

PROPER SANITATION IS THE ONLY METHOD TO SUCCESSFULLY BEAT A CHOLERA OR SHIGELLOSIS OUTBREAK!

What to use for disinfection*:

| Chlorine product | Hands and skin | Floors, clothes, bedding, equipment. | Body fluids** (Rice Water stool, Diarrhea, Vomit treated in large containers) |
|--|---|---|--|
| | Final concentration: 0.05% active chlorine | Final concentration: 0.5% active chlorine | Final concentration: 2% active chlorine. Wait at least 2 hours before dumping. |
| Household bleach (5% active) | 0.1 liters of bleach to 9.9 liters of water (WRITE: 0.05%) | 1 liter of bleach mixed with 10 liters of water (WRITE: 0.5%) | 4 liters of bleach mixed with 6 liters of water (WRITE: 2%) |
| Household bleach (30% active chlorine) | Add 16 grams or 1 tablespoon to 10 liters of water (WRITE: 0.05%) | 16 grams or 1 tablespoon to 1 liter of water (WRITE: 0.5%) | 64 grams or 4 tablespoons to 1 liter of water (WRITE: 2%) |
| Calcium hypochlorite powder or chlorine granules (70% active chlorine) | 7 grams or 1/2 a tablespoon to 10 liters of water (WRITE: 0.05%) | 7 grams or 1/2 a tablespoon to 1 liter of water (WRITE: 0.5%) | 28 grams or 2 tablespoons to 1 liter of water (WRITE: 2%) |

* ALWAYS label the solutions with a permanent marker.

** Note that if chlorine is limited, body fluids can be treated with a final concentration of 0.5% chlorine, but the fluids must be held and occasionally stirred for at least 6 HOURS before dumping.

Education of Patient Caretaker (Family Member):

Inform the Patient Caretaker of their duties in terms of how the patient waste should be handled, where the bathrooms or latrines are located, where hand washing stations are located, and what food items (including at what time) the family is expected to provide and what food items the treatment center will provide.



**COTS Program
Pharmacist
Pocket Card**

WHO messages to avoid diarrhea:

- Wash your hands with soap:
 - After using toilets/latrines
 - After disposing of children’s feces
 - Before preparing food
 - Before eating
 - Before feeding children
- Boil or disinfect water with chlorine solution
- Only eat freshly cooked food
- Do not defecate near water sources
- Use latrines and keep them clean
- Peel it, cook it, or leave it

**Food and Water Hospital Policies
(in addition to WHO messages above):**

- ORS should not be stored for more than 6 hours.
- Health care workers should **NOT** handle food or water
- The kitchen should be **SEPERATE** from the hospital; kitchen staff should not handle hospital waste
- Dispose of all unused cooked food if there is no refrigeration (below 10°C)
- All food should be cooked thoroughly to at least 70°C
- Keep raw and cooked foods separately
- A treatment center must have 40-60 liters of clean water per patient per day
- Rice-water stool (diarrheal fluids) and vomitus fluids should be disposed of by the sanitation team

Key Pharmaceutical Points:

- Always check antimicrobial sensitivity patterns in your area before dispensing antibiotics for cholera or shigellosis.
- Never use anti-diarrheal medications, which can actually cause an increase in duration and severity of disease.
- All children aged 5 years and younger with diarrhea should be given zinc treatment in addition to fluids and antibiotics as needed.

Recommended antibiotics used for CHOLERA.

Appropriate antibiotics should be given to patients suspected of having cholera with SOME or SEVERE dehydration. Patients with no detectable dehydration need not be treated with antibiotics (this conserves resources). ALWAYS check antimicrobial sensitivity patterns in your area before dispensing drugs for cholera:

| Antibiotic* | Dose in children** | Dose in adults** |
|--|---|---|
| Doxycycline | Not drug of choice | 300 mg single dose (seek alternative for pregnant women) |
| Erythromycin | 12.5 mg/ kg 4 times a day for 3 days | Not drug of choice (exception is pregnant women at 250 mg 4 times a day for 3 days) |
| Ciprofloxacin | 15 mg/ kg 2 times a day for 3 days | 500 mg 2 times a day for 3 days*** |
| Azithromycin | 20 mg/ kg single dose with max of 1 g | 1 g single dose |
| Trimethoprim (TMP)-Sulfamethoxazole (SMX) | TMP 5 mg/ kg and SMX 25 mg/ kg 2 times a day for 3 days | TMP 160 mg and SMX 800 mg 2 times a day for 3 days |

* Antibiotic selection must depend on the sensitivity pattern determined for the specific cholera outbreak. Do not use anti-diarrheal drugs as they have not been shown to benefit patients.

** All doses are given in the oral formulation.

Zinc supplementation*:

| Age | Dose of zinc | Duration |
|--------------------------|-----------------|------------|
| 0-6 months | 10mg once a day | 10-14 days |
| 6 months- 5 years | 20mg once a day | 10-14 days |

* All children <5 years old with diarrhea should receive zinc.

Recommended antibiotics used for SHIGELLOSIS.

ALWAYS check antimicrobial sensitivity patterns in your area before dispensing drugs for shigellosis:

| Antibiotic* | Dose in children | Dose in adults |
|----------------------|---|--|
| Ciprofloxacin | 15 mg/ kg 2 times a day for 3 days (oral) | 500 mg 2 times a day for 3 days (oral) |
| Pivmecillinam | 15-20 mg/ kg 3 times a day for 5 days (oral), Max dose 300 mg | 400 mg 3 times a day for 5 days (oral) |
| Ceftriaxone | 50-100 mg/ kg once a day for 2-5 days (IM or IV) | 2 g once a day for 3 days (IM or IV) |
| Azithromycin | 20 mg/ kg once a day for 3 days (oral) | 500 mg once a day for 3 days (oral) |

* Antibiotic selection must depend on the sensitivity pattern determined for the specific shigellosis outbreak; Ciprofloxacin is the first line drug.

Certain antibiotics should NOT be used for the treatment of shigellosis for various reasons:

| Antibiotics: | Rationale for NOT using: |
|---|--|
| Ampicillin, chloramphenicol, cotrimoxazole, tetracycline | Used in the past, most <i>Shigella</i> spp. are now resistant |
| Nitrofurans, aminoglycosides, first and second generation cephalosporins, amoxicillin | Poor penetration into the intestinal mucosa, these are not clinically effective |
| Nalidixic acid | Used in the past, most <i>Shigella</i> spp. are now resistant Use may increase resistance to ciprofloxacin |