Enclosed:

Form I: OPD form for screening of dengue patients

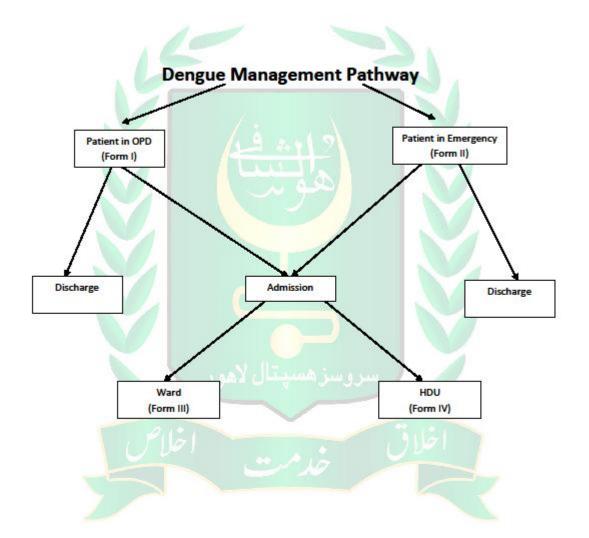
Form II: Suspect Dengue Fever Algorithm

Form III: Identification of Dengue Hemorrhagic Fever Algorithm

Form IV: Algorithm for Fluid Management in Critical Phase

(Including 6 monitoring charts)

سروسز هسپتال لاهور



FORM - I



Services Hospital Lahore

Name	s/o d	/o w/c	o Date:
Age	Sex:	M/F	Receipt No:
MR #			
Address & Telephone			
			🗆 چچھلے دی دن میں بخار ہوا ہو جس کا دورانیہ دو دن سے زیادہ ہو
Warning Signs (one or more)			🗖 سر میں شد بیدورد
No clinical improvement / worsening clinical parameters on Form I Persistent vomiting			🗆 آئکھول کے پیچھے درد
Severe abdominal pain Lethargy and or restlessness			🗖 پیٹوں میں شدیرورو
Bleeding: severe epistaxis, black stools, hematemesis, extensive menstrual bleeding,			🗖 جوڑوں یا کمر میں شدید درو
hematuria • Giddiness			ت ت جسم برسرخی مائل رنگت
 Pale cold clammy extremities Less / no urine output for 4 - 6 hours 			ا پیرون کو ہے۔ □ ناک ،مسوڑے، کھانی ،الٹی ، پا خانے کے ساتھ خون
If any of the above are present refer patient to emergency department (See Form - II)			□ معمول سے پہلے یازیادہ ماہواری
			بیٹ میں شدیدورد ہے پیٹ میں شدیدورد
Pulse Rate: / Minute			🗆 بچوں میں پیثاب کی کمی
BP:			پ و اگرتین سے زیادہ علامات ہوں تو CBC کراوائیں
Pulse Pressure < 20 mm Hg			ک اگرین سے زیادہ علامات ہوں وق CBC گراوا کی
	(لاكردكيس	لڈیریٹر چیک کرنے کے بعد لی لی کف کو 80 mm Hg مرتبین منٹ پیلا
Tourniquet test +veve	{	(بلڈ پریشر چیک کرنے کے بعد بی پی کف کو 80 mm Hg پر تین منٹ پھلاً اگر کف کے پنچ "1 x 1" میں دس یازیادہ نشان ہوتو نوٹ کریں
Advised		DO [District
d # 3 of Fever HCT	-	BC [Platelet
d#4 of Fever HCT	_	BC [(بیکافذایے ساتھ میشہ لے کرآئیں) Platelet
d # 5 of Fever HCT	WI	BC [Platelet Tab. Paracetamol
			2+2+2
★ If epidemic no need for Dengue IgM and IgG	C	ىياں نەكىر	ا یک با دو گولیاں چار گھنٹے بعد (حسب ضرور ت) چوہیں گھنٹے میں چھے نے زیادہ گوام
★ IgM and IgG to be done by Elisa in suspected	i		خکے کے پانی کی پٹیاں کریں
cases only in a non epidemic setting			نمکول، جوس (اگر ذیابطیس نه ہو) پانی، یخنی دن میں آئھ سے دس مرتبہ لیں
Dengue IgM and IgG			
Reports			
lgM lgG			Name, Signature and Date

دینگی بخار کے متعلق ہدایات

🖈 مریض اور مریض کے گھروالے دن میں تین مرتبہ مچھر بھگاؤلوشن کا استعمال کریں۔

اہے آپ کو چھر کے کا نے سے بچا کیں۔

🖈 پانی او رنمکول کا استعال زیاد ہ سے زیادہ کریں۔

☆ بخار کی صورت میں Paracetamol کی ایک یا دو گولیاں چار گھنٹے بعد (حسب ضرورت)
چوبیس گھنٹے میں چھ سے زیادہ گولیاں نہ لیں

الکے کے یانی کی پٹیاں کریں

- اور در دکی دیگر ادویات سے پر بیز کریں۔ Ibuprofen , Disprin 🖈
- 24 ﷺ بعد CBC with Platelet Count کاٹییٹ کرواکر قریبی ڈاکٹر کو چیک کرواکٹر ہیں۔
- الله جسم کے کسی حصے سے خون آئے ، جسم پرخون کے دھبے پڑیں ، سانس لینے میں دشواری ہو، پیشاب میں کمی ، پیٹ میں شدید درد ، چکراور آنکھوں کے آگے اندھیرا آنے کی صورت میں فوراً ہپتال تشریف لائیں۔

اللرنگ کے مشروبات سے گریز کریں۔

(Made in Collaboration with Sri Lankan Dengue Experts: Drs. L. Fernando, K. Sellahewa, H.Tissera, J. Weeraman and WHO guidelines 2011)

Interim Guidelines for Management of Dengue Infection SHL/SIMS (To be reviewed after 6 months) Form II Algorithm for Dengue Fever Management in Accident & Emergency Department If fever > 2 days and < 10 days Send Complete Blood Count, Platelets, Glucose Presence of warning signs Absence of warning signs **List of Warning Signs:** Family education: (one or more) No clinical improvement / worsening clinical Mosquito repellent, no aspirin or NSAIDs, no steroids, no parameters on Form I antibiotics, no empiric anti malarials, Paracetamol ≤ Persistent vomiting 3g/day, tepid water sponging, oral fluids with solutes e.g. Severe abdominal pain juice (avoid red colored fluids) Lethargy and or restlessness Bleeding: severe epistaxis, black stools, hematemesis, extensive menstrual bleeding, Prescription hematuria Giddiness Pale cold clammy extremities Follow up with CBC and platelets on day Less / no urine output for 4 - 6 hours 3, 4 & 5 of fever If rapid platelet fall or warning signs develop **Admit Patient** See guidelines for admitted patients *Co morbid conditions e.g. pregnancy, very obese patients, extremes of age, Cirrhosis, CRF may warrant early admission at clinicians' discretion. (Made in collaboration with SriLankan Dengue Experts Dr. L Fernando, Dr. K Sallehewa, Dr.H Tissera, Dr. J Weeraman and WHO Guidelines 2011)

Guidelines for Management of Dengue Infection SHL/SIMS

Form III

Identification of Dengue Hemorrhagic Fever

Admission (For DSS See Form IV)

Critical phase/Impending critical phase

Absence of signs of Dengue Hemorrhagic Fever / Dengue Shock Syndrome

Critical phase (day 3 - 7; lasts for 24 - 48 hours)

If any one of these signs is present then go to Form IV for further management

Highly Suggestive of DHF

- Disproportionate tachycardia
- Narrowing of pulse pressure < 20 mm
- CRFT > 2 secs
- Tender hepatomegaly (DHF likely)
- Haemoconcentration

HCT 20% rise from baseline or rise approaching 20% if patient already on IV fluids

- Biochemistry
 - Serum albumin < 3.5 g/dl or 0.5 gm/dl fall during illness
- Non fasting serum cholesterol < 100 mg/dl or 20mg/dl fall during illness
- Oedematous gall bladder wall on U/S

Confirmed DHE**

- Ascites on U/S
- Pleural effusions (CXR Right lateral decubitus or chest U/S to detect minimal effusion)

Definitive evidence of plasma leakage

Management:

Some fluid restriction is essential during the critical phase(24-48hrs)

see:

- Algorithm for fluid management in critical patients
- Flow charts for hourly monitoring

Continue 4-6 hourly monitoring

Manage according to flow charts

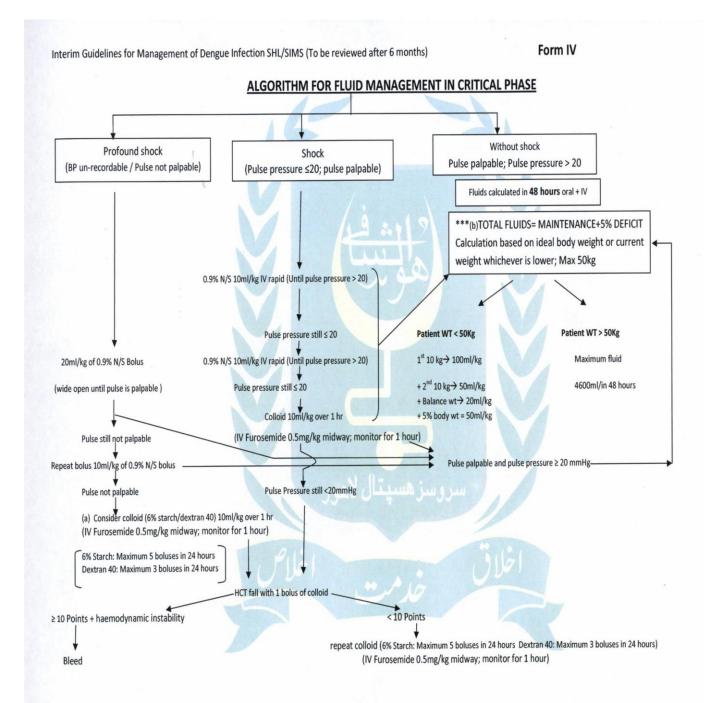
Convalescent phase: After the critical phase; lasts 5 - 7 days.

 Good appetite, Convalescent rash, Pruritus, Heamodynamic stability, Bradycardia, Diuresis, Stabilization of HCT, rise in WBC, Rise in platelet count. Management: maintain oral intake, antihistamine, rest, discharge

For DSS (Dengue Shock Syndrome) See the pertinent algorithm

(Made in collaboration with SriLankan Dengue Experts Dr. L Fernando, Dr. K Sallehewa, Dr. H Tissera, Dr. J Weeraman and WHO Guidelines 2011)

^{*} Reversal of neutrophil / lymphocyte ratio or reactive lymphocytosis within next 24 hrs is indicative of increased chances of entering the critical phase



Interim Guidelines for Management of Dengue Infection SHL/SIMS (To be reviewed after 6 months)

Form IV

Consider whole blood transfusion (10ml/kg) or packed cell volume (5ml/kg) (IV Furosemide 0.5mg/kg midway; monitor for 1 hour)

Important:

- o Boluses / blood / oral all included in total fluid calculation.
- Shock defined as pulse pressure ≤ 20 mmHg

Note:

*** Infusion rate should vary from 1.5 – 7 ml/kg/hr (IV+oral) keeping an eye on degree of plasma leakage.

Keep urine output 0.5 – 1.0 ml/Kg/hr and give fluid accordingly.

If heading towards fluid overload: switching to colloids can be needed as higher rate of crystalloids cannot be continued for longer hours If patient is not improving consider complications: (c)

(Made in collaboration with SriLankan Dengue Experts Dr. L Fernando, Dr. K Sallehewa, Dr.H Tissera, Dr. J Weeraman and WHO Guidelines 2011)

Choice of fluids:

Crystalloids:

0.9% N/S

5% DW+0.9 %N/S

< 6 months of age: 5%DW+0.45% N/S

Colloids:

6% Starch

Dextran 40 (When available)

Rate of infusion of colloids 10ml/Kg/Hr

½ bolus in 30 mins or full bolus in 60 mins

(C)

Complications: (consider when no improvement)

A: Acidosis Correct acidosis if pH is <7.35 and if HCO3-

level <15 mmol/l, NaHCO3 1ml/kg slow

bolus Max. 10ml (can be repeated upto 50ml)

B: Bleeding Consider Whole blood (10 ml/kg) or

packed cell (5 ml/kg)

C: Hypocalcemia Check serum calcium and QT intervals Give 10% calcium gluconate. Dose

1ml/kg/min, max 10ml at one time,

repeat 6 hourly if needed.

S: Sugar Levels Monitor Blood Sugar levels and

manage accordingly.

(b)

Calculation of Ideal Body Weight

- > Best Method: Weight for height using a growth
- Weigh for age using a growth chart
- In an emergency situation use these formulae

<1 year	Age (in Months)+9
	2
< 7 years	(Age x 2)+ 8
> 7 years	Age x 3
APLS	(Age + 4) x 2

Calculation of total fluids for critical period

M (Maintenance) 100ml/kg for 1st 10 kg

+50 ml/kg for next 10 kg

+20 ml/kg for balance wt

5% of body weight = +50ml x body wt (kg) Eg: Body weight 22 kg (This is ideal or actual body

weight, whichever is smaller)

 $=100 \times 10 + 50 \times 10 + 20 \times 2 = 1540 \text{ ml}$

 $= 50 \times 22 = 1100 \, ml$

M + 5% = 1540 + 1100 = 2640 ml

This is the total fluid volume this patient will need over the entire critical period irrespective of its length.

(b)

Ideal Body Weight (IBW)

When fluid requirement is calculated (both oral and IV), calculate only for IBW or actual body weight if it is lower than the IBW. The maximum wt for which fluid is calculated in any patient should not exceed 50 kg. Accordingly M+5% should not exceed 4600 ml in any patient.

Indications of Furosemide:

- Midway in the infusion of colloids in patients who are already in fluid overload or who are likely to be overloaded depending on the fluids already given.
- Midway between blood transfusions.
- In patients passing less than 0.5ml/kg/hr of urine despite receiving adequate fluids and having stable BP, pulse, Hct to improve the UOP.
- During recovery phase when there is pulmonary oedema or fluid overload.

Permission	DENG	UE INVESTIGATI	ON SUMMARY		
Name:	Age:		Hospital:	Ward	d:
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Platelet					
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ALT			Se.Creatinine		
PT / INR			Se. Na ⁺		
			Se. K ⁺		
			Se.Ca ²⁺ (Ionized)	
Date / Time		Date / Time			
CXR -R. Decubitus		Se. Albumin			
US Scan		Se. Cholester	ol		
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With	Permission	From	Sri Lankan	Dengue	Out break	Response	lean
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Monitoring Chart I - for Management of Dengue Patients - Febrile Phase (4 - 6 hourly)

Name of the patient: Wt: IBW: MRN#

Date time	HR /Min	BP mmHg	Pulse Pressure	CRFT Sec	Extremity Warm /Cold	RR	UOP ml	UOP ml/Kg/hr	HCT	Platelet Count x10 ³	Treatment /Remarks
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Platelet count	nl/Kg/hr	ş	UOP	extremities	CRFT	RR	Pulse Pressure	BP	HR	Remaining	Fluids Used	HCT		1	1.5	2		4	5	6	7	8	9	10		
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Monitoring Chart II for Management of DHF Patients During Critical Phase - Page-2

	+ 5% = ml for 24 hours		ml for 24 h	Suno
d: PRC/WBwidamiium 5 per 24n / 10 per 48 n	,			
Fluid ml/Kg/ hr				
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10				
9				_
80				
7				
6				
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HR				_
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Pressure				
RR				
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UOP ml/kg/hr				
Platelet				

With Permission From Sri Lankan Dengue Outbreak response team

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		Starting	Rate	Ending	Total Amount	Note
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Name		Age		HN	A	N .
Department	Ward			Attending	Physician	

Radiology Request Form

(For suspected Dengue Hemorrhagic Fever)

Sex:Date:		MRN No:	9
	النشار النساء		
Ultrasound:	The same of		
Ultrasound:			
Abdomen and pelvis to dete Chest to detect pleural effus			
X-Ray Chest:			
Right lateral decubitus to de	tect minimal pleural effus	sion.	
PA view to assess pleural eff	usion	7112	
Report by Radiologist:	بدمت		
		- lange	

Name & Signature