



# Standard Treatment Workflow (STW) for the Management of **ACUTE DIARRHOEA** **ICD-10-R19.7**

## DIARRHOEA IS

- >3 loose or watery stools/ day
- Acute Diarrhoea <14 days
- Persistent diarrhoea >14 days
- Dysentery - blood in stools



### ASK FOR

- Duration
- Blood in stool
- Vomiting, fever, cough, recent measles, HIV status (if known)
- Immunization status and pre illness feeding practices
- Fluids/ food/ drugs and other remedies taken during illness

### EXAMINATION

- General condition of child
- Nutritional status (weight/ weight for height / MUAC)
- Classify malnutrition if any
- Signs of dehydration & classify dehydration

### SKIN PINCH TEST

- Locate the area on the child's abdomen halfway between the umbilicus and the side of the abdomen.
- Use thumb and first finger to pinch and not finger tips.
- The fold of the skin should be in a line up and down the child's body.
- Firmly pick up all layers of the skin and tissue under them.
- Pinch the skin for one second and then release it. Look to see if the skin pinch goes back:
  - Very slowly (longer than 2 seconds)
  - Slowly (skin stays up even for a brief instant)
  - Immediately (normal)

### REFER TO HOSPITAL

- Severe malnutrition/ HIV
- Severe dehydration
- Hypernatremic (Na >145 mmol/L) / hyponatremic dehydration (Na <135 mmol/L)
- Dysentery with age <1 yr/ measles in past 6 weeks/ dehydration/ sick
- Dysentery with no improvement on antibiotics
- Persistent diarrhea with dehydration
- Persistent diarrhea with serious systemic infection such as pneumonia, sepsis, infants <4 months of age, or when there is no improvement with treatment over 5 days

## MANAGEMENT

### CLASSIFY DEHYDRATION

Not enough signs to classify some or severe dehydration

#### 2 of the following:

- Restless, irritable
- Sunken eyes
- Drinks eagerly, thirsty
- Skin pinch - goes back very slowly

#### 2 of the following:

- Lethargy/ unconscious
- Sunken eyes
- Not able to drink/ drinking poorly
- Skin pinch - goes back slowly

### NO DEHYDRATION: PLAN A

- **Fluids**
  - Give extra fluids (as much as child will take) until diarrhoea stops.
  - Use WHO ORS after each loose stool (in addition to usual fluid intake)
    - Upto 2 years → 50 -100 ml
    - 2 years or more → 100 -200 ml
  - On ORS packet check whether 200ml or 1 litre of clean water is needed
  - Frequent small sips with spoon or cup.
  - If child vomits, wait 10 minutes then continue slowly.
  - Homemade fluids- salted rice water, salted yogurt drink, vegetable or chicken soup with salt and clean water, unsweetened fresh fruit juice and coconut water
  - Unsuitable fluids - carbonated beverages, commercial fruit juice, sweetened tea & coffee, other medicinal teas / infusions.
- Zinc supplement (Zinc sulphate/ carbonate / acetate)
  - 2-6 months → 10 mg/day x 2 weeks
  - >6 months → 20 mg/day x 2 weeks
- Counsel Mother/ Attender
  - Feeding advise
    - Infants on breast feed, to continue more frequent breast feeding than usual.
    - Those not on breast feed to continue their usual milk feed/ formula at least once in 3 hours.
    - Give age appropriate foods to >6 months old based on their pre illness feeding pattern

#### • Danger signs (return immediately)

- Passing many watery stools
- Repeated vomiting / very thirsty
- Eating / drinking poorly
- Develops fever / blood in stools

- Follow up in 5 days if no improvement

### SOME DEHYDRATION: PLAN B

- Manage in clinic /daycare facility with recommended amount of ORS (75 ml /kg) over 4 hour period
- If weight is not known

AGE	< 4 months	4 -11 months	12 -23 months	2 – 4 years	5-14 years	15 years or older
WEIGHT	<5kg	5 – 7.9 kg	8 - 10.9 kg	11 – 15.9 kg	16 – 29.9 kg	30 kg or more
IN mL	200 - 400	400 - 600	600 - 800	800 - 1200	1200 - 2200	2200 - 4000

- After 4 hours reassess the child, classify dehydration and select appropriate plan (A /B/C)
- Give extra fluids, zinc supplement, feeding advise and counselling regarding danger signs\* as in plan A
- Follow up in 5 days if no improvement

#### PATIENT EDUCATION

- Danger signs\*
- Hygiene practices
- Hand washing , proper disposal of excreta
- Safe drinking water
- Appropriate feeding practices
- Vaccination as per IAP guidelines

#### INVESTIGATIONS

- **Some dehydration:**  
**Preferable Tests-** electrolytes
- **Severe dehydration:**  
**Essential tests-** CBC, electrolytes  
**Preferable Tests-** Renal Function Tests, VBG
- **In suspected cholera cases:**  
**Preferable tests-** stool for hanging drop and stool culture
- **Dysentery:** (no response to antibiotic in 2 days) **Preferable test-** stool culture & stool routine for trophozoites of Amoeba
- **Persistent diarrhoea:**  
**Preferable test-** stool routine microscopy, urine routine microscopy, urine culture , sepsis screen

#### WHEN CONSIDERING ALTERNATIVE DIAGNOSIS OF PERSISTENT DIARRHOEA AND DYSENTRY

#### PERSISTENT DIARRHOEA

- Appropriate fluids to prevent or treat dehydration
- Nutrition:
  - If breastfeeding, give more frequent, longer breastfeeds, day and night.
  - Other milk: replace with increased breastfeeding, or with fermented milk products, such as yogurt, or half the milk with nutrient-rich semi-solid food.
  - For other foods, follow feeding recommendations for the child's age: give small, frequent meals (at least 6 times a day), and avoid very sweet foods or drinks.
- Zinc for 14 days
- Supplement vitamins / minerals
- Antimicrobial to treat diagnosed infection
  - Intestinal infection:
    - If blood in stool: Treat like dysentery
    - If stool routine suggestive of Amoebiasis: Treat for it
    - If stool suggestive of cyst/ Trophozoite of Giardia: Give Metronidazole 5 mg/kg/dose x 8 hourly x 5 -7 days
  - Treat Non intestinal such as UTI/ Otitis Media
- Follow up in 5 days
- Refer to hospital (See box)

### SEVERE DEHYDRATION: PLAN C

- Urgent referral to hospital
- Mother to continue rehydration by giving frequent sips of ORS during transport or use NG tube when possible in patients with poor drinking

#### NO

#### CAN YOU GIVE INTRAVENOUS (IV) FLUIDS IMMEDIATELY?

#### NO

- Start IV fluid immediately
- Ideal fluid is Ringer lactate solution / Normal saline (DNS in malnourished)

AGE	FIRST GIVE 30 ML/KG IN	THEN GIVE 70 ML/KG IN
Infant (< 12 months)	1 hour	5 hours
Older	30 minutes	2.5 hours

- If child can drink, give ORS by mouth while the drip is set up
- Assess heart rate/ respiratory rate/ BP/ CFT/ consciousness and recognize early shock
- Refer for hospitalization
- If prevalence of cholera – Doxycycline single dose 300mg or Tetracycline 12.5mg/kg 4 times a day x 3 days. For young children Erythromycin 12.5 mg/kg 4 times a day x 3 days
- Associated vomitings – Ondansetron 0.15 mg/kg/dose IV/oral in addition to rehydration therapy
- Reassess every 15-30 minutes till a strong radial pulse is present and then every hour. If hydration status is not improving, give IV drip more rapidly
- After 6 hours (infants) and 3 hours (older patients) - evaluate for dehydration and choose the appropriate plan (A, B, or C) to continue treatment
- 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)
- Observe for 6 hours after the child has been fully rehydrated.
- In hypernatremic and hyponatremic dehydration child appears relatively less ill / more ill respectively and needs to be referred for hospitalization

#### DISCHARGE CRITERIA

- Sufficient rehydration (indicated by wt gain &/or clinical status)
- IV fluids no longer needed
- Oral intake = /> losses
- Medical f/u available

#### DYSENTRY

- Treat dehydration according to assessment.
- Ciprofloxacin 15 mg/kg twice a day and reassess after 2 days.  
Improvement: 3 days of treatment
- No improvement → Cefixime 10 mg//kg/d, 2 div doses. Reassess after 2 days. If better complete 3 -5 days of treatment.
  - If stool routine positive for Ameobiasis : Metronidazole 10mg/kg/dose 8 hourly x 7 days (10 days in severe cases)
- Refer to hospital (See box)

## REFERENCES

1. IMCI (WHO) module on Diarrhea 2014.
2. WHO Treatment for Diarrhea - A manual for physicians and other senior health workers 2005.
3. WHO GLOBAL TASK FORCE ON CHOLERA CONTROL 2010.

## KEEP A HIGH THRESHOLD FOR INVASIVE PROCEDURES