



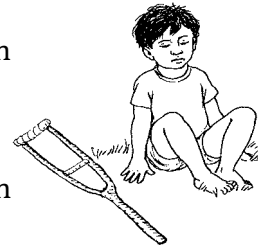
CHAPTER 12

Common health problems

Most young children become ill from time to time. Though it seems backwards, getting sick and fighting illness is part of how children build a good immune system and good health. If well-nourished and without HIV, children recover without medical care from many of these illnesses, needing care only for the most serious ones.

Children with HIV, however, cannot fight illness well. They get sicker faster and may take longer to get well. They may need medical care for illnesses that children without HIV could heal from on their own, and they may need care more quickly.

This chapter can help you recognize signs of illnesses common for children with HIV and know what to do about them, including when to get medical help quickly. If your child has other signs of illness than those covered in this chapter, or problems you do not know how to handle, talk them over with a health worker or with other parents of HIV+ children.



Babies and children living with HIV will avoid illness better if they eat well, take cotrimoxazole to fight infections (see page 174), get their childhood vaccinations on time (see *Where There Is No Doctor*, page 147), and most importantly, take ART, the medicines that fight HIV. Children with HIV who take ART will avoid many of the illnesses discussed in this chapter, or be ill much less often. Chapter 8 has information on testing to help you find out if your child has HIV, and Chapter 11 has information on ART.

If your child has just started taking ART

It can take a little time for a child's body to become used to ART medicines. Some children have side effects from ART that seem like signs of illness, including diarrhea, vomiting, fever, rash, or lack of energy – some of the same signs discussed in this chapter. However, side effects usually do not last very long and go away by themselves. Ask your health worker about what side effects to expect, and see pages 198 to 203 for ways to help your child feel more comfortable if he is having side effects from ART.

Name: Mandisi H.			
Medicine: AZI + 3TC + NVP			
For: ART treatment			
Dosage: 1 tablet, 2 times a day			

7 Signs of illness in children

Parents and caregivers can usually tell when their children are not well. Because children with HIV can become very ill very quickly, pay close attention to signs of illness.

By understanding what 7 main signs of illness mean, you may be able to find the cause of the problem and act on it.

1. Diarrhea, dehydration, and vomiting (starts on page 214)
2. Difficulty breathing and cough (starts on page 224)
3. Fever and seizures (starts on page 229)
4. Sore throat, mouth sores, and thrush (starts on page 235)
5. Skin problems (starts on page 240)
6. Pain, discomfort, and lack of energy (starts on page 245)
7. Low weight, slow growth, and malnutrition (starts on page 245)

If a child with HIV has any of these problems, she needs your care and attention. If any one problem is severe, or if she has 2 or 3 problems, she needs medical help. The “Quick reference for health problems” on the next two pages can tell you where to find out more.

If it is not difficult you to go to a clinic or hospital, it may be best to take a child with HIV for medical help whenever he is ill. Talk to the health workers about the signs of illness you see in your child, when to come in, and when to manage care at home.



Until you can get to a clinic or hospital, or even if you cannot go at all, there are still things you can do to help your child. This chapter can help you treat some illnesses, and so can your family, friends, and neighbors. Reach out for support, particularly to other people who have experience with children who have HIV.

Quick reference for health problems

Diarrhea, dehydration, and vomiting

Diarrhea is more serious when a child has other signs.



Diarrhea with dehydration	Little or no urine, or very dark urine Dry mouth or thirst A sunken soft spot on baby's head Sunken and tearless eyes Sudden weight loss	Pages 215 to 219.
Diarrhea with blood or pus in stool, but no fever	No fever Parts of diarrhea look red, black or very dark brown (might be blood) Parts of diarrhea look yellow (might be pus)	Dysentery , page 219.
Diarrhea with blood or pus in stool, with fever	Fever Stools are more watery Parts of diarrhea look red, black, or very dark brown (blood) or yellow (pus)	Shigella and other bacterial infections , page 220.
Diarrhea is yellow and bubbly	No fever Stools are very smelly Swollen belly and discomfort	Giardia , page 222.
Diarrhea with vomiting	Frequent vomiting Forceful vomiting	Virus or unclean water , page 222.
Diarrhea with vomiting and fever	Frequent vomiting High fever	Virus or cholera , pages 222 to 223.



Boiling water makes it safe to drink and prevents diarrhea.

Difficulty breathing and cough

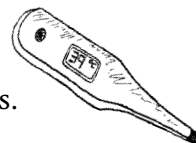
Breathing problems are more serious when the child also has other signs:



Breathing problems and fever	May cough up yellow or green mucus May not want to eat	Pneumonia , pages 225, or colds and flu , page 229.
Cough with fever for more than 1 week	A baby does not gain weight An older child loses weight Others in the house have TB, serious coughs, or illness	Tuberculosis (TB) , page 227.

Fever and seizures

A high fever is a more serious when the child also has other signs.



High fever with seizures or convulsions	Sudden, brief periods of unconsciousness Sometimes jerking body movements	Page 232.
High fever with rash		Dengue , page 240 or measles , page 243.
High fever with fast breathing, difficulty breathing, or cough	Moving less than usual Bulging soft spot (fontanelle) on top of baby's head	Pneumonia , page 225, or bacterial infection or sepsis , page 229, or meningitis , page 232.
High fever with chills or sweats	Pain: headache, belly ache, or sore muscles, sometimes pain when touched Rash, vomiting, or diarrhea	Malaria , page 231, or dengue page 240.
High fever with bad headache, stiff neck	Sometimes vomiting, seizures, or pain when touched Weakness or sleepiness Loss of consciousness	Meningitis , pages 232.



For health care workers

Gentle care for a sick child

Having a child's cooperation will help you care for her well. Getting this cooperation requires patience and honesty. Be gentle and kind. Do not say an injection will not hurt, or a bitter medicine will taste good. If she trusts you, she will more easily accept your examinations, answer your questions, and participate in treatments. Always be truthful.

Other ways to earn a child's trust:

- Before you touch a child, make time for a conversation with her. Use this time to note her general appearance. Does she look healthy? Is she breathing normally? Do you see rashes or other skin problems?
- Before using tools such as a stethoscope or thermometer, show her how they work.
- Encourage the mother, grandmother, or whoever is caring for the child to hold and comfort her. Whenever possible, show the caregiver how to provide any needed treatments.
- Treat a child's pain with paracetamol (acetaminophen) or another pain reliever. Often a child can rest, eat, and drink more, and so begin to heal, if you reduce her pain.
- Save painful treatments or unpleasant medications for the end of your visit.

Don't worry, dear. Asha will take your temperature, but I will stay here with you.



Work with the community

When health workers can join forces with families and other community members, they have more power. It may be possible to advocate for ways to make children's health services more effective and supportive for children, for example, more fully staffed so health workers have time to be patient with a child. And to provide good care, clinics need to be stocked with enough medicines and supplies. Community mobilization may be able to make this happen.

Working together can also increase the activities at a health center, such as forming parent support groups, maintaining a play area in the waiting room, holding health talks about child development or ways to deal with problem behavior, or organizing health fairs.

1. Diarrhea, dehydration, and vomiting

Loose, watery stools are called diarrhea. Children get diarrhea for many reasons, most often from germs spread by bad sanitation and because of poor nutrition. If diarrhea happens every once in a while, it may not be a problem. But when it happens 3 or more times a day, or continues for several days, then a child needs help.

If there is blood in the diarrhea, the child needs medicine to get well. See pages 219 to 221.

Children with HIV often have diarrhea, and can get sicker from diarrhea than other children. For children with HIV, diarrhea leads more quickly to malnutrition and not gaining weight. Check a baby's diapers for diarrhea. Ask older children to tell an adult if they have it.

The danger of diarrhea for any child is losing so much liquid that she becomes dehydrated, which can be deadly. One treatment is essential for everyone with any kind of diarrhea: drinking fluids to replace the liquid lost in the stools. Without drinking fluids, a child with diarrhea can lose so much fluid – become dehydrated – she can die. Even a child whose diarrhea is a side effect from starting ART needs more fluids.

Vomiting (page 223), like diarrhea, is a very visible sign. But just like diarrhea, it is less dangerous than dehydration. Learning how to make and give rehydration drink is a key to saving lives.

Dehydration

Dehydration is a lack of water in the body. Children who become very dehydrated can die. The major cause of dehydration is untreated diarrhea, but fever, vomiting, or not being given enough fluids or breast milk can also cause it. Because dehydration from diarrhea or fever is so dangerous to young children, always be on the lookout for it, and be ready to give the child fluids.

Signs of dehydration

- Diarrhea, even if there are no other signs of dehydration
- Thirst, but children do not always say they are thirsty
- Dry mouth and tongue
(the inside of the child's cheek is dry)
- Urinating less often, and urine is dark-colored

Start giving fluids right away, before the signs get any worse.



General treatment for diarrhea, dehydration, and vomiting

1. **Give rehydration drink.** Rehydration drink is water, a little salt and some sugar or cooked grain, and sometimes a little fruit or juice for flavor (see recipes on pages 216 to 218).
For a child up to 2 years old, give at least $\frac{1}{4}$ cup (2 ounces or 60 ml) after each watery stool.
For a child of 2 years or older, give $\frac{1}{2}$ to 1 cup (4 to 8 ounces or 120 to 240 ml) after each watery stool.



2. **Give food.** Often the child will not say he is hungry, but if he does not eat, he will get weaker and sicker. Be patient. Until his appetite returns, give just a few spoonfuls 6 times a day or more. Give bigger portions as the child improves. Enrich the child's porridge with healthy foods like crushed groundnuts, eggs, dried fish, yogurt, avocados, or bananas. At times when you have no protein or vegetables, add a $\frac{1}{2}$ teaspoon of oil to a serving of porridge.



Breastfeed often to replace the fluids and nutrients lost from diarrhea.

3. **Avoid anti-diarrhea medicines.** They act like plugs and keep the diarrhea and infection inside the child. Antibiotics will only help for certain cases of cholera and bloody diarrhea caused by bacteria (see pages 219 to 221 for more information).
4. **Help children be as comfortable as possible.** Diarrhea can cause sores or diaper rash. For children with HIV, these sores can easily become infected. Change diapers often, clean the child's bottom, and use lotion or Vaseline on skin around the anus if it becomes sore.
5. **Prevent diarrhea** by improving sanitation and nutrition, and by giving cotrimoxazole to a child with HIV. See Chapter 10: How to keep children healthy.

To save a child's life, give fluids to replace what he has lost.



Holding back fluids does not make the diarrhea better. It puts the child in danger.



Drinking fluids keeps a child healthy when he has diarrhea.

Signs of severe dehydration

- Child is very tired and lacks energy
- Child's heart beats very quickly
- Child breathes more deeply or gulps air
- Sunken, tearless eyes
- Sunken soft spot on baby's head
- Skin stays in a pinched shape when you pinch it

Lift the skin on the child's arm or stomach between your thumb and first finger. If the skin does not fall right back to normal, the child may be dehydrated.



When dehydration becomes severe, the child is in serious danger. Quick treatment can save the child's life.

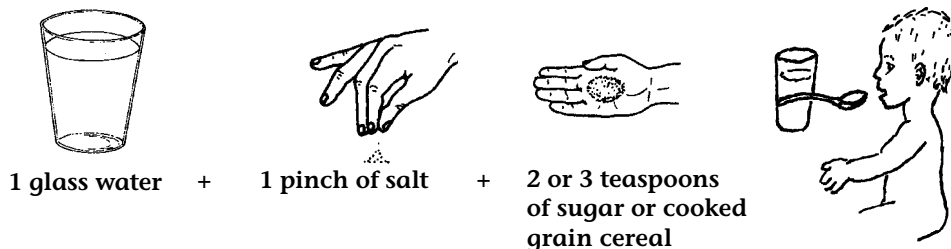
Treatment for dehydration

The treatment for dehydration is simple: **give fluids to drink that the body can absorb**. See the recipes for rehydration drink on this page and the next. If the child does not start to improve quickly, get help.

If you are breastfeeding, nurse more often — at least every 2 hours. Let the child breastfeed for as long as she wants. If the child is older than 6 months, also give rehydration drink, as much as the child will take after each feeding.

Rehydration drinks

Rehydration means replacing liquid the body loses during dehydration. Because diarrhea causes food to pass through too quickly, nutrients are lost, so rehydration should also replace nutrients. Water + a little salt + some energy food (sugar or rice or corn meal) = rehydration drink.



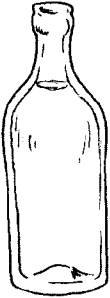

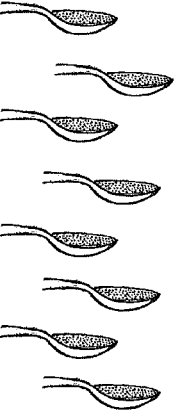
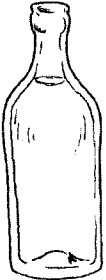
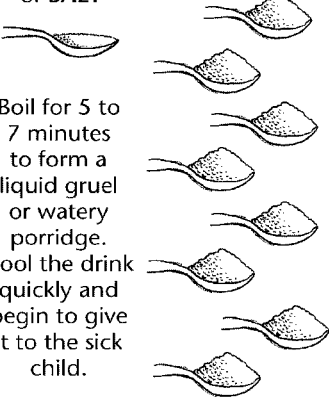
After each stool, give as much rehydration drink as the child will drink. Each drink should be at least $\frac{1}{4}$ cup (2 ounces or 60 ml) for a baby, or a cup or more (8 ounces or 240 ml) for an older child or adult. Children may not feel like drinking a lot of fluid at once, so keep offering sips or spoonfuls, encouraging children to keep taking some in. Be patient.

Keep giving rehydration drink until diarrhea has stopped and signs of dehydration are gone.

Here are several ways you can prepare a good rehydration drink at home:

Salt and sugar drink, 2 ways:

This simple rehydration drink is just as good as the ORS (oral rehydration salts) packets you can buy and costs much less.

2 ways to make rehydration drink		
<p>If you can, add half a cup of fruit juice, coconut water, or mashed ripe banana to either drink. These contain potassium, a mineral which helps a sick child accept more food and drink.</p>		
<p>1. With sugar and salt. (You can use raw sugar or molasses instead of sugar.)</p>	<p>2. With powdered cereal and salt. (Powdered rice is best. But you can use finely ground maize, wheat flour, sorghum, or cooked and mashed potatoes.)</p>	
<p>In 1 liter of clean WATER</p>	<p>put half of a level teaspoon of SALT</p>	<p>and 8 level teaspoons of SUGAR.</p>
		
<p>CAUTION: Before adding the sugar, taste the drink and be sure it is less salty than tears.</p>	<p>In 1 liter of clean WATER</p>	<p>put half of a level teaspoon of SALT</p> <p>and 8 heaping teaspoons of powdered CEREAL.</p>
		
	<p>Boil for 5 to 7 minutes to form a liquid gruel or watery porridge. Cool the drink quickly and begin to give it to the sick child.</p>	
	<p>CAUTION: Taste the drink each time before you give it to make sure that it has not spoiled. Cereal drinks can spoil within a few hours in hot weather.</p>	

Here are some other ways to rehydrate a child who has diarrhea.

Rice water

Cook some rice in twice as much water as you would normally use. Add about ½ teaspoon salt for a liter of water, or a big pinch for each cup of water. You can add a little sugar if you like. Have your child drink as much as she can. You can feed her the rice too.



Other home cereals



If you usually make porridge, pap or gruel to feed to young children, you can water it down to a thin liquid and add a little salt. Ground corn, dal, potato, or cassava will all work. But thinned porridge like this does not replace food. If you use thinned porridge for rehydration, also give regular, thick porridge to eat.

Yogurt or fermented milk drinks

These are good rehydration drinks and provide needed protein too. If the yogurt drink is very thick, add some water, and a pinch of salt.



What about plain water?

When a child is dehydrated, plain water is not as good as rehydration drinks because it lacks nutrients. But it is better to give plain water than nothing at all — for a little while. Give water while you wait for rice water or cereal drink to cook and cool, or another drink to be made.

Must water be boiled?

Water that has been boiled or disinfected is best. For more on how to make water safer to drink, see pages 161 to 163.

But if you do not have a way to boil or disinfect water, use the water you do have until you can make your water safe.

Avoid drinks that make dehydration worse

Some drinks worsen dehydration, such as very sugary drinks, drinks with caffeine, and alcoholic drinks. So avoid:

- fizzy drinks (like Coke or Fanta, or beer).
- sugary fruit drinks.
- coffee and strong tea.

NO!



Pre-packaged ORS

Packets of Oral Rehydration Salts (ORS, ORT) may be available from your pharmacy, clinic, or market. Like homemade rehydration drink, these are a mixture of salt and sugar. They also have potassium, citrate, and zinc, which are helpful nutrients for people with diarrhea. Where these packets are available for free, they are an easy way to make rehydration drink. Be sure to add the right amount of water — usually 1 liter of water per packet. (Check the instructions on the packet because adding too little or too much water can make the child worse.)

If ORS packets are not free, it is better, and much less expensive, to make your own rehydration drink. Your homemade drink is just as good as the drink made from the packet, and to recover from dehydration your child will need food as well as fluids. Spend your money on vegetables, beans, eggs, or other healthy foods, not on ORS packets.



Zinc helps stop diarrhea

Zinc (a mineral) helps lessen diarrhea in children and can be given to children as young as 2 months old.

A child from 2 months to 6 months old: Give 10 mg zinc each day for 10 days. Grind up the tablet and mix with a little breast milk.

A child from 6 months to 5 years old: Give 20 mg a day for 10 days.

Treatment for diarrhea with other signs

When a child has diarrhea along with other signs, such as fever or blood in the stool, he may need medicine in order to get well. Along with any medicine you give your child, be sure to give rehydration drink.

Diarrhea with blood or pus in stool

- Diarrhea with blood in it looks red, but sometimes blood may look black or very dark brown instead. Pus in diarrhea looks yellow.
- When there is blood in the stool but no fever, it is probably caused by dysentery.
- When there is blood in the stool and fever, it is probably caused by shigella or another bacterial infection.

Diarrhea with blood or pus, no fever: Dysentery**GIVE**

Metronidazole: Give 10 mg for each kg, 3 times a day, for 8 to 10 days. Or dose by age:

Under 3 years: give 62 mg ($\frac{1}{4}$ of a 250 mg tablet), 3 times a day, for 8 to 10 days.
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3 to 7 years: give 125 mg ($\frac{1}{2}$ of a 250 mg tablet), 3 times a day, for 8 to 10 days.
--

ALSO GIVE diloxanide OR ciprofloxacin.

Diloxanide

Under 3 years: give 62 mg ($\frac{1}{8}$ of a 500 mg tablet), 3 times a day, for 10 days.

3 to 7 years: give 125 mg ($\frac{1}{4}$ of a 500 mg tablet), 3 times a day, for 10 days.

Ciprofloxacin

Under 3 years: give 125 mg ($\frac{1}{2}$ of a 250 mg tablet), 2 times a day, for 3 days.

3 to 7 years: give 250 mg (one 250 mg tablet), 2 times a day, for 3 days.
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Diarrhea with blood or pus, with fever: Bacterial infection

It is difficult to know what medicine to use if you are not certain what infection is causing the child's diarrhea, and also whether drug resistance in your area has changed which drugs will still work. Local health workers will know what are the most common infections and which antibiotic should work best.

Shigella is usually the most common infection, so treat for that. If the child is not better after 2 days, try one of the alternate medicines. Ask your local health worker. The first choice is azithromycin, but that may be expensive or not available, and you may be able to use one of the other medicines listed.

GIVE

Azithromycin: Give 20 mg for each kg, one time only. Or dose by age:
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Under 1 year: give 150 mg, one time only.
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1 to 3 years: give 250 mg, one time only.
--

4 to 7 years: give 500 mg, one time only.
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OR GIVE

Erythromycin: Give 10 mg for each kg, 4 times a day, for 3 days. Or dose by age:
Under 1 year: give 100 mg, 4 times a day, for 3 days.
1 to 3 years: give 150 mg, 4 times a day, for 3 days.
4 to 7 years: give 200 mg, 4 times a day, for 3 days.

OR GIVE

Ampicillin: Give 10 to 25 mg for each kg, 4 times a day, for 7 days. Or dose by age:
Under 1 year: give 100 mg, 4 times a day, for 7 days.
1 to 3 years: give 125 mg, 4 times a day, for 7 days.
4 to 7 years: give 250 mg, 4 times a day, for 7 days.

OR GIVE

Cotrimoxazole (trimethoprim + sulfamethoxazole): Give 3 mg trimethoprim and 15 mg sulfamethoxazole for each kilogram, 2 times a day, until 3 days after signs have gone away. Or dose by age, using a single-strength 480 mg tablet (80 mg trimethoprim and 400 mg sulfamethoxazole):
6 weeks to 12 months: give $\frac{1}{4}$ tablet (20 mg trimethoprim and 100 mg sulfamethoxazole), 2 times a day, until 3 days after signs have gone away.
1 to 3 years: give $\frac{1}{2}$ tablet (40 mg trimethoprim and 200 mg sulfamethoxazole), 2 times a day, until 3 days after signs have gone away.
4 years to 7 years: give 1 tablet (80 mg trimethoprim and 400 mg sulfamethoxazole), 2 times a day, until 3 days after signs have gone away.
Note: If the child already takes cotrimoxazole, add another medicine from this section. Continue to give the child their usual dose of cotrimoxazole.

In some places resistance to these medicines has developed. This means they no longer work and ceftriaxone should be used instead. See a health worker to get an injection of the correct amount.

Diarrhea is yellow and bubbly: Giardia**GIVE**

Metronidazole works best. Dose by weight and give for 5 days.

For a child under 3 years old: give 8 to 15 mg for each kg, 2 times a day.

For a child from 3 to 7 years old: give 12 to 16 mg for each kg, 3 times a day.

Or dose by age:

Under 3 years: give 62 mg ($\frac{1}{4}$ of a 250 mg tablet), 2 times a day, for 5 days.

3 to 7 years: give 62 mg ($\frac{1}{4}$ of a 250 mg tablet), 3 times a day, for 5 days.

OR GIVE

Quinacrine can also be used and may be cheaper.

Give 2 mg for each kg, 3 times a day, for 1 week.

Or dose by age:

Under 10 years: give 50 mg, 3 times a day, for 1 week.

Diarrhea with vomiting

This could be caused by: a virus, or unclean water or food. So long as you treat with rehydration drink, the child should get better.

Diarrhea with vomiting and fever

This could be caused by different viruses, or it could be **cholera** – a health worker will know if there is cholera in the region. Always give rehydration drink too.

Treatment for cholera**GIVE**

Azithromycin: Give 20 mg for each kg, one time only.

Or dose by age:

Under 1 year: give 150 mg, one time only.

1 to 3 years: give 250 mg, one time only.

4 to 7 years: give 500 mg, one time only.

OR GIVE

Erythromycin: Give 10 mg for each kg, 4 times a day, for 3 days. Or dose by age:
Under 1 year: give 100 mg, 4 times a day, for 3 days.
1 to 3 years: give 150 mg, 4 times a day, for 3 days.
4 to 7 years: give 200 mg, 4 times a day, for 3 days.

Tetracycline, doxycycline, and ciprofloxacin also work for cholera, but they are not recommended for children younger than 8 years old. But because cholera is such a dangerous illness, use one of these medicines if that is all you have.

Vomiting

Usually vomiting is caused by a virus, and will pass. Too much vomiting can cause dehydration, so give fluids and watch for dehydration (see pages 215 to 216).

If a child vomits more than once in an hour, or shows signs of dehydration, give rehydration drink (pages 216 to 219). At first, give just a spoonful every 15 minutes, even if he continues to vomit. If the drink stays down, give a spoonful every 5 minutes. Then give larger sips. You can also use other liquids.



Giving more fluids and food as soon as possible will help the child regain his strength. Children may not want to drink anything while they are feeling nauseous. Encourage them to sip small amounts as often as possible.

If a child vomits blood, or vomits every few minutes for 3 hours, or cannot keep down any rehydration drink, get medical help.

When a child vomits within 20 minutes after taking medicine, the medicine may be vomited too. Wait until vomiting has stopped before you give more medicine. As soon as a child is rehydrated and drinking, you can give medicine as usual. For children with HIV who must take ART regularly, see page 202.

Some children are very upset by vomiting or may have stomach pains. Reassure children that it will stop soon, and help them rest.

2. Difficulty breathing and cough

Coughs are usually caused by simple colds. But any cough that lasts more than 2 days may be a sign of illness. And for children with HIV, this may be serious. While you care for the cough at home, watch for other signs of illness in case more treatment is needed. If the child has a fever, other problems with breathing, or coughs up yellow or green mucus, check for signs of pneumonia (pages 225 to 226) or tuberculosis (TB, pages 227 to 228). These are both very common and dangerous for children with HIV, and need quick treatment.

Breathing problems to watch for

Breathing fast is an important sign of pneumonia and other lung infections.

When is breathing too fast?

A baby under 2 months old: more than 60 breaths a minute.

A child from 2 months to 12 months old: more than 50 breaths a minute.

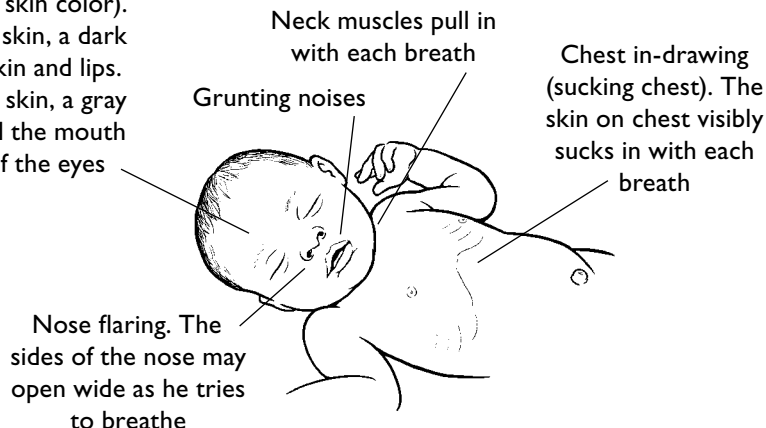
A child from 12 months to 5 years old: more than 40 breaths a minute.

All children breathe fast when they are crying. Try to calm the child. When she is not crying, rest a hand on her belly to feel it rise and fall. Watch and feel how many breaths she takes each minute.

It can be difficult to measure a minute and also count breaths. If possible, have one person look at a clock or watch and say when to start and stop counting (when the minute changes) and another person count the child's breaths.

Also watch for these signs:

Cyanosis (change in skin color). In people with light skin, a dark blue-ish color on skin and lips. In people with dark skin, a gray or ash color around the mouth and in the whites of the eyes



How to treat coughs at home

- Make the child comfortable in a sitting or halfway sitting position. This will help the child breathe more easily.
- At night, put something underneath the child's sleeping mat to lift her head, or put boards or a brick under the legs at the head of her bed, so she sleeps at an angle rather than lying flat. This helps lessen coughing at night.
- Stay close or have someone stay with the child until she feels better — having trouble breathing can be very scary, and being scared can make it harder to breathe.
- Give plenty of fluids to drink and food to eat. Help your child understand that drinking fluids and eating healthy foods will help her feel better.
- Nurse babies often, to provide comfort as well as nourishment.



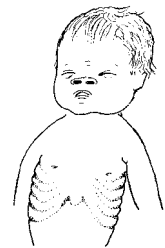
If the child does not get better in a week or so, or the cough becomes worse, or she also has a fever, see a health worker to check for pneumonia or TB.

Pneumonia (lung infection)

Pneumonia is a lung infection, and a very serious and common health problem for children with HIV. It can quickly worsen and lead to death.

Signs of pneumonia

- **Breathing fast**, the most important sign of pneumonia. See page 224.
- **Difficulty breathing**, including nose flaring or the skin on the chest pulling in when the child breathes (see page 224). The child may make grunting noises when breathing.
- **Fever**
- **Cough**
- **Yellow or green mucus** comes up when the child coughs.
- **No interest in food and not wanting to eat.**



Children will probably not have all of these signs unless the pneumonia is already very serious. If a child has any 2 or 3 signs, treat for pneumonia.

Treatment for pneumonia

If you think a child has pneumonia, treat with an antibiotic right away.

GIVE

Amoxicillin: Give 22 to 25 mg for each kg, 2 times a day, for 5 days.
Or dose by age:

Under 1 year old: give 250 mg (one 250 mg tablet) ground up in a little breast milk, 2 times a day, for 5 days.

1 to 3 years old: give 500 mg (2 tablets of 250 mg), 2 times a day, for 5 days.

Cotrimoxazole may also work against other causes of pneumonia that amoxicillin cannot cure by itself, if the child has not been taking cotrimoxazole regularly.

GIVE

Cotrimoxazole (trimethoprim + sulfamethoxazole): Give 3 mg trimethoprim and 15 mg sulfamethoxazole for each kg, 2 to 4 times a day, for 21 days.

Or dose by age, using a single-strength 480 mg tablet (80 mg trimethoprim and 400 mg sulfamethoxazole):

6 weeks to 12 months old: give ¼ tablet (20 mg trimethoprim and 100 mg sulfamethoxazole), 2 to 4 times a day, for 21 days.

1 to 3 years old: give ½ tablet (40 mg trimethoprim and 200 mg sulfamethoxazole), 2 to 4 times a day, for 21 days.

4 to 7 years old: give 1 tablet (80 mg trimethoprim and 400 mg sulfamethoxazole), 2 to 4 times a day, for 21 days.

Note: If the child already takes cotrimoxazole, he should simply continue taking it. Do not give the child an extra dose or increase the dose.

The child should start to get better within 2 days. If she does not, there may be another cause, such as tuberculosis, malaria, asthma, or a worm infection that has spread to her lungs. Be sure to have her tested for TB. If the child's health worsens, if she has serious trouble breathing, loses consciousness, or has a seizure, she needs medical help quickly.

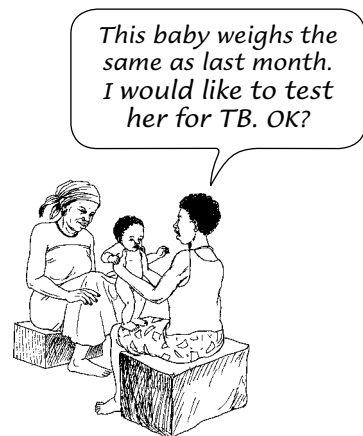
Tuberculosis

Tuberculosis or “TB” is a lung disease that causes weight loss, cough, and other serious health problems. Having HIV makes it easier for a child to get TB, and TB sickens children more quickly than adults. Any child who does not gain weight or grow well should be tested for both TB and HIV. TB passes easily from person to person through the air, and babies with HIV get TB most easily. Treating TB is very important for a baby or child with HIV. Adults must be treated as well, both for their own health and so they will not reinfect a treated child.



Signs of tuberculosis

- Others in the child’s household have TB
- Fever for more than a few days
- Cough lasting more than 2 or 3 weeks (but not all children with TB have a cough)
- Tiredness, weakness, not as playful
- Pain in the chest or pain when breathing or coughing
- Not wanting to eat, babies do not gain weight and older children lose weight
- Blood in sputum, night sweats, swollen glands



Treatment for tuberculosis

- Seek medical help. Any child with signs of TB needs to be tested for TB, pneumonia, and HIV. Any child with HIV who gets TB should be treated first for TB, and after 2 to 8 weeks, start taking ART medicines.
- TB medicine takes a long time to work completely, and needs to be taken daily for the full course of treatment, often 6 to 12 months, even if the child seems well. A health clinic will provide the combination of medicines needed (usually isoniazid, rifampicin, pyrazinamide, and ethambutol), often at no cost, as well as advice on how to take them.
- See page 225 for ways to make a child with a cough more comfortable.
- Children with TB also need extra food to get well.

Prevention of tuberculosis

TB spreads easily from one person to another when they live or sleep in the same room. Until a person with TB is on medication that keeps his TB under control, children should sleep separately from them. Everyone who has TB should be treated so they do not infect others.

Prevention medicine to protect children from TB

Children with HIV who are more than 12 months old, who live in an area where there is a lot of TB but who have no signs of TB, and do not live with someone who has TB, can take the TB medicine called **isoniazid**, or a combination of isoniazid and rifampicin, to prevent them from catching TB. They must take the medicine each day for 6 months.

GIVE

Isoniazid: Give 10 mg for each kg, one time a day, for 6 months.

Or dose by age:

Under 1 year old: give one 100 mg tablet, every day, for 6 months.

1 to 3 years old: give 150 mg (1½ 100 mg tablets), every day, for 6 months.

Prevention of pneumonia and TB

Children with HIV get pneumonia and tuberculosis more easily than other children. Try to get your child on ART (see Chapter 11) or cotrimoxazole (see page 174). These medicines are the best way to prevent pneumonia and many other infections in children with HIV.

- Anything that irritates the lungs makes it easier for children to get a lung infection. Smoke weakens the lungs and makes both pneumonia and TB more common.
- A stove with a chimney, or good ventilation, will pull smoke out of the house and protect the lungs of the girls and women who do the cooking, and others nearby. People who smoke should always smoke outside, away from children.
- Malnutrition makes children too weak to fight pneumonia or TB. To help prevent serious illnesses, feed children with HIV more food and more nutritious food. See Chapter 10.
- The vaccine that can prevent pneumonia is safe for children with HIV. Ask a health worker if it is available in your area.



Everyone breathes easier when children get enough healthy food every day.

Colds and flu

A runny nose, sore throat, or cough will usually go away without medicines. Rest, plenty of fluids, and enough food will help the child get better on his own. Antibiotics are useless for a cold. But a cold sometimes leads to **ear or throat infections** which do need treatment (see pages 233 to 236).



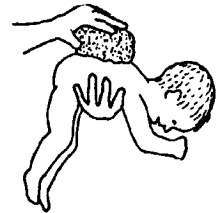
3. Fever and seizures

When we are well, our bodies stay at a steady temperature, no matter what the weather is like or how hard our body works. But when we fight an illness, our body temperature often rises. Children regularly get fevers as they fight illness, and children with HIV sometimes have fevers that last several weeks.

You can measure body temperature with a thermometer, but you do not need one to know a child has a fever. You can tell by feeling her forehead or belly using the inside of your wrist. A child with a fever may be more drowsy or fussy than usual.

To lower a fever and help a child feel better:

- Gently cool her skin with wet cloths, or give her a cool (not cold) bath.
- Keep the child in the shade, or near a breeze from a window or doorway.
- Give plenty of fluids to prevent dehydration.
- Give paracetamol (acetaminophen) or ibuprofen (see Chapter 13: Helping children with pain).
- Most importantly, try to find and treat the cause. Some fevers come from viruses, including HIV. But fever can also be a sign of an infection or problem needing treatment, such as difficulty breathing (**pneumonia**, page 225), a stiff neck (**meningitis**, page 232), **diarrhea** (page 219), redness in or around the **ear** (page 233) or **throat** (page 235), a **rash** (page 240), or infection in the umbilical cord of a newborn (**sepsis**, below).
- A health worker can help you discover the cause of the fever.



Blood infection (sepsis)

It is very dangerous when an infection spreads from one part of the body into the blood. A newborn can get sepsis when germs get into her umbilical cord, perhaps if it was cut with an unsterilized knife. But sepsis can also spread from something as simple as an ear infection.

Signs of sepsis

- Fever: temperature above 38.3° C (101° F) or below 36° C (96.8 ° F)
- Fast breathing (see page 224) and fast heart rate
- The nose flares or chest pulls in as child tries to breathe
- Seizure or convulsions

Treatment of sepsis

Anyone with these signs needs treatment as soon as possible — get medical help. If you know how to give injections, use **ampicillin AND gentamicin**:

GIVE Ampicillin: Inject 50 mg for each kg, 4 times a day, for 10 days.

AND Gentamicin: Inject 2.5 mg for each kg, 2 times a day, for 7 to 10 days.

Otherwise, give 2 medicines by mouth, **ciprofloxacin AND clindamycin**.

GIVE

Ciprofloxacin: Give 10 mg for each kg, 2 times a day, for 10 days.

Or dose by age:

Under 3 years old: give 125 mg (½ of a 250 mg tablet), 2 times a day, for 10 days.

AND GIVE

Clindamycin: Give 5 mg for each kg, 3 times a day, for 10 days.

Or dose by age:

Under 1 year old: give one 100 mg tablet, 3 times a day, for 10 days.

1 to 3 years old: give 150 mg (1½ 100 mg tablets), 3 times a day, for 10 days.

4 to 7 years old: give 200 mg (2 tablets of 100 mg), 3 times a day, for 10 days.

If there is no improvement after 2 days, ALSO GIVE

Metronidazole: Give 7.5 mg for each kg, 4 times a day, for 10 days.

Or dose by age:

Under 1 year old: give 37 mg, 4 times a day, for 10 days.

1 to 5 years old: give 75 mg, 4 times a day, for 10 days.

Malaria



Malaria is caused by a parasite spread by the anopheles mosquito. Where malaria is common, children with HIV catch malaria more easily and more often than other children. Having HIV also makes their malaria worse. All children with malaria need treatment, and children with HIV need malaria treatment very quickly. Unlike adults, they will not develop immunity after repeated attacks.

Signs of malaria

- Where there is a lot of malaria, fever may be moderate but often it can get very high
- Fever that goes away but returns after 1 to 3 days
- Chills and sweats
- Headache, sore muscles, belly ache
- Vomiting or diarrhea



Signs of severe malaria

These are life-threatening signs that the child needs urgent medical help:

- Trouble breathing
- Seizure, or difficulty waking
- Unclear thinking, loss of consciousness, or any other signs malaria has infected the brain (see meningitis, page 232)

Treatment of malaria

Different medicines work against malaria in different places. Go to a clinic as quickly as possible to get a malaria test and find medicines that are sure to work for your child.

Prevention of malaria

On page 175, you can find ways to prevent malaria in your family and community. You will also find information about giving your child cotrimoxazole (page 174) to prevent malaria and a number of other infections.



Prevent malaria with bed nets and window screens.

Seizures and convulsions

Seizures are sudden, brief periods of fainting (child seems to be asleep) or changes in mental state, sometimes with jerking body movements. Some seizures make a child very stiff and still.



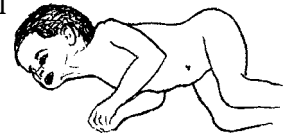
A young child can have a seizure because of high fever, infection, dehydration, a head injury, malaria, exposure to chemicals, or for other reasons. When a person has seizures a lot, this is called epilepsy — see a health worker.

During a seizure, clear the space around the child so he does not hurt himself. Turn him on his side so he does not choke if he vomits. Do not hold a seizing child down or try to hold his tongue.

- One seizure is usually not a serious problem. However, if seizures happen several times, get medical help.
- If a seizure happens with other signs of illness or a child who has been ill has a seizure, get medical help. Seizures can be a sign that an illness is getting worse.
- **Meningitis** (see below) often causes seizures. Get medical help for this very dangerous problem as soon as possible.
- The spasms of **tetanus** (when the jaw shuts tightly, called “lockjaw,” and the body suddenly bends back), may be mistaken for seizures. A child with tetanus needs medicine immediately — get help.

Meningitis

Meningitis is a very serious infection of the brain and spinal cord. Most often, fever is the first sign and it starts with no other clear cause. Sometimes meningitis results from another illness such as tuberculosis, measles, or mumps. Meningitis from tuberculosis may take weeks to develop.

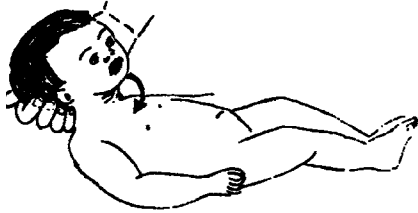


Signs of meningitis

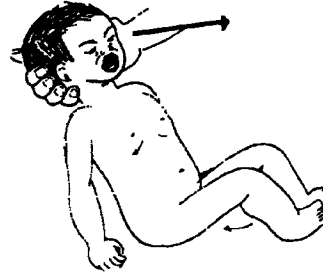
- Fever
- Bad headache
- Vomiting
- Seizures
- Stiff neck and arching back — the child cannot put his head between his knees
- Touch is painful — trying to hold a child makes him cry
- Light hurts the child's eyes
- Child is irritable, sensitive, and upset
- Weakness, sleepiness, or losing consciousness

Signs of meningitis in a newborn

- The soft spot (fontanelle) on top of a baby's head may bulge
- Vomiting or diarrhea
- A fever or an unusually low temperature
- A high-pitched cry



A healthy baby's neck bends forward when you lift his head.



The neck of a baby with meningitis is stiff. When you lift his head, his back follows and he often cries louder.

Treatment for meningitis

Get medical help right away. If you know how, on the way give injections of **ampicillin AND gentamicin**:

GIVE Ampicillin: Inject 50 mg, for each kg, every 6 hours.

AND Gentamicin: Inject 5 mg, for each kg, once a day.

If the child recently had malaria, check for tuberculosis as well.

Ear infection



If a baby or child is rubbing his ear and crying, an ear infection may be the cause. Ear infections are very common in children, especially after a cold or runny nose. The inside of the nose is connected to the inner part of the ear and germs easily pass the short distance between them. Children with HIV may get many ear infections.

Signs of ear infection

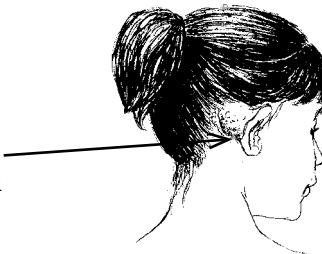


- Mild fever
- Babies cry, or rub their ears or the sides of their heads
- An older child can tell you his ear hurts
- Not wanting to eat, difficulty sleeping, or just general fussiness
- Sometimes pus may drain from the ear

Signs of dangerous ear infection

Get medical help for any of these signs:

- Pain, tenderness, or swelling behind the ear. This may be a dangerous bone infection called mastoiditis.
- Headaches, dizziness, or a seizure
- Child is very tired or weak
- Hearing loss, deafness



Treatment for ear infection

- Treat pain with paracetamol or other pain reliever (see pages 256 to 258).
- Help the child get plenty of rest and give her lots of fluids (water and juices, or breastfeeding) and healthy food.

Not all children need medicines to recover from an ear infection. However, for children with HIV, **GIVE**

Amoxicillin: Give 25 mg for each kg, 3 times a day, for 7 days.

Or dose by age:

Under 1 year old: give 125 mg, 3 times a day, for 7 days.

1 to 3 years old: give 250 mg, 3 times a day, for 7 days.

4 to 7 years old: give 375 mg, 3 times a day, for 7 days.

If there is bad-smelling pus draining from the ear, **ALSO GIVE**

Cotrimoxazole (trimethoprim + sulfamethoxazole): Give 3 mg trimethoprim and 15 mg sulfamethoxazole for each kg, 2 times a day, for 10 days.

Or dose by age, using a single-strength 480 mg tablet with (80 mg trimethoprim and 400 mg sulfamethoxazole).

6 weeks to 1 year old: give $\frac{1}{4}$ tablet (20 mg trimethoprim and 100 mg sulfamethoxazole), 2 times a day, for 10 days.

1 to 3 years old: give $\frac{1}{2}$ tablet (40 mg trimethoprim and 200 mg sulfamethoxazole), 2 times a day, for 10 days.

4 to 7 years old: give 1 tablet (80 mg trimethoprim and 400 mg sulfamethoxazole), 2 times a day, for 10 days.

Note: If the child already takes cotrimoxazole, give it as usual and also give amoxicillin.

Prevention of ear infection

Feed babies in an upright position to prevent ear infections.

Sometimes a child gets something inside her ear. Gently flush the ear with a mixture of half water and half hydrogen peroxide or vinegar, using a syringe with no needle. Or, if you are very careful not to poke the inside of the ear, you can remove a small object with tweezers. Otherwise, avoid putting anything in the ear. Germs are easily spread into the ear or you can accidentally puncture the eardrum. Even a tiny scratch can become infected. This is especially dangerous for a child with HIV.

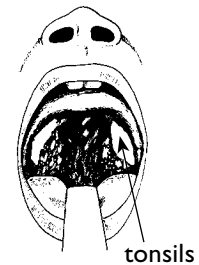
Giving your child daily cotrimoxazole will protect him from ear infections. See page 174.



Breastfed babies have fewer ear infections than formula-fed babies.

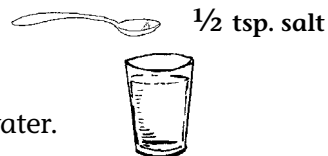
4. Sore throat, mouth sores, and thrush

Sore throats are usually caused by a virus that leads to a common cold. The child's throat may look red and may hurt when he swallows. The tonsils (which look like 2 lumps on each side of the back of the throat) may become large and painful, be covered in spots, or drain pus. Also, a thrush infection in the mouth can spread down the throat, making it feel sore (see **Thrush**, page 238).



Treatment for sore throat

- Give plenty of fruit juices, teas, and other fluids.
- Teach an older child how to gargle with warm salt water.
- Give paracetamol for pain (see pages 256 to 258).



For most sore throats, antibiotics will do no good and should not be used. But one kind of sore throat in children, **strep throat**, is dangerous, especially for children with HIV, and it is best to treat with antibiotics quickly.

Signs of strep throat

- Swelling, pus, and little white patches on the back of the throat
- Swollen or tender lymph nodes in the neck, below the ears
- Fever
- No cough or runny nose

**Treatment for strep throat**

If a child has the first 3 of these signs, but no cough or runny nose, the infection is likely to be strep throat. Treat with either penicillin OR amoxicillin.

GIVE

Penicillin (Penicillin V or VK): Give 6 to 12 mg for each kg, 4 times a day, for 10 days. Or dose by age:

Under 1 year old: give 62 mg, 4 times a day, for 10 days.

1 to 5 years old: give 125 mg, 4 times a day, for 10 days.

6 to 12 years old: give 125 to 250 mg, 4 times a day, for 10 days.

Over 12 years old: give 250 to 500 mg, 4 times a day, for 10 days.

OR GIVE

Amoxicillin: Give 22 to 25 mg for each kg, 2 times a day, for 10 days. Or dose by age:

Under 3 months old: give 125 mg, 2 times a day, for 10 days.

3 months to 3 years old: give 250 mg, 2 times a day, for 10 days.

4 to 7 years old: give 375 mg, 2 times a day, for 10 days.

Mouth sores and thrush

Children with HIV often get mouth sores. They can be painful and make it hard to eat. Be sure to check your child's mouth for sores or discolored patches, especially if the child complains of mouth pain or is uncomfortable eating or drinking.

Treatment for mouth sores

- Treat for pain. Give paracetamol for pain (see pages 256 to 258). Giving the child pain medicine 30 minutes before eating can help him eat more.
- Use lidocaine to control pain by spraying it directly in a child's mouth or rubbing it on gently with a clean cloth.
- Use a clean cloth and salty water to gently clean the sores. Older children can swish salt water or baking soda and water in their mouths and spit it out.
- Dab the mouth sore with Milk of Magnesia or cover it with a paste made of baking soda and water.
- Wash your hands before and after cleaning your child's mouth.
- Offer soft foods and healthy drinks. Children need healthy food when they are sick if they are to get well. Feed them soft or mashed foods, such as bananas, eggs, soup, and porridge.
- Avoid citrus (oranges or lemons), pineapple, and spicy foods, which might irritate the sores.
- Feed cool and cold foods more than hot foods. This will hurt sores less.
- Encourage children to drink more.
- Keep breastfeeding, but clean nipples with gentian violet (see next paragraph).
- Paint gentian violet on sores with a clean cloth 3 times each day for angry red mouth sores. If your child's mouth seems dried out from this treatment, add water to make the gentian violet half-strength. If you are breastfeeding, use gentian violet to clean your nipples 3 times a day as well.
- For white patches, see thrush on page 238.

Thrush

Thrush is a yeast or fungus infection in the mouth that can be very uncomfortable and painful. White patches inside the mouth are the most obvious sign. Thrush is very common in people with HIV who are not taking ART, including children.



Nursing mothers may feel pain or tingling in their breasts after nursing a baby with thrush. Looking in the baby's mouth, you will see white or yellow patches surrounded by red skin. You can wipe the patches away but the skin around them remains red and sore. Sometimes the whole tongue is covered in white. Mouth pain makes babies with thrush very fussy. Older children complain about soreness in their mouth and do not want to eat, drink, or swallow.

Thrush can spread from the mouth into the throat, making it hard to swallow or breathe, and causing a burning feeling in the chest, especially after eating. Sometimes a child may vomit thick, white, mucus-like stuff. Treat thrush quickly to relieve pain, keep it from spreading, and help the child be able to eat.

Treatment for thrush

- Give paracetamol for pain (see pages 256 to 258).
- Make sure everyone in the household washes their hands carefully before and after helping treat a child. Thrush spreads easily.
- Dip a cloth in lightly salted water or vinegar, and gently wipe off the white patches. Do not press too hard — the skin around the white patches will be very sore.
- Gentian violet can also treat thrush sores. Use 0.5% gentian violet on white patches 3 times a day until 2 days after the thrush disappears.

GIVE

Nystatin liquid, after meals:

Give ½ ml of nystatin in each cheek, for 1 ml total, 4 times each day for 10 days.

If thrush lasts longer than 10 days, continue treating until 2 days after thrush is gone.

If the nystatin does not work, try **fluconazole**.

Fluconazole: Give 3 mg for each kg the child weighs, one time a day, until it heals.

Or dose by age:

Under 1 year old: give 25 mg (½ of a 50 mg tablet), one time a day, until it heals.

1 to 3 years old: give 36 mg (¾ of a 50 mg tablet), one time a day, until it heals.

4 to 7 years old: give 50 mg, one time a day, until it heals.

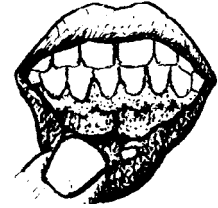
Note: Whether you use the weight-based or age-based dose, give a double dose the first day, then give the regular dose.

When to get medical help for thrush

If thrush has spread to the throat and the child cannot swallow or has difficulty breathing, take her to a hospital or clinic as soon as possible. Other medicines will be needed.

Mouth ulcers and gum infections:

Mouth ulcers are open sores that can appear anywhere in the mouth, especially on the inside of the lips. Usually the skin around the sores is much redder than the skin that is not broken. They can be painful and make talking and eating difficult. Healing can be very slow for children with HIV.



With gum infections, the skin around the teeth (the gums) becomes painful, red, and puffy, and may ooze yellow pus. Ulcers may develop between the teeth, and the child's breath may smell very bad.

For both problems, keep the area clean with a cloth or cotton swab dipped in 1% povidone iodine, gentian violet, or 3% hydrogen peroxide mixed with clean water. Also give an antibiotic to children with swelling or pus in the mouth.

GIVE

Amoxicillin: Give 44 to 50 mg for each kg, 2 times a day, for 5 days.
Or dose by age:

Under 1 year: give 250 mg (one 250 mg tablet) ground up in a little breast milk, 2 times a day, for 5 days.

1 to 3 years old: give 500 mg amoxicillin, 2 times a day, for 5 days.

4 to 7 years old: give 750 mg amoxicillin, 2 times a day, for 5 days.

OR GIVE

Erythromycin: Give 10 mg for each kg, 4 times a day, for 3 days.
Or dose by age:

Under 1 year: give 100 mg, 4 times a day, for 3 days.

1 to 3 years old: give 150 mg, 4 times a day, for 3 days.

4 to 7 years old: give 200 mg, 4 times a day, for 3 days.

Take the child to see a health worker as quickly as possible if these problems do not improve, or keep the child from eating.

Red mouth sores and viral infections

Red sores in the mouth are common for children with HIV. They usually are caused by a virus, such as herpes (see page 243). ART improves the immune system and helps to avoid viral sores. Treat all sores as described on page 237 to help children be more comfortable and healthy while they heal.

5. Skin problems

All children get rashes and most go away by themselves. However, children with HIV get rashes more often, have rashes that last longer, and are made more uncomfortable by them.

For all rashes, if the area of the rash is larger than your hand, or there are red streaks, fever, or any other serious signs with the rash (see page 210), see a health worker.

Also see a health worker if a rash doesn't respond to treatment.

Get medical help as soon as possible for any of these signs with rash:

- Pain in the bone behind the ear (see page 234)
- Headaches, dizziness, or a seizure
- Child is very tired or weak
- Hearing loss, deafness

Rashes with high fever

A number of different illnesses have signs that include some fever and skin rashes. But when a rash is combined with a high fever, it could be an illness spread by mosquitoes such as dengue.

Dengue usually begins with sudden high fever and chills, and body aches. After 3 or 4 days, the person begins to feel better for a few hours or days, then the illness returns for a few more days with a rash beginning on the hands and feet, and then spreading to the arms, legs, and body (but not the face). The headaches and physical pain that dengue brings can be very intense.

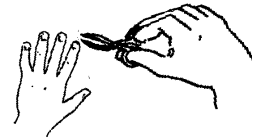
Signs of severe dengue — get medical help immediately!

- Bleeding from the skin
- Blood in vomit or feces (from stomach bleeding)
- The child is unable to eat or drink
- The child acts confused or loses consciousness

If there are no danger signs, use paracetamol to help with pain (see page 257) and keep the child hydrated. The only way to prevent dengue is to keep from getting bitten by mosquitoes. See page 175, and also “Community Mosquito Control” in *A Community Guide to Environmental Health*, pages 149 to 153.

Rashes that itch

Many rashes are itchy. Tell children not to scratch the rash (and remind them when they forget), keep their fingernails trimmed, and wash their hands before bed and during the day to help prevent the rash from becoming infected.

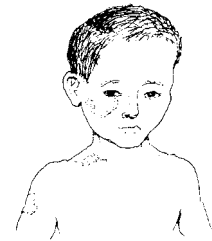


Ways to help calm itchiness:

- Bathe rashy skin with cool water or, better yet, water in which oatmeal has been soaked.
- Leave skin rash open to the air when possible.
- Put calamine lotion or something to calm the itching on the rash several times a day.
- For severe itching, use 1% hydrocortisone cream on skin up to 4 times a day.
- An antihistamine medicine that contains diphenhydramine may help.
- Use paracetamol to treat pain from rashes.

Fungal rashes

Some itchy rashes are caused by fungus. The same fungus that causes thrush in a child’s mouth can also cause a scaly rash on the skin. Some fungal rashes are also known as “ringworm” although they are not caused by a worm. The rash may or may not itch, but is red, scaly, and has a raised edge and a pale center. These rashes may appear as diaper rash or on other areas of the torso, between toes or fingers, or on the face or scalp.



Treatment for fungal rashes

- Treat the skin several times a day with an antifungal cream containing clotrimazole, nystatin, or other similar medicines.
- Pills for fungal infections are hard on the liver and not recommended for children with HIV, but may be necessary to treat ringworm of the scalp.

Prevention of fungal rashes

- Keep feet and skin clean and dry.
- Wear sandals when washing in shared areas.
- Wash hands after touching pets or other animals, and don't sleep with animals.
- Don't share towels or other personal items.

Rashes that have blisters, sores, or pustules

If fluid-filled bumps appear and spread over the body and then form scabs after they burst, it could be chicken pox. Information about it and how to treat itching can be found in the previous section. But if the child has difficulty breathing, fever, or jaundice, see a health worker immediately.



Chicken pox (varicella)

Chicken pox is caused by a virus called varicella zoster. The child first gets a low fever and a rash of red, itchy spots which turn into fluid-filled, blistery bumps. They usually start on the child's body and face, and then spread to her arms and legs. New itchy bumps may appear over a 5-day period and eventually burst and scab over. If scratched, bumps can get infected and turn into sores that take a long time to heal, and may leave scars. The infected rash can become very dangerous to a child with HIV. You can use the treatment for itchy rashes (page 241) to make the child more comfortable, and give her extra fluids and nutrition.

Children with HIV that is not well controlled can develop pneumonia, meningitis and other serious problems. If the child has difficulty breathing, high fever, infected sores, jaundice, or a change in consciousness, see a health worker. Sometimes the medicine acyclovir (see next page) is given to children with chicken pox.

Prevention of chicken pox

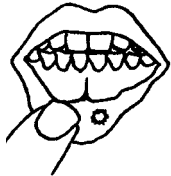
- Avoid contact with people who have chicken pox.
- The "live" chicken pox vaccine should not be given to children with untreated HIV. The "live" vaccine should only be given to children between birth and 5 years old who have CD4 counts of 500 or higher, and to children older than 5 with CD4 counts of 200 or higher.



Shingles (zoster)

The varicella zoster virus does not leave the body after the chicken pox goes away. It can stay hidden in the nerves and spine for months or years. Especially when a person is under a lot of stress, the virus can return. But instead of covering the whole body, the pustules are clustered in one area. This is called shingles, and can be very painful. It is often treated with acyclovir (see below).

Herpes (herpes simplex)



Herpes is a viral infection that causes blisters or ulcers on the lips (sometimes called a fever blister or cold sore). The first time a child gets herpes it may cause amny blisters on the lips and in the mouth. After, herpes may cause either one or many sores or ulcers on the lips.

Give acetaminophen for pain, and use the same treatment recommended for other mouth sores (see page 237). See a health worker for antiviral medicines if the sores return frequently or if the infection spreads near an eye — very dangerous!

For repeated herpes infections, severe chicken pox (varicella) or shingles (zoster)

GIVE

<p>Acyclovir: Give 15 mg for each kg, 5 times a day, for 7 days. Or dose by age:</p>
<p>Under 1 year old: give 100 mg ($\frac{1}{2}$ of a 200 mg capsule or $\frac{1}{4}$ of a 400 mg tablet), 5 times a day, for 5 days.</p>
<p>1 to 3 years old: give 200 mg (a 200 mg capsule or $\frac{1}{2}$ of a 400 mg tablet), 5 times a day, for 5 days.</p>
<p>4 to 7 years old: give 400 mg (two 200 mg capsules or a 400 mg tablet), 5 times a day, for 5 days.</p>

Measles

Measles is caused by a virus and starts with a low fever, cough, runny eyes and nose, and sore throat (with white spots in the mouth). After 2 to 3 days, a red rash starts behind the ears, spreads to the neck and face, then the arms and body, and finally to the thighs, legs, and feet. Fever may rise to 40°C (105°F). The rash slowly fades, first from the face and last from the thighs and feet.

If a child with measles also develops diarrhea, give rehydration drink (pages 216 to 218). For painful ear infection (page 233), difficulty breathing (pneumonia, page 225), or signs of meningitis (page 232), see a health worker. For children whose HIV is not well controlled, measles can be very dangerous.

Prevention of measles

- Avoid contact with people who have measles. Measles spreads very easily and can be dangerous for people with HIV and pregnant women.
- Do not give the "live" measles vaccine to children with untreated HIV. Children between birth and 5 years old should have a CD4 count of 500 or higher. Those older than 5 should have a CD4 count of 200 or higher.

Other skin bumps

Drug reactions

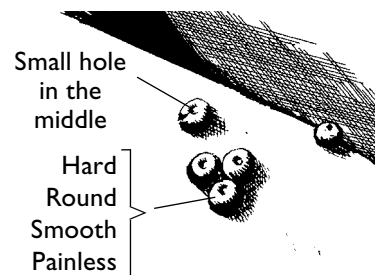
Blotchy, red, sometimes raised patches on the skin can be caused by an allergic reaction to a medicine. Usually the reaction begins soon after starting a new medicine. See a health worker as quickly as you can to change to a medicine that the child's body can handle better.

Molluscum

Molluscum is a skin condition caused by a virus that causes small bumps with a dimple in the middle and is usually white, pink or skin-colored. It usually starts as a small dot and grows over a week to the size of a small pea. It is common in children, especially children with HIV. It is not dangerous and will go away on its own after several weeks or months. It may go away after a child starts ART.

Prevention of molluscum

- Wash hands often with soap and water.
- Do not share towels, clothing, or other personal items.
- Do not touch or scratch bumps on your skin or other people's skin.



Warts or scaly red skin that does not itch

Warts or other bumps that do not itch can be left alone unless they become infected. Keep them clean and if they do not go away, ask a health worker if he knows how to remove them. Greasy and scaly red skin might be **seborrhea**, which can be treated with ketoconazole shampoo if there is hair, or 1% hydrocortisone cream 2 times a day on less hairy skin.

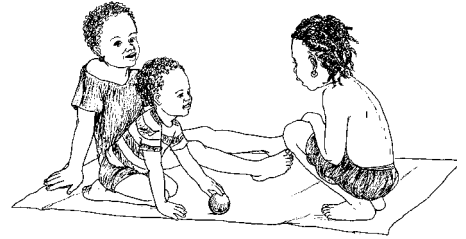
6. Pain, discomfort, and lack of energy

Pain, discomfort, and lack of energy can come with any illness. Children with HIV may be sick often, have painful sores or rashes, and in general be uncomfortable. Some types of pain show something more serious is wrong. If a child shows signs of pain in their ears, mouth, neck or other areas, check the signs in this chapter and treat probable illnesses.

Many children with HIV feel more general pain, or aches in their bones and joints. Lying in bed for long periods of time can also lead to pain.

See Chapter 13 for more information on pain and what to do to help a child. If severe pain does not go away with paracetamol or ibuprofen, and there are other signs like fever, diarrhea, vomiting, or lack of energy, or if a child has intense pain that lasts more than 2 days, see a health worker.

A child's lack of energy may come from illness, from not having enough to eat, or from feeling unhappy. Help a child rest if she is ill, but unless she has a contagious illness (easily passed through the air), encourage quiet play with friends, such as playing board games or listening to music.

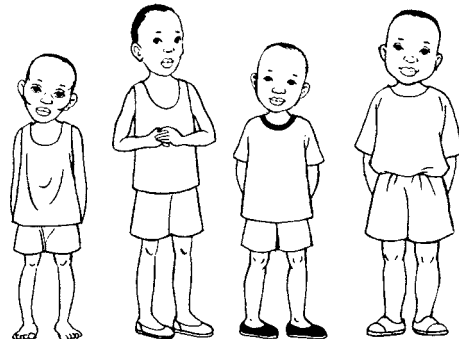


7. Low weight, slow growth, and malnutrition

Malnutrition means not getting enough food or enough of certain kinds of food. The main sign of malnutrition in babies and children is not growing well. Growing too slowly is a warning sign, of possible mild malnutrition. When growth stops or goes backward, the child is in danger, and may have severe malnutrition.

Mild malnutrition over many months can still be harmful, causing stunting, which is not gaining height like other children the same age. Many children with HIV are stunted.

Severe malnutrition, especially in children under 1 or 2 years old, can cause wasting, which means children become very thin because their bodies use their own muscles and stores of fat to stay alive. Malnutrition in children under 2 years old can cause serious physical and mental disabilities.



wasted and stunted wasted stunted healthy

Children with HIV need more food than children who do not have HIV. If they do not get enough food, they do not grow well. They:

- do not gain weight or height like other children their age.
- are often thinner, smaller, weaker, and lack energy compared to other children their age. Sometimes this is called "failure to thrive."
- are not able to fight illness well, so they die more easily from diseases such as diarrhea or pneumonia.
- may also not develop mentally or emotionally as well as they should.

Even in a baby 3 or 4 months of age, you may see signs of slower growth and development if the baby has HIV and is not taking ART, such as staying very small, not gaining weight, and being too weak to breastfeed well.

To prevent malnutrition, measure growth

Weigh a baby every month or so for the first 2 or 3 years, and until at least age 5 if the child is small or not growing well. Health centers often weigh and measure your child each time you visit, and you can keep a record too.

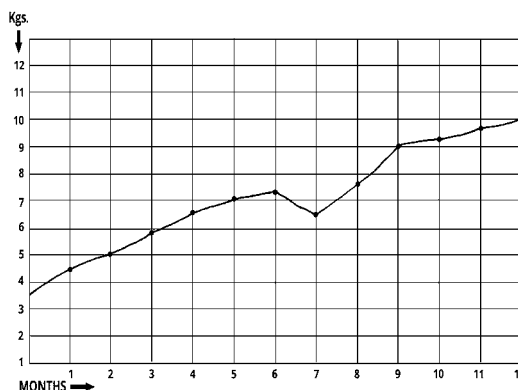
If a child's weight stays the same for a couple of months, the child may need more food. And if he then gets more to eat, he may be able to catch up.

See Chapter 10 for information on feeding children. Use the recipes on the next page to help children with HIV get extra nutrition.

Some children lack enough of certain vitamins or minerals. A child with pale palms may need more iron. A child with regular diarrhea may need vitamin A. These and other vitamins, such as vitamin B complex and folic acid, can be given to children who have signs of not enough of these in their diet.

All children grow faster at some times and slower at others, and this is OK. But a young child who stops growing for some time, or loses weight, or can no longer do things he had already learned to do, may be seriously ill. Do not wait long to seek help. See Chapter 3 for stages of development in young children.

The sooner children with HIV start ART, the better, stronger, and healthier they will grow.



This charts the growth of a child who needed more food. When she got it, she started growing again.

How to make high-energy foods

Feed your child high-nutrition foods called “Ready to Use Foods – RUTFs” such as PlumpyNut. For a much lower cost than buying them, you can make these highly concentrated foods at home. Here is a simple recipe to follow that allows you to combine foods that are almost always available in local markets.

Combine **4 kinds of food** using ingredients local to where you live:
porridge, protein, fat or oil, and vegetables.

1. Make 1 cup porridge from a starchy energy food.

Choose any one of these:

millet, maize, rice, wheat,
cassava, yam or potato.



2. Add a high protein food.

Choose any **one** of these:

- 2 tablespoons milk powder
- 1 egg
- ½ cup roasted, pounded, or ground seeds or nuts
- ½ cup cooked, mashed beans, lentils, or peas
- ½ cup cooked bean or pea flour
- ½ cup dried, pounded fish
- ¼ cup cooked, finely chopped meats or organ meats

Use whatever starchy food you usually make for your family, cooked into a thick paste (not a thin broth).



3. Add 2 tablespoons fat or oil:

any vegetable or nut oil, ghee, or lard.



4. Add ½ cup cooked vegetable.

Choose any one of these:

Tomato, green leafy vegetables, squash, pumpkin, green beans, fresh peas, okra, or other vegetable.



Give this high-energy porridge 4 or 5 times a day.

A malnourished child may not want to eat or may have energy to eat only very slowly. Offer a little food every hour or two. Be patient and persistent. Keep feeding this high-energy food to the child until she begins to gain weight and get her energy, health, and spirit back.

Wash your hands before cooking or serving food, use clean dishes, and only make enough food for a day or so. Like any food, this high-energy food will eventually spoil, and will spoil faster if you live where it is hot.

If the child is still nursing, breastfeed first and then give high-energy food. Malnourished children may be too weak to nurse enough at each feed, so offer breast milk more often.



Also give fruit every day. Any fruit will give vitamins. But if you can, give different fruits on different days. That way, the child will get a variety of vitamins.

Treat children for worms

In communities where cleanliness and sanitation are difficult, all children (both with or without HIV) between 1 and 5 years old may benefit from regular deworming. This allows the nutrition in a child's food to go to him, and not to the worms. Because worms may be very small, deworm children even if you do not see worms in their stool.

GIVE

Mebendazole: Dose by age:
1 to 2 years old: give 100 mg, once every 6 months.
2 to 5 years old: give 500 mg, once every 6 months.

OR GIVE

Albendazole: Dose by age:
1 to 2 years old: give 200 mg, once every 6 months.
2 to 5 years old: give 400 mg, once every 6 months.