



**Ministry of Health & Family Welfare,
Government of India
New Delhi
2009**

**Facility Based Integrated
Management of Neonatal and
Childhood Illness (F-IMNCI)
Facility Based Care
Chart Booklet**



World Health Organization



Unicef

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Chart 1: Steps in the management of the sick child admitted to hospital: Summary of key elements

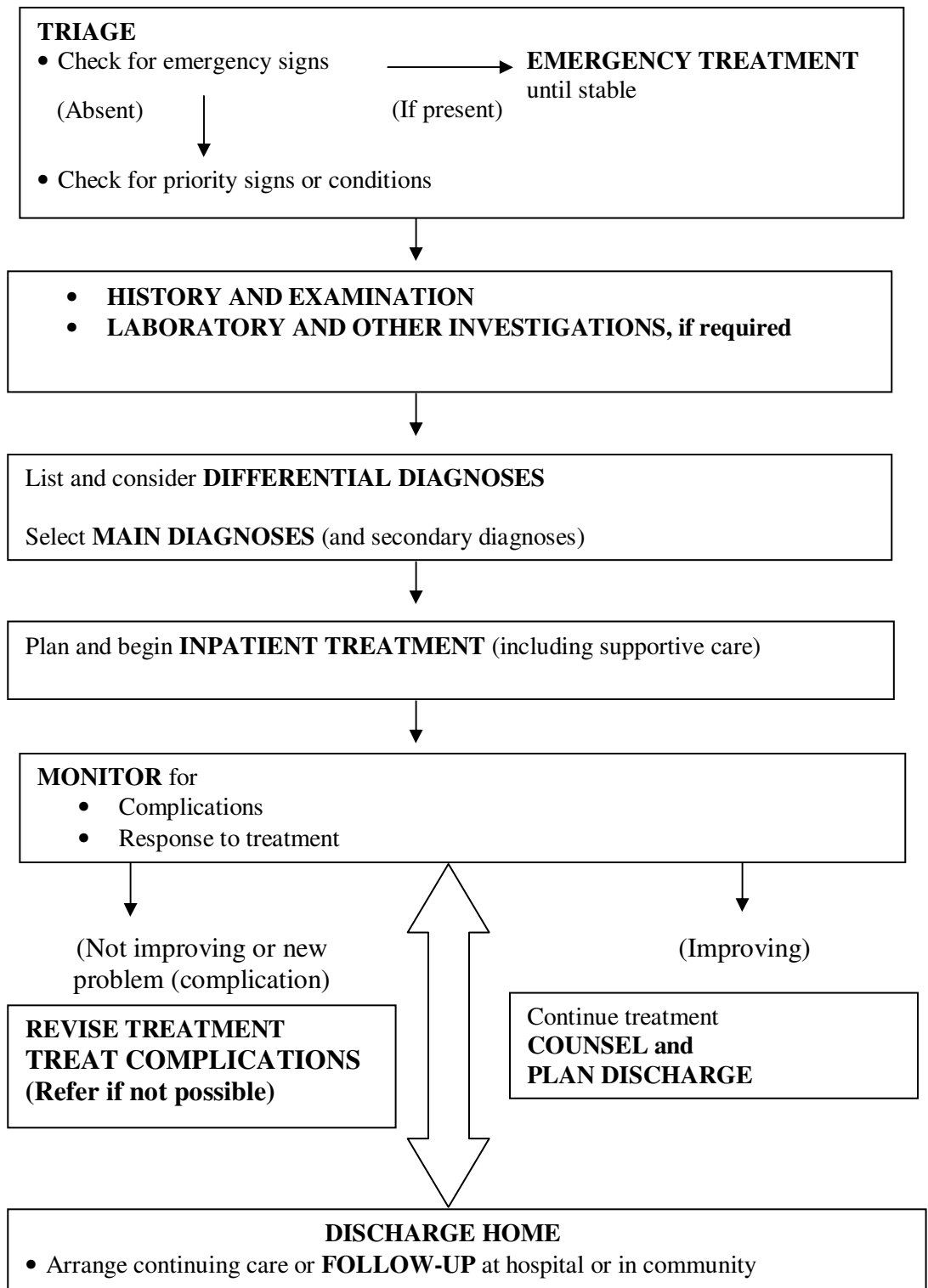
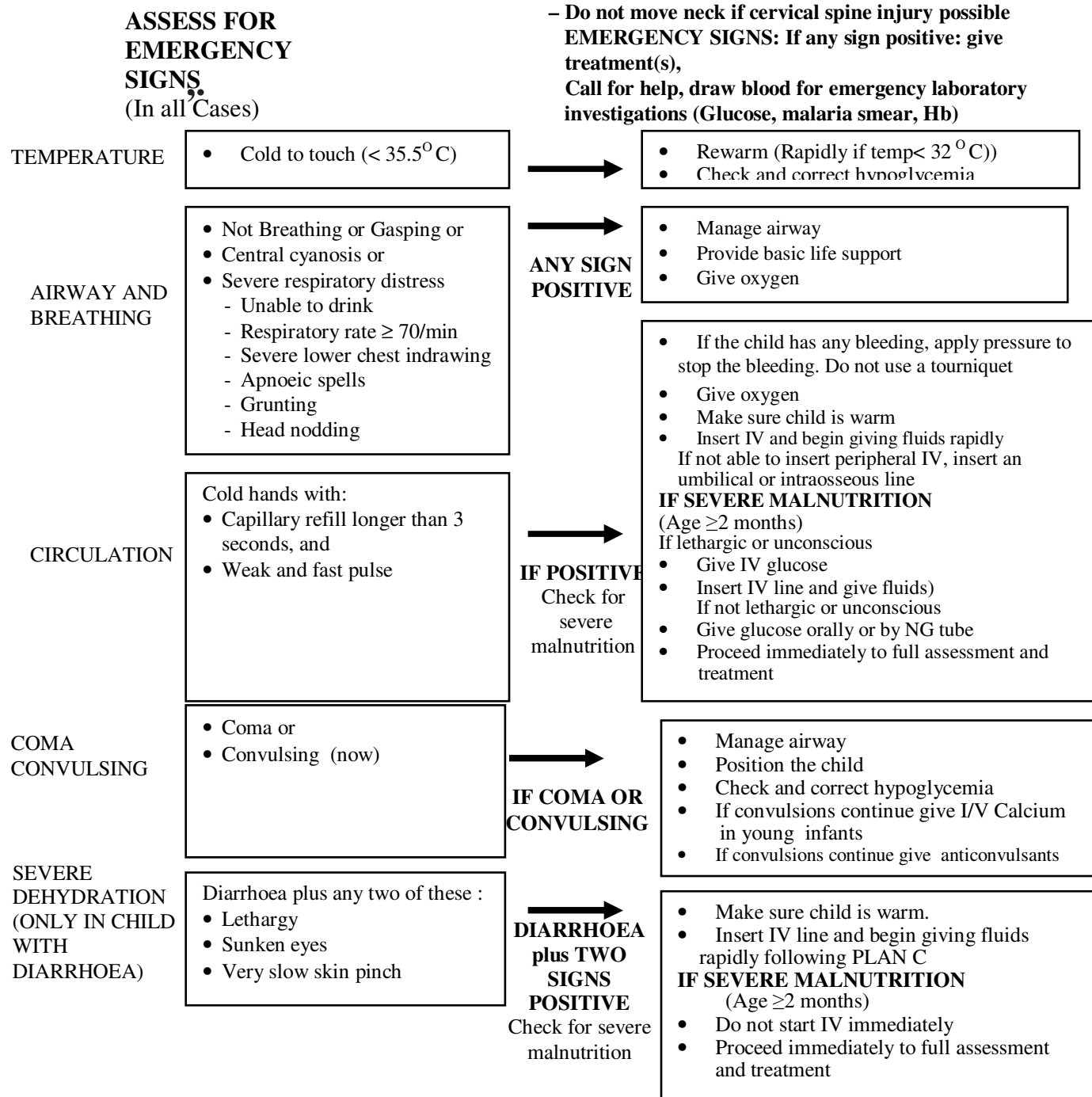


Chart 2: Triage of All Sick Children



IF THERE ARE NO EMERGENCY SIGNS LOOK FOR PRIORITY SIGNS:

These children need prompt assessment and treatment

- | | |
|--|---|
| <ul style="list-style-type: none"> Tiny baby (< 2 months) Temperature $< 36.5^{\circ}\text{C}$ or $> 38.5^{\circ}\text{C}$ Trauma or other urgent surgical condition Pallor (severe) wasting Poisoning Burns (major) | <ul style="list-style-type: none"> Respiratory distress (RR $> 60/\text{min}$) Bleeding Restless, continuously irritable, or lethargy Referral (urgent) Malnutrition : Visible severe Oedema of both feet |
|--|---|

Note: If a child has trauma or other surgical problems, get surgical help or follow surgical guidelines

NON-URGENT: Proceed with assessment and further treatment according to the child's priority

Chart 3: Management of hypothermia

- If a baby has a temperature of less than 36.5°C the baby has '**hypothermia**'. Confirm the diagnosis of hypothermia by recording actual body temperature

Mild hypothermia (36.0°C to 36.4°C)

- Skin-to-Skin contact is the best way to keep a baby warm and the best way to 're-warm' a baby who is cold to touch.

Moderate hypothermia (32°C to ≤ 36.0°C)

- Warm the young infant using Skin to Skin contact by the mother or by the father or any other adult.
- Ensure that temperature of the room where the rewarming takes place is at least 25°C.
- If Skin to Skin contact is not possible, radiant warmer may be used if available.
- Encourage mother to breastfeed more frequently.
- Check blood glucose and treat if hypoglycemia detected.

If the baby's temperature is not up to 36.5°C or more after 2 hours of 'rewarming', reassess the baby for other problems.

Severe hypothermia (<32°C)

- Warm immediately using a pre warmed radiant warmer.
- Remove cold or wet clothing. Dress in warm clothes and a cap, and cover with a warm blanket.
- Check and treat for hypoglycemia (chart 4).
- Treat for sepsis.
- Start IV fluids.
- Provide oxygen if indicated (chart 7).
- Monitor temperature of the baby every ½ hourly.

Chart 4: Management of hypoglycemia

- Insert IV line and draw blood rapidly for emergency laboratory investigations
- Check blood glucose; if low (<45 mg/dl in well nourished or <54 mg/dl in a severely malnourished child) or if dextrostix is not available :

Neonatal Hypoglycemia:

- Give 2 ml/kg of 10% glucose solution rapidly by IV injection.
- Start infusion of glucose at the daily maintenance volume according to the baby's age so as to provide 6 mg/kg/min of glucose in all cases of neonatal hypoglycemia
- **Recheck the blood glucose in 30 minutes. If it is still low, repeat the bolus of glucose (above) and increase concentration of glucose to 8 and if required to 10 mg/kg/min in the infusion. Do not discontinue the glucose infusion abruptly to prevent rebound hypoglycemia.**

If hypoglycemia is persisting despite above management, give one dose of Hydrocortisone: 5 mg/kg and refer to a higher health facility for management of refractory / persistent hypoglycemia.

Hypoglycemia beyond neonatal period:

- Give 5 ml/kg of 10% glucose solution rapidly by IV injection.
- Recheck the blood glucose in 30 minutes. If it is still low, repeat 5 ml/kg of 10% glucose solution.
- Feed the child as soon as conscious.

If not able to feed without danger of aspiration, give:

- IV fluids containing 5-10% glucose (dextrose), or
- Milk or sugar solution via nasogastric tube.

To make sugar solution, dissolve 4 level teaspoons of sugar (20 grams) in a 200 ml cup of clean water.

Chart 5: How to manage the airway

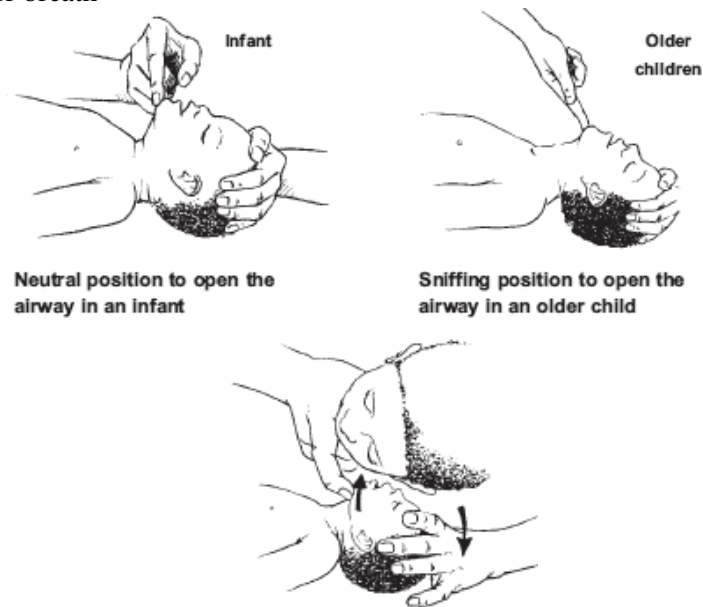
➤ No neck trauma is suspected

Child conscious

- Inspect mouth and remove foreign body, if present
- Clear secretions from throat
- Let child assume position of maximal comfort

Child unconscious

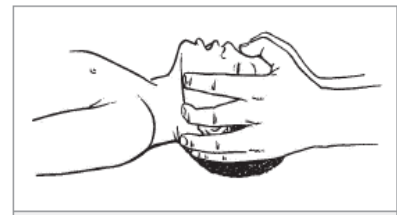
- Tilt the head as shown
- Inspect mouth and remove foreign body, if present
- Clear secretions from throat
- Check the airway by looking for chest movements, listening for breath sounds and feeling for breath



Look, listen and feel for breathing

➤ Neck trauma suspected (possible cervical spine injury)

- Stabilize the neck
- Inspect mouth and remove foreign body, if present
- Clear secretions from throat
- Check the airway by looking for chest movements, listening for breath sounds, and feeling for breath



Use jaw thrust without head tilt

Chart 6: Providing Basic Life Support

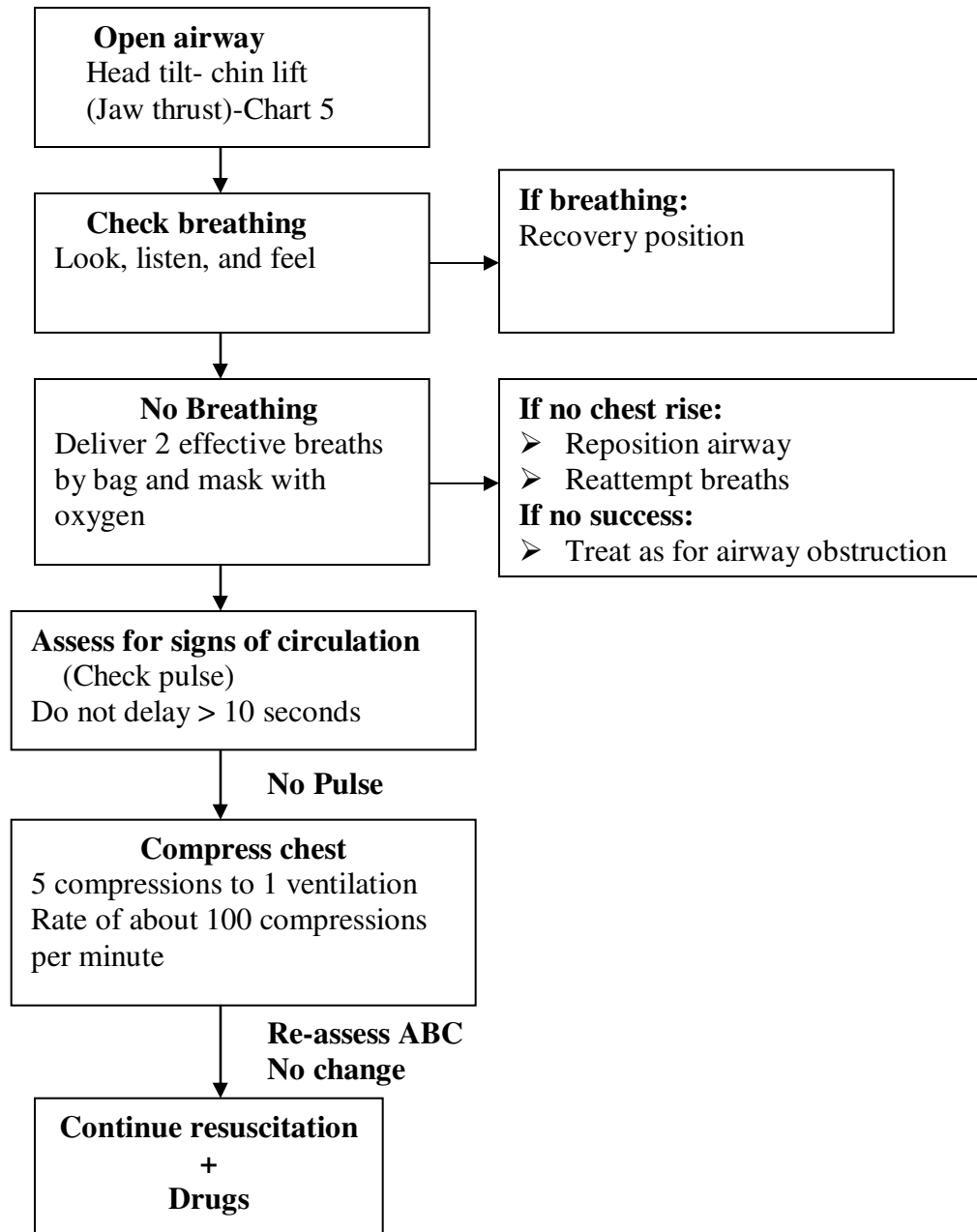


Chart 7: How to give oxygen

If limited oxygen supply, give priority to children who have:

- Have central cyanosis, or
- Are unable to drink (where this is due to respiratory distress).

If oxygen supply is more plentiful, give to children with any of the following:

- Severe lower chest wall indrawing
- Respiratory rate of 70/min or above
- Apnoeic spells
- Grunting with every breath (in young infants)
- Head nodding.

Give oxygen:

- **Nasal Prongs**
 - Place the prongs just inside the nostrils and secure with tape
- **Nasal Catheter**
 - Use an 6-8 F size tube
 - Measure the distance from the side of the nostril to the inner eyebrow margin with the catheter
 - Insert the catheter to this depth
 - Secure with tape
- **Head Box**
 - Place a head box over the baby's head.
 - Ensure that the baby's head stays within the head box, even when the baby moves.
 - Adjust the flow of oxygen to achieve the desired concentration.

Methods for administering oxygen to maintain SPO2 above 90%		
Method	Nasal catheter	/prongs
Head box		
Flow & Concentration	• Low = 0.5 L per minute	• Low = 3 L per minute
	• Moderate = 0.5 to 1 L per min	• Moderate = 3 to 5 L per min
	• High = 1 - 2 L per min	• High = 5 - 6 L per min

Chart 8: How to give IV fluids rapidly for shock in a child without severe malnutrition

- Check that the child is not severely malnourished. **If the child is severely malnourished, the fluid volume and rate are different – see Chart 10.**
- Insert an intravenous line (and draw blood for emergency laboratory investigations).
- Attach Ringer's lactate or normal saline – make sure the infusion is running well.
- Infuse 20 ml/kg as rapidly as possible (In **neonates give 10 ml/kg in 30 minutes**).
- Correct hypoglycaemia.

Age / weight	Volume of Ringer's lactate or normal saline solution (20 ml/kg)
2 months (<4 kg)	75 ml
2 - <4 months (4 - <6 kg)	100 ml
4 - <12 months (6 - <10 kg)	150 ml
1 - <3 years (10 - <14 kg)	250 ml
3 - <5 years (14 – 19 kg)	350 ml

Reassess child after appropriate volume has run in

Reassess after first infusion: If no improvement, repeat 20 ml/kg as rapidly as possible.
 Reassess after second infusion: If no improvement, repeat 20 ml/kg as rapidly as possible.
 Reassess after third infusion: If no improvement, give blood 20 ml/kg over 30 minutes, unless the child has profuse diarrhoea (if profuse diarrhoea give Ringer's lactate or normal saline).

Reassess after fourth infusion:

- If improvement with fluid bolus at any stage: Fluid responsive shock: Observe and continue fluids (70 ml/kg, see chart 13).
 - If deterioration (features of fluid over load): Stop fluid bolus and observe.
 - If no improvement with fluid boluses: Fluid refractory shock: Manage as septic shock
 - Start dopamine infusion at 10mcg/Kg/min and titrate up to 20mcg/kg/min* (after second bolus in neonates)
 - Add broad spectrum antibiotics.
 - If no response: Dopamine resistant shock:
 - If you suspect adrenal insufficiency, give IV Hydrocortisone 1-2 mg/kg initial dose.
 - If no response: See standard inpatient guidelines or refer the patient.
- * 6× body weight (kg) equals milligrams to add to sufficient diluent to create a total volume of 100 ml and 1 ml/hr delivers 1.0 µg/kg per minute

Chart 9: How to give IV fluids for shock in a child with severe malnutrition

Give this treatment only if the child has signs of **shock and is lethargic or has lost consciousness**:

- Insert an IV line (and draw blood for emergency laboratory investigations).
- Weigh the child (or estimate the weight) to calculate the volume of fluid to be given.
- Give IV fluid 15 ml/kg over 1 hour. Use one of the following solutions :
 - Half-normal saline with 5% glucose or Ringer's lactate.

Weight	Volume IV fluid	Weight	Volume IV fluid
Give over 1 hour (15 ml/kg)		Give over 1 hour (15 ml/kg)	
4 kg	60 ml	12 kg	180 ml
6 kg	90 ml	14 kg	210 ml
8 kg	120 ml	16 kg	240 ml
10 kg	150 ml	18 kg	270 ml

- Measure the pulse and breathing rate at the start and every 5-10 minutes.

If there are signs of improvement (pulse and breathing rates fall) :

- Give repeat IV 15 ml/kg over 1 hour; then
- Switch to oral or nasogastric rehydration with ORS, 10 ml/kg/h up to 10 hours;
- Initiate refeeding with starter F-75

If the child fails to improve after the first 15 ml/kg IV, assume the child has septic shock:

- Give maintenance IV fluid (4 ml/kg/h).
- Initiate refeeding with starter F-75
- Start antibiotic treatment

If the child deteriorates during the IV rehydration (breathing increases by 5 breaths/min or pulse by 15 beats/min), stop the infusion because IV fluid can worsen the child's condition.

Chart 10: How to Manage convulsions

Up to 2 weeks of age

- Secure IV access
- If blood sugar < 45 mg/dl, give 2 ml/kg 10% dextrose
- If seizures continue: IV 10% Calcium gluconate 2ml/kg over 10 minutes while monitoring heart rate (in young infants)
- If seizures continue: IV phenobarbitone 20 mg/kg over 20 min
- If no control: Repeat phenobarbitone 10 mg/kg till a total of 40 mg/kg
- If seizures continue: Give phenytoin 20 mg/kg over 20 min

Table: Dose of Phenobarbital for young infants

Weight of infant	2 kg or less	2-3 kg or less
Initial dose of phenobarbital, 20 mg/kg	0.2 ml	0.3 ml
Repeat dose if convulsions continue	0.1 ml	0.15 ml

Beyond 2 weeks of age: Give Diazepam rectally:

- Draw up the dose from an ampoule of diazepam into a tuberculin (1 ml) syringe. Base the dose on the weight of the child, where possible. Then remove the needle.
- Insert a syringe into the rectum 4 to 5 cm and inject the diazepam solution.
- Hold buttocks together for a few minutes.

Diazepam given rectally

10 mg / 2 ml solution

Age / weight	Dose 0.1 ml/kg
2 weeks to 2 months (<4 kg)*	0.3 ml
2 - <4 months (4 - <6 kg)	0.5 ml
4 - <12 months (6 - <10 kg)	1.0 ml
1 - <3 years (10 - <14 kg)	1.25 ml
3 - <5 years (14 – 19 kg)	1.5 ml

- **If convulsion continues after 10 minutes, give a second dose of diazepam rectally** [or give diazepam intravenously (0.05 ml/kg) if IV infusion is running]
- **If convulsion continues after another 10 minutes, give a third dose of diazepam or Phenobarbital IV or IM).**

Caution

Do not use Diazepam for control of convulsions in infants up to 2 weeks of age

Continue Supportive Care and Treat Underlying Cause e.g. Meningitis

Chart 11: How to position the unconscious child

➤ If neck trauma is not suspected:

- Turn the child on the side to reduce risk of aspiration
- Keep the neck slightly extended and stabilize by placing cheek on one hand
- Bend one leg to stabilize the body position



➤ If neck trauma is suspected:

- Stabilize the child's neck and keep the child lying on the back
- Tape the child's forehead to the sides of a firm board to secure this position
- Prevent the neck from moving by supporting the child's head (e.g. using litre bags of IV fluid on each side)
- If vomiting, turn on the side, keeping the head in line with the body.



Chart 12: How to treat severe dehydration in an emergency setting (Plan C): if no severe malnutrition

- Start IV fluid immediately. If the child can drink, give ORS by mouth while the drip is set up. Give 100 ml/kg Ringer's lactate solution (or, if not available, normal saline), divided as follows :

AGE	First give 30 ml/kg in	Then give 70 ml/kg in
Infants (under 12 months)	1 hour*	5 hours
Children (12 months up to 5 years)	30 minutes*	2½ hours

* Repeat once if radial pulse is still very weak or not detectable.

- Reassess the child every 15-30 minutes. If hydration status is not improving, give the IV drip more rapidly.
- Also give ORS (about 5 ml/kg/hour) as soon as the child can drink: usually after 3-4 hours (infants) or 1-2 hours (children).

Weight	Volume of ORS solution per hour
<4 kg	15 ml
4 - <6 kg	25 ml
6 - <10 kg	40 ml
10 - <14 kg	60 ml
14 – 19 kg	85 ml

- **If IV treatment not possible, give ORS 20 ml/kg/hour for 6 hours(120 ml/kg) by NG tube**
- Reassess an infant after 6 hours and a child after 3 hours. Classify dehydration. Then choose the appropriate plan (A,B, or C) to continue treatment
- Give oral antibiotic for cholera if child 2 years or older.
- If possible, observe the child for at least 6 hours after rehydration to be sure that the mother can maintain hydration by giving the child ORS solution by mouth.

Chart 13: Neonatal Resuscitation

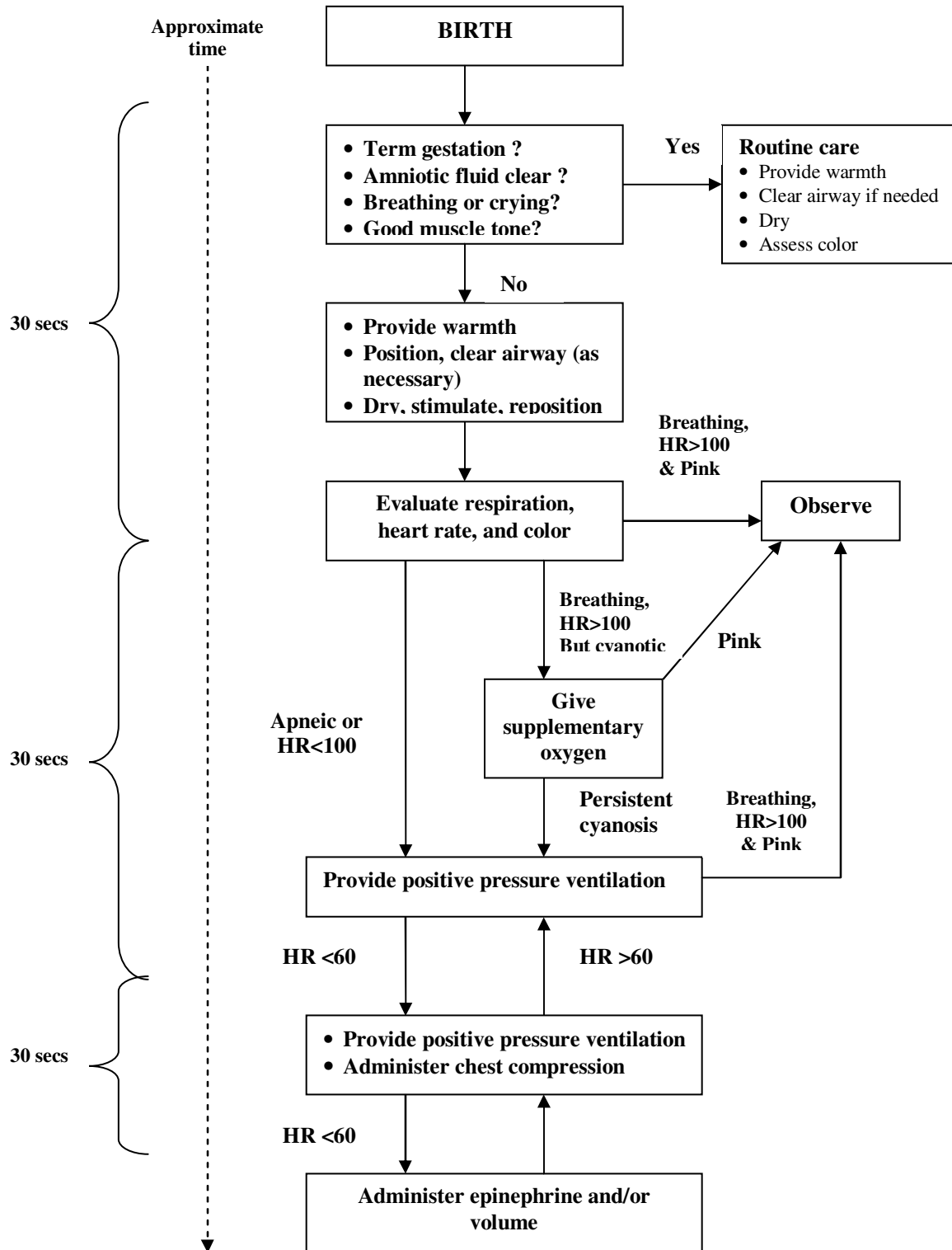


Chart 14: Guidelines for feeding and fluid requirement in small newborn babies

1. Guidelines for fluid requirements

Fluid requirement of neonates (ml/per kg body weight)

Day of life	Fluid Volume/Kg
1.	60
2.	70
3.	80
4.	90
5.	100
6.	110
7. onwards	120

In babies less than 1500 gm increase the fluid upto 150ml/Kg/Day by D 10.

Type of fluid to be given

- First 2 days : 10% dextrose in water
- After 2 days: Use either commercially available pediatric maintenance fluid containing 25mmol/L of sodium (e.g. Isolyte-P) otherwise prepare the fluid by adding 20 ml NS + 1ml Kcl+79 mL of 10% dextrose to make 100ml fluid.

2. Guidelines for the modes of providing fluids and feeding Feeding schedule

Age	Categories of neonates		
Birth weight (gm)	<1200	1200-1800	>1800
Gestation (weeks)	<30	30-34	>34
Initial	-IV fluids -Triage Gavage feeds if not sick	Gavage feeds	- Breast feeds - If unsatisfactory, give cup-spoon feeds
After 1-3 days	Gavage feeds	Cup-spoon feeds	Breast feeds
Later (1-3 wks)	Cup-spoon feeds	Breast feeds	Breast feeds
After some time (4-6 wks)	Breast feeds	Breast feeds	Breast feeds

Chart 15: Management of Sick young infants (Tiny Baby)

Indications for Admission	
<ul style="list-style-type: none"> ➤ Emergency signs ➤ Unable to breastfeed ➤ Respiratory distress (Respiratory rate 60/min or more) ➤ Abdominal distention ➤ Bulging anterior fontanelle ➤ Yellow palms and soles ➤ Diarrhea ➤ Vomiting ➤ Bleeding ➤ Blood in stool ➤ Hypothermia ➤ Fever 	
General principles of management	
<ol style="list-style-type: none"> 1. Provide warmth, ensure consistently normal temperature 2. Start intravenous line. 3. If perfusion is poor as evidenced by capillary refill time (CRT) of more than 3 seconds, manage shock as described earlier. 4. Infuse glucose (10 percent) 2 ml/kg stat. 5. Inject Vitamin K 1 mg intramuscularly. 6. Start oxygen by hood or mask, if cyanosed or grunting. 7. Provide gentle physical stimulation, if apneic. 8. Provide bag and mask ventilation with oxygen if breathing is inadequate. 9. Avoid enteral feed if very sick, give maintenance fluids intravenously 10. Consider use of dopamine if perfusion is persistently poor. 	

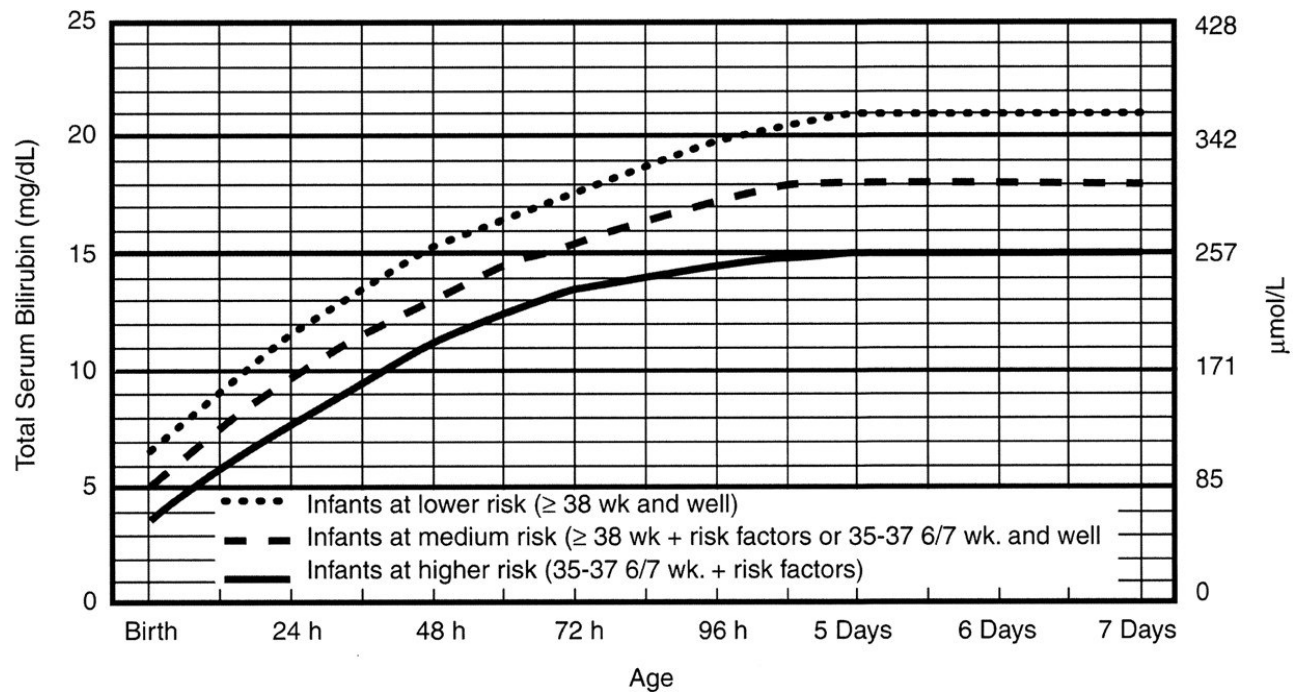
WEIGHT	Inj. Ampicillin. 50 mg/kg Add 2.1 ml sterile water to a vial of 5000 mg to give 200 mg/1.0 ml	Inj. Gentamicin 5 mg/kg Vial 20 mg/2ml or add 6 ml water to 2 ml vial containing 80 mg
1 kg	0.25 ml	0.5 ml
2 kg	0.5 ml	1.0 ml
3 kg	0.75 ml	1.5 ml
4 kg	1.0 ml	2.0 ml
5 kg	1.25 ml	2.5 ml

Chart 16: Checklist for young infant care

T.A.B.C.F.M.F.M.C.F.

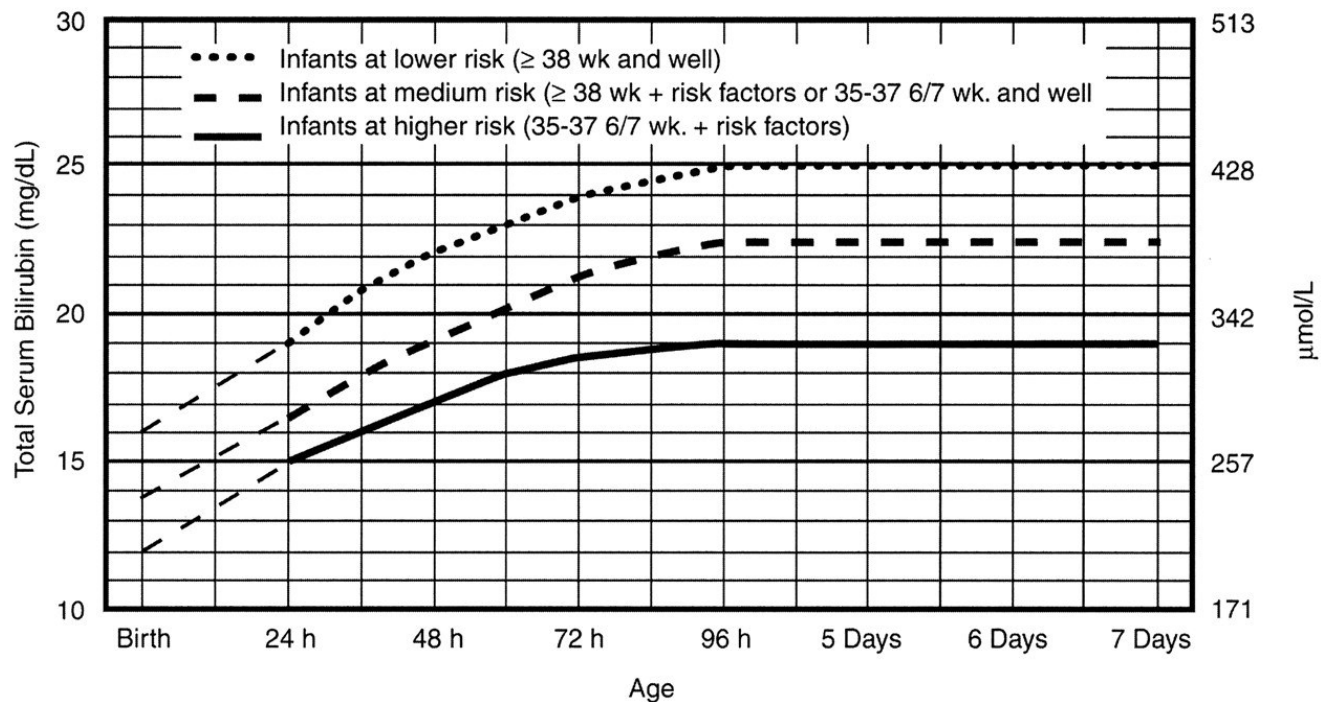
S. NO	CHECKLIST	ASSESSMENT	ACTION
1	Temperature	Mild hypothermia	Rewarm by KMC
		Hypothermia (Moderate/Severe)	Rapid Rewarming by radiant warmer
		Fever	Removal of excess clothing, change environment, Sepsis screen
2	Airway	Obstructed	Open the airway (Position and suction)
3	Breathing	Apnoea/Gasping	PPV with Bag and Mask
		Respiratory Distress	Oxygen
4	Circulation	Shock	Give 20 ml/Kg Normal saline/RL in 30 min
5	Fluids	No shock	Maintenance Fluid
6	Medication	Suspected sepsis	Antibiotics
7	Feeding		As per wt & age guidelines
8	Monitor	Temperature, Respiration, Colour, Heart Rate, CRT, Danger Signs	
9	Communication		For Home care: <ul style="list-style-type: none"> ➤ Exclusive Breast Feeding ➤ Maintain Temperature ➤ Cord & Eye Care ➤ Danger Signs ➤ Maternal Health Care during referral
10	Follow Up		

Chart 17: Guidelines for initiating Phototherapy in Neonatal Hyperbilirubinemia



- Use total bilirubin. Do not subtract direct reacting or conjugated bilirubin.
- Risk factors = isoimmune hemolytic disease, G6PD deficiency, asphyxia, significant lethargy, temperature instability, sepsis, acidosis, or albumin < 3.0g/dL (if measured)
- For well infants 35-37 6/7 wk can adjust TSB levels for intervention around the medium risk line. It is an option to intervene at lower TSB levels for infants closer to 35 wks and at higher TSB levels for those closer to 37 6/7 wk.
- It is an option to provide conventional phototherapy in hospital or at home at TSB levels 2-3 mg/dL (35-50mmol/L) below those shown but home phototherapy should not be used in any infant with risk factors.

Chart 18: Guidelines for Exchange Transfusion in Neonatal Hyperbilirubinemia



- The dashed lines for the first 24 hours indicate uncertainty due to a wide range of clinical circumstances and a range of responses to phototherapy.
- Immediate exchange transfusion is recommended if infant shows signs of acute bilirubin encephalopathy (hypertonia, arching, retrocollis, opisthotonos, fever, high pitched cry) or if TSB is ≥ 5 mg/dL ($85 \mu\text{mol/L}$) above these lines.
- Risk factors - isoimmune hemolytic disease, G6PD deficiency, asphyxia, significant lethargy, temperature instability, sepsis, acidosis.
- Measure serum albumin and calculate B/A ratio (See legend)
- Use total bilirubin. Do not subtract direct reacting or conjugated bilirubin
- If infant is well and 35-37 6/7 wk (median risk) can individualize TSB levels for exchange based on actual gestational age.

Chart 19: Treatment of very severe pneumonia and severe pneumonia

➤ **Admit the child to hospital**

➤ **Antibiotic therapy**

For very severe pneumonia - Give ampicillin (50 mg/kg IM/IV every 6 hours) and gentamicin (7.5 mg/kg IM/IV once a day) for 10 days. Alternatively, give chloramphenicol (25 mg/kg IM or IV every 8 hours or use ceftriaxone (80 mg/kg IM or IV once daily) for 10 days.

Age / weight	Inj. Ampicillin 50 mg/kg 6 hrly Add 2.1 ml sterile water to vial of 500mg (500mg/2.5ml)	Inj. Gentamicin 7.5 mg/kg OD Add 6ml sterile water to vial of 80mg(10mg/ml)	Inj. Chloramphenicol 25 mg/kg 8 hrly Add 5ml sterile water to vial of 1gm =5.6ml (180mg/ml)
2 - <4 months (4 - <6 kg)	1 ml	2.25- 3.75 ml	0.75 ml
4 - <12 months (6 - <10 kg)	2 ml	4.5 – 6.75 ml	1 ml
1 - <3 years (10 - <14 kg)	3 ml	7.5 – 10.0 ml	1.5 ml
3 - <5 years (14 – 19 kg)	5 ml	10.5 – 14 ml	2.5 ml

For severe pneumonia - Give benzylpenicillin (50 000 units/kg) or ampicillin (50 mg/kg) IM or IV every 6 hours) .

Age / weight	Inj. Benzylpenicillin 50, 000units/kg 6 hrly Add 9.6 ml sterile water to vial of 600mg (1,000,000units/10ml) Give IV	Inj. Benzylpenicillin 50, 000units/kg 6 hrly Add 1.6ml sterile water to vial of 600mg (1,000,000units/2ml) Give IM	Oral Amoxycillin 15 mg/kg 3 times a day 250 mg tablet
2 - <4 months (4 - <6 kg)	2 ml	0.4 ml	1/4
4 - <12 months (6 - <10 kg)	3.75 ml	0.75 ml	1/2
1 - <3 years (10 - <14 kg)	6 ml	1.2 ml	3/4
3 - <5 years (14 – 19 kg)	8.5 ml	1.7 ml	1

➤ **Oxygen therapy**

➤ **Supportive care**

Chart 20: Management of acute asthma

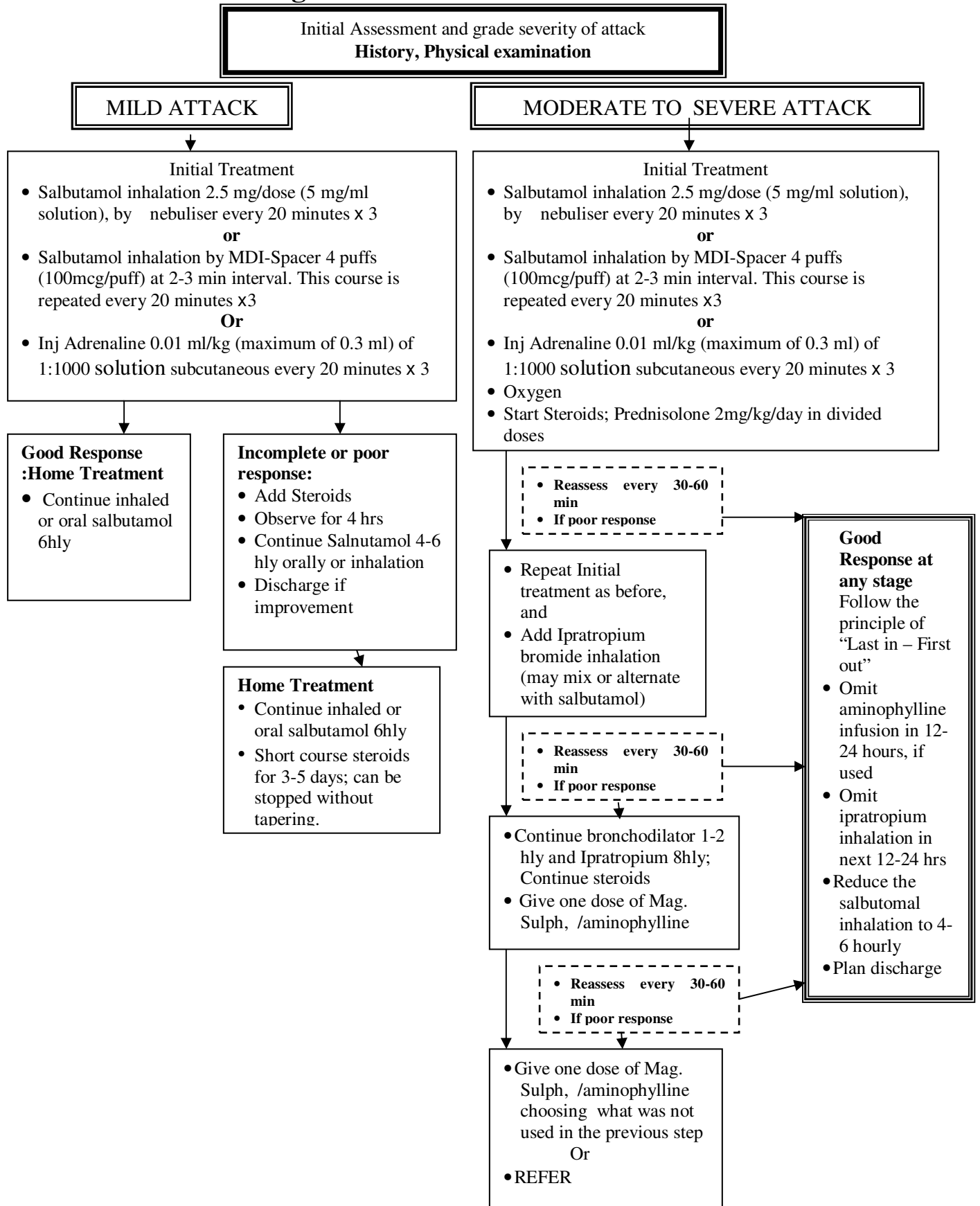


Chart 21: Diarrhoea Treatment Plan B: Treat Some Dehydration with ORS

GIVE RECOMMENDED AMOUNT OF ORS IN CLINIC OVER 4-HOUR PERIOD

- Determine amount of ORS to give during first 4 hours.

Age*	Up to 4 months	4 months up to 12 months	12 months up to 2 years	2 years up to 5 years
Weight in kg	< 6 kg	6 - < 10 kg	10 - < 12 kg	12 – 19 kg
in ml	200-400	400-700	700-900	900-1400

* Use the child's age only when do not know the weight. The approximate amount of ORS required (in ml) can also be calculated by multiplying the child's weight (in Kg) by 75.

- If the child wants more ORS than shown, give more.
- **Show the mother how to give ORS solution :**
 - Give frequent small sips from a cup.
 - If the child vomits, wait 10 minutes. Then continue, but more slowly.
 - Continue breastfeeding but stop other feeding.
- **After 4 hours :**
 - Reassess the child and classify the child for dehydration.
 - Select the appropriate plan to continue treatment.
 - Begin feeding the child in clinic.
- **If the mother must leave before completing treatment :**
 - Show her how to prepare ORS solution at home.
 - Show her how much ORS to give to finish 4-hour treatment
 - Give her enough ORS packets to complete rehydration. Also give 2 packets as recommended in Plan A.
 - Explain the 4 Rules of Home Treatment :

1. Give extra fluid
 2. Give zinc supplements
 3. Continue feeding
 4. When to return

}

Plan A

Chart 22: Diarrhoea Treatment Plan A: Treat Diarrhoea at Home

COUNSEL THE MOTHER ON THE 4 RULES OF HOME TREATMENT

1. GIVE EXTRA FLUID (AS MUCH AS THE CHILD WILL TAKE)

➤ TELL THE MOTHER :

If the child is exclusively breastfed: Breastfeed frequently and for longer at each feed.

If passing frequent watery stools:

- For less than 6 months age give ORS and clean water in addition to breast milk
- If 6 months or older give one or more of the home fluids in addition to breast milk.

If the child is not exclusively breastfed: Give one or more of the following home fluids; ORS solution, yoghurt drink, milk, lemon drink, rice or pulses based drink, vegetable soup, green coconut water or plain clean water.

It is especially important to give ORS at home when:

- The child has been treated with Plan B or Plan C during this visit
- The child cannot return to a clinic if diarrhoea worsens.
- **TEACH THE MOTHER HOW TO MIX AND GIVE ORS. GIVE THE MOTHER 2 PACKETS OF ORS TO USE AT HOME.**
- **SHOW THE MOTHER HOW MUCH FLUID TO GIVE IN ADDITION TO THE USUAL FLUID INTAKE :**

Up to 2 years	50 to 100 ml after each loose stool
2 years or more	100 to 200 ml after each loose stool

Tell the mother to:

- Give frequent small sips from a cup.
- If the child vomits, wait 10 minutes. Then continue, but more slowly.
- Continue giving extra fluid until the diarrhoea stops.

2. GIVE ZINC SUPPLEMENTS

➤ TELL THE MOTHER HOW MUCH ZINC TO GIVE :

2 months Up to 6 months	10 mg per day for 14 days
6 months and more	20 mg per day for 14 days

- **SHOW THE MOTHER HOW TO GIVE THE ZINC SUPPLEMENTS**
- **REMIND THE MOTHER TO GIVE THE ZINC SUPPLEMENT FOR THE FULL 10-14 DAYS.**

3. CONTINUE FEEDING

4. WHEN TO RETURN: Advise mothers to return immediately if:

- Not able to drink or breastfeed
- Becomes sicker
- Develops a fever
- Blood in stools
- Drinking poorly

If the child shows none of these signs but is still not improving, follow-up at 5 days.

Chart 23: Management of dysentery

- Young infants (<2 months):
 - Admit and rule out surgical causes (for example, intussusceptions) - and refer to a surgeon, if appropriate.
 - Give the young infant IM/IV ceftriaxone (100 mg/kg) once daily for 5 days.
- Child: Give oral antibiotics for 3-5 days. In admitted children IM/IV Ceftriaxone (100 mg/kg) once daily for 5 days may be used.

CHILD WITH LOOSE STOOL WITH BLOOD		
↓		
Severely Malnourished?	→Yes→	Refer To Hospital
↓		
NO		
↓		
Give Antimicrobial For Shigella		
↓		
Better In 2 Days	→Yes→	Complete 3 Days Treatment
↓		
NO		
↓		
Initially Dehydrated, Age < 1 Year Or Measles in Past 6 Weeks	→Yes→	Refer To Hospital
↓		
NO		
↓		
Change To Second Antimicrobial For Shigella		
↓		
Better In 2 Days	→Yes→	Complete 3 Days Treatment
↓		
NO		
↓		
Refer To Hospital Or Treat For Amoebiasis		

Antimicrobials that are effective for treatment of Shigellosis	Antimicrobials that are ineffective for treatment of Shigellosis
Ciprofloxacin 15mg/Kg/2 times per day for 3 days Ceftriaxone (100 mg/kg) IM/IV once daily for 5 days	- Metronidazole -streptomycin - tetracyclines - chloramphenicol -sulfonamides - amoxycillin - nitrofurans (e.g. nitrofurantoin, furazolidone) - aminoglycosides (e.g. gentamicin, kanamycin) - first and second generation cephalosporins (e.g. cephalixin, cefamandole).

Chart 24: Management of persistent diarrhoea

Admit child with persistent diarrhoea if:

- Dehydrated (severe persistent diarrhoea) or
- Has associated severe malnutrition or severe illness, or
- Fails to routine OPD management for persistent diarrhea

Management of a Child admitted with persistent diarrhoea

- Manage dehydration as Plan B or C
- Screen for and treat associated systemic infections (pneumonia, otitis media, UTI, dysentery, amoebiasis, giardiasis)
- Supplementaty multivitamins and minerals for atleast 2 weeks
- Feeding

Up to 6 months

Encourage exclusive breastfeeding. Help mothers who are not breastfeeding exclusively to do so. If child is not breastfeeding give a breast milk substitute that is low in lactose such as yoghurt or is lactose free.

6 months or older: Three recommended diets

The Initial Diet A: [Reduced lactose diet; milk rice gruel, milk sooji gruel, rice with curd, Dalia]

Ingredients quantity	Measures	Approximate
Milk 40 ml	1/3 cup	
Sugar 2 g	½ level tsp	
Oil	½ level tsp	2 g
Puffed rice powder*	4 level tsp	12.5 g
Water	½ katori	

to make 100ml

* can be substituted by cooked rice or sooji

Chart 24 (Contd): Management of persistent diarrhoea

The second Diet B: [Lactose-free diet with reduced starch]

Ingredients	Measures	Approximate quantity
Example of one diet		
Egg white	3 level tsp	15 g
Puffed rice powder*	2 level tsp	7 g
Glucose	$\frac{3}{4}$ level tsp	3 g
Oil	1 level tsp	4 g
Water	$\frac{3}{4}$ Katori to make 100ml	
* can be substituted with cooked rice		

The Third Diet C: [Monosaccharide based diet]

Ingredients	Measures	Approximate quantity
Chicken	2 $\frac{1}{2}$ level tsp	12 g
or		
Egg white	5 level tsp	25 g
Glucose	$\frac{3}{4}$ level tsp	3 g
Oil	1 level tsp	4 g
Water	$\frac{1}{2}$ – $\frac{3}{4}$ katori	to make 100ml

Chart 25: Management of severe and complicated malaria cases

Emergency measures: to be taken within the first hour

- Check and correct hypoglycemia (chart 4)
- Treat convulsions (chart 10)
- Manage shock, If present (chart 8 and 9)
- If the child is unconscious, minimize the risk of aspiration pneumonia (Insert a nasogastric tube and remove the gastric contents)
- Treat severe anemia, .if present
- Antimalarial treatment
- Provide supportive care if child is unconscious
- Give treatment for bacterial meningitis if cannot be excluded

Drugs for Malaria:

Age or weight	Intravenous* or Intramuscular Quinine (2 ml ampoules)		Oral Quinine sulfate tablet	
	150mg/ml**	300mg/ml**	200mg **	300mg**
2 - <4 months (4 - <6 kg)	0.4ml	0.2 ml	¼	-
4 - <12 months (6 - <10 kg)	0.6 ml	0.3 ml	½	-
1 - < 2 years (10 - < 12 kg)	0.8 ml	0.4 ml	¾	½
2 - <3 years (10 - <14 kg)	1.0 ml	0.5 ml	¾	½
3 - <5 years (14 – 19 kg)	1.2 ml	0.6 ml	1	½

* Loading dose is double the maintenance dose given above

**Quinine salt

- **IV Quinine:** Give a loading dose of 20 mg/kg of quinine dihydrochloride in 10 ml/kg of IV fluid, 5% dextrose saline over 4 hours followed by maintenance dose of 10mg/kg 8 hourly; infusion rate should not exceed 5 mg salt/kg of body weight per hour. The parenteral treatment should be given for minimum of 48 hours and once the child tolerates oral therapy, quinine 10 mg/kg bw three times a day with clindamycin (20 mg/kg/day in 3 divided doses for 7 days) should be given to complete 7 days of treatment. Give single gametocidal dose of primaquine (0.75 mg/kg) to prevent transmission in the community. It is essential that quinine is given only if there is close nursing supervision of the infusion and control of the infusion rate. If this is not possible, it is safer to give IM quinine.
- **IM Quinine:** Give 10 mg of quinine salt per kg IM and repeat after 4 hours. Then, give every 8 hours until the malaria is no longer severe. The parenteral solution should be diluted before use because it is better absorbed and less painful.

OR

- **IM Artemether:** Give 3.2 mg/kg on admission then 1.6 mg/kg daily for a minimum of three days until the child can take oral treatment.
- **IV or IM Artesunate:** Give 2.4 mg/kg on admission, followed by 1.2 mg/kg after 12 hours and 24 hr, then once a day for a minimum of 3 days or until the child can take oral treatment

Complete treatment following parenteral artemisin derivatives by giving a full course of artemisin based combination therapy(ACT). (See Annexure 3.3 drug policy).

- Arteether is not recommended in children.

Chart 26: Management of bacterial meningitis

- Manage hypoglycemia (chart 4)
- Manage convulsions (chart 10)
- Give antibiotic treatment*
- Give daily fluids
- Treat malaria if present
- Provide acute nutritional support and nutritional rehabilitation
- Review therapy when CSF results are available

In confirmed cases give treatment for at least 10 days

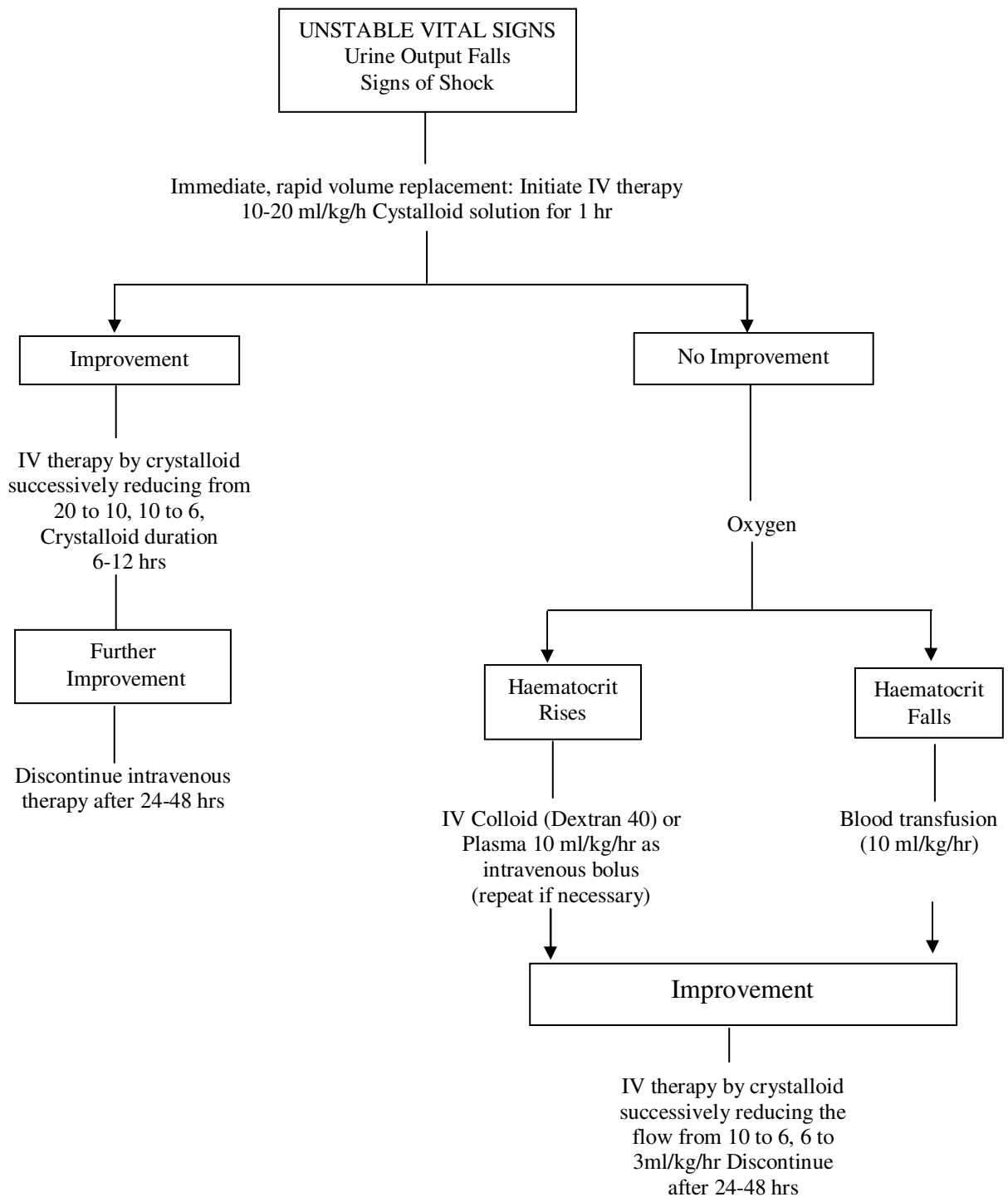
*For antibiotic treatment choose one of the following regimens:

1. Chloramphenicol: 25 mg/kg IM/ IV every 6 hours plus ampicillin: 50 mg/kg IM/ IV every 6 hours
OR
2. Chloramphenicol: 25 mg/kg IM/ IV every 6 hours
plus benzylpenicillin: 60 mg/kg (100 000 units/kg) every 6 hours IM/ IV.
3. Where there is known significant drug resistance of common pathogens (e.g. Haemophilus influenzae or Pneumococcus) use a third-generation cephalosporin.

Age / weight	Inj. Cefotaxime. 50 mg/kg 6 hrly. Add 2 ml sterile water to vial of 500mg (500mg/2.0ml)	Inj. Ceftriaxone. 100 mg/kg OD . Add 9. 6ml sterile water to vial of 1 g (1 g/10 ml)
2 - <4 months (4 - <6 kg)	0.8 ml	4 ml
4 - <12 months (6 - <10 kg)	1.5 ml	8 ml
1 - <3 years (10 - <14 kg)	2.5 ml	12 ml
3 - <5 years (14 – 19 kg)	3.5 ml	18 ml

Chart 27: Management of severe dengue

Fluid management – Severe dengue with shock (Pulse pressure ≤ 20 mm Hg)



* If no improvement consider adding Dopamine (as described in management of shock).

Chart 28 Management of severe dengue

Fluid management – Severe dengue without shock (Pulse pressure >20 mm Hg)

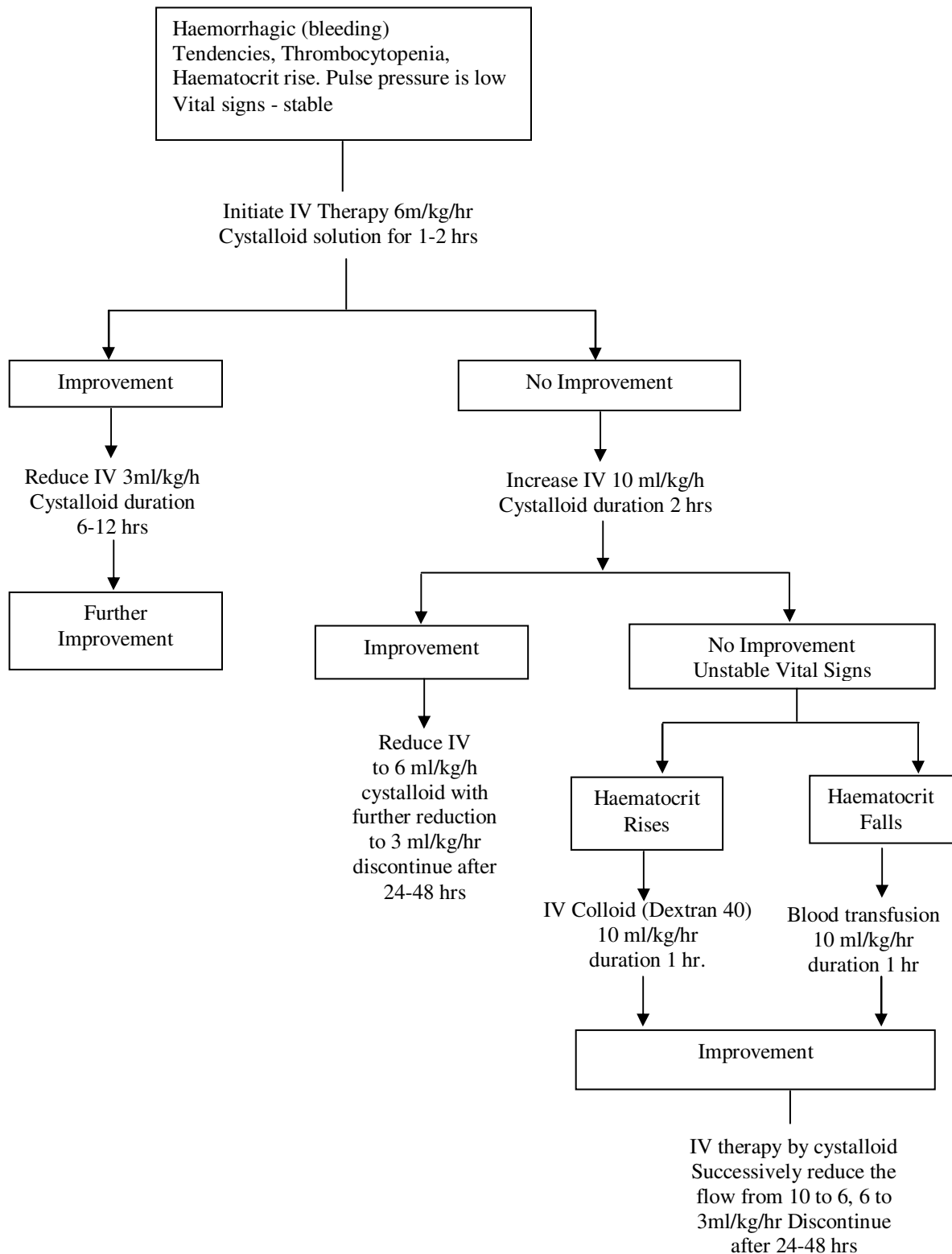


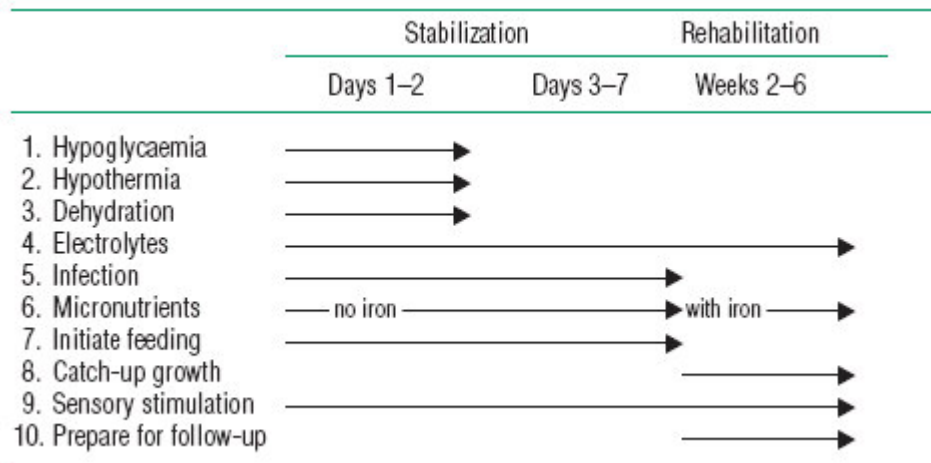
Chart 29 Management of severe malnutrition in a hospital

CRITERIA FOR HOSPITAL ADMISSION:

- Weight-for-length (or height) $<-3SD$ of median of WHO growth standards OR
- Edema of both feet

PROVIDING GENERAL TREATMENT FOR MALNUTRITION

There are ten essential steps in two phases: an initial stabilization phase and a longer rehabilitation phase.



Criteria for discharge from hospital care

	Criteria
Child	<ul style="list-style-type: none"> • Weight for height reached $-1SD$ of WHO median growth standards • Eating adequate amount of nutritious food that mother can prepare at home • Consistent weight gain • All vitamin and mineral deficiencies have been treated • All infections and other conditions have been treated or are being treated like anemia, diarrhoea, malaria, tuberculosis • Full immunization programme started
Mother or caretaker	<ul style="list-style-type: none"> • Able to take care of the child • Able to prepare appropriate foods and feed the child • Has been trained to give structured play therapy and sensory stimulation • Knows how to give home treatment for common problems and recognize danger signs warranting immediate medical assistance
Health worker	<ul style="list-style-type: none"> • Able to ensure follow-up of the child and support the caretaker

Chart 30: General treatment for malnutrition

Step 1⇒ Hypoglycaemia : Immediately on admission, give a feed or 10% glucose or sugar solution . Frequent feeding is important.

Step 2⇒ Hypothermia : Make sure the child is clothed. Place a heater (not pointing directly at the child) or lamp nearby, or put the child on the mother's bare chest or abdomen (skin-to-skin) and cover them with a warmed blanket and/or warm clothing. Do not use hot water bottles.

Step 3⇒ Dehydration : Rehydrate orally or through a nasogastric tube. IV rehydration should be used only if the child has signs of shock and is lethargic or has lost consciousness (see chart 10).

Calculate amount of ORS to give

How often to give ORS	Amount to give
Every 30 minutes for the first 2 hours	5 ml/kg body weight
Alternate hours for up to 10 hours	5-10 ml/kg*

* The amount offered in this range should be based on the child's willingness to drink and the amount of ongoing losses in the stool. F-75 is given in alternate hours during this period until the child is rehydrated.

Step 4⇒ Electrolyte imbalance : Give extra potassium (3–4 mmol/kg daily).

Syrup Pot klor (15 ml=20 meq) can be added to the feeds.

Give extra magnesium.

Step 5⇒ Infection : Give to all admitted cases Inj. Ampicillin 50 mg/kg/dose 6 hrly and Inj. Gentamicin 7.5 mg/kg once a day for 7 days

Step 6⇒ Micronutrients : Give oral vitamin A in a single dose. Give same dose on Day 0, 1 and 14 if there is clinical evidence of vitamin A deficiency
Other micronutrients should be given daily for at least 2 weeks.
Multivitamin supplement (should contain vitamin A, C, D, E and B12 & not just vitamin B-complex): 2 Recommended Daily Allowance

- Folic acid: 5mg on day 1, then 1 mg/day
- Zinc: 2mg/kg/day
- Copper: 0.3 mg/kg/day
- When weight gain commences and there is no diarrhoea add 3 mg of iron /kg/day

Step 7⇒ Initiate feeding: Give initial feeding (F-75)

Days	Freq	Vol/kg/feed	Vol/kg/day
1-2	2 hourly	11 ml	130 ml
3-5	3 hourly	16 ml	130 ml
6 onwards	4 hourly	22 ml	130 ml

Step 8⇒ Catch-up growth: Replace the starter F-75 with an equal amount of catch-up F-100 for 2 days, on the 3rd day increase each successive feed by 10 ml as long as child is finishing feeds. Continue this until some feed remains uneaten.

Step 9⇒ Sensory stimulation: Provide a caring and stimulating environment

Step 10⇒ Discharge and prepare for follow-up

Chart 31: WHO reference weight-for-length and weight-for-height

Weight-for-Length Reference Card (below 87 cm)

Boys' weight (kg)					Length	Girls' weight (kg)				
-4 SD	-3 SD	-2 SD	-1 SD	Médian	(cm)	Médian	-1 SD	-2 SD	-3 SD	-4 SD
1.7	1.9	2.0	2.2	2.4	45	2.5	2.3	2.1	1.9	1.7
1.8	2.0	2.2	2.4	2.6	46	2.6	2.4	2.2	2.0	1.9
2.0	2.1	2.3	2.5	2.8	47	2.8	2.6	2.4	2.2	2.0
2.1	2.3	2.5	2.7	2.9	48	3.0	2.7	2.5	2.3	2.1
2.2	2.4	2.6	2.9	3.1	49	3.2	2.9	2.6	2.4	2.2
2.4	2.6	2.8	3.0	3.3	50	3.4	3.1	2.8	2.6	2.4
2.5	2.7	3.0	3.2	3.5	51	3.6	3.3	3.0	2.8	2.5
2.7	2.9	3.2	3.5	3.8	52	3.8	3.5	3.2	2.9	2.7
2.9	3.1	3.4	3.7	4.0	53	4.0	3.7	3.4	3.1	2.8
3.1	3.3	3.6	3.9	4.3	54	4.3	3.9	3.6	3.3	3.0
3.3	3.6	3.8	4.2	4.5	55	4.5	4.2	3.8	3.5	3.2
3.5	3.8	4.1	4.4	4.8	56	4.8	4.4	4.0	3.7	3.4
3.7	4.0	4.3	4.7	5.1	57	5.1	4.6	4.3	3.9	3.6
3.9	4.3	4.6	5.0	5.4	58	5.4	4.9	4.5	4.1	3.8
4.1	4.5	4.8	5.3	5.7	59	5.6	5.1	4.7	4.3	3.9
4.3	4.7	5.1	5.5	6.0	60	5.9	5.4	4.9	4.5	4.1
4.5	4.9	5.3	5.8	6.3	61	6.1	5.6	5.1	4.7	4.3
4.7	5.1	5.6	6.0	6.5	62	6.4	5.8	5.3	4.9	4.5
4.9	5.3	5.8	6.2	6.8	63	6.6	6.0	5.5	5.1	4.7
5.1	5.5	6.0	6.5	7.0	64	6.9	6.3	5.7	5.3	4.8
5.3	5.7	6.2	6.7	7.3	65	7.1	6.5	5.9	5.5	5.0
5.5	5.9	6.4	6.9	7.5	66	7.3	6.7	6.1	5.6	5.1
5.6	6.1	6.6	7.1	7.7	67	7.5	6.9	6.3	5.8	5.3
5.8	6.3	6.8	7.3	8.0	68	7.7	7.1	6.5	6.0	5.5
6.0	6.5	7.0	7.6	8.2	69	8.0	7.3	6.7	6.1	5.6
6.1	6.6	7.2	7.8	8.4	70	8.2	7.5	6.9	6.3	5.8
6.3	6.8	7.4	8.0	8.6	71	8.4	7.7	7.0	6.5	5.9
6.4	7.0	7.6	8.2	8.9	72	8.6	7.8	7.2	6.6	6.0
6.6	7.2	7.7	8.4	9.1	73	8.8	8.0	7.4	6.8	6.2
6.7	7.3	7.9	8.6	9.3	74	9.0	8.2	7.5	6.9	6.3
6.9	7.5	8.1	8.8	9.5	75	9.1	8.4	7.7	7.1	6.5
7.0	7.6	8.3	8.9	9.7	76	9.3	8.5	7.8	7.2	6.6
7.2	7.8	8.4	9.1	9.9	77	9.5	8.7	8.0	7.4	6.7
7.3	7.9	8.6	9.3	10.1	78	9.7	8.9	8.2	7.5	6.9
7.4	8.1	8.7	9.5	10.3	79	9.9	9.1	8.3	7.7	7.0
7.6	8.2	8.9	9.6	10.4	80	10.1	9.2	8.5	7.8	7.1
7.7	8.4	9.1	9.8	10.6	81	10.3	9.4	8.7	8.0	7.3
7.9	8.5	9.2	10.0	10.8	82	10.5	9.6	8.8	8.1	7.5
8.0	8.7	9.4	10.2	11.0	83	10.7	9.8	9.0	8.3	7.6
8.2	8.9	9.6	10.4	11.3	84	11.0	10.1	9.2	8.5	7.8
8.4	9.1	9.8	10.6	11.5	85	11.2	10.3	9.4	8.7	8.0
8.6	9.3	10.0	10.8	11.7	86	11.5	10.5	9.7	8.9	8.1

Weight-for-Height Reference Card (87 cm and above)

Boys' weight (kg)					Height	Girls' weight (kg)				
-4 SD	-3 SD	-2 SD	-1 SD	Médian	(cm)	Médian	-1 SD	-2 SD	-3 SD	-4 SD
8.9	9.6	10.4	11.2	12.2	87	11.9	10.9	10.0	9.2	8.4
9.1	9.8	10.6	11.5	12.4	88	12.1	11.1	10.2	9.4	8.6
9.3	10.0	10.8	11.7	12.6	89	12.4	11.4	10.4	9.6	8.8
9.4	10.2	11.0	11.9	12.9	90	12.6	11.6	10.6	9.8	9.0
9.6	10.4	11.2	12.1	13.1	91	12.9	11.8	10.9	10.0	9.1
9.8	10.6	11.4	12.3	13.4	92	13.1	12.0	11.1	10.2	9.3
9.9	10.8	11.6	12.6	13.6	93	13.4	12.3	11.3	10.4	9.5
10.1	11.0	11.8	12.8	13.8	94	13.6	12.5	11.5	10.6	9.7
10.3	11.1	12.0	13.0	14.1	95	13.9	12.7	11.7	10.8	9.8
10.4	11.3	12.2	13.2	14.3	96	14.1	12.9	11.9	10.9	10.0
10.6	11.5	12.4	13.4	14.6	97	14.4	13.2	12.1	11.1	10.2
10.8	11.7	12.6	13.7	14.8	98	14.7	13.4	12.3	11.3	10.4
11.0	11.9	12.9	13.9	15.1	99	14.9	13.7	12.5	11.5	10.5
11.2	12.1	13.1	14.2	15.4	100	15.2	13.9	12.8	11.7	10.7
11.3	12.3	13.3	14.4	15.6	101	15.5	14.2	13.0	12.0	10.9
11.5	12.5	13.6	14.7	15.9	102	15.8	14.5	13.3	12.2	11.1
11.7	12.8	13.8	14.9	16.2	103	16.1	14.7	13.5	12.4	11.3
11.9	13.0	14.0	15.2	16.5	104	16.4	15.0	13.8	12.6	11.5
12.1	13.2	14.3	15.5	16.8	105	16.8	15.3	14.0	12.9	11.8
12.3	13.4	14.5	15.8	17.2	106	17.1	15.6	14.3	13.1	12.0
12.5	13.7	14.8	16.1	17.5	107	17.5	15.9	14.6	13.4	12.2
12.7	13.9	15.1	16.4	17.8	108	17.8	16.3	14.9	13.7	12.4
12.9	14.1	15.3	16.7	18.2	109	18.2	16.6	15.2	13.9	12.7
13.2	14.4	15.6	17.0	18.5	110	18.6	17.0	15.5	14.2	12.9
13.4	14.6	15.9	17.3	18.9	111	19.0	17.3	15.8	14.5	13.2
13.6	14.9	16.2	17.6	19.2	112	19.4	17.7	16.2	14.8	13.5
13.8	15.2	16.5	18.0	19.6	113	19.8	18.0	16.5	15.1	13.7
14.1	15.4	16.8	18.3	20.0	114	20.2	18.4	16.8	15.4	14.0
14.3	15.7	17.1	18.6	20.4	115	20.7	18.8	17.2	15.7	14.3
14.6	16.0	17.4	19.0	20.8	116	21.1	19.2	17.5	16.0	14.5
14.8	16.2	17.7	19.3	21.2	117	21.5	19.6	17.8	16.3	14.8
15.0	16.5	18.0	19.7	21.6	118	22.0	19.9	18.2	16.6	15.1
15.3	16.8	18.3	20.0	22.0	119	22.4	20.3	18.5	16.9	15.4
15.5	17.1	18.6	20.4	22.4	120	22.8	20.7	18.9	17.3	15.6

Chart 32: Diets recommended in severe malnutrition

Initial diets recommended in severe malnutrition: F-75

Diets contents (per 100ml)	F-75 Starter	F-75 Starter (Cereal based) Ex: 1	F-75 Starter (Cereal based) Ex: 2
Fresh milk or equivalent (ml) (approximate measure of one katori)	30 (1/3)	30 (1/3)	25 (1/4)
Sugar (g) (approximate measure of one level teaspoon)	9 (1 + 1/2)	6 (1)	3 (1/2)
Cereal flour: Powdered puffed rice (g) (approximate measure of one level teaspoon)	--	2.5 (3/4)	6 (2)
Vegetable oil (g) (approximate measure of one level teaspoon)	2 (1/2)	2.5 (1/2+)	3 (3/4)
Water: make up to (ml)	100	100	100

Recommended schedule of F-75 with gradual increase in feed volume is as follows:

Days	Freq	Vol/kg/feed	Vol/kg/day
1-2	2 hourly	11 ml	130 ml
3-5	3 hourly	16 ml	130 ml
6 onwards	4 hourly	22 ml	130 ml

Catch Up diets recommended in severe malnutrition: F-100

Diets Contents (per 100ml)	F-100 Catch-up	F-100 Catch-up (cereal based) Ex: 1
Fresh milk or equivalent (ml) (approximate measure of one katori)	95 (3/4+)	75 (1/2)
Sugar (g) (approximate measure of one level teaspoon)	5 (1)	2.5 (1/2-)
Cereal flour: Puffed rice (g) (approximate measure of one level teaspoon)	--	7 (2)
Vegetable oil (g) (approximate measure of one level teaspoon)	2 (1/2)	2 (1/2)
Water to make (ml)	100	100

Chart 33: Counsel the Mother

Feeding Recommendations during Sickness and Health

<p>Up to 6 months of age</p> <ul style="list-style-type: none"> • Breastfeed as often as the child wants, day & night, at least 8 times in 24 hrs. • Do not give any other food or fluids not even water. <p><u>Remember :</u></p> <ul style="list-style-type: none"> • Continue breastfeeding if the child is sick 	<p>6 months up to 12 months</p> <ul style="list-style-type: none"> • Breastfeed as often as the child wants • Give at least 1 katori serving* at a time of : <ul style="list-style-type: none"> - Mashed roti/bread mixed in thick dal with added ghee/oil or khichdi with added oil/ghee. Add cooked vegetables also in the servings or - Sevian/dalia/ halwa/kheer prepared in milk or - Mashed boiled/fried potatoes - Offer banana/biscuit/ cheeko/mango/ papaya <p>* 3 times per day if breastfed, 5 times per day if not breastfed.</p> <p><u>Remember</u></p> <ul style="list-style-type: none"> • Keep the child in your lap & feed with your own hands • Wash your own & child's hand with soap & water every time before feeding 	<p>12 months up to 2 years</p> <ul style="list-style-type: none"> • Breastfeed as often as the child wants • Offer food from the family pot • Give at least 1½ katori serving* at a time of <ul style="list-style-type: none"> - Mashed roti/bread mixed in thick dal with added ghee/oil or khichdi with added oil/ghee. Add cooked vegetables also in the servings or - Mashed roti/rice/bread mixed in sweetened milk or - Sevian/dalia/ halwa/kheer prepared in milk or - Offer banana/biscuit/ cheeko/mango/ papaya <p>* 5 times per day</p> <p><u>Remember</u></p> <ul style="list-style-type: none"> • Sit by the side of child & help him to finish the serving • Wash your own & child's hand with soap & water every time before feeding 	<p>2 years & older</p> <ul style="list-style-type: none"> • Give family foods at 3 meals each day • Also, twice daily, give nutritious food between meals, such as : <ul style="list-style-type: none"> - Banana/biscuit/ cheeko/mango/ papaya as snacks <p><u>Remember :</u></p> <ul style="list-style-type: none"> • Ensure that the child finishes the serving • Teach your child wash his hands with soap and water every time before feeding
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Chart 34: Maintenance fluid requirements

The total daily fluid requirement of a child is calculated with the following formula: 100 ml/kg for the first 10 kg, then 50 ml/kg for the next 10 kg, thereafter 25 ml/kg for each subsequent kg. For example, an 8 kg baby receives $8 \times 100 \text{ ml} = 800 \text{ ml}$ per day, a 15 kg child $(10 \times 100) + (5 \times 50) = 1250 \text{ ml}$ per day.

Body weight of child	Fluid (ml/day)
2 kg	200 ml/day
4 kg	400 ml/day
6 kg	600 ml/day
8 kg	800 ml/day
10 kg	1000 ml/day
12 kg	1100 ml/day
14 kg	1200 ml/day
16 kg	1300 ml/day
18 kg	1400 ml/day
20 kg	1500 ml/day
22 kg	1550 ml/day
24 kg	1600 ml/day
26 kg	1650 ml/day

Give the sick child more than the above amounts if there is fever (increase by 10% for every 1°C of fever).

Proforma for Assessment of Sick Young Infant

Name _____ Age _____ (days) Sex _____ MRD _____

Address _____

DOB _____ TOB _____ am / pm Birth Weight _____ gms

History

Antenatal History

Leaking PV: Present / Absent Duration _____ (hrs) Chorioamnionitis: Present / Absent

PIH: Yes / No Medications _____

Pedal Edema: Present / Absent Gestational
Diabetes Yes / No

Maternal Immunization _____

Any other illness: _____

Place of Delivery: Institution / Home

Type of Delivery _____ normal Vaginal/Forceps/Cesarean/

Presentation: Normal/breech / other

Conducted by: _____

Condition of Baby at Birth: Normal / Depressed

Need of Resuscitation: Y/N

Details of Resuscitation _____

Baby's History

- Poor suck / not able to feed ☐
- Lethargy / decreased movement ☐
- Seizure ☐
- Diarrhea ☐
- Jaundice ☐
- Bleeding ☐
- Vomiting ☐
- Passage of meconium ☐
- Passage of urine ☐

Examination**Vitals**

HR

Temp

CRT

RR

Resp Distress: Nasal flaring/ grunting/ apnea/ cyanosis

Anterior Fontanelle: normal/ bulging

Pustules: less than 10, more than 10 or big boils

Umbilical Discharge/ Redness: Present/ Absent

Ear Discharge: Present/ Absent

Pallor: Present / Absent

Jaundice: Present / Absent Till: Face / Chest / Abdomen / Hands & Feet

Abdominal distension: Present/ Absent

Activity: lethargy/ restless/ decreased body movement

Abnormal movement: seizure/ jitteriness

Systemic Examination:

CVS _____

Resp _____

Abdomen _____

Provisional Diagnosis

Plan of Management:

1. _____
2. _____
3. _____
4. _____
5. _____
6. _____

Monitoring

Proforma for Assessment of Sick Child

Case Recording Form		Date		
Name----- Age----- Sex-----		Wt-----Temp -----		
ASK: What are the infant's problems?				
ASSESS (Circle all signs present)	Emergency Treatments <ul style="list-style-type: none"> Check for head/neck trauma before treating child – do not move neck if cervical spine injury possible EMERGENCY SIGNS: (If any sign positive : give treatment(s), call for help, draw blood for emergency laboratory investigations (glucose, malaria smear, Hb) 			
TEMPERATURE <ul style="list-style-type: none"> Cold to touch (< 35.5°C) 	<ul style="list-style-type: none"> Rewarm (Rapidly if temp< 32 °C) Check and correct hypoglycemia 			
AIRWAY AND BREATHING <ul style="list-style-type: none"> Not breathing at all or gasping or Central cyanosis or Severe respiratory distress (Unable to drink, Respiratory rate ≥ 70 / minute, Severe lower chest indrawing , Grunting, Head nodding, Apnoeic spells) 				
CIRCULATION <p style="margin-left: 20px;">Cold hands with :</p> <ul style="list-style-type: none"> Capillary refill longer than 3 seconds, and Weak and fast pulse <p style="margin-left: 20px;">IF POSITIVE <i>Check for severe malnutrition</i></p>				
COMA CONVULSING <ul style="list-style-type: none"> Coma(AVPU) or • Convulsing (now) 				
SEVERE DEHYDRATION (ONLY IN CHILD WITH DIARRHOEA) <p style="margin-left: 20px;">Diarrhoea plus any two of these :</p> <ul style="list-style-type: none"> Lethargy • Sunken eyes • Very slow skin pinch <p style="margin-left: 20px;"><i>Check for severe malnutrition</i></p>				
<u>IF THERE ARE NO EMERGENCY SIGNS LOOK FOR PRIORITY SIGNS:</u>				
These children need prompt assessment and treatment				
<table style="width: 100%; border: none;"> <tr> <td style="width: 50%; vertical-align: top;"> <ul style="list-style-type: none"> Temperature <36.5°C or > 38.5°C Trauma or other urgent surgical condition Pallor (severe) Poisoning Burns (major) </td> <td style="width: 50%; vertical-align: top;"> <ul style="list-style-type: none"> Respiratory distress (RR > 60/min) Bleeding Restless, continuously irritable, or lethargy Referral (urgent) Malnutrition : Visible severe wasting Oedema of both feet </td> </tr> </table>			<ul style="list-style-type: none"> Temperature <36.5°C or > 38.5°C Trauma or other urgent surgical condition Pallor (severe) Poisoning Burns (major) 	<ul style="list-style-type: none"> Respiratory distress (RR > 60/min) Bleeding Restless, continuously irritable, or lethargy Referral (urgent) Malnutrition : Visible severe wasting Oedema of both feet
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- **History**

- **Examination**

- | | | | |
|--|---------|--------------|-------------|
| -Temperature | -Pulse | -Resp. Rate | -Weight |
| -Weight for Length/height | | -Sensorium | -Bulging AF |
| -Neck Rigidity | -Pallor | -Jaundice | |
| -Eye- pus/bitots spots/corneal involvement | | | |
| -Skin- depigmentation/desquamation/petichae/purpura/ecchymosis | | | |
| -Generalized lymphadenopathy | | -Pedal odema | |

Respiratory system-

Cardio-vascular system-

Abdominal examination-

Central nervous system-

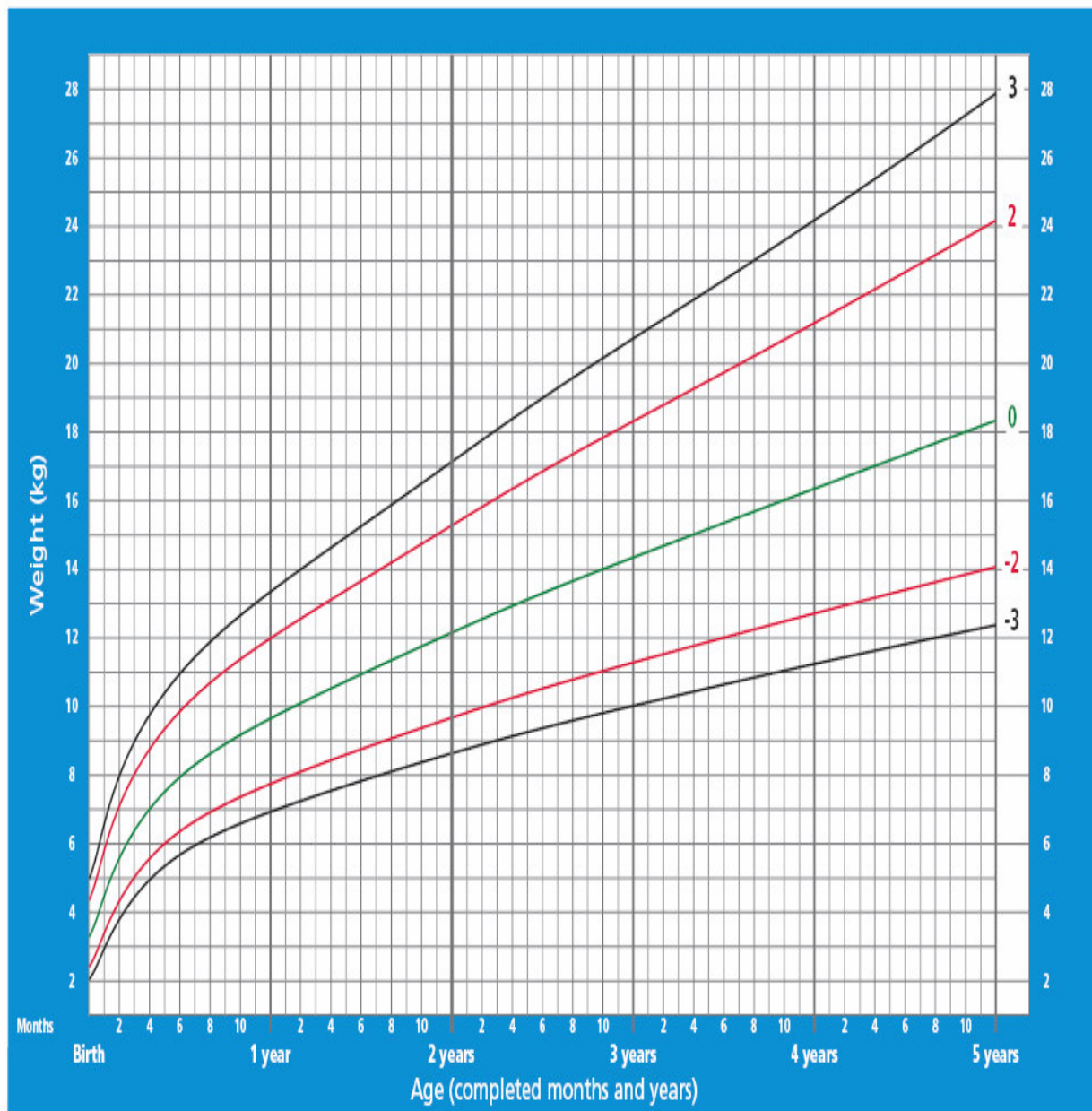
- **Differential diagnosis**

- **Lab Investigations**

- **Management**

Weight-for-age BOYS

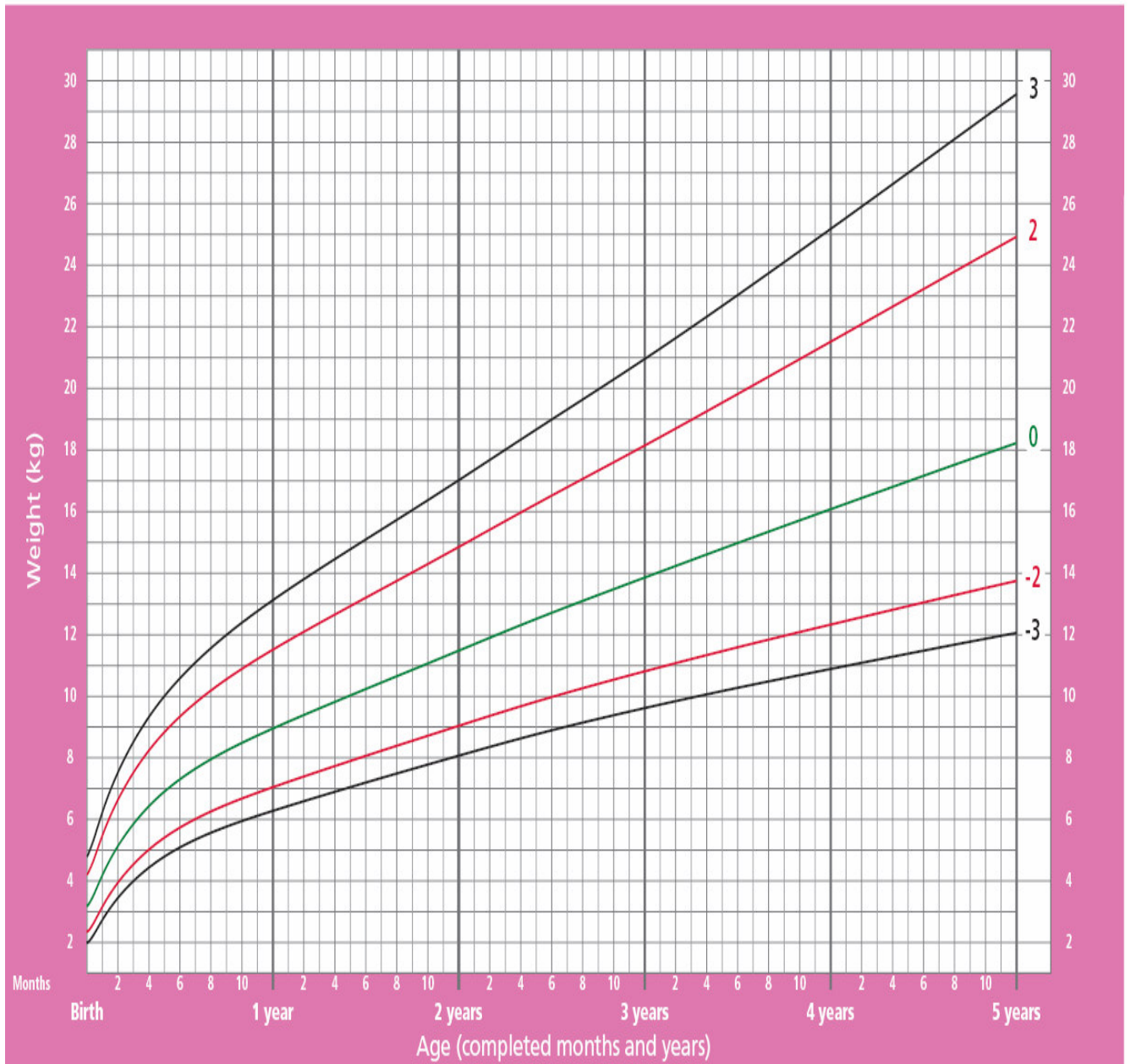
Birth to 5 years (z-scores)



WHO Child Growth Standards

Weight-for-age GIRLS

Birth to 5 years (z-scores)



WHO Child Growth Standards

