Algorithm for the Management of Patients with Diarrhea

1. Patient with diarrhea
   
2. Assess hydration status
   
3. Does patient have severe dehydration?
   - Y: Plan C IV therapy deficit/replacement therapy
   - N: Go to step 8

4. Does patient improve?
   - Y: Plan A or B
   - N: Go to step 7

5. Does patient improve?
   - Y: Plan A or B
   - N: Continue Plan C

6. Does patient improve?
   - Y: Plan A or B
   - N: Go to step 14

7. Does patient improve?
   - Y: Plan A or B
   - N: Insert NGT*

8. Does patient have some dehydration?
   - Y: Plan B ORS; encourage to continue breastfeeding
   - N: Go to step 12

9. Plan B ORS; encourage to continue breastfeeding
   
10. Is there persistent vomiting or does patient refuses to drink?
    - Y: Insert NGT*
    - N: Go to step 13

11. Insert NGT*

12. Patient has no dehydration
   
13. Plan A ORS/home fluids continue feeding

14. Does patient improve?
    - Y: Plan A
    - N: Plan C

15. Plan A

16. Plan C

*NGT - Nasogastric Tube
Use this chart for patients with:
- loose or watery stools
- loose stools with blood

### Diagnosis

1. First, assess your patient for dehydration

#### Treatment Plan

<table>
<thead>
<tr>
<th>1. LOOK AT: Condition</th>
<th>A</th>
<th>B</th>
<th>C</th>
</tr>
</thead>
<tbody>
<tr>
<td>Well, alert</td>
<td><em>Restless, irritable</em></td>
<td><em>Lethargic or unconscious; floppy</em></td>
<td></td>
</tr>
<tr>
<td>Eyes</td>
<td>Normal</td>
<td>Sunken</td>
<td>Very sunken and dry</td>
</tr>
<tr>
<td>Tears</td>
<td>Present</td>
<td>Absent</td>
<td>Absent</td>
</tr>
<tr>
<td>Mouth and Tongue</td>
<td>Moist</td>
<td>Dry</td>
<td>Very dry</td>
</tr>
<tr>
<td>Thirst</td>
<td>Drinks normally, not thirsty</td>
<td><em>Thirsty, drinks eagerly</em></td>
<td><em>Drinks poorly or not able to drink</em></td>
</tr>
</tbody>
</table>

2. FEEL:

#### Skin Pinch

<table>
<thead>
<tr>
<th>Goes back quickly</th>
<th><em>Goes back slowly</em></th>
<th><em>Goes back very slowly</em></th>
</tr>
</thead>
</table>

3. DECIDE:

<table>
<thead>
<tr>
<th>The patient has NO SIGNS OF DEHYDRATION</th>
<th>If the patient has two or more signs including at least one <em>sign</em>, there is SOME DEHYDRATION</th>
<th>If the patient has two or more signs, including at least one <em>sign</em>, there is SEVERE DEHYDRATION</th>
</tr>
</thead>
</table>

4. TREAT

| Use Treatment Plan A | Weigh the patient, if possible, and use | Weigh the patient and use Treatment Plan C |

2. Then, ask for other problems

**ASK ABOUT BLOOD IN THE STOOL**

**IF BLOOD IS PRESENT**
- Treat for 5 days with an oral antibiotic recommended for *Shigella* in your area
- Teach the mother to feed the child as described in Plan A
- See the child again after 2 days if:
  - under 1 year of age
  - initially dehydrated
  - there is still blood in the stool
  - not getting better
  - If the stool is still bloody after 2 days, change to a second oral antibiotic recommended for *Shigella* in your area. Give it for 5 days.

**ASK WHEN THIS EPISODE OF DIARRHEA BEGAN**

**IF DIARRHEA HAS LASTED AT LEAST 14 DAYS:**
- Refer to hospital if:
  - the child is under 6 months old
  - dehydration is present. (Refer the child after treatment of
Treatment Plan A:

To Treat Diarrhea at Home

Use this plan to teach the mother to:

- Continue to treat at home her child's current episode of diarrhea.
- Give early treatment for future episodes of diarrhea.

A. Explain the 3 rules for treating diarrhea at home:

1. Give the child more fluids than usual to prevent dehydration:
   - Use a recommended home fluid, such as a cereal gruel. If this is not possible, give plain water. Use ORS solution for children described in the box below.
   - Give as much of these fluids as the child will take. Use the amounts shown below for ORS as a guide.
   - Continue giving these fluids until the diarrhea stops.

2. Give the child plenty of food to prevent undernutrition:
   - Continue to breast-feed frequently.
   - If the child is not breast-fed, give the usual milk. If the child is less than 6 months old and not yet taking solid food, dilute milk or formula with an equal amount of water for 2 days.
   - If the child is 6 months or older, or already solid food:
     - Also give cereal or another starchy food, mixed, if possible, with pulses, vegetables, and meat or fish. Add 1 or 2 teaspoonfuls of vegetable oil to each serving.
     - Give fresh fruit juice or mashed banana to provide potassium.
     - Give freshly prepared foods. Cook and mash or grind food well.
     - Encourage the child to eat; offer food at least 6 times a day.
     - Give the same foods after diarrhea stops, and give an extra meal each day for two weeks.

3. Take the child to the health worker if the child does not get better in 3 days or develops any of the following:
   - Many water stools
   - Repeated vomiting
   - Marked thirst
   - Eating or drinking poorly
   - Fever
   - Blood in the stool

Children should be given ORS Solution at home if:

- They have been on Treatment Plan B or C
- They cannot return to the health worker if the diarrhea gets worse.
• It is national policy to give ORS to all children who see a health worker for diarrhea.

B. If the child will be given ORS solution at home, show the mother how much ORS solution to give after each loose stool & give her enough packets for 2 days:

<table>
<thead>
<tr>
<th>Age</th>
<th>Amount of ORS to give after each loose stool</th>
<th>Amount of ORS to provide for use at home</th>
</tr>
</thead>
<tbody>
<tr>
<td>Less than 24 months</td>
<td>50-100 mL</td>
<td>500 mL/day</td>
</tr>
<tr>
<td>2 up to 10 years</td>
<td>100-200 mL</td>
<td>1000 mL/day</td>
</tr>
<tr>
<td>10 years or more</td>
<td>As much as wanted</td>
<td>2000 mL/day</td>
</tr>
</tbody>
</table>

**Treatment Plan B: To Treat Dehydration**

A. Approximate amount of ORS solution to give in the first 4 hours:

<table>
<thead>
<tr>
<th>Age: *</th>
<th>Less than 4 months</th>
<th>4-11 months</th>
<th>12-23 months</th>
<th>2-4 years</th>
<th>5-14 year</th>
<th>15 years or older</th>
</tr>
</thead>
<tbody>
<tr>
<td>Weight</td>
<td>Less than 5 Kg</td>
<td>5-7.9 Kg</td>
<td>8-10.9 Kg</td>
<td>11-15.9 Kg</td>
<td>16-29.9 Kg</td>
<td>30 Kg or more</td>
</tr>
<tr>
<td>in mL</td>
<td>200-400</td>
<td>400-600</td>
<td>600-800</td>
<td>800-1200</td>
<td>1200-2200</td>
<td>2200-4000</td>
</tr>
<tr>
<td>in local measure</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

• Describe and show the amount to be given after each stool using a Local measure.

C. Show the mother how to mix ORS:

D. Show how to give ORS:
• Give a teaspoonful every 1-2 minutes for a child under 2 years.
• Give frequent sips from a cup for an older child.
• If the child vomits, wait 10 minutes. Then give the solution more slowly (for example, a spoonful every 2-3 minutes).
• If diarrhea continues after the ORS packets are used up, tell the mother to give other fluids as described in the first rule above or return for more ORS.

* Use the patient's age only when you do not know the weight. The approximate amount of ORS required (in mL) can also be calculated by multiplying the patient's weight (in grams) times 0.075.
• If the child wants more ORS than shown, give more.
• Encourage the mother to continue breast-feeding.
• For infants under 6 months who are not breast-fed, also give 100-200 mL clean water during this period.

B. Observe the child carefully and help the mother give ORS solution:
• Show her how much solution to give her child.
• Show her how to give it - a teaspoonful every 1-2 minutes for a child under 2 years, frequent sips from a cup for an older child.
• Check from time to time to see if there are problems.
• If the child vomits, wait 10 minutes and then continue giving ORS, but more slowly, for example, a spoonful every 2-3 minutes.
• If the child's eyelids become puffy, stop ORS and give plain water or breast milk. Give ORS according to Plan A when the puffiness is gone.

C. After 4 hours, reassess the child using the Assessment Chart. Then select Plan A, B or C to continue treatment:
• If there are no signs of dehydration, shift to Plan A. When dehydration has been corrected, the child usually passes urine and may also be tired and fall asleep.
• If signs indicating some dehydration are still present, repeat Plan B, but start to offer food, milk and juice as described in Plan A.
• If signs indicating severe dehydration have appeared, shift to Plan C.

D. If the mother must leave before completing treatment Plan B:
• Show her how much ORS to give to finish the 4-hour treatment at home.
• Give her enough ORS packets to complete rehydration, and for 2 more days as shown in Plan A.
• Show her how to prepare ORS solution.
• Explain to her the three rules in Plan A for treating her child at home:
  - to give ORS or other fluids until diarrhea stops
- to feed the child
- to bring the child back to the health worker, if necessary.

Use of Drugs for Children with Diarrhea

• ANTIBIOTICS should ONLY be used for dysentery and suspected cholera. Otherwise, they are ineffective and should NOT be given.
• ANTIPARASITIC drugs should ONLY be used for:
  Amoebiasis, after antibiotic, treatment of bloody diarrhea for Shigella has failed or trophozoites of E. Histolytica containing red blood cells are seen in the feces.
  Giardiasis, when diarrhea has lasted at least 14 days and cysts or trophozoites of Giardia are seen in feces or small bowel fluid.
• ANTIDIARRHEAL DRUGS and ANTIEMETICS should NEVER be used. None has been proven of practical value. Some are dangerous.
Diarrheal Diseases in Children

**Treatment Plan C: To Treat Severe Dehydration Quickly**

- Start IV fluids immediately. If the patient 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:

<table>
<thead>
<tr>
<th>Age</th>
<th>First give 30 mL/Kg in:</th>
<th>Then give 70 mL/Kg in:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Infants (under 12 mos)</td>
<td>1 hour*</td>
<td>5 hours</td>
</tr>
<tr>
<td>Older child</td>
<td>30 minutes*</td>
<td>2 1/2 hours</td>
</tr>
</tbody>
</table>

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

- Reassess the patient every 1-2 hours. If hydration is not improving, give the IV drip more rapidly.
- Also give ORS (about 5 mL/Kg/hour) as soon as the patient can drink: usually after 3-4 hours (infants) or 1-2 hours (older patients).
- After 6 hours (infants) or 3 hours (older patients), evaluate the patient using the assessment chart. Then choose the appropriate Plan (A, B or C) to continue treatment.

**Can you give IV fluids immediately?**

- Send the patient immediately for IV treatment.

**First give Then give**

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- Reassess the patient every 1-2 hours. If hydration is not improving, give the IV drip more rapidly.
- Also give ORS (about 5 mL/Kg/hour) as soon as the patient can drink: usually after 3-4 hours (infants) or 1-2 hours (older patients).
- After 6 hours (infants) or 3 hours (older patients), evaluate the patient using the assessment chart. Then choose the appropriate Plan (A, B or C) to continue treatment.

**Is IV treatment available nearby, (within 30 min)?**

- If possible, observe the patient at least 6 hours after rehydration to be sure the mother can maintain hydration giving ORS solution by mouth.
- If the patient is above 2 years and there is cholera in your area, give an appropriate oral antibiotic after the patient is alert.

**Are you trained to use a nasogastric (NG) tube for rehydration?**

- If the patient can drink, provide the mother with ORS solution and show her how to give it during the trip.

**Can the patient drink?**

- If the patient can drink, provide the mother with ORS solution and show her how to give it during the trip.

**Send the patient immediately for IV treatment.**

- If the patient can drink, provide the mother with ORS solution and show her how to give it during the trip.

**Start rehydration by tube w/ ORS solution: Give 20 mL/Kg/hr for 6 hours (total of 120 mL/Kg).**

- Reassess the patient every 1-2 hours:
  - If there is repeated vomiting or increasing abdominal distension, give the fluid more slowly.
  - If hydration is not improving after 3 hours, send the patient for IV therapy.
- After 6 hours, reassess the patient and choose the appropriate Treatment Plan.

**Can the patient drink?**

- If the patient can drink, provide the mother with ORS solution and show her how to give it during the trip.

**Start rehydration by mouth with ORS solution, giving 20 mL/Kg/hour for 6 hours (total of 120 mL/Kg).**

- Reassess the patient every 1-2 hours:
  - If there is repeated vomiting, give the fluid more slowly.
  - If hydration is not improving after 3 hours, send the patient for IV therapy.
- After 6 hours, reassess the patient and choose the appropriate Treatment Plan.

**NOTES:**

- If possible, observe the patient at least 6 hours after rehydration to be sure the mother can maintain hydration giving ORS solution by mouth.
- If the patient is above 2 years and there is cholera in your area, give an appropriate oral antibiotic after the patient is alert.

**Reference** World Health Organization Circular, Revised 1990
Drugs Mentioned in the Treatment Guideline

This index lists drugs/drug classifications mentioned in the treatment guideline. Prescribing Information of these drugs can be found in the Philippine Pharmaceutical Directory (PPD) 1997. Opposite the brand name is its page number in the PPD 1997.

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