>) without any focus of infection, it is very likely that the patient is having Dengue illness.

### Ambulatory care

General Practitioners/first contact doctors should ensure adequate oral fluid intake.

- In adults around 2500 ml for 24 hours (if the body weight is less than 50kg give fluids as 50ml/kg for 24hours or 2ml/kg/hr) is recommended during Febrile Phase (before admission to hospital).

- In children calculation of maintenance fluid is as follows:

M (Maintenance) = 100ml/kg for first 10 kg

+50 ml/kg for next 10 kg

+20 ml/kg for balance weight

The fluids should consist of oral rehydration fluid, king coconut water, other fruit juices, kanji or soup rather than plain water. **Exclude red and brown drinks** which could cause confusion with haematemesis or coffee ground vomitus.

If the patient is vomiting, having diarrhoea or dehydrated, total fluid requirement will depend on the degree of dehydration.

Following measures are also recommended:

- Adequate physical rest (off school and work)
- Tepid sponging for fever
- Paracetamol not exceeding 2 tablets six hourly (reduce dose for children as 10-15mg/kg/dose. Do not exceed 60mg/kg/24hrs). Warn the patient that the fever may not fully settle with paracetamol and advise not to take excess.
- Anti-emetics and H<sub>2</sub> receptor blockers if necessary
- **Avoid all NSAIDs in any form and steroids** as they may induce severe bleeding.  
Withhold Aspirin, Clopidogrel & Dipyridamole in patients who take these on long term basis.
- Review daily with Full Blood Count (FBC). **First FBC** should be done on the **third day of fever/illness** and daily thereafter if the platelet count is >150, 000/ mm<sup>3</sup>. FBC should be done twice daily if the platelet count is <150, 000/ mm<sup>3</sup>. However, a FBC is recommended on the first day of fever/contact in pregnant patients and in patients with co-morbidities.
- **Advise** patients/parents to **return immediately for review** if any of the following occur beyond day three:
  - Clinical deterioration with settling of fever
  - Inability to tolerate oral fluid
  - Severe abdominal pain
  - Cold and clammy extremities
  - Lethargy or irritability/restlessness
  - Bleeding tendency including inter-menstrual bleeding or menorrhagia
  - Not passing urine for more than 6 hours

## Differentiation of DHF from DF

It is important to **differentiate DHF from DF** early because it is the patients with DHF who develop plasma leakage and resultant complications usually after the third day of fever. **DHF may become evident as the fever settles.** Tachycardia without fever (or disproportionate tachycardia with fever) and narrowing of pulse pressure (e.g. difference between systolic and diastolic narrows from 40mmHg to 30 mmHg) is an early indication of leaking which warrants referral to the hospital. A **progressively rising haematocrit** towards 20% suggests that the patient may have entered the leaking phase.

***Clinical and haemo-dynamical stability with no fever for 48 hours indicates recovery from Dengue illness (both DF and DHF).***

## Admission to a hospital

The first contact physician should decide to admit a patient to a hospital based on the clinical judgment. **It is essential to admit the following patients:**

- Platelet count falling  $<100,000/\text{mm}^3$
- With the following **warning signs** from day 3 of fever/illness onwards:
  - Abdominal pain or tenderness
  - Persistent vomiting
  - Clinical signs of plasma leakage: pleural effusion, ascites
  - Mucosal bleeding
  - Lethargy, restlessness
  - Liver enlargement  $>2\text{cm}$
  - Rising HCT with rapid decrease in platelet count

Other patients who may need admission even without the above criteria are:

- Pregnant mothers - admission on second day of fever and close follow up with daily FBC is very important.
- Elderly patients/Infants
- Obese patients
- Patients with co-morbid conditions such as diabetes, chronic renal failure, ischemic heart disease, haemoglobinopathies like thalassaemia and other major medical problems
- Patients with adverse social circumstances -e.g. living alone, living far from health facility without reliable means of transport.

## **Referral to a hospital**

If following features are present refer the patient immediately to a hospital with adequate facilities to manage DHF. Following features may indicate impending shock of DHF after day 3 of illness:

- Clinical deterioration/ not improved when no fever/ low grade fever
- Abdominal pain
- Persistent Vomiting
- Restlessness, shortness of breath, persistent crying in infants
- Sweating, cold clammy skin
- Behaviour change, drowsiness
- No passage of urine for 4 – 6 hours

If the patient has signs of shock (ie Tachycardia, pulse pressure less than or equal to 20mmHg, and cold extremities etc.) normal saline bolus of 10ml/kg/hr (adults – 500ml) is recommended before referral. Check capillary blood sugar (CBS) for hypoglycaemia and correct with oral or IV Dextrose before referral. Every such transfer should be done after obtaining advice from the Consultant Physician / Paediatrician who will be receiving the patient and after resuscitating in accordance with the advice.

Proper resuscitation before transferring is especially important if the journey is going to take long. Adequate information regarding the patient should be provided in the transfer form and this should include daily fluid balance, investigation results and treatment given.

**Based on the National Guidelines on Management of Dengue Fever/DHF  
September 2012**