

## Medicines: uses, dosage, and precautions for the medicines referred to in this book

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# Medicines

## uses, dosage, and precautions for the medicines referred to in this book

Medicines are drugs that are used to help the body fight problems like bleeding, allergy, or infection. Some medicines reduce pain.

When we refer to medicines in this book, we usually mean both modern and traditional medicines, but this part of the book is mostly about the modern medicines that are used for women and babies during pregnancy, birth, and after birth.



Traditional medicines vary a lot from one place to another, so a remedy that is used in one place may not be available anywhere else. You can write down the local medicines that you use in the back of this section — and if you translate this book, be sure to include traditional medicines from your community.



**WARNING!** Most of the time, pregnancy and birth are normal and safe and medicine is not needed. Most health problems are best treated by resting, drinking plenty of liquids, and eating healthy foods. Medicines can be expensive and many have uncomfortable or dangerous side effects. Most medicines pass through the mother's blood or breast milk to her baby. For all of these reasons, **pregnant and breastfeeding women should avoid using medicines** unless they are truly needed.

## When to use medicines

Only use a medicine when you know what is causing a problem and you are sure the medicine will help that problem. See page 13 to decide the cause and find the best treatment for a problem.

Before giving a medicine to a woman, ask yourself these questions:

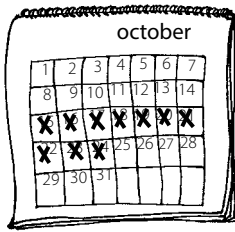
- Will she get better without this medicine?
- Is there a home remedy or traditional medicine that will work as well or better?
- Are the benefits of using this medicine greater than the cost and the risks?

## How to take medicines safely

- Take the full amount.
- Do not take too much.
- Avoid taking more than 1 medicine at the same time.
- Know and watch for signs of problems.
- Know as much as you can about a medicine.

### Take the full amount

Many medicines, particularly antibiotics (see page 470) must be taken for a



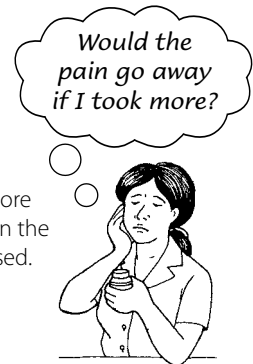
number of days to work. A woman who is taking medicines must take them for the full number of days she is supposed to — even if she feels better before then. This is because the medicine kills the weakest germs first and takes longer to kill the stronger germs. If some germs are not killed, the infection may come back. And because these stronger germs are harder to kill, the drug may not work to fight the disease anymore — for the individual woman who did not

take her full amount of medicine, or for others in the community who get sick with the same disease. This is called drug resistance.

### Do not take too much

Some people think that taking more medicine will heal the body faster. This is not true and can be dangerous! **If you take too much medicine at one time or take a medicine too often, it may cause serious harm.** See page 466.

Never take more medicine than the amount advised.



### Avoid taking more than 1 medicine at the same time

Some medicines can stop other medicines from working. Some medicines cause problems when they are taken with other medicines.

Avoid combination medicines (2 or more medicines in 1 tablet). Some combination medicines are necessary, but they usually cost more, and you may be putting medicine in your body that you do not need. For example, some eye drops and eye ointments contain both antibiotics and steroids. The steroids can be harmful. Combination medicines can also cause more side effects.

### Know and watch for signs of problems with a medicine



#### Side effects

Many medicines have side effects. These are unintended effects of the medicine that are annoying or uncomfortable. Common side effects are nausea, stomach aches, headaches, or sleepiness.

Side effects can sometimes be very severe — like damage to the organs inside the body. A medicine with these effects is usually only worth taking in emergencies. Sometimes you should only take a medicine for a short time and then stop to avoid being hurt by the side effects.

Whenever you give a medicine to a woman, tell her what side effects she might have. If she has these effects, she will know it is normal and she is more likely to keep taking the medicine for the needed number of days. She will also know which effects are not normal side effects, and might show that she has an allergy.

### Allergy

Some people are allergic to certain medicines. When a person is given that medicine, her body has a reaction. She may have a small, uncomfortable reaction or a very serious reaction that can endanger her life.

Do not give a medicine to someone who is allergic to that medicine. Do not give the person any medicines from the same family (see page 470).

#### To prevent an allergic reaction from a medicine:

1. Before giving any medicine, ask the woman if she has had itching or other problems after taking that medicine or a similar medicine in the past. If she has had a reaction in the past, do not give that medicine or any medicine from the same family.
2. Stay with a woman for 30 minutes after giving an injection. During this time, watch for signs of allergic reaction.
3. Have medicines ready to fight allergic reaction.



#### Signs of allergic reaction:

- skin rash
- swelling of the lips or face
- itching skin or eyes
- wheezing



#### For allergy

- give 25 mg diphenhydramine.....by mouth, 1 time

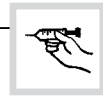
*or*

- give 25 mg promethazine.....by mouth, 1 time

You can give another 25 mg of either medicine in 6 hours if rash, itching, swelling, or wheezing has not stopped.

#### Signs of severe allergic reaction or allergic shock:

- pale skin
- difficulty breathing
- cold, sweaty skin
- low blood pressure
- weak, rapid pulse or heartbeat
- loss of consciousness



### For allergic shock

Get medical help. On the way:

- inject 1:1000, 0.5 ml adrenaline ..... under the skin, 1 time only  
(subcutaneous injection)

**and**

- inject 50 mg diphenhydramine..... in the muscle, 1 time only

**and**

- inject 500 mg hydrocortisone ..... in the muscle, 1 time only

### Taking too much

Some common signs of taking too much of a medicine are:

- nausea
- vomiting
- pain in the stomach
- headache
- dizziness
- ringing in the ears
- fast breathing

These can also be side effects for some medicines. If you are not sure whether the woman has taken too much, use the descriptions of the drug on the following pages to check for its common side effects.

If a woman has any of these signs and they are not common side effects of the medicine she is taking, she should stop taking the medicine and get medical help

### Poisoning

Taking too much of a medicine can kill a person, especially a child. Keep medicines away from children. If you think a person may have poisoned herself from taking too much medicine, act quickly to help her:



- Try to make the person vomit. She may be able to get the extra medicine out of her body before it harms her more.
- Give activated charcoal (see page 473). Activated charcoal can absorb some kinds of drugs and keep them from acting as poison.
- Get medical help immediately.

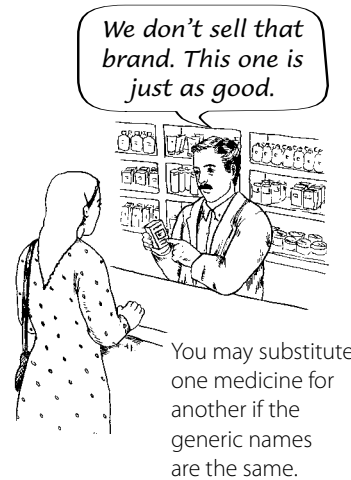
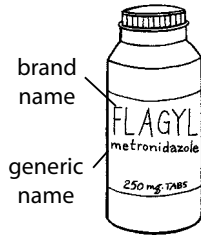
### Know as much as you can about the medicine

Many medicines must be taken at a certain time of day, with food, or on an empty stomach. Certain medicines are never safe for certain people to take. For example, a woman with high blood pressure should not take ergometrine, which can make blood pressure even worse. Read the descriptions of each drug on the following pages and any information that comes with the drug, or ask pharmacists or health workers so you can learn who can take the medicine safely — and how they should take it for it to be most effective.

# How to give medicines

## Medicine names

Medicines usually have 2 names. The generic (or scientific) name is the same everywhere in the world. Some companies that make medicines give each medicine they make a brand name. The same medicine made by 2 different companies will have 2 different brand names. In this book, we use generic names. If you need a certain medicine, any brand will do. Some brands cost much less than others.



## Forms of medicines

Medicines come in different forms:

- Tablets, pills, capsules, and liquids are usually taken by mouth. Sometimes they may need to be inserted in the vagina or rectum.
- Inserts (suppositories, pessaries) are put into the vagina or the rectum.
- Injections (see page 345) are given with a needle — into a large muscle (IM), under the skin (intra-dermal or subcutaneous injection), or into the blood (IV).
- Liquids and syrups that are taken by mouth.
- Creams, ointments, or salves that contain medicine are applied directly to the skin or in the vagina.

In this book, we use pictures to show how a medicine should be given.



Inject medicines when we show this picture.



Give tablets, pills, capsules, or inserts when we show this picture.



Use ointment or cream when we show this picture.



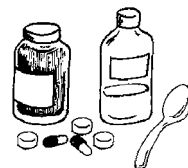
Give drops when we show this picture.



Give syrup when we show this picture.

Often, the same medicine can be given in different forms. For example, many medicines can be given by mouth or given by an injection. Usually, it is best to give medicines by mouth, because injecting can have risks. But in an emergency, injecting the medicine may be better, because it will usually work more quickly.

In this book, we recommend the most effective ways to give each medicine, but you may be able to give a medicine in another form. We do not explain how to give medicines by IV (in the vein), because this method has more risk.



## How much medicine to give

Pills, tablets, and capsules come in different weights and sizes. To be sure you are giving the right amount, check how many grams (g), milligrams (mg), micrograms (mcg), or Units (U) each pill or capsule contains.

### **For tablets, capsules, inserts, and injectable medicines**

Most tablets, capsules, inserts, and injectable medicines are measured in grams (g) and milligrams (mg):

1000 mg = 1 g  
(one thousand milligrams is the same as one gram)

1 mg = 0.001 g  
(one milligram is one one-thousandth part of a gram)

**For example:** One aspirin tablet has 325 milligrams of aspirin.

You could say that one aspirin tablet has:

	.325 g	All of these are different ways to say 325 milligrams.
	0.325 g	
	325 mg	

= means **equal to** or **the same as**

+ means **and** or **plus**

$\frac{1}{2}$  tablet = **half** of a tablet =



$\frac{1}{4}$  tablet = **one quarter**  
(or one fourth) of a tablet =



Some medicines, such as birth control pills, are weighed in micrograms (mcg or  $\mu\text{cg}$ ):

1  $\mu\text{cg}$  = 1 mcg =  $\frac{1}{1000}$  mg = 0.001 mg  
This means there are 1000 micrograms in a milligram.

Injectable medicines may be measured in Units (U) or International Units (IU).

### **For liquid medicines**

Syrups, suspensions, and other liquid medicines are usually given in milliliters (ml) or cubic centimeters (cc). A milliliter is the same as a cubic centimeter.

1 ml = 1 cc

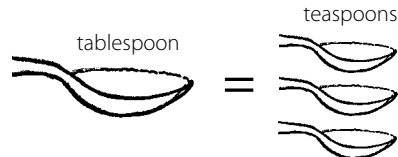
1000 ml = 1 liter

Sometimes liquids are given in teaspoons (tsp) or tablespoons (Tbs).

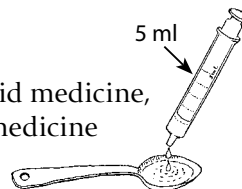
1 tsp = 5 ml

1 Tbs = 15 ml

1 Tbs = 3 tsp



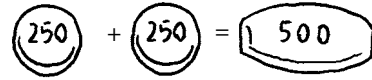
To be sure you are taking the right amount of a liquid medicine, be sure that your teaspoon is 5 ml, or measure the medicine in a syringe.



**If your pharmacy does not have the correct weight or size of a medicine**

You may have to give part of a pill, or more than one to get the right dose.

**For example**, if you only have 250 mg tablets of amoxicillin and you are supposed to give 500 mg each time, you must give 2 pills each time.



$$250 \text{ mg} + 250 \text{ mg} = 500 \text{ mg}$$

Or, if you only have 500 mg tablets of amoxicillin and you need to give 250 mg each time, you must cut each pill in half.

**Dosing by weight**

For most medicines in this book, we suggest doses that any adult woman can use. But for some medicines, especially ones that can be dangerous, it is better to figure out the dosage according to a person's weight (if you have a scale).

**For example**, if you need to give gentamicin, and the dosage says 5 mg/kg/day, this means that each day you would give 5 milligrams (mg) of the medicine for each kilogram (kg) the person weighs.

So a 50 kg woman would receive 250 mg of gentamicin during 24 hours.

This amount should be divided up into separate doses. Dosage instructions will say how many times the medicine should be given each day.

Gentamicin should be given 3 times a day so you would give 80 mg in each dose.

**When to take medicines**

Some medicines should be taken once a day. Most must be taken more often. You do not need a clock. If the directions say:

"1 tablet every 8 hours" or "3 tablets a day" ..... take 1 at sunrise, 1 in the afternoon, and 1 at night.

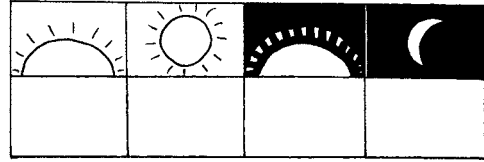
"1 tablet every 6 hours" or "4 tablets a day" ..... take 1 in the morning, 1 at midday, 1 in the late afternoon, and 1 at night.

"1 tablet every 4 hours" ..... take 6 pills a day, allowing the same amount of time between each pill.

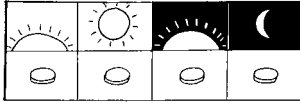
This is because a medicine only works while it is in the body. After a certain length of time, it passes out of the body. The person must take it regularly throughout the day to keep enough medicine in her body. And taking too much at once can cause poisoning.



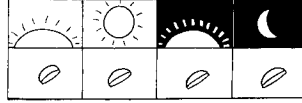
To remind someone who cannot read how often to take their medicine, you can draw them a picture like this: →



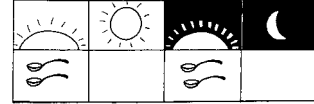
In the blanks at the bottom, draw the amount of medicine to take and carefully explain what it means. For example:



This means they should take 1 tablet 4 times a day: 1 at sunrise, 1 at midday, 1 in the late afternoon, and 1 at night.



This means ½ tablet 4 times a day.



This means 2 spoons of syrup 2 times a day.

## Kinds of medicine

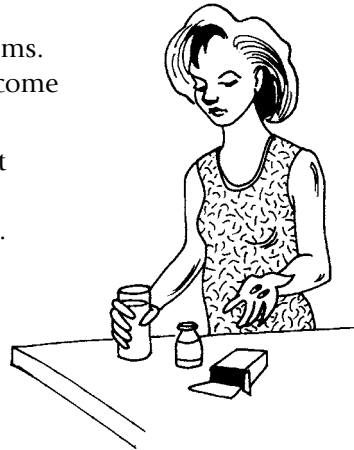
There are several different kinds of medicine listed in this book — antibiotics, pain medicines, medicines to stop allergic reactions or bleeding, and medicines to treat pre-eclampsia. We describe many individual medicines on the following pages. One group of medicines, antibiotics, needs explanation as a group.

### Antibiotics

Antibiotics are used to fight infections caused by germs. Antibiotics that are similar to each other are said to come from the same family.

Antibiotics from the same family can usually treat the same problems. If you cannot get one antibiotic, another one from the same family may work instead.

A person who is allergic to one antibiotic is often also allergic to the other antibiotics in the same family. She should not take any antibiotic from that family.



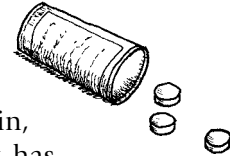
## Antibiotics and their families

**Penicillins:** amoxicillin, ampicillin, benzathine penicillin, benzylpenicillin, dicloxacillin, procaine penicillin, and others

Penicillins work well for a variety of infections. They have very few side effects and are safe to take if pregnant or breastfeeding. They are widely available, low-cost, and can be taken by mouth or injected. Unfortunately, many people are allergic to them. Penicillins have been overused and some diseases are now resistant to them.

**Macrolides:** azithromycin, erythromycin, and others

Erythromycin works against many of the same infections as penicillin and doxycycline. It is safe for a woman who is pregnant or breastfeeding, or allergic to penicillin. Azithromycin, though harder to find and more expensive, is safe in pregnancy, has fewer side effects, and needs fewer doses than erythromycin.



**Tetracyclines:** doxycycline, tetracycline

Tetracycline and doxycycline both treat many infections and are low-cost and widely available. **Tetracyclines should not be taken by pregnant or breastfeeding women or by children under 8 years of age.**

**Sulfas (sulfonamides):** sulfamethoxazole (part of cotrimoxazole), sulfisoxazole

These medicines fight many different kinds of infections and they are cheap and widely available. They can be taken during pregnancy, but **it is better for pregnant and breastfeeding women to take a different medicine.** Many people are allergic to sulfas. Also, some infections have become resistant to them.

**Aminoglycosides:** gentamicin, streptomycin, and others

These are effective and strong medicines, but most of them can cause serious side effects and can only be given by injection. They should only be used for severe infection when no safer drug is available. **It is better for pregnant and breastfeeding women to take a different medicine.**

**Cephalosporins:** cefixime, ceftriaxone, cephalixin, and others

These powerful drugs treat many infections that have become resistant to the older antibiotics. They are safer and have fewer side effects than many other antibiotics, but can be very expensive and hard to find. They are safe to use during pregnancy and breastfeeding.

### Use antibiotics only when necessary

Antibiotics are used much too often.

- Antibiotics can cause problems like nausea, vomiting, diarrhea, and vaginal yeast infections. Some can cause more serious side effects or allergic reactions.
- Using antibiotics when they are not needed, or for diseases they cannot cure, has made some harmful germs stronger and resistant to medicines that once killed them.

Antibiotics cannot cure illnesses caused by viruses, such as colds or hepatitis.

## How to use the list of medicines

This section gives detailed information about the medicines mentioned in this book. Each medicine is listed by its generic (scientific) name, in the order of the alphabet:

**a b c d e f g h i j k l m n o p q r s t u v w x y z**

Information about birth control pills and medicines for HIV starts after the alphabetical list, on page 490.

To use this list, look up a medicine by its name or use the index of problems below. This index gives the page number where more information about a health problem can be found, and names the medicines we suggest for treating that health problem. Be sure to read more about any health problem before trying to treat it.

<b>Problem</b>	<b>See pages</b>	<b>See medicines</b>
allergic reaction .....	465, 466.....	adrenaline, diphenhydramine, hydrocortisone, promethazine
bacterial vaginosis .....	328.....	metronidazole
<b>bleeding</b>		
after birth .....	231 .....	ergometrine, oxytocin, misoprostol
after a miscarriage or abortion.....	408.....	ergometrine, misoprostol
chancroid.....	331 .....	erythromycin, ceftriaxone
chlamydia.....	324.....	erythromycin, amoxicillin
emergency contraception.....	316.....	birth control pills (ethinyl estradiol, levonorgestrel)
eclampsia.....	182.....	magnesium sulfate, diazepam
eye care for newborns.....	261 .....	erythromycin, tetracycline
genital warts (HPV).....	333.....	bichloroacetic acid, trichloroacetic acid
gonorrhoea.....	324.....	ceftriaxone, cefixime
herpes.....	332.....	acyclovir
HIV.....	335, 492.....	efavirenz, lamivudine, nevirapine, tenofovir, zidovudine
<b>infections</b>		
bladder or kidney.....	129 .....	amoxicillin, cotrimoxazole
in pregnancy.....	179.....	ampicillin, metronidazole
after birth .....	271 .....	ampicillin, gentamicin, metronidazole
in a newborn .....	279.....	ampicillin, gentamicin
breast.....	289.....	dicloxacillin, erythromycin
in the womb, from untreated STI.....	325.....	amoxicillin, cefixime, ceftriaxone, erythromycin, metronidazole
from female genital cutting .....	369.....	erythromycin
after a miscarriage or abortion.....	410, 411.....	ampicillin, gentamicin, metronidazole, doxycycline, tetanus toxoid, tetanus antitoxin
malaria .....	98 to 99.....	artemisinin-based combination therapy (ACT), clindamycin, quinine
<b>medication to numb</b>		
for sewing a tear or doing MVA .....	360, 424.....	lidocaine
<b>pain</b> .....	289, 332, 420.....	paracetamol
<b>placenta not coming out</b> .....	228.....	oxytocin, misoprostol
<b>preventing infection</b>		
for people with HIV.....	101, 335 .....	cotrimoxazole
<b>preventing infection of the womb</b>		
after an invasive procedure .....	231 .....	amoxicillin, metronidazole
<b>syphilis</b> .....	330.....	benzathine benzylpenicillin, erythromycin
<b>trichomonas</b> .....	326.....	metronidazole
<b>yeast</b> .....	327.....	clotrimazole, gentian violet, miconazole, nystatin

## activated charcoal

Activated charcoal is a specially prepared charcoal used to treat poisonings by drugs like aspirin, paracetamol, chloroquine, or other medicines or chemicals, by absorbing them in the stomach.

**Important:** Do not give activated charcoal if the person has swallowed fuel, kerosene, lighter fluid or other petroleum products.

**Side effects:** Black stool, vomiting, diarrhea.

**Often comes in:** liquid of 25 g per 120 ml; powder 15 g



### How to use:

For treating poisoning, give 30 to 100 g by mouth all at one time.



**WARNING:** After giving activated charcoal, get medical help immediately. People who take too much of a drug or chemical can get very sick and need much more help than activated charcoal.

## acyclovir

Acyclovir is a medicine that fights viruses including herpes.

**Important:** Acyclovir can reduce the symptoms of herpes infection — but it will not cure it or prevent it from coming back.

**Side effects:** headache, dizziness, nausea, vomiting.

**Often comes in:** tablets of 200 mg; powder for mixing injections.



### How to use:

For the first outbreak of herpes (see p. 332), give 400 mg by mouth 3 times a day for 7 to 10 days.

For continuing herpes outbreaks, give 400 mg acyclovir by mouth, 3 times a day for 5 days.

*continued ...*

## acyclovir *continued*

For a woman with more than 6 herpes outbreaks a year, give 400 mg acyclovir by mouth, 2 times every day for 1 year. Then stop and see if the medicine is still needed.

For a pregnant woman who has had herpes outbreaks in the past, give 400 mg acyclovir by mouth, 2 times every day during the last month of pregnancy.



**WARNING:** This medicine may have some harmful effects in pregnancy. For pregnant women, it is best only to give this medicine for an initial herpes outbreak, or during the last month to prevent an outbreak during labor.

## adrenaline (epinephrine)

Adrenaline is used for allergic reactions or shock, for example, allergic shock caused by penicillin. It is also used for severe asthma attacks.

**Important:** Take the person's pulse before injecting. Inject just under the skin (subcutaneous injection) on the back of the upper arm, not into the buttocks. If the pulse increases by more than 30 beats a minute after the first injection, do not give another dose. Do not give more than 3 doses.

**Side effects:** Fear, restlessness, nervousness, tension, headaches, dizziness, increased heart rate.

**Often comes in:** Ampules for injection of 1 mg in 1 ml.



### How to use:

For allergic reaction or shock (see p. 466), inject 1:1000, 0.5 ml just under the skin (subcutaneous injection). If signs do not improve, repeat in 20 minutes. You will also need to give other medicines.

**amoxicillin**

Amoxicillin is an antibiotic of the penicillin family used to treat womb infections, urine system infections, pneumonia, and other infections. It is now used instead of ampicillin in many places.

**Important:** Take with food. If you do not start to get better in 3 days, get medical help. You may need a different medicine.

**Side effects:** Diarrhea, rash, nausea, vomiting. May cause yeast infection in women or diaper rash in children.

**Often comes in:** tablets of 250 and 500 mg; liquid for injection of 125 or 250 mg per 5 ml; syrup of various strengths.

**How to use:**

**For kidney infection** (see p. 129), give 500 mg by mouth 3 times a day for 7 days.

**For chlamydia** (see p. 324), give 500 mg by mouth 3 times a day for 7 days.

**For pelvic infection** (see p. 325), give 500 mg by mouth 3 times a day for 14 days.

**For infection after genital cutting** (see p. 369), give 500 mg by mouth 3 times a day for 10 days.

**For preventing infection after an invasive procedure** (see p. 231), give 1 g by mouth, 1 time only. Also give metronidazole.

**Other drugs that may work:** Ampicillin can almost always be used instead of amoxicillin. A person who is allergic to penicillins can try erythromycin.



**WARNING:** Do not give amoxicillin to someone who is allergic to drugs in the penicillin family.

**ampicillin**

Ampicillin is an antibiotic of the penicillin family used to treat many kinds of infections.

**Important:** Take ampicillin before eating.

**Side effects:** May cause stomach upset, diarrhea, and rash. May cause yeast infection in women or diaper rash in children.

**Often comes in:** tablets or capsules of 250 and 500 mg; liquid for injection of 125 or 250 mg per 5 ml; powder for mixing injections.

**How to use:**

**For infection during labor** (see p. 179), give 2 g by mouth 4 times a day for 7 to 10 days. Also give metronidazole.

**For infection after birth** (see p. 271), give 2 g by mouth or injected into muscle for the first dose, then give 1 g 4 times a day until fever has been gone for 48 hours. Give other antibiotics too.

**For infection in a newborn baby** (see p. 279), inject in the thigh muscle 2 times a day for a baby less than 1 week old, 3 times a day for a baby 1 week old or more. For a baby that weighs 2 kg or less, use 80 mg; 3 kg, use 150 mg; 4 kg or more, use 200 mg.

**For infection after abortion** (see p. 410), inject 2 g in the muscle, then reduce dose to 1 g, 4 times a day until fever has been gone for 48 hours. Give other antibiotics too.

*or* give 3.5 g by mouth 1 time only.

**Other drugs that may work:** Amoxicillin can almost always be used instead of ampicillin. A person who is allergic to penicillins can try erythromycin.



**WARNING:** Do not give ampicillin to someone who is allergic to drugs in the penicillin family.

## WARNING!

**Artemisinin-based combination therapy (ACT)****(artesunate, artemether, wormwood)**

To treat malaria, medicines in the artemisinin family, such as artemether or artesunate, must be taken in combination with a second medicine. This is called Artemisinin-based Combination Therapy, or ACT. The medicine combinations, sometimes in a combined pill, are necessary because there is so much resistance (see p. 464) to anti-malaria drugs.

**Important:** Always take artemisinins combined with another medicine. Artemisinin seems to become stronger if you also drink grapefruit juice. Prevent malaria by sleeping under treated bednets.

**How to use:**

For malaria (see p. 99), give 4 tablets (560 mg) of artemether + lufemantrine (a combined pill) by mouth, 2 times a day for 3 days.

**Other drugs that may work:** There are many different types of ACT that treat malaria, including artesunate + amodiaquine, artesunate + mefloquine, and artesunate + pyrimethamine + sulfadoxine. Contact your local health authority to find out what works best where you live. For women in the first 3 months of pregnancy, give quinine + clindamycin instead.



**WARNING:** Women in the first 3 months of pregnancy should avoid all kinds of ACT.

**benzylpenicillin****(penicillin G)**

Benzylpenicillin is an antibiotic of the penicillin family used to treat serious infections.

**Important:** Be ready to treat an allergic reaction (see p. 465).

**Side effects:** May cause yeast infection in women or diaper rash in children.

**Often comes in:** Powder for mixing injections of 1 or 5 million Units.

*continued...*

**benzylpenicillin** *continued***How to use:**

For tetanus in a newborn (see p. 278), inject 100,000 Units into the muscle in the front of the thigh, 1 time only.

**Other drugs that may work:** ampicillin, procaine penicillin.



**WARNING:** Do not give benzylpenicillin to someone who is allergic to drugs in the penicillin family.

**benzathine benzylpenicillin**  
**(penicillin G benzathine)**

Benzathine benzylpenicillin is a long-acting antibiotic of the penicillin family used to treat syphilis, genital ulcers, and other infections. It is always given as an injection into muscle.

**Important:** May cause yeast infection in women or diaper rash in children. Be ready to treat an allergic reaction (p. 465).

**Often comes in:** powder for mixing injections of 1.2 or 2.4 million Units in a 5 ml vial.

**How to use:**

For syphilis (see p. 330), inject 2.4 million Units into muscle 1 time only. If the sores have disappeared but syphilis shows in a blood test, then repeat the injection once a week for 2 more weeks.

If a baby needs to be treated, inject about 150,000 Units into muscle 1 time only (or 50,000 Units per kilogram of the baby's weight).

**Other drugs that may work:** erythromycin.



**WARNING:** Do not give benzathine benzylpenicillin to someone who is allergic to medicines in the penicillin family.

**BCG vaccine**

The BCG vaccine helps to protect against getting tuberculosis (TB).

**Important:** The BCG vaccine is a live vaccine so it must be kept cold at all times or it will not work.

**Side effects:** The vaccination usually makes a sore and leaves a scar.

**Often comes in:** liquid for injection.

**How to use:**

Inject 0.1 ml in the skin (intra-dermal injection), usually on the upper arm.

**cefixime**

Cefixime is an antibiotic of the cephalosporin family that is used to treat many infections including gonorrhea, pelvic infection, and others.

**Important:** Be ready to treat an allergic reaction (see p. 465). People who have liver problems should be careful when taking cefixime.

**Side effects:** Nausea, diarrhea, headache. May cause yeast infection in women or diaper rash in children.

**Often comes in:** tablets of 200 or 400 mg; liquid with 100 mg in 5 ml.

**How to use:**

For gonorrhea (see p. 324) or pelvic infection (see p. 325), give 400 mg by mouth one time only.

**Other drugs that may work:** ceftriaxone, erythromycin.



**WARNING:** Do not give cefixime to someone who is allergic to medicines in the cephalosporin family.

**ceftriaxone**

Ceftriaxone is a very strong antibiotic of the cephalosporin family that is injected into muscle. It is used for many infections including gonorrhea, pelvic infection, kidney infections, and serious infections after abortion, childbirth, or miscarriage.

**Important:** Be ready to treat an allergic reaction (see p. 465).

**Side effects:** May cause yeast infection in women or diaper rash in children.

**Often comes in:** In vials for injection of 250 and 500 mg, and 1 gram, 2 grams, and 10 grams.

**How to use:**

For gonorrhea (see p. 324) or chancroid (see p. 331), inject 250 mg into muscle 1 time only.

For gonorrhea in a newborn (see p. 324), inject 125 mg ceftriaxone into the thigh muscle 1 time only.

**Other drugs that may work:** cefixime, erythromycin.



**WARNING:** Do not give ceftriaxone to someone who is allergic to medicines in the cephalosporin family.

## WARNING!

**clindamycin**

Clindamycin is a strong antibiotic. In this book, we only describe how to use it to treat malaria in women in the first 3 months of pregnancy.

**Side effects:** Diarrhea, vomiting, rash, metallic taste in the mouth. May cause yeast infection in women or diaper rash in children.

**Often comes in:** capsules of 150 mg; liquid for injection of 150 mg per ml.

**How to use:**

For malaria in women in the first 3 months of pregnancy, give 600 mg by mouth 4 times a day for 7 days. You must also give quinine (see p. 99).



**WARNING:** Clindamycin can cause serious problems with the colon.

It also passes through a breastfeeding mother's milk to her baby.

Only use this drug when it is truly needed.

## WARNING!

**cotrimoxazole****(trimethoprim + sulfamethoxazole)**

Cotrimoxazole is a combination of 2 antibiotics (one from the sulfa family) that is used to treat bladder, kidney, and other infections. It also helps prevent infections for people with HIV and AIDS.

**Important:** Take with lots of water.

**Side effects:** Stop taking cotrimoxazole if it causes allergic reactions like itching or rashes. It may also cause nausea or vomiting.

**Often comes in:** tablets of 120, 480, and 960 mg; liquid of 240 mg per 5 ml.

**How to use:**

For kidney infections (see p. 129), give 960 mg (160 mg trimethoprim and 800 mg sulfamethoxazole) by mouth 2 times a day for 7 days.

To prevent infections for adults with HIV, take 960 mg by mouth every day.

**For children of mothers with HIV:**

For babies less than 6 months old, give 120 mg of liquid every day.

For children 6 months to 6 years old, give 240 mg of liquid every day.



**WARNING:** Women in the last 3 months of pregnancy should not use this drug.

Do not give cotrimoxazole to someone who is allergic to medicines in the sulfa family.

Do not give cotrimoxazole to someone already taking sulfadoxine-pyrimethamine for malaria.



## WARNING!

**diazepam**

Diazepam is a tranquilizer used to treat and prevent convulsions and seizures.

**Side effects:** Sleepiness, loss of balance, confusion.

**Often comes in:** tablets of 5 or 10 mg; liquid for injections of 5 mg per 1 ml.

**How to use:**

**For convulsions** (see p. 182), give 20 mg of injectable diazepam in the rectum using a syringe without a needle (see p. 182). Repeat if needed using 10 mg, 20 minutes after the first dose. Do not give more than 30 mg in 8 hours. Crush diazepam tablets into water if you do not have injectable diazepam.

**Other drugs that may work:** magnesium sulfate.



**WARNING:** Diazepam is an addictive (habit-forming) drug.

Do not use diazepam with alcohol or other drugs that can make you sleepy.

Frequent or large doses of diazepam during pregnancy can cause birth defects.

This medicine also passes through breastmilk, so breastfeeding mothers should avoid it except in emergencies.

**dicloxacillin**

Dicloxacillin is an antibiotic of the penicillin family used to treat breast and skin infections.

**Important:** Be ready to treat an allergic reaction (see p. 465).

**Side effects:** Nausea, vomiting, diarrhea. May cause yeast infection in women or diaper rash in children.

**Often comes in:** capsules of 125, 250, and 500 mg; liquid with 62.5 mg per 5 ml.

**How to use:**

**For breast infection** (see p. 289), give 500 mg by mouth 4 times a day for 7 days.

**Other drugs that may work:** erythromycin.



**WARNING:** Do not give dicloxacillin to someone who is allergic to medicines in the penicillin family.

## WARNING!

**diphenhydramine**

Diphenhydramine is an antihistamine that treats allergic reactions and allergic shock. It is also used for treating chronic itching and sleep problems for people with AIDS.

**Side effects:** Sleepiness and dryness in the mouth and nose. May cause nausea and vomiting. Very rarely causes excitement rather than sleepiness.

**Often comes in:** tablets or capsules of 25 or 50 mg; syrup with 12.5 mg per 5 ml; ampules for injection with 10, 30, or 50 mg in 1 ml.

**How to use:**

**For mild to moderate allergic reaction** (see p. 465), give 25 mg by mouth every 6 hours until signs go away.

**For allergic shock** (see p. 466), inject 50 mg into muscle. Repeat in 4 hours if signs do not improve.

**Other drugs that may work:** promethazine.



**WARNING:** Diphenhydramine is best taken by mouth. Only inject it for severe allergic reactions and shock.

Do not use diphenhydramine with alcohol or tranquilizers. It makes the effects dangerously strong.

This medicine is OK to use in emergencies, but should not be used regularly in pregnancy or while breastfeeding.

## WARNING!

**doxycycline**

Doxycycline is an antibiotic of the tetracycline family used to treat many different infections.

**Important:** Take pills while sitting up and with lots of water. Stay out of the sun or you may get a rash.

**Side effects:** Diarrhea, upset stomach. May cause yeast infection in women or diaper rash in children.

**Often comes in:** tablets of 50 and 100 mg.

**How to use:**

**For infection after abortion** (see p. 410), give 100 mg by mouth 2 times a day for 10 days.

**Other drugs that may work:** amoxicillin, metronidazole.



**WARNING:** Women who are pregnant should not take this medicine. Doxycycline can damage a baby's teeth and bones.

Women who are breastfeeding can take doxycycline for a short time to treat infections, but should avoid taking it long term.

Doxycycline may not be safe to use after it has passed its expiration date.

**ergometrine****(ergonovine, methylergonovine)**

Ergometrine causes contractions of the womb and its blood vessels and is used to control heavy bleeding after childbirth or an abortion.

**Side effects:** Nausea, vomiting, dizziness, sweating.

**Often comes in:** tablets of 0.2 mg; in vials for injection of 0.2, 0.25, and 0.5 mg in 1 ml.

**How to use:**

**For heavy bleeding after childbirth** (see p. 231), give 0.2 mg by mouth every 6 to 12 hours,

**or** inject 0.2 mg in muscle every 6 to 12 hours.

**For heavy bleeding after an abortion** (see p. 408), inject 0.2 mg in the muscle,

**or** give 0.2 mg by mouth.

**Other drugs that may work:** misoprostol, oxytocin.



**WARNING:** Do not use ergometrine to start or speed up labor or to cause an abortion.

Do not give this drug before the baby and the placenta have come out.

**erythromycin**

Erythromycin is an antibiotic of the macrolide family used to treat many infections. It can be used safely during pregnancy and is often a good choice when a woman is allergic to penicillin family antibiotics.

*continued...*

**erythromycin** *continued*

**Important:** Erythromycin works best when taken 1 hour before or 2 hours after a meal. If this makes a person nauseated, take with a little food.

Do not break up tablets. Tablets are often coated to prevent strong stomach juices from breaking down the drug before it can begin to work.

**Side effects:** Upset stomach, nausea, diarrhea. May cause yeast infection in women or diaper rash in children.

**Often comes in:** tablets or capsules of 250 mg; powder for solution of 125 mg per 5 ml; ointment of 1%.

**How to use:**

**For newborn eye care** (see p. 261), use 0.5% or 1% ointment 1 time only, within 2 hours of the birth.

**For breast infection** (see p. 289), **chlamydia** (see p. 324), or **chancroid** (see p. 331), give 500 mg by mouth 4 times a day for 7 days.

**For a baby with chlamydia** (see p. 324), give 30 mg syrup by mouth 4 times a day for 14 days.

**For syphilis** (see p. 330) or **pelvic infection** (see p. 325), give 500 mg by mouth 4 times a day for 14 days.

**For infection after genital cutting** (see p. 369), give 500 mg by mouth 4 times a day for 10 days.

**Other drugs that may work:** amoxicillin, benzathine benzylpenicillin, ceftriaxone, dicloxacillin, iodine, procaine penicillin, tetracycline eye ointment.



**WARNING:** Do not give erythromycin to someone who is allergic to drugs in the macrolide family.

**ferrous sulfate****(iron)**

Iron is a mineral that everyone, especially a pregnant woman, needs to have healthy blood and enough energy. It is possible but difficult to get enough iron by eating meat or lots of green leafy vegetables.

**Important:** Eating fruits and vegetables high in vitamin C can help the body use iron better.

**Side effects:** Nausea, diarrhea, constipation. Iron is best taken with food.

**Often comes in:** tablets of many different strengths.

**How to use:**

**To prevent anemia in pregnancy,** give 300 to 325 mg by mouth once a day with meals, throughout pregnancy.

**To treat anemia** (see p. 116), give 300 to 325 mg by mouth 2 or 3 times a day until the woman no longer has signs of anemia, or throughout pregnancy.



**WARNING:** High doses of iron can be poisonous. Keep iron away from children.

**folic acid****(folate, folacin)**

Folic acid is an important vitamin that helps prevent birth defects when the mother takes it early in pregnancy.

**Often comes in:** tablets of 0.1 mg, 0.5 mg, 0.8 mg (100, 500, and 800 micrograms).

**How to use:**

**To prevent birth defects** (see p. 37), give 0.5 to 0.8 mg by mouth every day.

**WARNING!****gentamicin**

Gentamicin is a very strong antibiotic of the aminoglycoside family that is used to treat serious infections.

**Important:** Use gentamicin only if the woman cannot take other drugs without vomiting, or if no other antibiotic is available. Give with plenty of fluids.

**Side effects:** May cause yeast infection in women or diaper rash in children.

**Often comes in:** vials for injection of 10 or 40 mg per ml.

**How to use:**

**For womb infection after birth** (see p. 271), inject 80 mg gentamicin in the muscle, 3 times a day until fever has been gone for 48 hours.

**For infection after abortion** (see p. 410), inject 300 mg in the muscle 1 time a day until fever has been gone for 48 hours. You must give other antibiotics too.

(Or use 5 mg for each kg the mother weighs, injected in the muscle 1 time a day.)

**For infection in a newborn** (see p. 279) inject 4 mg per kg the baby weighs, in the muscle, once a day for 7 days. So for a 3 kg baby, inject 12 mg a day.

**Other drugs that may work:** ampicillin, benzylpenicillin, doxycycline, metronidazole, others.



**WARNING:** Gentamicin can damage the kidneys and cause deafness. When it is given in pregnancy, it may cause birth defects in a baby. Do not give gentamicin to someone who is allergic to drugs in the aminoglycoside family.

**gentian violet****(crystal violet, methylosanilinium chloride)**

Gentian violet is a disinfectant used to fight fungus infections of the skin, mouth, and vagina.

**Important:** Stop using gentian violet if it irritates the skin. A person with a yeast infection should not have sex until she is cured, to avoid passing the infection to her partner. Gentian violet will stain skin and clothes purple.

**Often comes in:** liquid of 0.5%, 1%, and 2%; tincture of 0.5%; dark blue crystals to mix in water where 1 teaspoon in ½ liter of water makes a 2% liquid.

**How to use:**

**For yeast infections in a baby's mouth (thrush)** (p. 290), wipe the baby's mouth and the mother's nipples with a 0.25% liquid once a day for up to 5 days.

**For yeast infections of the vagina** (see p. 327), make a vaginal insert by soaking clean cotton in 1% liquid and place high in the vagina every night for 3 nights (remember to remove the insert in the morning).

**Other drugs that may work:** miconazole, nystatin.

**WARNING!****hydrocortisone****(cortisol)**

Hydrocortisone fights swelling and itching and can be used to treat rashes. It also helps treat allergic shock.

**Often comes in:** creams or ointment of 1%; tablets of 5, 10, and 20 mg; liquid for injection; powder for mixing for injections of various strengths.

**How to use:**

**For allergic shock** (see p. 466), inject 500 mg into muscle. Repeat in 4 hours if needed. Also give other drugs.



**WARNING:** Pregnant and breastfeeding women should not use this medicine regularly — only in emergencies to treat allergic shock.

**lidocaine****(lignocaine)**

Lidocaine is an anesthetic. It blocks pain in the part of the body where it is injected. It can be used to prevent pain while sewing tears or episiotomies, or during a manual vacuum aspiration.

**Important:** Check the label: only use lidocaine without epinephrine because the epinephrine can stop the flow of blood to the area and cause great damage.

**Often comes in:** liquid for injection in strengths of 0.5%, 1%, or 2%.

**How to use:**

**For a local anesthetic**, inject 5 to 30 ml 1% solution in the skin.

**magnesium sulfate**

Magnesium sulfate is used to stop convulsions in pregnant women with eclampsia.

**Important:** Injecting magnesium sulfate requires a big needle and may be uncomfortable. You can split the dose in half and give 2 smaller doses, 1 in each buttock. If you have it, you could also use a little lidocaine to lessen the pain.

**Often comes in:** liquid for injection of 10%, 12.5%, 25%, or 50%.

**How to use:**

To stop a convulsion in a woman with eclampsia (see p. 182), inject 10 grams of 50% solution into muscle. If necessary, give another dose after 4 hours.

**Other drugs that may work:** diazepam.



**WARNING:** Only use this drug if a woman's blood pressure is over 160/110 or if she is having a convulsion. Stop using this drug and get medical help immediately if her breathing slows to less than 12 breaths a minute or if she has not urinated for 4 hours.

Women with kidney problems should not use magnesium sulfate.

**WARNING!****metronidazole**

Metronidazole is used against some bacteria, amoebic dysentery, trichomonas, and vaginal infections.

**Important:** Drinking alcohol while taking metronidazole will cause nausea.

**Side effects:** Metallic taste in mouth, dark urine, nausea, vomiting, headache.

**Often comes in:** tablets of 200, 250, 400, and 500 mg; inserts of 500 mg; injection of 500 mg in 100 ml vial; suspension of 200 mg in 5 ml.

**How to use:**

**For womb infection in pregnancy** (see p. 179), give 400 to 500 mg by mouth 3 times a day for 7 to 10 days.

**For infection after birth** (see p. 271), give 400 to 500 mg by mouth 3 times a day until fever has been gone for 48 hours.

**To prevent infection in the womb after an invasive procedure** (see p. 231), give 1 g by mouth 1 time only. Also give amoxicillin.

**For bacterial vaginosis** (see p. 328) **or** **trichomonas** (see p. 326), give 400 to 500 mg by mouth 2 times a day for 7 days,

**or** put a 500 mg insert high in the vagina every night for 7 nights.

**For pelvic infection** (see p. 325), give 400 to 500 mg by mouth 3 times a day for 14 days. You must give other antibiotics too.

**For infection after abortion** (see p. 410), give 400 to 500 mg by mouth 3 times a day until fever has been gone for 48 hours. You must give other antibiotics too.

**Other drugs that may work:**

amoxicillin, ampicillin, benzylpenicillin, gentamicin, doxycycline.



**WARNING:** It is best not to use metronidazole during the first 3 months of pregnancy. People with liver problems should not use this drug.

## WARNING!

**miconazole**

Miconazole fights yeast and other fungus infections in the mouth (thrush), the vagina, or the skin.

**Important:** Stop using miconazole if it irritates the skin. A person with a yeast infection should not have sex while using miconazole to avoid passing the infection to her partner.

**Often comes in:** cream of 2%; inserts of 100 and 200 mg.

**How to use:**

For yeast infections of the vagina (see p. 327), put a 200 mg insert high in the vagina every night for 3 nights.

**Other drugs that may work:**

gentian violet, nystatin.



**WARNING:** Do not use miconazole during the first 3 months of pregnancy.

**mifepristone**

Mifepristone can be used with misoprostol or other medicines to end a pregnancy in the first 9 weeks.

**Important:** It is best to be close to medical help when taking this medicine in case it does not empty the womb completely.

**Often comes in:** tablets of 200 mg.

**How to use:**

See directions for using with misoprostol on the next page.

**Other drugs that may work:** misoprostol.



**WARNING:** If this medicine does not end the pregnancy completely, the womb must be emptied by MVA or D&C abortion.

**misoprostol**

Misoprostol helps empty the womb or stop heavy bleeding after a birth.

**Important:** Misoprostol is usually used with another medicine called mifepristone to end a pregnancy. Used by itself, misoprostol may not completely empty the womb. An abortion caused by misoprostol may take several hours to several days to finish.

After an incomplete abortion, misoprostol can empty the womb and help save a woman's life.

Wetting misoprostol tablets before giving them may make them more effective.

**Side effects:** Nausea, vomiting, diarrhea, headache. If the woman is breastfeeding, misoprostol will cause diarrhea in infants.

**Often comes in:** tablets of 100 or 200 micrograms.

**How to use:**

**For delivering the placenta** (see p. 228), give 600 micrograms by mouth.

**To slow heavy bleeding after a birth** (see p. 231), or **for incomplete abortion** (see p. 408), give 600 micrograms by mouth by putting tablets against each cheek or under the tongue until they dissolve, then swallow. If the woman cannot swallow, insert pills in her rectum where they will dissolve and be absorbed. Wear a glove. Either way, you can repeat the dose 24 hours later if necessary.

**To end a pregnancy with misoprostol and mifepristone** (see p. 408), give 200 mg mifepristone by mouth and then 2 days later give 800 micrograms of misoprostol by mouth or in the rectum, as for incomplete abortion above.

**or if you do not have mifepristone,** give 800 micrograms misoprostol by mouth or in the rectum once a day for 2 days. Be ready to get medical help if the womb does not empty completely.

*continued . . .*

**misoprostol** *continued*

**WARNING:** Do not use misoprostol to empty the womb (end a pregnancy) after the 3rd month.

Never use misoprostol to speed up or start a labor. It could cause the womb to tear open.

**nystatin**

Nystatin fights yeast and other fungus infections in the mouth (thrush), the vagina, or the skin.

**Important:** Stop using nystatin if it irritates the skin.

A person with a yeast infection should not have sex while using nystatin to avoid passing the infection to her partner.

Nystatin works only against candida yeast infections, while miconazole works against other fungal infections as well.

**Side effects:** Diarrhea and stomach upset.

**Often comes in:** Inserts, lozenges for the mouth, and cream of 100,000 Units; liquid with 100,000 Units per ml.

**How to use:**

**For mouth or throat infections,** put 1 ml of liquid in mouth, swish around both sides of mouth for 1 minute, and swallow. Do this 3 or 4 times a day for 5 days.

**For vaginal infections** (see p. 327), put one 100,000 Unit insert high in the vagina every night for 14 nights.

**Other drugs that may work:** gentian violet, miconazole.



**oxytocin**

Oxytocin is used to cause contractions of the womb and its blood vessels to control heavy bleeding after abortion or childbirth.

**Often comes in:** 10 Units in 1 ml for injection.

**How to use:**

For delivery of the placenta (see p. 228) or to stop bleeding after the baby is born (p. 231), inject 10 Units in the muscle. Repeat after 10 minutes if needed.

**Other drugs that may work:** ergometrine, misoprostol.



**WARNING:** Do not use oxytocin to start or speed up labor. Oxytocin can make the womb contract so strongly that it will tear open.

Do not use this drug to cause an abortion because it could kill the woman before ending the pregnancy.

**paracetamol****(acetaminophen)**

Paracetamol is used to ease pain and lower fever.

**Important:** Paracetamol does not cure sickness, it only eases pain or fever. It is important to find the cause of the pain and fever and treat that.

**Often comes in:** tablets of 100, 325, and 500 mg; liquid of 120 and 160 ml per 5 ml.

**How to use:**

Take 500 to 1000 mg by mouth every 4 to 6 hours. Do not take more than 4000 mg of paracetamol in 24 hours.

**Other drugs that may work:**

Aspirin or ibuprofen may work, but do not use either during pregnancy.



**WARNING:** Paracetamol should not be used by women with liver or kidney problems. It can cause liver damage if taken regularly every day, or if it is used after drinking alcohol. Do not take more than 4000 mg a day and do not combine with other medicines that contain paracetamol.

**procaine penicillin****(benzylpenicillin procaine, PAM)**

Procaine penicillin is a medium- to long-lasting antibiotic of the penicillin family used to treat womb and other infections.

**Important:** When taken with probenecid, the amount of penicillin in the blood increases and lasts longer, making the treatment more effective. Be ready to treat for allergic reaction (see p. 465).

**Side effects:** May cause yeast infection in women or diaper rash in children.

**Often comes in:** vials for injection of 300,000 and 400,000 and 600,000 Units; powder for mixing injections where 1 gram = 1 million Units.

**How to use:**

For serious infection during labor (see p. 179), inject 1.2 million Units in the muscle. Repeat after 12 hours if needed.

**Other drugs that may work:** ampicillin, benzylpenicillin.



**WARNING:** Procaine penicillin can cause asthma attacks in people who have asthma.

Never use this drug with tetracycline.

Do not give procaine penicillin to someone who is allergic to antibiotics in the penicillin family.

**WARNING!****promethazine**

Promethazine is an antihistamine used to treat allergic reactions and allergic shock.

**Side effects:** Dry mouth and nose, blurry vision. Rarely, twitching of the body, face, or eyes.

**Often comes in:** tablets of 10, 12.5, and 25 mg; syrup of 5 mg per 5 ml; ampules for injection of 25 mg in 1 ml.

**How to use:**

For moderate allergic reaction (see p. 465), give 25 mg by mouth. Repeat in 6 hours if needed.

For allergic shock (see p. 466), inject 50 mg in muscle. Repeat in 6 hours if needed.

**Other drugs that may work:** diphenhydramine.



**WARNING:** Promethazine is best taken by mouth. Only inject it for severe allergic reactions and shock.

This medicine is OK to use in emergencies, but should not be used regularly in pregnancy or while breastfeeding.

**quinine****(quinine sulfate or quinine bisulfate)**

Quinine is a medicine used to treat malaria. In this book we recommend it only for women in the first 3 months of pregnancy.

**Side effects:** May cause sweaty skin, ringing of the ears or impaired hearing, blurred vision, dizziness, nausea, vomiting, and diarrhea.

**Often comes in:** tablets of 300 or 650 mg.

**How to use:**

For malaria in women in the first 3 months of pregnancy, give 600 mg by mouth, 3 times a day for 7 days.

**tetanus antitoxin****(tetanus immunoglobulin)**

Tetanus antitoxin and tetanus immunoglobulin are similar medicines which can be given to people who have been exposed to tetanus but have not received tetanus toxoid vaccinations.

**Important:** Many people are allergic to tetanus antitoxin. Give an antihistamine like diphenhydramine 15 minutes before giving tetanus antitoxin.

4 weeks after giving antitoxin or immunoglobulin, start giving tetanus toxoid vaccinations (see next page). If you will not be able to see the woman again in 4 weeks, it is OK to give the vaccine on the same day as the antitoxin or immunoglobulin. But do not inject tetanus antitoxin or tetanus immunoglobulin into the same spot where you inject tetanus toxoid vaccination — it will stop the vaccination from working.

*continued...*

**tetanus antitoxin** *continued*

**Side effects:** Allergy.

**Often comes in:** tetanus antitoxin comes in vials of 1,500, 20,000, 40,000, and 50,000 Units. Tetanus immunoglobulin comes in vials of 250 Units.

**How to use:**

For someone who has a wound that could cause tetanus (like from an unsafe abortion, see p. 411) and has not been vaccinated against tetanus, inject 1,500 Units tetanus antitoxin in the muscle,

or inject 250 Units tetanus immunoglobulin in the muscle.

If a person develops signs of tetanus inject 50,000 Units of tetanus antitoxin in the muscle,

or inject 5000 Units tetanus immunoglobulin in the muscle.

**Other drugs that may work:**

benzylpenicillin, tetanus toxoid vaccine.



**WARNING:** Tetanus can easily kill a person. Get medical help even after giving antitoxin or immunoglobulin.

### tetanus toxoid vaccine

Tetanus toxoid is an immunization given to prevent a tetanus infection. It can be given during or after pregnancy, or after abortion or female genital cutting. If a woman gets 2 injections (or better still, 3 injections — see schedule) when pregnant, it will also prevent this deadly infection in her newborn baby.

**Important:** Tetanus immunizations should be given to everyone starting in childhood. Tetanus immunization is often given to children as part of a combined immunization called DPT, and the 3 DPT immunizations are equal to the first 2 tetanus toxoid immunizations.

**Side effects:** Pain, redness, warmth, slight swelling.

**Often comes in:** single dose (0.5 ml) ampules for injection or liquid for injection.



#### How to use:

To give lifetime protection from tetanus (see p. 102), inject 5 immunizations of 0.5 ml into the muscle of the upper arm and then 1 booster injection every 10 years.

Injection 1 .....As soon as possible

Injection 2 .....4 weeks after injection 1

Injection 3 .....6 months after injection 2

Injection 4 .....1 year after injection 3

Injection 5 .....1 year after injection 4

Booster .....10 years after injection 5

To prevent tetanus infection if a woman may already have been exposed (see p. 411), inject 0.5 ml in the muscle. You must also give 1500 Units tetanus antitoxin.

### WARNING!



### tetracycline

Tetracycline is an antibiotic of the tetracycline family used to treat many infections. In this book we recommend it only for blindness prevention for newborns.

#### Often comes in:

Ointment of 1%.



#### How to use:

For newborn eye care (see p. 261), use 1% ointment in each eye at birth, 1 time only, within 2 hours of the birth.

#### Other drugs that may work:

erythromycin, iodine.



**WARNING:** Tetracycline by mouth can be dangerous during pregnancy and breastfeeding.

### trichloroacetic acid (bichloroacetic acid)

Either trichloroacetic acid or bichloroacetic acid can be used to treat genital warts.

**Important:** Use very carefully. It can burn normal skin badly enough to cause a scar. If it spills onto healthy skin, wash off with soap and water.

**Often comes in:** liquids of varying strengths from 10% to 90%.



#### How to use:

To treat genital warts (see p. 333) first protect the area around the wart with petroleum jelly. Then put on the trichloroacetic acid. It will hurt for 15 to 30 minutes. Then clean off. Repeat after a week if necessary, but do not use this more than 1 time each week.

## Oral contraceptives (birth control pills)

Most birth control pills contain 2 hormones similar to the hormones that a woman's body normally makes. These hormones are called estrogen (ethinyl estradiol) and progestin (levonorgestrel). Birth control pills come in different strengths of each hormone and are sold under many different brand names. Some of the brand names are listed on the next page.



Usually, brands that contain a smaller amount of both hormones are the safest and work best for most women. These “low dose” pills are found in Groups 1, 2, and 3.

To assure effectiveness and minimize spotting (small amounts of bleeding at other times than normal monthly bleeding), take birth control pills at the same time each day, especially with pills that have low amounts of hormones. If spotting continues after 3 or 4 months, try one of the brands in Group 3. If there is still spotting after 3 months, try a brand from Group 4.

As a rule, women who take birth control pills have less heavy monthly bleeding. This may be a good thing, especially for women who are anemic. But if a woman misses her monthly bleeding for months or is disturbed by the very light monthly bleeding, she can change to a brand with more estrogen from Group 4. For a woman who has very heavy monthly bleeding or whose breasts become painful before her monthly bleeding begins, a brand low in estrogen but high in progestin may be better. These pills are found in Group 3.

Women who continue to have spotting or miss their monthly bleeding when using a brand from Group 3, or who became pregnant before while using another type of pill, can change to a pill that has a little more estrogen. These “high dose” pills are found in Group 4.

Women who are breastfeeding, or who should not use regular pills because of headaches or mild high blood pressure, may want to use a pill with only progestin. These pills in Group 5 are also called “mini-pills.”

Progestin only pills should be taken at the same time every day, even during the monthly bleeding. Menstrual bleeding is often irregular. There is also an increased chance of pregnancy if even a single pill is forgotten.

**group 1 — triphasic pills**

These contain low amounts of both estrogen and progestin in a mix that changes throughout the month. Since the amounts change, it is important to take the pills in order.

**Brand names:**

Logynon	Triquilar
Synophase	Triphasil
Tricyclen	
Trinordiol	
Trinovum	

**group 2 — low dose pills**

These contain low amounts of estrogen (35 micrograms of the estrogen “ethinyl estradiol” or 50 micrograms of the estrogen “mestranol”) and progestin in a mix that stays the same throughout the month.

**Brand names:**

Brevicon 1 + 35	Ortho-Novum 1/35, 1/50
Neocon	
Noriday 1 + 50	Ovysmen 1/35
Norimin	Perle
Norinyl 1 + 35, 1 + 50	

**group 3 — low dose pills**

These pills are high in progestin and low in estrogen (30 or 35 micrograms of the estrogen “ethinyl estradiol”).

**Brand names:**

Lo-Femenal  
Lo-Ovral  
Microgynon 30  
Microvlar  
Nordette

**group 4 — high dose pills**

These pills are higher in estrogen (50 micrograms of the estrogen “ethinyl estradiol”) and most are also higher in progestin.

**Brand names:**

Denoval	Nordiol
Eugynon	Ovral
Femenal	Primovlar
Neogynon	

**group 5 — progestin only pills**

These pills, also known as “mini-pills,” contain only progestin.

**Brand names:**

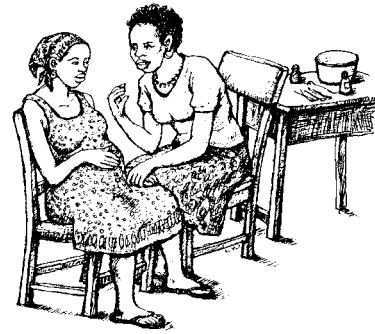
Femulen	Microval Neogest Neogeston Ovrette
Micronor	
Micronovum	
Nor-Q D	
Microlut	



These brands can also be used for emergency contraception (see p. 316).

## Medicines for HIV and AIDS

No medicines can cure HIV yet. But people who have HIV can live much longer, healthier lives by taking antiretroviral therapy (ART), a combination of several medicines that must be taken every day. ART medicines also help prevent the spread of HIV to a baby during pregnancy and birth. Check with your local health authority about what ART medicines are available where you live and how to use them.



For more information about HIV infection, see pages 99 and 334. Also see page 477 for another medicine, cotrimoxazole, that can prevent many infections in people with HIV.

**Where can a woman get ART?** ART medicines are available from HIV or AIDS treatment programs, from clinics and hospitals, and from programs for prevention of mother-to-child (or parent-to-child) transmission, called PMTCT or PPTCT programs. In many places, the medicines are free. A woman taking ART should have regular health care visits about how the ART is affecting her health.

**When do women start ART?** The best way to know when to start ART is by having a CD4 test, a blood test that measures the strength of the immune system. Most people start ART when their CD4 count is less than 350 (a healthy CD4 count is over 800). When CD4 tests are not available, ART may be started based on the kinds of illnesses a woman has. Women with HIV and tuberculosis should start ART 2 to 8 weeks after beginning treatment for tuberculosis, no matter what their CD4 count is. Women with HIV and hepatitis B should also start ART as soon as possible.

All pregnant women with HIV should take ART, either for their own health or for a limited period of time to protect the baby from HIV. For best protection of the baby, a woman should start taking ART medicines as soon as possible after 14 weeks (3 ½ months) of becoming pregnant. See page 495.

### **Before starting ART:**

Which medicines to use or when to start ART may depend on the woman's health. A health worker will consider conditions such as pregnancy, severe illness or long-lasting fever, anemia, tuberculosis, diabetes, heart disease, or hepatitis, as well as whether she has ever taken ART in the past. Women who live in areas where there is a lot of tuberculosis should talk to a health worker about taking isoniazid to prevent TB.

**Women who take ART must take it every day**, without fail. If a woman stops taking ART, her HIV will start making her ill again. Taking ART some days and not others lets HIV become resistant to the medicines. This means that those medicines will no longer work as well to treat her. A midwife, as well as people who manage ART programs, can work to ensure there is a steady supply of ART for people with HIV.

Talking to another person using ART can help a woman find ways to deal with difficult side effects of the medicines. Also, someone within her family who knows she has HIV can help remind her to take her medicines every day. Keeping HIV a secret can make it difficult to take medicines at the right time.

**What medicines are in ART?** Usually 3 or 4 medicines make up a woman's ART combination. Sometimes 2 or 3 medicines are combined in 1 pill. In some places, women are tested to see what medicines will be best for them. Where testing is not available, a few combinations that work well for most women are used. We show some common combinations here. These same medicines can be used during pregnancy, birth, and breastfeeding to protect the baby from HIV.

### ***How to take ART***

- Take your medicines every day, at the same time each day.
- If medicines need to be taken 2 times a day, leave 12 hours between the 2 doses. For example, if you take the morning dose at 6:00, then the second dose should be taken at 6:00 in the evening. Having too little medicine in your body can cause drug resistance.
- If you forget to take a dose on time, try to take it within 5 hours. If it is more than 5 hours late, wait until it is time for the next dose.
- Do not stop taking any ART medicine without seeing a health worker to find out if your medicines should be stopped separately or all at the same time.

### ***Side effects of ART***

ART has helped many people live longer, healthier lives. But like many other medicines, ART can have side effects. People often find that as they get used to the medicines, many side effects lessen and may go away completely. Common side effects for ART are diarrhea, tiredness, headaches, and stomach problems such as nausea, vomiting, stomach pain, or not feeling like eating. Even if you feel bad, keep taking all your medicines until your health worker tells you to change or stop.

Some serious side effects are signs that one of the medicines needs to be changed. Serious side effects include tingling or burning feelings in the hands and feet, fever, rashes, yellow eyes, tiredness along with shortness of breath, anemia and other blood problems, and liver problems. If you have serious side effects, see a health worker right away.

### ***Preventing HIV soon after a woman has been exposed***

Midwives or others are sometimes exposed to HIV while doing health work. For example, someone might stick herself with a needle that was used on someone with HIV. Many women are also exposed to HIV through rape. If you think you have been exposed to HIV (see page 334 for how HIV is spread), it is sometimes possible to prevent getting HIV by taking ART medicines for a short time. This is called Post Exposure Prophylaxis or PEP. Talk with a health worker you trust as soon as possible about whether starting PEP is the best decision for you.

PEP works best if you start taking medicines within a few hours, and no later than 3 days, after exposure. Start one of the ART combinations in the box "ART Combinations for women with HIV" on page 494, preferably Combination 2 or 4. Other medicines may be available and recommended in your area. Whichever combination you use, the medicines must be taken for 28 days.




**ART Combinations for women with HIV (not for children)****Combination 1**

Medicines	Dose	Warnings and side effects	Advantages of combination
zidovudine (AZT)	250 to 300 mg 2 times a day	Anemia Low white blood count	<ul style="list-style-type: none"> <li>• Most widely used and available</li> <li>• Safe for pregnant women</li> </ul>
lamivudine (3TC)	150 mg 2 times a day, or 300 mg once a day		
nevirapine (NVP)	200 mg once a day for 14 days, then 200 mg 2 times a day	Skin rash Liver problems	


**Combination 2**

Medicines	Dose	Warnings and side effects	Advantages of combination
tenofovir (TDF)	300 mg once a day	Can cause kidney problems For use by women over 18 years old	<ul style="list-style-type: none"> <li>• Fewer side effects</li> <li>• Safe for pregnant women</li> <li>• Combination for women with HIV and hepatitis B</li> </ul>
lamivudine (3TC)	150 mg 2 times a day, or 300 mg once a day		
nevirapine (NVP)	200 mg once a day for 14 days, then 200 mg 2 times a day	Skin rash Liver problems	

**Combination 3**

Medicines	Dose	Warnings and side effects	Advantages of combination
zidovudine (AZT)	250 to 300 mg 2 times a day	Anemia Low white blood count	<ul style="list-style-type: none"> <li>• Combination if on rifampicin for TB</li> </ul>
lamivudine (3TC)	150 mg 2 times a day, or 300 mg once a day		
efavirenz (EFV)	600 mg once a day	Dizziness, confusion, mood changes   Should not be taken in first 3 months of pregnancy; it can cause birth defects	

**Combination 4**

Medicines	Dose	Warnings and side effects	Advantages of combination
tenofovir (TDF)	300 mg once a day	Can cause kidney problems For use by women over 18 years old	<ul style="list-style-type: none"> <li>• May be available as one pill, taken once daily</li> <li>• Combination if on rifampicin for TB</li> <li>• Combination for women with HIV and hepatitis B</li> </ul>
lamivudine (3TC)	150 mg 2 times a day, or 300 mg once a day		
efavirenz (EFV)	600 mg once a day	Dizziness, confusion, mood changes   Should not be taken in first 3 months of pregnancy; it can cause birth defects	



**WARNING!** Many people still take stavudine (d4T) instead of zidovudine in Combinations 1 and 3. However, stavudine can cause serious side effects with long-term use. Most HIV treatment programs are replacing stavudine with other, safer medicines. If you use stavudine, take the lower dose of 30 mg twice daily.

### Preventing HIV in babies

A woman who is already on ART when she becomes pregnant should continue taking it. When her baby is born, he will also need to be given medicine for a few weeks. See below.

Even if a woman with HIV is not taking ART for her own health, ART medicines can be taken during pregnancy and breastfeeding, and given to the baby after birth to prevent HIV from spreading to the baby. Used in this way, the medicines are given for a limited period of time, not life-long like ART. This is sometimes called prevention of mother-to-child transmission.

Medicines are only one part of preventing HIV in a baby. Safer sex during pregnancy, safe birth practices, careful feeding of the baby, and treatment of illnesses in both mother and child are also important to prevent babies from getting HIV.

#### ART medicines to prevent HIV in babies (mother-to-child transmission)

If the mother IS already taking ART, she should continue taking her medicines and also give the baby the medicines listed in Option 1.

If the mother IS NOT taking ART, she and her baby should take the medicines listed in Option 1 or in Option 2 to prevent HIV infection in her baby. Use medicines recommended and available in your country.

#### Option 1

##### FOR THE MOTHER

Start taking one of the combinations of ART on page 494 as soon as possible. It is best to use a combination that does not contain EFV in the first 3 months of pregnancy. You will need to take ART medicines every day for the rest of your life.

##### FOR THE BABY

Whether or not the baby is breastfeeding, the baby should be given:

- AZT (ZDV, zidovudine), oral suspension, 4 mg/kg, 2 times a day for 6 weeks, OR
- NVP (nevirapine), oral suspension, 2 mg/kg, once a day for 6 weeks.

#### Option 2

##### FOR THE MOTHER

During pregnancy, starting as soon as possible from 14 weeks of becoming pregnant she should take:

- AZT (ZDV, zidovudine), 300 mg, 2 times a day.

During labor, she should take:

- NVP (nevirapine), 200 mg, in a single dose when labor starts, AND
- 3TC (lamivudine), 150 mg, when labor starts, and every 12 hours until the baby is born, AND
- continue taking AZT (ZDV, zidovudine), 300 mg, 2 times a day.

After the birth, she should continue taking for 7 days:

- 3TC (lamivudine), 150 mg, 2 times a day, AND
- AZT (ZDV, zidovudine), 300 mg, 2 times a day.

##### FOR THE BABY

Immediately after birth, the baby should be given:

- NVP (nevirapine), 2 mg/kg oral suspension (or 6 mg)

If the mother is **on ART treatment**, continue giving the baby this NVP dose every day for 6 weeks.

If the mother is **NOT on ART treatment and is NOT breastfeeding**, continue giving the baby this NVP dose every day for 6 weeks.

If the mother is **NOT on ART treatment and IS breastfeeding**, continue giving the baby this NVP dose every day until 1 week after she stops breastfeeding.

**efavirenz (EFV)**

Efavirenz is used in combination with other medicines to treat HIV.

**Important:** If EFV is given to a person who also taking rifampicin for tuberculosis (TB), a higher dose of EFV may be needed (800 mg instead of 600 mg).

**To treat HIV,** you must give EFV with other medicines. It is important to take this medicine every day, in the recommended dose.

**Side effects:** EFV may cause dizziness, confusion, mood changes, and strange dreams. These will usually go away after 2 to 4 weeks. If they do not, or if they get worse, see a health worker.

**Seek care immediately** for signs of allergy: red or purple areas on the skin, rashes or other spreading skin problems, fever, mental health problems.

**Often comes in:** capsules of 50 mg, 100 mg, 200 mg; Tablets of 600 mg; oral solution of 150 mg/ 5 ml.

**How to use:**

**For HIV (see p. 494),** give 600 mg once a day, along with other medicines.



**WARNING:** Women in the first 3 months of pregnancy should not take EFV. It can cause birth defects. Women taking EFV who may become pregnant should consider switching to a different ART medicine.

**lamivudine (3TC)**

Lamivudine is used in combination with other medicines to treat HIV, and to prevent passing HIV to a baby.

**Important:** To treat HIV, you must give 3TC with other medicines. It is important to take this medicine every day, in the recommended dose.

**Side effects:** Side effects are rare.

**Seek care immediately** for belly pain, nausea, vomiting, extreme tiredness with difficulty breathing, or muscle pain.

**Often comes in:** tablet of 150 mg; oral solution of 50 mg per 5 ml.

**How to use:**

**For HIV (see p. 494),** give 150 mg by mouth 2 times a day, or 300 mg once a day, along with other medicines.

**To prevent HIV from passing to a baby during birth (see p. 495),** give the mother 150 mg as labor starts, every 12 hours during labor, and, if she is breastfeeding, every 12 hours for 7 days after the baby is born.

**nevirapine (NVP)**

Nevirapine is used in combination with other medicines to treat HIV, and to prevent passing HIV to a baby during birth.

**Important:** To treat HIV, you must give NVP with other medicines. It is important to take this medicine every day, in the recommended dose. If a woman uses NVP alone to prevent passing HIV to her child in birth, it may not work as well to treat her own HIV later. For fewer allergic reactions, which can be a problem with NVP, give once a day for the first 14 days.

**Side effects:** Rash, fever, nausea, headache.

**Seek care immediately** for signs of allergy: red or purple areas on the skin, rashes or other spreading skin problems, fever, yellow skin or eyes, or swollen liver.

**Often comes in:** tablets of 200 mg; suspension of 50 mg per 5 ml.

**How to use:**

**For HIV (see p. 494),** give 200 mg by mouth once a day for 14 days, then give 200 mg 2 times a day, every day.

Also give other medicines.

**To prevent HIV from passing to a baby during birth (see p. 495):**

**For a woman who has not taken medicines for HIV during pregnancy,** give 200 mg by mouth when labor begins, along with other medicines.

**For any baby born to a woman with HIV,** give the baby 2 mg for each kilogram of weight (or 6mg) immediately after the birth. Then give 2 mg/kg to the baby for 6 weeks if the mother is not breastfeeding. If she is breastfeeding, give 2 mg/kg of NVP to the baby until 1 week after breastfeeding has ended.

*continued...*

**nevirapine, continued**

**WARNING:** Nevirapine can cause serious problems in the liver. Stop giving this drug if the person has signs of hepatitis (see p. 336). It should never be restarted.

Women with CD4 counts over 250 are more likely to have an allergic reaction to nevirapine. If possible, they should use another ART medicine.

**tenofovir (TDF)**

Tenofovir is used in combination with other medicines to treat HIV.

**Important:** To treat HIV, you must give TDF with other medicines. It is important to take this medicine every day in the recommended dose.

Do not give TDF to women who are less than 18 years old.

**Side effects:** Diarrhea, nausea, vomiting, headaches, weakness.

**Often comes in:** tablets of 300 mg.

**How to use:**

**For HIV (see p. 494),** give 300 mg once a day. You must also give other medicines.



**WARNING:** Tenofovir can cause kidney problems. Seek care immediately if the person has signs of kidney failure.

**zidovudine (ZDV, AZT)**

Zidovudine is used in combination with other medicines to treat HIV, and to prevent passing HIV to a baby.

**Important:** To treat HIV, you must give AZT with other medicines. It is important to take this medicine every day, in the recommended dose.

**Side effects:** Diarrhea, nausea, belly pain, vomiting. These effects usually get somewhat better after a few weeks.

**Seek care immediately** for pale skin or other signs of anemia (see page 116).

**Often comes in:** tablets of 300 mg; capsules of 100 mg, 250 mg; oral solution or syrup of 50 mg per 5 ml; liquid for injection of 10 mg per ml in 20 ml vial.

**How to use:**

**For HIV (see p. 494),** give 250 to 300 mg 2 times a day, along with other medicines.

**To prevent HIV from passing to a baby during birth:** For the mother, give 300 mg, 2 times a day, every day, starting at 14 weeks of pregnancy. At the beginning of labor, give the mother 600 mg, one time only.

**If she is breastfeeding her baby,** give the mother 300 mg 2 times a day for 7 days, along with 3TC.

**For a baby born to a woman with HIV who is not breastfeeding,** give 4 mg oral solution for each kilogram of weight (12 mg for a 3 kg baby), by mouth, 2 times a day for 6 weeks. You should also give nevirapine.



**WARNING:** AZT can cause severe anemia. If testing is available, check the woman's hemoglobin before starting AZT, and regularly while she uses it, especially if you live where there is a lot of malaria.

Do not give AZT with stavudine (d4T).