National Guidelines For Clinical Management Of Dengue Syndrome

Malaria & Vector Borne Diseases Control Unit
Disease Control Directorate
Directorate General of Health Services
Ministry of Health & Family Welfare
&
WHO

Bangladesh

2000

Editorial Board

Acknowledgement

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Contents

Foreword

Dengue is fairly unfamiliar disease in Bangladesh till Outbreak 2000. There is no specific treatment for dengue, but there is appropriate one being developed and on practice in countries where dengue is endemic with frequent epidemic outbreaks. Over the last few decades the scientific research and development have been successful in reducing the morbidity and mortality off dengue in those countries. Based on these experiences SEARO of WHO has developed guidelines for the clinical management of dengue in resource-limited setups.

The unfamiliarity with dengue leads to ambiguity and controversy in the management amongst the professional and confusion in the people. In such a situation, the Disease Control Directorate of Directorate General of Health Services feels the necessity of developing national guidelines for the clinical management of dengue by customizing the SEARO/WHO guidelines according to the prevailing local situations.

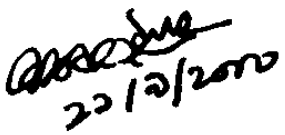
The purpose of these guidelines is to provide a uniform, consensus, scientific, affordable and appropriate clinical management approach for the professional taking care of dengue patients on one hand and, diffusion of confusions and ambiguity related to dengue by the national control program endeavors on the other hand.

Experts in fields of internal medicine and pediatrics of the country have taken the troubles of finalizing these guidelines with the collaboration of expatriate resource persons having wide clinical and research experience of good standing. ICDDRB and WHO have provided the logistics and other supports to prepare these guidelines.

These guidelines, 'National Guidelines for Clinical Management of Dengue Syndrome' will fill the vacuum at this stage in the field of management as well as part of control program at the beginning when we have so little experience and evidence. It will be updated in due course based on our own documentation, research and development over the time.

Dengue is now established as most wide spread mosquito borne viral febrile illness in human and is no doubt has been emerging as a public health problem in Bangladesh. So we need to be prepared to face this menace with a specific target of reducing the case fatality and morbidity. These guidelines will be useful in this behalf.

Those who have involved in different capacities to finalize these guidelines and make it public in such a short time deserve thanks and regards.



Professor A B M Ahsanullah
Director General of Health Services
Government of Peoples Republic of Bangladesh

Dhaka, 21 September 2000

Introduction

When a disease becomes a public health problem it attracts the attention of national health agencies. The purpose is to control and prevent the disease in general and to reduce the morbidity and mortality in particular. This is more so in case of communicable diseases. On the other hand when a disease is unfamiliar for a particular community or a nation both the profession and people become perplexed initially. In such a situation the intervention of the national health agencies is more warranted.

The Dengue Outbreak 2000 in many parts of Bangladesh has revealed these facts once again. The Ministry of Health and Family Welfare of Bangladesh through its organ Disease Control Directorate under the Directorate General of Health Services has come forward to control and prevent the menace. In doing so it has been felt that a package of uniform, simple, affordable and applicable guidelines for the clinical management of Dengue is necessary to orient the health professionals in general and the practicing doctors in particular in shortest possible time. Because dengue is a condition where there is no specific treatment, so one has to develop the best appropriate methods.

Dengue has not been a public health problem in Bangladesh till recently so there is little evidence and knowledge in this regard. Therefore to begin any endeavor, sharing of experience from others becomes necessary. Based on the experience of dengue endemic countries WHO has prepared many guidelines and monographs. These guidelines and monographs have been adopted as baseline concept papers and source of information. Besides these, experience and publications of Queen Siriket Children Hospital of Bangkok, which is a WHO collaborating center for clinical management of dengue, has been consulted and used. The experts in the respective fields of internal medicine and pediatrics of Bangladesh have examined and brain stormed on these to customize them according to the local prevailing situation to formulate uniform national guidelines for the clinical management of dengue as a step forward. The outcome of all these efforts is the 'National Guidelines for Clinical Management of Dengue Syndrome'. Subsequent gathering of evidence through research and development will logically update these guidelines in appropriate manner.

These guidelines will provide the much needed knowledge, skill and attitude to the practicing clinicians for proper management of dengue patients and reporting as well. A uniform approach by the clinicians in encountering dengue will help to remove the perplexing situation, which has engulfed the profession and people alike.

All out efforts and endeavors have been made to make these guidelines as comprehensible as possible and free of errors with encompassing the most relevant issues pertaining to the case management of dengue. The editorial board welcomes evidence-based criticisms, suggestions, comments and contribution to make these guidelines more appropriate in all respect and regrets any inadvertent errors or omissions.

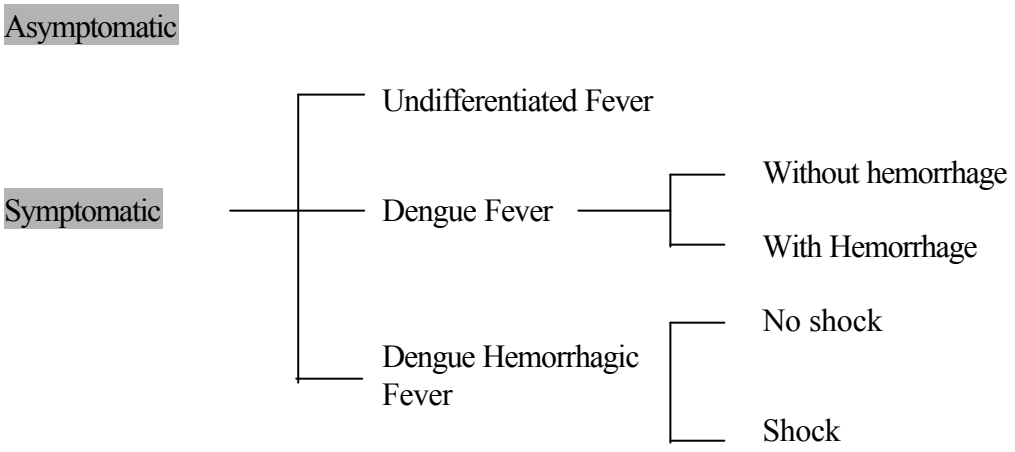
Editorial Board

Dhaka, 21 September 2000

Manifestations of Dengue Infection

There are four sero types of dengue virus, Den-1, Den-2, Den-3 and Den-4. All four types following infection produce similar manifestations, which may be asymptomatic, undifferentiated fever, dengue fever (DF), dengue hemorrhagic fever (DHF) with plasma leakage, that may lead to hypovolumic shock, dengue shock syndrome (DSS). In initial period manifestations are similar and deteriorating from one state to another.

Manifestations of dengue virus infection



Dengue Syndrome

The symptomatic manifestations for all practical purpose are overlapping in nature and not differentiable at the beginning, some time appears progressing from one category to another. So they are grouped into **'Dengue Syndrome'**. Dengue syndrome will encompass the following:

1. Dengue Fever (DF)
2. Dengue Hemorrhagic Fever (DHF)
3. Dengue Shock Syndrome (DSS)

Purposes of Case definitions

There are two purposes for case definition, which are:

1. For clinical case management in hospital setups and in outpatient practice.
2. For reporting of the cases to designated appropriate health authority.

Case Definitions for Clinical Management

Dengue Fever

Dengue fever is an acute febrile illness of 2-7 days duration sometimes with two peaks having the following manifestations:

1. Sudden onset continuous fever

And

2. Two or more of the following features:
    a. Severe headache
    b. Retro-orbital pain
    c. Severe myalgia / arthralgia / back pain
    d. Hemorrhagic manifestations
    e. Nausea/vomiting/abdominal pain
    f. Leucopenia

And

3. High index of suspicion based on Period, Population & Place

And

4. Absence of convincing evidence of any other febrile illness

Dengue Hemorrhagic Fever

Dengue Hemorrhagic Fever is a probable manifestation of dengue syndrome with hemorrhagic manifestations having the following features:

1. Features of dengue fever at initial stage

And

2. Hemorrhagic manifestations evidenced through one or more of the following:
    a. Positive tourniquet test
    b. Petechiae / ecchymosis / purpura
    c. Mucosal bleeding: Epistaxis, gum bleeding
    d. Bleeding from injection or other site
    e. Hematemesis, melena, hematuria, PV bleeding
    f. Thrombocytopenia with platelets 100,000 / m^3 or less

And

3. Any evidence of plasma leakage due to increased capillary permeability manifested by one or more of the following:
    a. A ≥ 20% rise in hematocrit for age or sex
    b. A ≥ 20% drop in hematocrit following treatment with fluids as compared to base line
    c. Pleural effusion / ascitis / hypoproteinemia

The cut-off point between Dengue Fever and Dengue Hemorrhagic Fever is the evidence of plasma leakage, which will not be present in the former but invariably in the later. This is important in differentiating DF with hemorrhage from DHF.

Tourniquet Test
This is a very important clinical test for detecting covert hemorrhage. It is performed by inflating a blood pressure cuff to a point midway between the systolic and diastolic pressures for five minutes. A test is considered positive when 10 or more petechiae per 2.5 cm^2 are observed. In DHF, the test usually gives a definitive positive result ie > 10 petechiae. The test may be negative or mildly positive during the phase of profound shock.

Dengue Shock Syndrome

Dengue Shock Syndrome is a presentation of Dengue Syndrome when a case of DHF manifests circulatory failure with one or more of the following features:

1. Hypotension for age
2. Cold clammy skin, restlessness, rapid weak pulse
3. Narrow pulse pressure (≤ 20 mm of Hg)
4. Profound shock

Case Definitions for Reporting

Dengue is a notifiable disease. For the purpose of the notification to appropriate health authority the case definitions are as follows:

1. **Suspected**: Clinically diagnosed as per 'Clinical Case definition'.
2. **Probable**: When in addition to clinical diagnosis any serological test is found to be positive.
3. **Confirmed**: When the case is confirmed by virus isolation.

When reporting the 'reporting case definition' term will be added as a prefix to the 'clinical case definition' term of dengue syndrome categorized as per national guidelines.

Example
A case is found to be Dengue Fever as per clinical case definition. For reporting purpose this will be labeled as 'Suspected Dengue Fever'. If any serological test is found positive this case will be 'Probable Dengue Fever' and so on.

Severity Grading of Dengue Syndrome

Syndromes	Grade	Clinical features	Laboratory features
DF		Features of DF as per case definition	• Leucopenia • ± Thrombocytopenia • No change in hematocrit
DHF	I	Features / History of features of DF + Positive Tourniquet Test	• Thrombocytopenia < 100,000 /mm^3 • Hematocrit rise ≥ 20%
DHF	II	Features / History of features of DF + Spontaneous bleeding	• Thrombocytopenia < 100,000/mm^3 • Hematocrit rise ≥ 20%
DHF (DSS)	III	Features / History of features of DF + Features of circulatory failure	• Thrombocytopenia < 100,000/mm^3 • Hematocrit rise ≥ 20%
DHF (DSS)	IV	Features / History of features of DF + Profound shock	• Thrombocytopenia < 100,000 /mm^3 • Hematocrit rise ≥ 20%

DHF Grade III & IV are also called Dengue Shock Syndrome (DSS)

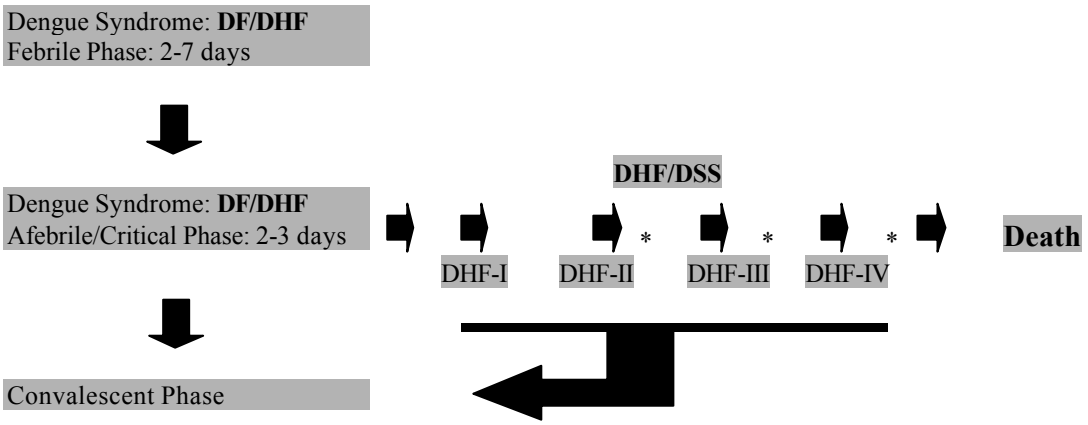
- At the initial phase one cannot differentiate DF and DHF.
- The course is a continuum passing from one grade to another.
- The transition period is at the afebrile phase
- If appropriate treatment is not instituted in proper time there is a risk of death in DHF-II, DHF-III and DHF-IV.

Disease Course of Dengue Syndrome

The disease course in dengue syndrome has the following characteristics:

1. **Phases**: There are two phases from the beginning.
   a. ***Febrile phase***: Which lasts from 2-7 days duration. Various categories of presentation cannot be differentiated at this stage.
   b. ***Afebrile/Critical phase***: This phase follows the febrile phase and lasts for 2-3 days. The patient is afebrile. In DF cases this phase may be called afebrile phase and usually marks the beginning of convalescence. But in DHF cases at this stage all critical features begin and is called the critical phase.

2. **Progression**: The natural course of progression of dengue syndrome is a continuum, uphill, stationary or downhill mostly not distinguishable at the initial stage. ***It has to be remembered that DHF per see begins as DHF and not converting from or a complication of DF, but indistinguishable from DF at the beginning.***



**** If appropriate treatment is not provided then there is high risk of death.***

Lab investigations: For diagnosis & Prognosis

The useful lab investigations are as follows:

1. Complete Blood Count (CBC) including Total Leucocyte Count, Total Platelet Count and Hematocrit
2. Chest X-Ray right lateral decubitus view or Ultrasonography (for pleural effusion or ascitis)
3. Other routine tests as indicated eg MP for excluding malaria in malaria endemic zone
4. Other tests as and when necessary eg Serum Albumin, Liver function tests, Serum electrolytes

Time and frequency of doing investigations:
Usually before 3 days no change in the lab tests is expected in febrile phase. So no tests should be done before 3 days if not otherwise indicated eg unusual hemorrhage. ***But once clinically suspected leucocyte and platelet counts plus hematocrit level should be done at least once per day.***

Tests for objective evidence of dengue infection is not helpful for guiding the management. Moreover doing this at initial period will usually give negative result there by provides a false sense of security to the patients and doctors.

> ***Leucocyte count has a very important prognostic guide in early phase of dengue infection. Leucopenia < 5000 cells/mm^3 indicates that within the next 24 hours the patient will have no fever and he will be entering the critical phase.***

> ***Serial Leucocyte Count, Hematocrit level and Platelet Count are very important for prognostic purpose.***

Treatment of Dengue Syndrome

Febrile Phase: Therapy

DF and DHF are not distinguishable in febrile phase and treatment is essentially same. The modality of treatment is symptomatic and supportive. These are:

- Rest
- Antipyretic therapy for fever above 39º C.
    a. Sponging: With tepid water at room temperature.
    b. Paracetamol (not more than 4 times in 24 hours) according to age

Age	Dose (500 mg tablet)	Mg/Dose
< 1 Year	1/8 tablet	62.5
1 - 4 Years	1/4 tablet	62.5 -125
≥ 5 Years	1/2 tablet	250

- **Do not give Aspirin or any other NSAID**. These drugs may cause gastritis and or bleeding. In children, Reye's syndrome may be a serious complication.
- **Do not give antibiotics as these do not help**
- Oral Rehydration Therapy (ORT) with Oral Rehydration Salt (ORS) or its equivalent[1] is recommended for patients with moderate dehydration caused by vomiting and high temperature[2].
- Food should be given according to appetite. But fresh fruit juice should be given frequently. **Avoid commercially available fruit juices because these contain preservatives.**
- In case of infant and children if there is febrile convulsion and or history of so appropriate standard measures should be taken.

Febrile Phase: Monitoring & Observation

All dengue patients must be carefully observed for complications for at least 2 days after recovery from fever. This is because life-threatening complications often occur during this phase. Patients and households should be informed that severe abdominal pain, passage of black stools, bleeding into the skin or from the nose or gums, sweating, and cold skin are dangerous signs. If any of these signs is noticed, the patient should be taken into the hospital. The patient who does not have any evidence of complications and who has been afebrile for 2-3 days does not need further observation.

Patient and household members should be informed by the doctor that abdominal pain, passage of black stools, any bleeding including undue PV bleeding, sweating and cold skin are dangerous signs, and if any sign(s) is noticed, the patient should be taken to hospital immediately.

[1] ***ORS equivalent***: Home made ORS

[2] ***In children,*** with signs of some dehydration, ORS, which is commonly used in the treatment of diarrheal diseases and or fresh fruit juices, are preferable. Initially 50 ml/kg body weight fluids should be given during the first 46 hours. After correction of dehydration, the child should be given maintenance fluids orally at the rate of 80-100 ml/kg body weight in the next 24 hours. Children who are breastfed should continue to be breastfed in addition to ORS administration. ***In adults,*** oral fluid intake of 2.5-4 liters should be given per day.

Afebrile Phase: Dengue Fever

Constitutional symptoms in patients with DF after the fall of fever are similar during the febrile phase. Most patients will recover without complication. The following manifestations may present:

- Improvement in general condition
- Platelet/Hematocrit normal
- Appetite rapidly regained

Management is more or less same, ie continue bed rest, check platelet and hematocrit; fruit juices, oral fluid and electrolytes therapy.

Convalescent Phase: Dengue Fever

The duration of convalescence phase is 7-10 days after the afebrile phase. During this phase further improvement in general condition and return of appetite occur. Bradycardia and confluent petechial rash with white center and or itching may persist. Weakness may remain up to another week or two. No special advice is necessary. No restriction is also needed. Normal diet and effort for adjusting to normal life style and work are what is necessary.

Critical Phase: DHF

During the afebrile phase usually the features of DHF evolve, which are various bleeding manifestations, signs of circulatory failure and, progressive thrombocytopenia and plasma leakage as manifested by rise in hematocrit. Depending on the grading of severity the management should be instituted immediately to avoid fatality. Therefore this period is very crucial. Moreover the only difference between DF and DHF Grade I is the presence of thrombocytopenia and rise in hematocrit >20%.

Indication for hospitalization in Dengue Syndrome

- DF cases with any one or all of the following conditions: monitoring and observation cannot be ensured, with high risk associated illness, nutrition and therapy cannot be maintained, and in special situations. ***Otherwise there is no indication for hospitalization for DF cases.***
- DHF Grades II, III & IV.
- DHF Grade I where nutrition and oral fluid electrolytes therapy, monitoring and observation cannot be ensured, and or presence of concomitant illness or in special situations eg Diabetes, IHD, Pregnancy, etc.

Main objectives of therapy in DHF

- Maintenance of fluid and electrolytes
- Maintenance of blood osmolarity in face of plasma leakage
- Maintenance of circulatory volume and hemodynamic status
- Maintenance of nutrition
- Prevention of complications

Critical Phase: DHF I & II Therapy

During the afebrile phase of DHF Grades I & II, the patient has the same symptoms as during the febrile phase. The clinical signs plus thrombocytopenia and hemoconcentration or rise in hematocrit are sufficient to establish a clinical diagnosis of DHF. During this phase, ***the patient should be observed for at least 2-3 days after the fall in temperature, for rashes on the skin, bleeding from nose or gums, blue spots on the skin or tarry stools. If any of these signs are observed, the patients should be brought to the hospital without delay***.

DHF Grades I & II Therapy Chart		
Critical Phase	**Manifestations**	**Management**
Duration 2-3 days	– Features of DF – Positive Tourniquet Test – Spontaneous bleeding – Thrombocytopenia < 100,000 /mm^3 – Hematocrit rise ≥ 20%	– OPD or Hospital – ORS – Check Platelet / Hematocrit, if Hematocrit ≥ 20% – Initiate IV therapy 5% DNS 6 ml/Kg/hr for 6 hours – Check hematocrit / vital signs / urine output after 3 hours, and in case of improvement[3] – Reduce IV therapy to 3 ml/kg/hour for 3 hours – In case of further improvement, continue IV therapy at 3 ml/kg/hour for 6-12 hours and then discontinue IV therapy – In case of no improvement[4], increase IV therapy to 10 ml/kg/hour for 1 hour. In case of improvement now, reduce the volume of IV from 10ml/kg/hour to 6 ml/kg/hour and further to 3 ml/kg/hour accordingly. – Generally, DHF Grades I & II do not give complications
Convalescence Phase	**Manifestations**	**Management**
Duration 2-3 days	– Further improvement in general condition and return of appetite – Bradycardia – Confluent petechial rash with white center/itching – Asthenia and depression even persisting for few weeks, common in adults	– Normal diet – No need for any medication

The only difference between the DF and DHF Grade I is the presence of thrombocytopenia and rise in hematocrit (>20%). Patients with DHF Grade I do not usually require intravenous fluid therapy and

[3] **Improvement:** Hematocrit falls, pulse rate and blood pressure stable, urine output rises
[4] **No improvement:** Hematocrit or pulse rate rise, pulse pressure < 20 mm of Hg, urine output falls

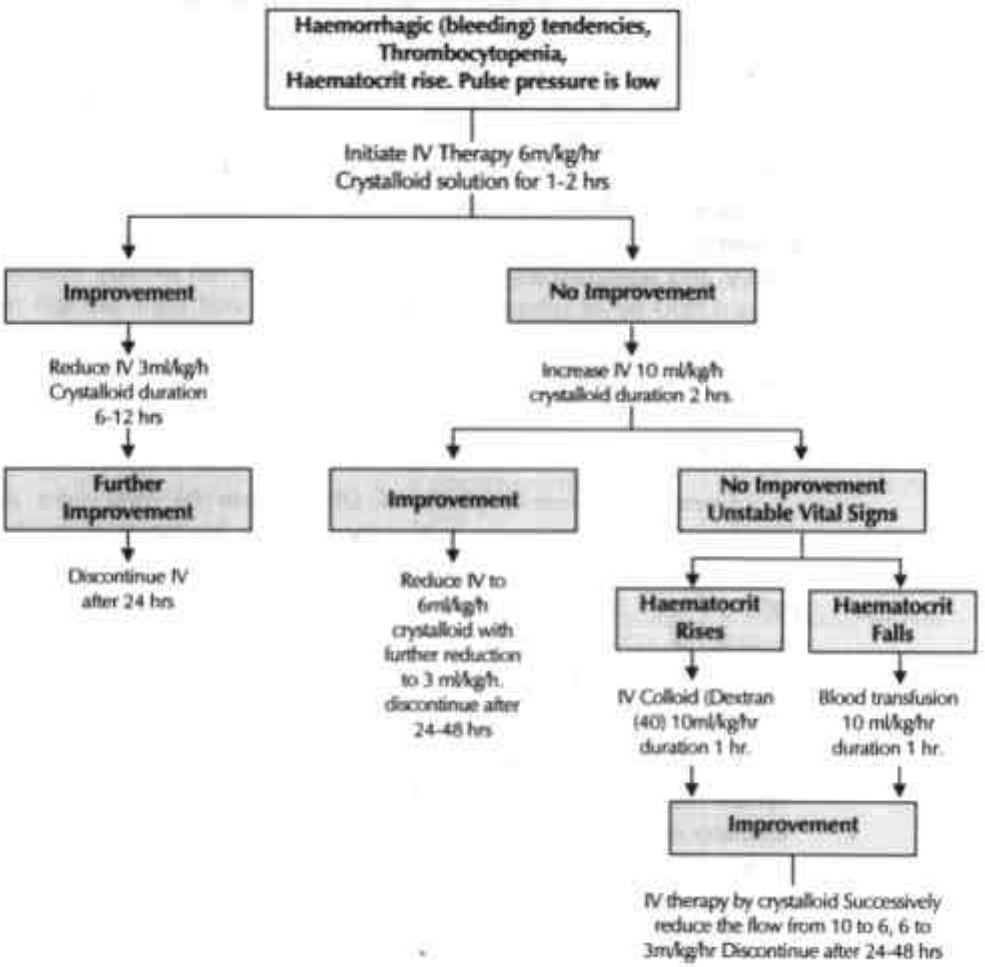
ORT is sufficient. Intravenous fluid therapy may need to be administered only when the patient is vomiting persistently or severely, or refusing to accept oral fluids. Patients with DHF Grade I who live far away from the hospital or those who are not likely to be able to follow the medical advice should be kept in the hospital for observation.

During the afebrile phase of DHF Grade II, the complications usually seen, in addition to those observed during DHF Grade I phase, are abdominal pain, black tarry stools, epistaxis, bleeding from the gum, and continued bleeding from the injection sites. Immediately after hospitalization, hematocrit and platelet count must be carried out to assess the condition of the patient. A reduction in platelet count to $\leq$ 100,000/mm^3 or less than 1-2 platelets/oil field (average of 10 oil field counts) usually precedes a rise in hematocrit. A rise in hematocrit of 20% or more (eg increase from 35% to 45%) reflects a significant plasma loss and indicates the need for intravenous fluid therapy. Early volume replacement of lost plasma with Crystalloid[5] solution (eg isotonic saline solution) can reduce the severity of the disease and prevent shock. ***Intravenous fluid therapy before leakage is not recommended.*** But in DHF Grade II depending on the condition IV therapy may given for 12-24 hours. Medical personnel should monitor patients on hourly basis. Based on periodic hematocrit/platelet count determinations and vital signs, the treatment should be reviewed and revised.

[5] **Crystalloid Solutions:**

1. 5% dextrose in isotonic normal saline solution (5% DNS)
2. 5% dextrose in half-strength normal saline solution (5% D/1/2/NS)
3. 5% dextrose in lactated Ringer's solution (5%D/RL)
4. 5% dextrose in acetated Ringer's solution (5%D/RA)

DHF Grades I & II: Volume Replacement Flow Chart



Improvement: Hematocrit falls. pulse rate and blood pressure stable, urine output rises
No improvement: Hematocrit/pulse rate rises, pulse pressure falls below 20 mm Hg, urine output falls
Unstable vital signs: Signs of shock, urine output falls

When hematocrit cannot be done or is not available the following clinical tips may help:

- ***If the patient has/ had deep/massive bleeding form gut or other sites the possibility is that the patient may have lower hematocrit because of blood loss.***
- ***If the patient has/had surface/mild bleeding the possibility is that the patient may have higher hematocrit..***
- ***Sudden unexplained deterioration of hemodynamic status and or refractory to adequate fluid therapy the possibility is more of blood loss and hence low hematocrit level.***

Critical Phase: DHF III & IV Therapy

Common signs of complications observed during the afebrile phase of DHF Grade III include circulatory failure manifested by rapid and weak pulse, narrowing of the pulse pressure and hypotension, characterized by high diastolic pressure relative to systolic pressure (eg 90/80) and the presence of cold clammy skin and restlessness. These complications occur because of thrombocytopenia, abnormal hemostasis and plasma leakage, or also from substantial blood loss. Immediately after hospitalization, the hematocrit, platelet count and vital signs should be examined to assess condition of the patient, and intravenous fluid therapy should be started. The patient requires regular and sustained monitoring. If the patient has already received about 1000 ml of intravenous fluids and the vital signs are still not stable, hematocrit should be repeated and: (a) if the hematocrit is increasing intravenous fluid should be changed to colloidal solution preferably Dextran, or (b) if hematocrit is decreasing, fresh whole blood transfusion 10 ml/kg/dose should be given.

During the afebrile phase of DHF Grade IV vital signs are unstable. The patient, in the early stage of shock, has acute abdominal pain, restlessness, cold and clammy skin, rapid and weak pulse. The patient should be administered intravenous fluid therapy immediately. In case of continued or profound shock when pulse and blood pressure are undetectable, the patient should be given colloidal fluid following the initial fluid bolus.

However, in the case of persistent shock when, after initial fluid replacement and resuscitation with plasma expanders, the hematocrit continues to decline, internal bleeding should be suspected. It may be difficult to recognize and estimate the degree of internal blood loss in the presence of hemoconcentration. It is thus recommended to give fresh whole blood in small volumes of 10 ml/kg body weight at one time. Blood grouping and matching should be done for all patients in shock as a routine precaution. Oxygen should be given to all patients in shock.

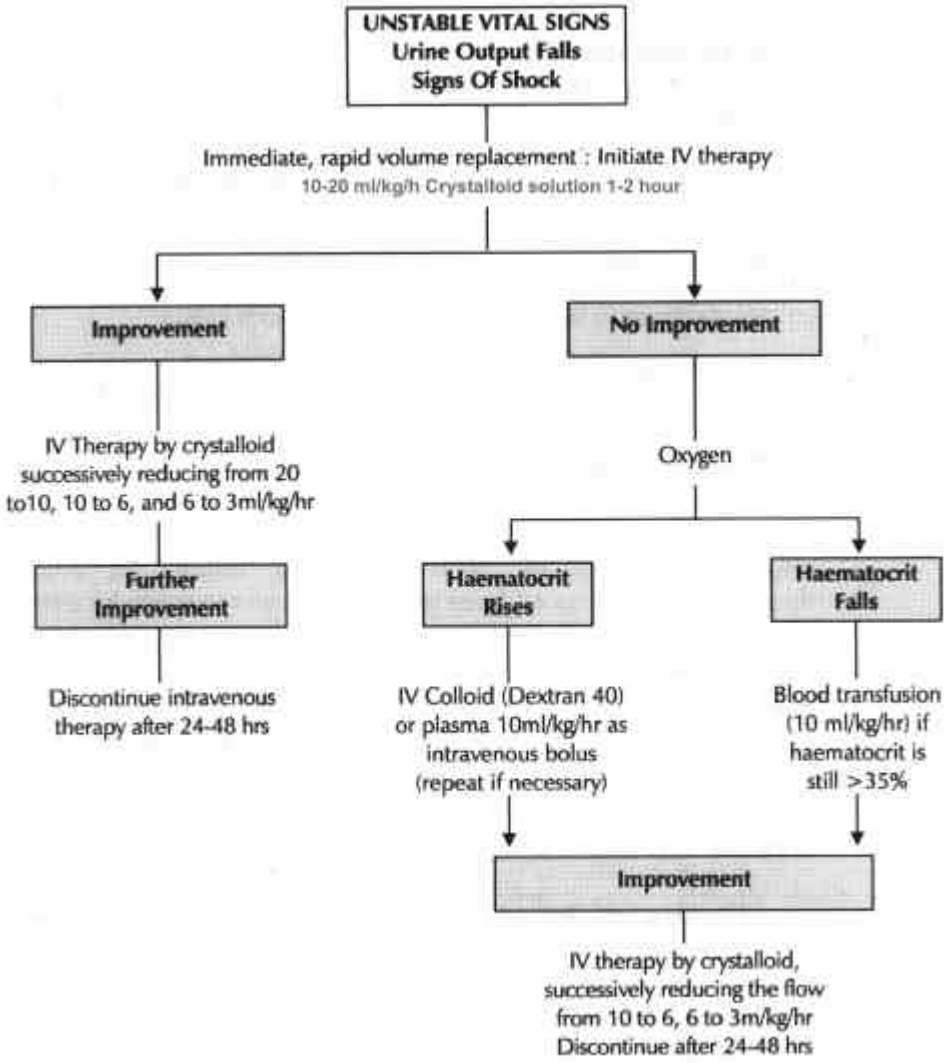
DHF Grades III & IV Therapy Chart		
Critical Phase	**Manifestations**	**Management**
Duration two days after febrile stage	In addition to the manifestations of DHF Grade II – Circulatory failure manifested by rapid and weak pulse, narrowing of pulse pressure (20 mmHg or less) or hypotension with the presence of cold clammy skin and restlessness – Capillary refill time[6] more than two seconds Profound shock with undetectable pulse and blood pressure	– Mandatory in Hospital – Check hematocrit/platelet – Initiate IV therapy 5% DNS 10 ml/kg/hour – Check hematocrit, vital signs, urine output every hours – If patient improves, IV fluids should be reduced every hour from 10 to 6, and from 6 to 3 ml/kg/hour which can be maintained up to 24 to 48 hours. – If patient has already received one hour treatment of 20 ml/kg/hour of IV fluids and vital signs are not stable, check hematocrit again and – If hematocrit is increasing change IV fluid to colloidal solution preferably Dextran or Plasma at 10 ml/kg/hour – If hematocrit is decreasing from the initial value, give fresh whole blood transfusion, 10 ml/kg/hour and continue fluid therapy at 10 ml/kg/hour and reducing it stepwise bring down to 3 ml/kg/hour and maintain it up to 24-48 hours – Initiate IV therapy 5% DNS 20 ml/kg as a bolus one or two times – Oxygen therapy should be given to all patients[7] – In case of continued shock, colloidal fluids (Dextran or Plasma) should be given at 10-20 ml/kg/hour – If shock still persists and hematocrit level continues declining, give fresh whole blood 10 ml/kg as a bolus – Vital signs should be monitored every 30-60 minutes – In case of severe bleeding, give fresh whole blood 20 ml/kg as a bolus – Give platelet rich plasma transfusion exceptionally when platelet counts are below 5,000-10,000/mm^3 – After blood transfusion, continue fluid therapy at 10 ml/kg/hour and reduce it stepwise to bring it down to 3 ml/kg/hour and maintain it for 24-48 hours.

[6] Capillary Refill Time: It can be measured by pressing the nail of the thumb of left hand in right handed person or vice versa till blanching then suddenly release the pressure. The time taken for flushing is the capillary refill time.

[7] Oxygen is obligatory until shock has been overcome. Pulse, blood pressure, and temperature should be recorded every 15 - 30 minutes.

DHF Grades III & IV Therapy Chart		
Convalescence phase	**Manifestations**	**Management**
Duration 2-3 days after recovery from critical phase	– 6-12 hours after critical/shock stage, some symptoms of respiratory distress (pleural effusion or ascitis) – 2-3 days after critical stage, strong pulse, normal blood pressure – Improved general condition/return of appetite – Good urine output – Stable hematocrit – Platelet count >50,000/mm^3 – Patient could be discharged from hospital 2-3 days after critical stage – Bradycardia/arrhythmia – Asthenia and depression (few weeks) in adults	– Rest for 1-2 days – Normal diet – No need for medication

DHF Grades III & IV: Volume Replacement Flow Chart



In case of acidosis, hyperosmolar or Ringer's lactate solution should not be used.

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Special Clinical Situations

DF and DHF may develop in a patient with some other clinical situations besides leading to others. Some common situations are as follows:

1. Pregnancy and labor
2. Emergency surgical condition eg Acute appendicitis
3. Associated medical conditions eg Diabetes mellitus, Myocardial infarction
4. Conditions where patients are on maintenance therapies which are contraindicated for DF/DHF eg Nephrotic syndrome case on high dose of steroid
5. Patient is on some procedure which may be complicated by DF/DHF eg Maintenance hemodialysis where heparin is used to increase clotting time.
6. Hypersensitivity or anaphylaxis due to fluid therapy in DF/DHF

General rule

In such situation the general rule of risk versus gain should be followed. Which are:

1. If avoidable, concomitant therapy which is contraindicated in dengue and or may create complication should be deferred or be avoided eg maintenance hemodialysis
2. In case of pregnancy and labor all patients should be hospitalized and carefully monitored. If possible labor should be avoided during critical phase. Other wise if not possible then all possible precaution should be taken to perform the obstetric procedure.
3. In case of emergency surgical condition conservative management should be adopted and surgery should be avoided if possible till the patient attains convalescence phase. But if the acute surgical condition is more risky than the DF/DHF then after taking adequate precaution life saving procedure may have to be adopted.
4. Concomitant medical condition if demanding enough to save life than the management should be continued.
5. If a patient is on maintenance therapy with high dose steroid then this should be continued.
6. In all such complicated situations a team approach comprising relevant specialists should be adopted.
7. Hypersensitivity and anaphylaxis during fluid therapy should be dealt with as per standard procedure.

In any complicated situation frequent consultations with other colleagues and multi disciplinary team approach are warranted.

Fluids Required for Intravenous Therapy

Fluids Recommended

Crystalloids

1. 5% dextrose in isotonic normal saline solution (5%DNS)
2. 5% dextrose in half strength normal saline solution (5%D/1/1/NS)
3. 5% dextrose in lactated Ringer's solution (5%DRL)
4. 5% dextrose in acetated Ringer's solution (5%DRA)

Colloids

1. Dextran 40
2. Hemacel
3. Plasma

Precautions

In order to ensure adequate fluid replacement and avoid over-fluid infusion, the rate of intravenous fluid should be adjusted through out the 24 to 48 hour period of plasma leakage by periodic hematocrit determinations and frequent assessment of vital signs. ***The volume of fluid replacement should be just sufficient to maintain effective circulation during the period of plasma leakage***. Excessive fluid replacement and continuation for a longer period after cessation of leakage will cause respiratory distress from massive pleural effusion, ascitis, and pulmonary congestion or edema. This can be dangerous.

Fluid Requirement Calculation: Ready Reference

The required regimen of fluid should be calculated on the basis of body weight and charted on a 1-3 hourly basis or even more frequently in the case of shock. The regimen of flow of fluid and the time of infusion are dependent on the severity of DHF. The schedule given here is recommended as a guideline. It is calculated for moderate dehydration of about 6% deficit plus maintenance.

ml/lb Body weight/day	Weight on admission		ml/kg Body weight/day
	lbs	kgs	
100	<15	<7	220
75	16-25	7-11	165
60	25-40	12-18	130
40	>40	>18	90

In older children who weigh more than 40 kgs, the volume needed for 24 hours should be calculated as twice that required for maintenance (using Holliday and Segar formula). The maintenance fluid should be calculated as follows:

Body weight (kgs)	Maintenance volume (ml) Administered over 24 hours
<10	100/kg
10-20	1000+50 for each kg in excess of 10
>20	1500+20 for each kg in excess of 20

Example: For a child weighing 40 kgs the maintenance is: 1500+(20x20)=1900 ml. This means that the child requires 3800 ml IV fluid during 24 hours.

Fluid Regimens in DHF: Ready Reference

For intravenous fluid therapy of patients with DHF, four regimens of flow of fluid are suggested: 3 ml/kg/hour, 6 ml/kg/hour, 10 ml/kg/hour and, 20 ml/kg/hour.

Body weight (in kg)	Volume of fluid to be given in 24 hours	Rate of fluid (ml/hour) Regimens (R)			
		R-1 *3ml/kg/hour*	R-2 *6ml/kg/hour*	R-3 *10ml/kg/hour*	R-4 *20ml/kg/hour*
10	1500	30	60	100	200
15	2000	45	60	150	300
20	2500	60	90	200	400
25	2800	75	120	250	500
30	3200	90	150	300	600
35	3500	105	180	350	700
40	3800	120	210	400	800
45	4000	135	240	450	900
50	4200	150	270	500	1000
55	4400	165	300	550	1100
60	4600	180	360	600	1200

- The fluid mentioned is approximation.
- Normally change should not be drastic. Do not jump from R-2 to R-4 since this can overload the patient with fluids. Similarly, reduce the volume of fluid from R-4 to R-3, R-3 to R-2, and from R-2 to R-1 in a stepwise manner.
- **REMEMBER that ONE ml is equal to 15 drops in standard MACRO infusion set. In MICRO system (Micro burette infusion set) 60 drops are equal to 1 ml.**
- It is advised to procure only a bag of 500 ml initially, and order more as and when required. The decision about the speed of fluid should be reviewed every 1-3 hour. The frequency of monitoring should be determined on the basis of the condition of the patient. The higher the flow rate the more frequent should be the monitoring.

Some Important Instructions

Check list

- Cases of DHF should be observed every hour.
- Serial platelet and hematocrit determinations for drop in platelets and rise in hematocrit are essential for early diagnosis of DHF.
- Timely intravenous therapy - isotonic crystalloid solution - can prevent shock and or lessen the severity.
- If patient's condition becomes worse despite giving 20 ml/kg/hour, replace crystalloid solution with colloid solution such as Dextran or plasma. As soon as improvement occurs replace with crystalloid.
- If improvement occurs, reduce the speed from 20 ml to 10 ml, then 6 ml, and finally to 3 ml/kg.
- If hematocrit falls, give blood transfusion 10 ml/kg and then give crystalloid IV fluids at the rate of 10 ml/kg/hour.
- In case of severe bleeding, give blood transfusion about 20 ml/kg for two hours. Then give crystalloid at 10 ml/kg/hour for a short time (30-60 minutes) and later reduce the speed.
- In case of shock, give oxygen.
- For correction of acidosis (sign: deep breathing), use sodium bicarbonate[8].
- Check for any concomitant other medical or surgical condition and or any maintenance therapy.

Don'ts

- Do not give aspirin or NSAID for the treatment of fever.
- Avoid giving intravenous therapy before there is evidence of hemorrhage or bleeding.
- Avoid giving blood transfusion unless indicated, reduction in hematocrit or severe bleeding.
- Avoid giving steroid.
- Do not use antibiotics.
- Do not change the speed of fluid rapidly, ie, avoid rapidly increasing or rapidly slowing the speed of fluids.
- Insertion of nasogastric tube to determine concealed bleeding or to stop bleeding (by cold lavage) is not recommended since it is hazardous.

- ***What should not be done is as important as what should be done.***
- ***What should be done should not be over done.***

Please note that DF and DHF are self-limiting conditions, so one has to provide just therapeutic and other supportive care to prevent complications.

[8] In case of acidosis, one-third of the total fluids should consist of 0.167 mmol/l of sodium bicarbonate. Available Sodibicarb solution in Bangladesh is of the strength 7.5% ie 1 ml contains 2 mmol/ml. So 85 ml of Sodibicarb is to be added to make upto one liter of IV fluid of crystalloid and glucose.

Signs of Recovery

- Stable pulse, blood pressure and breathing rate
- Normal temperature
- No evidence of external or internal bleeding
- Return of appetite
- Good urinary output
- Stable hematocrit
- Convalescent stable petechial rash

Criteria for Discharging Patients

- Absence of fever for at least 24 hours without the use of anti-fever therapy
- Return of appetite
- Visible clinical improvement
- Good urine output
- Minimum three days after recovery from shock
- No respiratory distress from pleural effusion and no ascitis
- Platelet count of more than 50,000/mm^3

Reporting

Based on case-definitions, all suspected, probable and confirmed cases of DF/DHF should be reported to the Civil Surgeon of the district. For this purpose appropriate report form should be used. In Annex 7 and 8 two report forms are provided, one for practitioner another for hospital/clinic. Appropriate one as the case may be should be photocopied and used. Civil Surgeon after compiling the reports will send it to DC regularly and as and when necessary as per directives. CS will also take other relevant measures as well.

Good Clinical Practice for IV Therapy

- Always collect and check necessary appliances before proceeding to IV puncture.
- Use gloves to protect yourself and mask to protect the patient. Wash hands with antiseptic before handling cannula/needle. Always use disposable items. Be careful about needle stick injury.
- For IV choose a vein at a site having the following criteria: Distal, relatively less mobile and inactive, away from joint with overlying healthy skin and after shaving hairs. If necessary immobilize the part with sprint. Keep proximal sites reserve for future puncture if necessary.
- Preferably use cannula having wider bore (18G[9] or wider), which may allow high flow rate and blood transfusion if necessity arises for avoiding further puncture. Properly fix the cannula with adhesive tape. Put date and time of infusion/transfusion beginning on bag and on adhesive tape.
- Insert the cannula or needle along the lengths of vein appropriately to avoid extravasation and check the site frequently for it. Avoid multiple punctures.
- Don't keep the cannula/needle in a same site for more than 48 hours to avoid phlebitis.
- If extravasation occurs immediately remove the cannula/needle and keep the part elevated.
- Always check the fluid bag for deposits, puncture, leaking, proper seals in the port, dirt and labels. In such cases discard the bag. Similarly check the infusion/transfusion sets and cannula. Never reuse any disposables and remaining fluid in bag.

[9] G or Gauze: Part of an inch, a unit of measurement. 18 G means 18th part of an inch. The bigger the number the smaller the bore and vice versa.

- For high flow rate never use cold fluid to avoid chills and discomfort. Warm the fluid near to body temperature by placing on the cover of the sterilizer and not immersing in that.
- Always dispose the disposables and sharps in a bin to be managed properly.
- Hang the fluid bag at appropriate height and check for kinks in the line to allow proper fluid flow.

Notes

Annex 1

Blood Sample Collection for HI test from suspected Dengue patients

1. In the acute stage: 0-5 days after onset, volume 0.5 - 1.0 ml (Serum specimen S1).

2. Shortly before discharge from hospital: 6-10 days after onset (Serum specimen S2).

3. If possible, 14-21 days after the onset of disease (Serum specimen S3).

The serum should be separated from the red blood cells and stored frozen before examination. If refrigeration is not possible for keeping blood samples, Whatman No 3 filter paper discs 12.7 mm (1/2 inch) in diameter may be used. Collect the blood on the filter paper and fully saturate it through to the reverse side. Allow the filter paper to dry in place that is protected from direct sunlight and insects. Place the dried strips in plastic bags and staple them to the laboratory examination request form. Store without refrigeration.

All collected samples should be adequately labeled with name of the patient, their identification number and date of collection.

Laboratory Investigation form for Dengue Infection

Hospital / Clinic / Practice:_____ Registration no:_____
Name of the patient:_____ Age: _____ Sex:_____
Date of admission/consultation:_____ Date of onset:_____
Suspected diagnosis:_____

Clinical findings:
1. Fever: _____°C Duration:_____ Days
2. Petechiae _____ Epistaxis _____ Melena _____
   Other bleeding :_____
3. Tourniquet test:_____
4. Shock:_____

Specimen	Date of Collection	Result of serology
Acute (S1)	_____	_____
Early Convalescent (S2)	_____	_____
Late Convalescent (S2)	_____	_____

Laboratory Diagnosis: _____

Signature: _____
Date: _____

Annex 2

Handout for Patient with Dengue Fever

(Important information to be given to the patients or family members of outpatients with suspected dengue fever)

Your child or family member probably has dengue fever. Since this disease can rapidly become very serious and may lead to medical emergency, it is important for you to carefully watch your child or relative for the next few days. The complications associated with dengue fever usually appear between the third and fifth days of illness. You should therefore watch the patient for two days after the fever disappears.

"What should you do?"

Keep body temperature below 39ºC. Give the patient paracetamol (not more than four times in 24 hours) as per the dose prescribed below:

Age	Dose (tablet 500 mg)	Mg/dose
< 1 year	1/8 tablet	60
1 - 4 years	1/4 tablet	60 - 120
5 and above	1 tablet	240

Don't give Aspirin or any analgesic and antipyretics other than paracetamol

Give large amount of fluids (water, soups, milk and juices) along with patient's normal diet. The patient should rest. Immediately consult your physician if any of the following manifestations appear: Red spots or points on skin; bleeding from nose or gums; frequent vomiting; vomiting with blood; black stools; sleepiness; constant crying; abdominal pain; excessive thirst; pale, cold or clammy skin; or difficulty in breathing.

Don't wait. Immediately consult your physician. It is crucial to quickly treat anyone with these complications.

It's better and appropriate to translate in local dialect these instructions for good understanding by the people in a given community or area.

Annex 3

Indication & preparing patient or family members for possible blood requirement

Indications for whole blood

1. Hemoglobin level ≤ 5 gm %
2. Significant bleeding > 10% of total blood volume (TBV). TBV of body is 80 ml/kg.
3. Concealed bleeding manifested by Hematocrit drop and unstable vital signs in spite of adequate volume replacement.

Dose of whole fresh blood: 10 ml/kg/dose at a time.

Indication for platelet concentrate

It has been observed that there is very limited role of platelet transfusion. In most of the situation fresh whole blood transfusion is suffice. However it may be required in some special situation. The indication of which may be as follows:

1. Platelet count < 10,000 /mm^3

If platelet concentrate is not available fresh whole blood may be transfused as per guidelines given under DHF management.

Indication for fresh plasma / plasma substitute

1. Serum albumin ≤ 2.0 gm/dl

Preparing patient or Family members for Blood Transfusion

- **Alert:** Tell the patient or family member that a possible transfusion may require when you find that platelet count is < 100,000 /mm^3 or there is bleedings.
- **Attention:** Tell the patient or family members to contact blood donors to remain in attention that at any moment onward blood may be required at short notice when you find that platelet count is < 50,000 /mm^3 or there is progressive unstable vital signs.
- **Collection:** Tell the patient or family members to collect blood, which may in all possibility will be required at any moment when you found that platelet count is < 25,000 /mm^3 or there is dropping of hematocrit and unstable vital signs despite adequate volume replacement.

Annex 4

DF/DHF Hospital Flow Sheets

Hospital: _____ Ward:_____ Bed:_____
Unit: _____ Date of Admission:|____|____|____|____|____|____|
Name:_____ Age:_____ Sex: □ Male □ Female

Base line parameters

Body Weight: _____ Hct:_____ Hb:_____ Platelet:_____ WBC:_____	Maintenance Fluid: _____ M = _____ M+5%D=_____	Date Fever: ___|___|___ Day of illness:_____ T Test:_____ Bleeding:_____	Diagnosis: □ DF □ DHF □ DSS □ Suspected □ Probable

Vital Signs Monitoring Flow Sheet

Date	Time	Pulse	BP	Temp	Res	Hct	Treatment	Symptoms	Remarks

Pulse: F = Full / M = Moderate / R = Rapid / N = Not palpable

I V Infusion / Transfusion Log

Date	Type of Fluid	Start Time	Rate Q/Min	End Time	Total	Note

Fluid Balance Chart

Date	Time	Intake			Output				Balance
		Oral	SC/ IM/IV	Total 24 Hours	Urine	Vomit/ Suction	Invisible	Total 24 Hours	

Doctor:_____ Nurse: _____

Annex 5

Reference & Further Reading

1. Monograph on Dengue/DHF, WHO Regional Publication No 22, WHO/SEARO, New Delhi, 1993

2. Dengue and Dengue Hemorrhagic Fever, Edited by D J Gublar and G Kuno, Published by CAB International, 1997

3. Dengue Hemo rrhagic Fever - Diagnosis, treatment, prevention and control, 2nd Edition, WHO, Geneva, 1997

4. Regional Guidelines for Prevention and Control of Dengue/DHF, WHO/SEARO, New Delhi, 1998

5. Guidelines for Treatment of Dengue/Dengue Hemorrhagic Fever in Small Hospitals, WHO/SEARO, New Delhi, 1999

6. Dengue News Letter, Regular Publication of WHO/SEARO, New Delhi

7. Dengue and Dengue Hemorrhagic Fever: Bangladesh Perspective, The Journal of Chittagong Medical College Teachers Association, 1999; 10(1): 9-19

8. E-Source
    a. http:// www.who.int/tdr
    b. http:// www.bmn.com/medline
    c. http:// www.ncbi.nlm.nih.gov

9. Directorate General of Health Services of Bangladesh
    Fax: +88-02-9886415

10. Disease Control Directorate, Directorate General of Health Services
    a. Email: vbdc@bdonline.com
    b. Telephone: +88-02-9880948
    c. Fax: +88-02-9886415

Annex 6

Workshop on 'Finalization of National Guidelines for Clinical Management of Dengue & Dengue Hemorrhagic Fever'

Date: 19 August 2000; **Venue:** Sashakawa Hall, ICDDRB, Dhaka, Bangladesh
Sponsor: Disease Control Directorate, DGHS, MOHFW, Bangladesh; **Collaborators:** ICDDRB & WHO, Bangladesh

Chief Guest

Mr Sheikh Fazlul Karim Selim, Minister, Ministry of Health & Family Welfare, Bangladesh

Special Guests

Professor Dr M Amanullah, State Minister, Ministry of Health & Family Welfare, Bangladesh
Mr Sayed Akamgir Farrouk Chowdhury, Secretary, Ministry of Health & Family Welfare, Bangladesh
Dr W Hardjotanojo, WHO Representative, Bangladesh
Dr David A Sack, Director, ICDDRB, Dhaka, Bangladesh

Resource Persons & Facilitators

Professor A H M Ahsanullah, Director General of Health Services, Bangladesh
Professor M Tahir, Pro-Vice Chancellor, Bangabandhu Seikh Mujib Medical University, Bangladesh
Professor Shah Monir Hossain, Director Medical Education & Health Manpower Development, Directorate General of Health Services, Bangladesh
Dr Siripen Kalayanarooj, Director, WHO Collaborative Center for Clinical Management of DF/DHF, Queen Siriket Children Hospital, Bangkok, Thailand
Dr Dr Emran Bin Yunus, Associate Professor Nephrology, Officer on Special Duty, Directorate General of Health Services, Bangladesh
Dr Kanak Ranjan Talukdar, Director Disease Control, Directorate General of Health Services, Bangladesh
Dr Abdul Mannan Bangali, Deputy Program Manager, Malaria & VBDC, Directorate General of Health Services, Bangladesh
Dr M Ataul Huq Mahmood, Evaluator, Malaria & VBDC, Directorate General of Health Services, Bangladesh
Dr M Mushfiqur Rahman, Malaria & VBDC, Directorate General of Health Services, Bangladesh
Dr Derek Lobo, Consultant, WHO, Bangladesh
Dr Anowar Hossain, Laboratory Sciences Division, ICDDRB, Dhaka, Bangladesh

Participants: Internists and Pediatricians (Alphabetical order) & Institutes

Dr A Aziz, Dhaka Sishu Hospital
Dr A R M Saifuddin Ekram, Rajshahi Medical College
Dr Asit Bhushan Das, Barisal Sere Bangla Medical College
Dr C B Mahmud, Chittagong Medical College
Dr Chandanendu Bhushan Sarkar, Mymenshing Medical College
Dr Choudhury Habibor Rasul, Khulna Medical College
Dr Faisal Ahmed, Sylhet Medical College
Dr Firdous Ara J Janan, Dhaka Medical College
Dr Ghulum Mahmud, Barisal Sere Bangla Medical College
Dr H A M Nazmul Ahsan, Khulna Medical College
Dr Kazi M Jahangir, Rangpur Medical College
Dr Khan Abul Kalam Azad, Bogra Medical College
Dr Khan Sarkar, Dhaka Sishu Hospital
Dr M A Ahbab, Sylhet M A G Osmani Medical College
Dr M A Azhar, Rajshahi Medical College
Dr M A Faiz, Chittagong Medical College
Dr M A Matin, Sylhet M A G Osmani Medical College
Dr M Abdul Halim, Sir Salimullah Medical College
Dr M Abdus Shukur, Bogra Medical College
Dr M Abu Bakar, Khulna Medical College
Dr M Abu Zafar, Sir Salimullah Medical College
Dr M Azizul Kahhar, Dinajpur Medical College
Dr M Enamul Karim, Faridpur Medical College
Dr M Khalid Hasan, Dinajpur Medical College
Dr M Mahtabuddin Hasan, Mymenshing Medical College
Dr M Mansurdur Rahman, Dinajpur Medical College
Dr M Rafiqul Islam, Bogra Medical College
Dr M Rajibul Alam, Comilla Medical College
Dr M Zakir Hussain, Sir Salimullah Medical College
Dr Manebendra Nath Nag, Rangpur Medical College
Dr Manzoor Hussain, Dhaka Sishu Hospital
Dr Mohammad Azizul Haque, Mymenshing Medical College
Dr Mrinal Kanti Das, Comilla Medical College
Dr Niruzzaman, Farifpur Medical College
Dr Quazi Tarikul Islam, Rajshahi Medical College
Dr Ranjit Kumar Saha, Chittagong Medical College
Dr Syed A Amir, Dhaka Sishu Hospital
Dr Syed Jahirul Islam, Dhaka Medical College
Dr Syed M Arif, Faridpur Medical College
Dr Tofayel Ahmed, Dhaka Medical College

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Annex 7

Dengue Reporting Form for Practitioner

(Photocopy & Use)

From:

Dr ______________________________

____

____

____

To

Civil Surgeon

____

____

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Patient

Name:|__|__|__|__|__|__|__|__|__|__|__|__|__|__|__|__|__|__| Age:|__|__| Sex:□ Male □ Female

[Put √ in appropriate box]

Guardian: |__|__|__|__|__|__|__|__|__|__|__|__|__|__|__|__|__|__|__|__|__|__|__|__|__|__|__|__|__|__|

Address : |__|__|__|__|__|__|__|__|__|__|__|__|__|__|__|__|__|__|__|__|__|__|__|__|__|__|__|__|__|__|

|__|__|__|__|__|__|__|__|__|__|__|__|__|__|__|__|__|__|__|__|__|__|__|__|__|__|__|__|__|__|__|__|__|__|

|__|__|__|__|__|__|__|__|__|__|__|__|__|__|__|__|__|__|__|__|__|__|__|__|__|__|__|__|__|__|__|__|__|__|

|__|__|__|__|__|__|__|__|__|__|__|__|__|__|__|__|__|__|__|__|__|__|__|__|__|__|__|__|__|__|__|__|__|__|

Diagnosis

□ Suspected □ Probable | □ DF □ DHF □ DSS [Put √ in appropriate boxes]

Outcome

□ Recovered □ Referred □ Death □ Not known [Put √ in appropriate box]

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Date of first Attendance / Admission: |__|__|__|__|__|__|

[dd/mm/yy]

Date of outcome: |__|__|__|__|__|__| [If known]

[dd/mm/yy]

Signature: ____

Full name: |__|__|__|__|__|__|__|__|__|__|__|__|__|__|__|__|__|__|

Position: |__|__|__|__|__|__|__|__|__|__|__|__|__|__|__|__|__|__|

Date: |__|__|__|__|__|__|

[dd/mm/yy]

Annex 8

Dengue Reporting Form for Hospital/Clinic

(Photocopy & Use)

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From:

Dr _____

_____

_____

_____

To

Civil Surgeon

_____

_____

Postage

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Report serial no:|__|__|__| Date: |__|__|__|__|__|__|
[dd/mm/yy]

Name of Hospital/Clinic:_____

Address:_____

Date of Report:|___|___|___|___|___|___| Date of Report Beginning: |___|___|___|___|___|___|
[dd/mm/yy] [dd/mm/yy]

Category		Cases in last 24 hours		Deaths in last 24 hours	Cumulative from beginning of reporting		At present admitted	Total Outcome		
		OPD	IPD		Total Cases	Total Deaths		Recovered & Discharged	Deaths	DORB / Referred/ Not known
DF	Suspected									
	Provable									
	Total									
DHF	Suspected									
	Provable									
	Total									
DSS	Suspected									
	Probable									
	Total									
Grand Total										

Signature: _____

Full name: |__|__|__|__|__|__|__|__|__|__|__|__|__|__|__|__|__|__|__|__|__|__|

Position: |__|__|__|__|__|__|__|__|__|__|__|__|__|__|__|__|__|__|__|__|__|__|

Date: |__|__|__|__|__|__|
[dd/mm/yy]