

# Newborn Babies and Breastfeeding

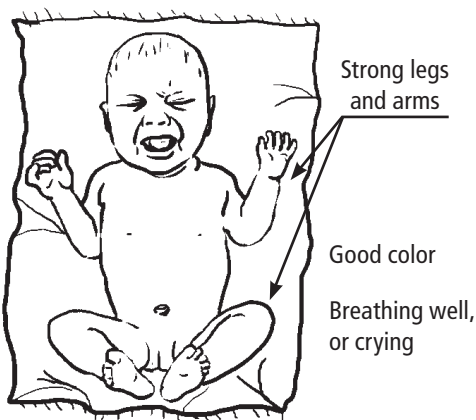
## Care Just After Birth

In the first hour after birth, you can help the survival and long-term health of a baby:

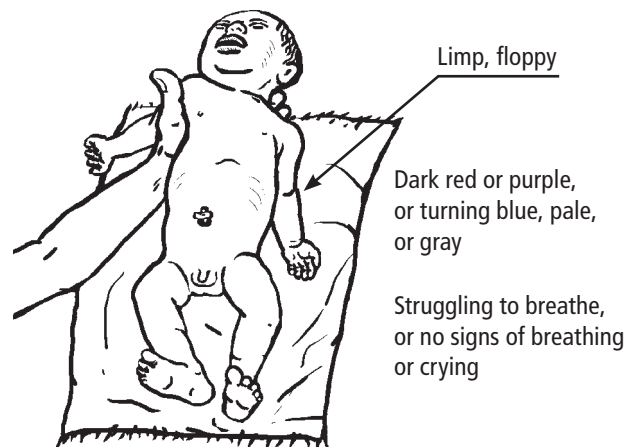
1. Make sure she is breathing well.
2. Keep her warm and dry, skin-to-skin with her mother.
3. Help her start breastfeeding.

## Is the baby breathing well?

As the baby is being born, and as you are drying her and putting her to her mother's breast, check to see if she is breathing well. When you act quickly, you can usually save a baby who is not breathing.



This baby looks healthy.



This baby needs help **fast**.

### **If the baby is limp, blue, or not breathing**

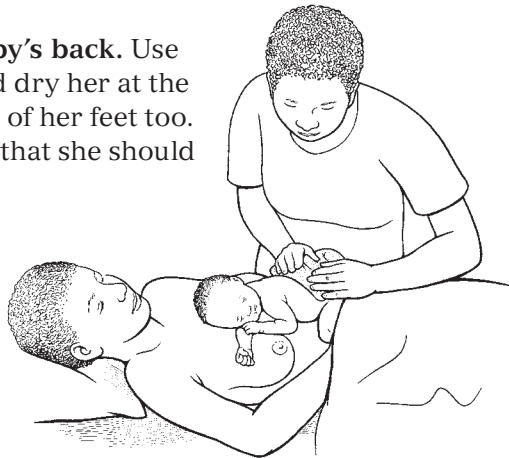
Do not hit the baby.

- 1. Clear mucus from the baby's mouth** by gently wiping it with your finger wrapped in a clean piece of cloth. Or use a bulb syringe or suction trap to get the mucus out of the mouth, then the nose.



- 2. Rub firmly up and down the baby's back.** Use a towel or clean cloth to warm and dry her at the same time. Rub across the bottom of her feet too. This should stimulate her enough that she should take a good, strong breath.

If the baby still does not breathe, or stops breathing, you must give rescue breathing.



### **Rescue breathing**

- 1. Lay the baby on a firm surface:** a table or the floor. Keep a cloth under her and partially cover her so she stays warm.
- 2. Lift the baby's chin just a little,** so her chin is tilted slightly up, toward the ceiling. It can help to put a small rolled-up cloth under her shoulders. This keeps her throat open for breathing.

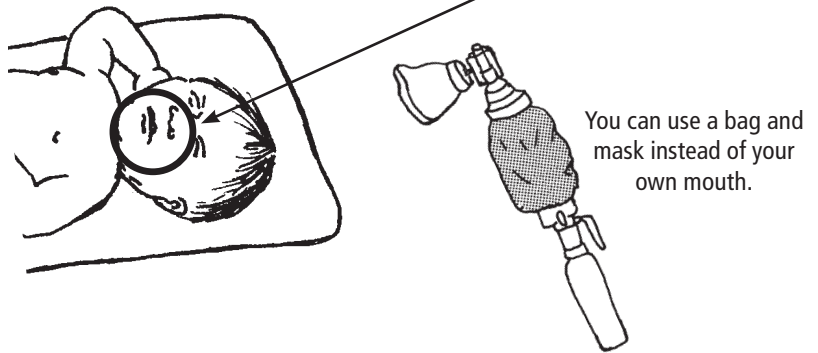


The baby should face straight up, like this.



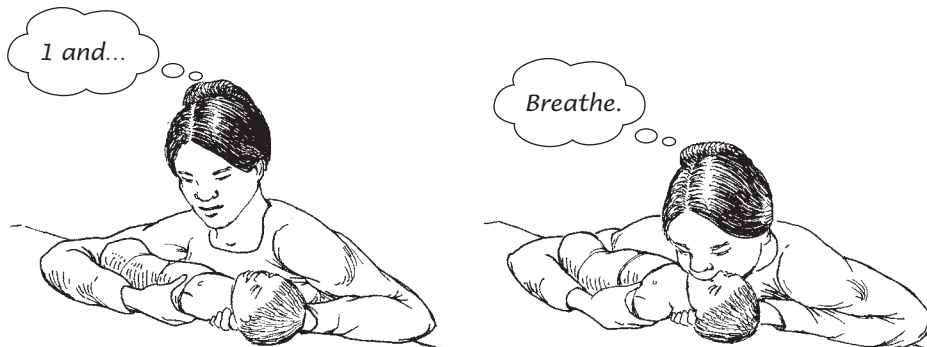
Not like this.

3. Open your mouth wide. Seal your lips over the baby's mouth and nose.



4. **Puff air into the baby. Use only small breaths.** Give one small, quick puff of air every 1 or 2 seconds. Be careful not to blow too hard, or you can damage the baby's tiny lungs.

**After each puff, wait a moment for the baby to breathe out.**



If air does not seem to go in, stop. Lift the baby's chin to be sure it is facing straight up and the throat is open. Then try again.

If the baby starts to cry, or breathes at least 30 breaths each minute on her own, she is OK for now. Put her on her mother's chest, and keep her warm. She will probably be fine. But watch closely for the next few hours. Is the baby a good color? Is she breathing easily? If the baby becomes blue around the body or mouth, or struggles to breathe, get help.

If after 20 minutes of rescue breathing, the baby does not begin to breathe on her own, she will probably die. Stay close to the family in this time of grief. They will need your attention and care.

## Keep the baby warm – on the mother's skin

Put the baby skin-to-skin  
with the mother.

Cover the baby's  
head with a hat or  
blanket.



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*The best place for a new baby is on her mother.*

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A new baby must be kept **warm** and **dry**. The mother's own body heat will warm the baby. Do not take the baby away from the mother to examine or bathe it. The baby does not need a bath right away – and a bath can make the baby dangerously cold. There is no reason to separate the mother and baby – unless you must give rescue breathing.

- **Dry the baby** as you are putting her on her mother's skin.
- **Warm the baby** by putting her, naked, against her mother's bare chest. Then cover the two of them with a blanket or cloth. Quickly replace wet blankets with dry ones because wet cloth will chill the baby.

If the mother must be sent to the hospital, or for some reason cannot hold her baby right away, the father or another family member can hold the baby skin-to-skin.

## Start breastfeeding

Babies tend to fall asleep within about an hour of birth. The baby should breastfeed before falling asleep. So if she does not nurse right away, try squeezing a few drops of the mother's first milk onto her lips to get her interested. Or tickle the baby's cheek with the mother's nipple. Nothing ensures a baby's health like breastfeeding. For more on breastfeeding and the importance of giving the first milk, called colostrum, see page 18.



### Early babies and small babies

A baby born early or small needs more attention.

- Early means born before 8 ½ months of pregnancy.
- Small means less than 2.5 kilos (5 ½ pounds).

Or just look at the baby: does it seem very small or thin?

These babies may need more help to start breastfeeding and to keep warm. They can more easily get infections and other health problems.

Keep the baby skin-to-skin, and in a hat to stay warm. Wake the baby to breastfeed once every 2 hours until she is strong and getting fat. If she has trouble breastfeeding, give her a little breast milk in a small cup or spoon. To learn how to remove milk by hand – for cup feeding – see page 20.



Keep small babies skin-to-skin for the first few weeks.

## In the Next Few Hours

About an hour or two after the birth, when the baby has breastfed and you have made sure the mother is not bleeding and is OK, give any needed medicines and carefully examine the baby from head to toe to see if there are any problems that need attention. Do not let the baby get cold while you examine her.

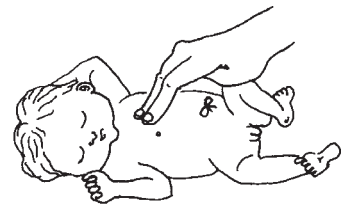
### Medicines for newborns

If the mother has gonorrhea or chlamydia (two infections of the genitals), this can infect the baby's eyes during birth, causing severe eye problems and blindness. It is quite common for a woman to have a genital infection and not know it. The best way to ensure gonorrhea or chlamydia are not spread to the baby's eyes is for both women and men to be tested and treated for these sexually transmitted infections. To learn about the signs of these infections and their treatments, see Genital Problems and Infections (in development). To prevent eye infection from gonorrhea, put a little erythromycin or tetracycline ointment in each of the baby's eyes within an hour or two after birth. See page 27.

In places where hepatitis B (see page 17 in Belly Pain, Diarrhea, and Worms) or liver cancer are common, it is wise to give a hepatitis B vaccination to the baby on the first day after the birth. This will prevent the spread of hepatitis B from the mother to the baby. It is also quite common for a woman to have hepatitis B and not know it.

### Examine the baby

- Does this baby look like other babies?
- Are her body parts on the left and right sides the same size, shape, and position?
- Is her skin intact? Check especially at the lower back. Sometimes there is a little opening there that needs surgery right away.
- Are her genitals normal? (Swelling on the first day is common and not dangerous.)
- Has she urinated? A baby might not urinate in the first day. But she should pass urine several times on the second day and every few hours after that. If she does not urinate enough, or if her urine is dark colored and strong smelling, she needs to nurse more. Or rarely, she may have a problem with her kidneys.
- Has the baby passed stool? If not, wear a glove and gently insert your smallest finger in the anus to make sure it is not closed shut. If there is no hole she needs surgery.



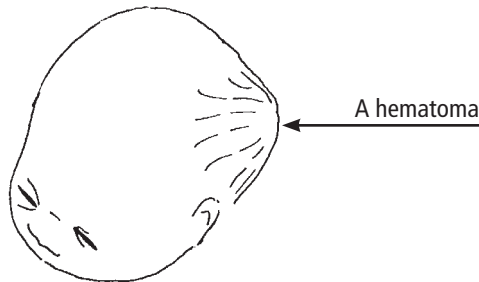
Some differences are not important, and some can be a sign of a serious problem. If a baby has one difference, be aware that there might be others and sometimes they are inside the body. Watch these babies closely for normal breathing, color, and urinating.

### Head shape

It is normal for the baby's head to be pointy or have a big swelling, like this, —————→ especially after a long labor. In a few days the swelling will go away.



Some babies have bleeding under the scalp, called a hematoma. It feels soft when you press it. These are not dangerous, but they may take a month or longer to go away.



### Cleft lip and cleft palate

A division in the lip (cleft lip, harelip) is easy to see. A division in the roof of the mouth (cleft palate) is not always obvious. Put a clean finger in the baby's mouth to feel if the top is closed. The danger to a baby of cleft lip and palate is that they can make breastfeeding more difficult.



To breastfeed, try covering the cleft in the lip with a finger, so the mouth can seal around the breast. For a cleft palate, put the nipple and the dark area around it (the areola) deep in the baby's mouth and to one side of the cleft. If the baby still has trouble, give breast milk with a clean spoon or dropper until he grows more able to nurse. Feed him often so he will stay well. To learn how to remove milk by hand for spoon feeding, see page 20.

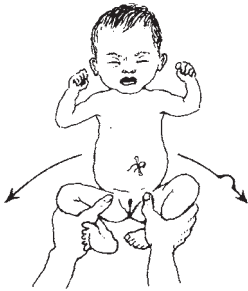
A cleft lip can be repaired with surgery after 3 months. A cleft palate can be repaired with surgery after 1 year. In many countries these surgeries are provided for free and can make a big difference in the child's life. Ask at a clinic or hospital for information.

### **Dislocated hip, hip out of joint, dysplasia**

Some children are born with a dislocated hip – the leg has slipped out of its joint in the hip bone. Most often, this fixes itself in a few days or weeks.

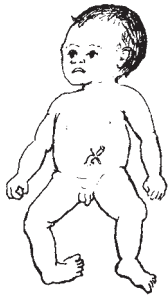
Bend the legs so you can hold both the thigh and lower leg together. Rest your fingertips on the baby's hips. Then roll one leg at a time in a slow circle – out, around, down, and back up. If one leg stops early, jerks, or "clunks" when you open it wide, it may be dislocated.

Ask the mother to carry her baby with the legs open, like this. Check the baby again in two weeks. If you still feel or hear a jerk or "clunk," seek help. A simple harness that holds the baby's legs open for a few weeks can prevent life-long disability.



### **Club foot**

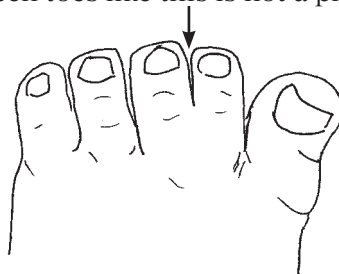
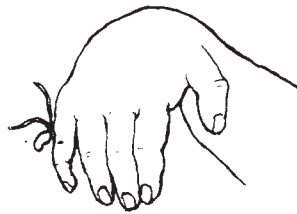
If a newborn's foot turns inward or is the wrong shape (clubbed), try to bend it into the right position. If you can do this easily, repeat this several times each day. The foot (or feet) should slowly grow to normal. If you cannot easily bend the baby's foot to normal, take him to a health center within a few days of birth. His foot will need to be straightened with casts. If done early, casting prevents surgery or disability later.



### **Extra fingers or toes**

A small extra finger or toe, with no bone inside, can be removed by tightly tying a string around it. It will dry and fall off. If the finger or toe is larger or has a bone, it will not cause harm, and you can safely leave it be.

Slight webbing between toes like this is not a problem.

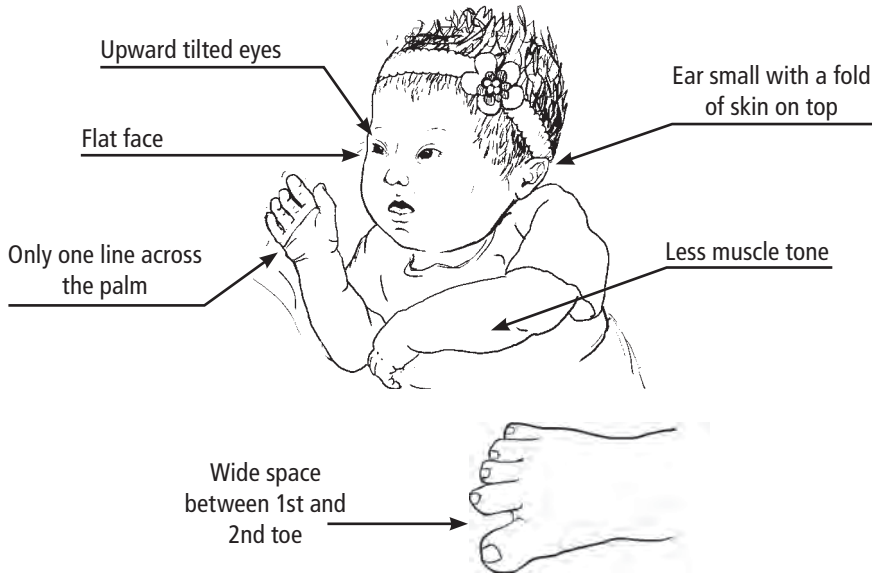


If two or more fingers are stuck together, they will need surgery to work properly.



## Down syndrome

A disability that affects thinking or learning may be obvious soon after birth, or you may not notice until the child is older. Down syndrome is a common cause of mental slowness. Babies with Down syndrome have some or all of these signs:



Down syndrome is not caused by anything the mother or anyone else did. If a woman is over 35 years old when she becomes pregnant, her baby is more likely to have it. These babies need the same love and attention as all babies, and certain simple activities can help them learn. For more information, see Hesperian's book *Disabled Village Children*, chapter 32.

## Caring for children with disabilities

Many physical differences that cause problems for a child can be treated at home by the family with the help of a health worker. Perhaps more important than any medical treatment though, disabled children need love, attention, play time, learning time, and responsibility, like any other child. Look for the gifts and skills each child brings.



## What causes deformities and disabilities?

We usually never know for sure what causes a deformity or disability. And even if we do know, it may not make a difference for that child or his family. Although we do not usually know the cause of a disability in any particular child, we do know that certain hazards make birth defects more likely or more common. So although we may not be able to protect one particular child from a deformity or disability, we can reduce the number of birth defects in any community:

- Help women get enough nutritious food to eat, including protein and vegetables, and seafood or iodized salt.
- Fight for safe workplaces for men and women – so no one has to be exposed to dangerous chemicals, pesticides, or harsh cleaners that may cause birth defects.
- Protect the air and water from chemicals and poisons – so we are not exposed to these hazards.
- Organize and participate in vaccination campaigns for adults and children, so pregnant women will be protected from rubella and other illnesses that can cause deformities in the baby inside the womb.
- Avoid unnecessary medicines. Do not smoke around pregnant women and avoid drinking alcohol if you are pregnant.

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*The best way to protect children is to take care of their mothers.*

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### More severe birth defects

Some birth defects are so severe they will lead to the death of the baby. This is a very painful time for the family and community. As a health worker, you can help the family to talk about their sadness and loss.



## Cleaning and dressing the baby

Wipe off any blood and the baby's first bowel movement (a sticky black stuff called meconium) but do not give a bath. After two or three days, the family should bathe the baby regularly to clean up milk, spit-up, dirt, and feces.

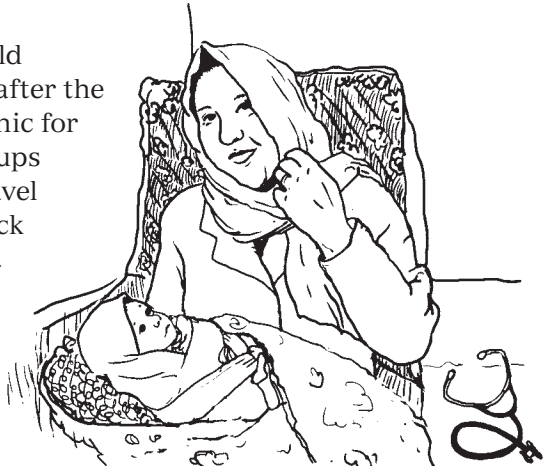
When you dress the baby, use as many clothes as an adult needs, plus one layer. For the first week or two, cover the baby's head – they lose a lot of heat through their heads. Change clothes or diapers as soon as they are wet or dirtied with stool. If the skin gets red or there is a rash under a diaper, leave the clothes or diaper off to help it clear.



Many mothers want to protect their babies from bad air with lots of clothes or blankets. This can make the baby too hot! One extra layer is enough.

## Check the Baby Often During the First 2 Months

The midwife or another health worker should continue to look after the mother and baby after the birth. Mothers and babies can come to a clinic for checkups, but when possible the first checkups should be at home so they do not have to travel or be exposed to sick people at a clinic. Check the baby and mother the day after the birth, 3 days after the birth, and 1 week after the birth. Another visit at 6 weeks is helpful. Visit more often if there are any signs of problems. Visiting often is the best way to notice health problems before they become deadly.



## For a healthy baby, take care of the mother

All babies need love, care, and attention to survive and thrive. To give this care and attention, the mother must have time, energy, health, and emotional well-being. Helping the mother with her work and her other children, caring quickly for her health problems, bringing her food, firewood or water – all these are ways both to help the mother and to ensure the baby stays well. Do not wait for a mother to ask for help. All mothers need help. And the mothers who do not ask are often the ones in the most need.

## Health Problems of New Babies

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*Diseases that take days or weeks to kill adults  
can kill a baby in a few hours.*

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A healthy baby breathes easily, without struggle. He should breastfeed every 2 to 4 hours and wake up on his own when he is hungry or wet. His skin should be clear, or have only a little redness or a small rash that clears in a few days. A baby who does not do these things could be in trouble and should get help fast.

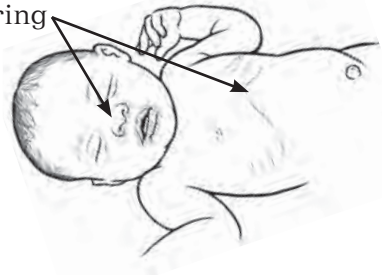
### Infection

Infection in a newborn baby can be very dangerous and requires treatment with antibiotics right away (see pages 24 to 25). Depending on how far you are from a health center and what medicines you have, you should either get help immediately or give treatment yourself – even if only on the way to get help.

#### **DANGER SIGNS**

- **Fast breathing:** more than 60 breaths a minute while sleeping or resting.
- **Struggling to get air:** chest sucking in, grunting, nose flaring open from the effort, while sleeping or resting.
- **Fever**, over 37.5° C, or **low temperature**, less than 35.5° C.
- Severe rash with many pimples or blisters. (Small rashes are normal.)
- **Not feeding.**
- **Rarely waking**, or seeming to not respond to you.
- **Seizures:** loss of consciousness and jerking movements.

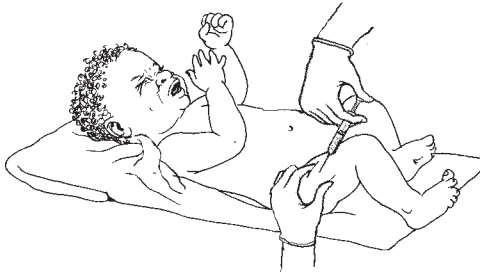
Any of these signs means the baby needs treatment.



### TREATMENT

If you suspect an infection but it is not severe, give ampicillin or amoxicillin (pages 24 to 25), but for a severe infection, inject ampicillin and gentamicin right away (see page 25) and get medical help. The exact amounts of medicine depend on the age and weight of the baby.

The baby should start to get better within 2 days. If he is not improving by then, different antibiotics are needed to save his life.



Antibiotics in tablets can be crushed and mixed with breastmilk and fed to a baby, but some antibiotics must be injected. These go in the long muscle on the side of the thigh. Medicines, Tests, and Treatment (in development) explains how to safely give injections.

If the mother had a fever during labor, be extra watchful of danger signs in the baby. Likewise, a baby who passed stool inside the womb can sometimes breathe in this stool at birth. (The waters would have had chunks of brown or looked greenish from stool. Or the baby's skin might have been stained a bit yellow at birth.) This can cause infection of the lungs in the first few days, so be ready to quickly treat the baby at the first sign of infection.

## Crying

Some babies cry more than others. A baby who cries a lot is probably OK if her other health signs are normal. Check if she breathes normally when she is not crying.

Near-constant crying, which often gets worse at night, is called colic. It should get better by about 3 months. This is usually harder on the family than on the baby. Be kind to new mothers. Make sure they get the rest and help they need.

If the baby cries for much of the day and also does not eat, has a fever, or has trouble breathing, this could be a sign of infection, see page 12.

*Let me take care of the baby while you rest.*



## Vomiting

Babies burp up milk. Sometimes there is a lot and it can come from the mouth or nose. Burping up milk is not a problem as long as the baby nurses often and gains weight. Try holding him upright after he eats. A baby is really vomiting if his body uses force – instead of the milk just spilling out.



Hold the baby over your shoulder or knee and gently pat his back to burp him after he eats. This will help bring up air he swallowed while feeding.

### DANGER SIGNS

- Vomits over and over, or cannot keep anything in his stomach
- Vomits blood
- Has signs of dehydration

## Dehydration (not enough fluid in the body)

Babies easily become dehydrated, and in babies dehydration is especially dangerous.

### CAUSES

- Diarrhea
- Vomiting
- Breastfeeding less than every 2 to 4 hours
- Eating or drinking anything that is not breast milk (like formula, porridge, or water)
- Hot weather

### SIGNS

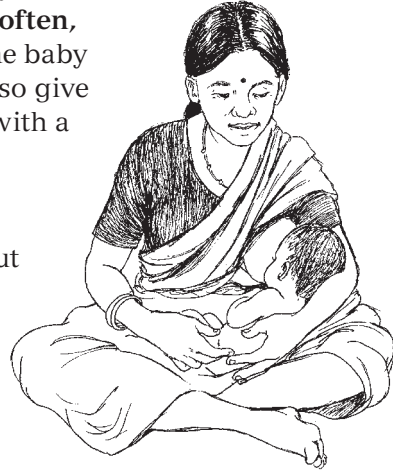
- Urinating less, or dark, strong-smelling urine
- Dry mouth and tongue
- Dull-looking eyes or skin

Severe dehydration can cause sunken eyes, a sunken soft spot on the top of the head, weight loss, and unresponsiveness.

### **TREATMENT**

At the first sign of dehydration, or if the baby has diarrhea or has been vomiting, **nurse more often, for as long as the baby will drink.** Wake the baby up to drink at least every 2 hours. You can also give rehydration drink, a simple recipe of water with a little salt and sugar – explained on page 22 in *Belly Pain, Diarrhea, and Worms*. Give rehydration drink after you breastfeed. Very rarely, a mother nurses often enough but does not produce enough milk. See page 20.

If a dehydrated baby does not start to improve in a few hours, get medical help to get fluid in the baby.



## **Rashes**

Newborns get rashes, blotches, and differences of skin color that are mostly harmless and go away on their own. A rash on the baby's bottom is caused by the skin staying wet with urine or feces. Clean the area more often. Change diapers and wet clothes as soon as they get wet or soiled. For an older baby and on a warm day, you can leave his bottom bare to heal. Zinc oxide cream can help. If it does not heal in a few days, it may be a yeast infection. Use nystatin cream (see page 28).

If a baby has blisters or many pimples, especially if the baby seems sick or has a fever, there may be an infection. If they do not start to improve quickly, or if any signs of infection get worse, give antibiotics (see pages 24 to 26).



## Jaundice

Yellow skin or eyes is called jaundice. For a dark-skinned baby, check the eyes. Jaundice between the second and fifth day after birth is not dangerous. The best treatment is breastfeeding often. This will help the baby pass the chemical that is turning her yellow. Wake her every two hours to nurse. Sunlight also helps. Hold the baby naked in the sun for 15 minutes or so, a few times a day.

### **DANGER SIGNS**

- The jaundice starts right away – in the first 24 hours of life.
- Jaundice starts later, but covers the whole body.
- The jaundiced baby is very sleepy, or cannot be woken to eat. Get help for any of these signs.

## The eyes

The tiny holes that allow tears and oil to moisten the eye can get stopped up and then the eyes get goopy. → Wipe them clean with a warm, wet cloth. Use a different cloth on each eye. This way if there is an infection in one eye, it will not spread to the other.



Many women have chlamydia or gonorrhea and do not know they are infected. Antibiotic eye treatment right after birth (see page 27) will prevent eye problems from gonorrhea that has passed from the mother to the baby.

A red, swollen eyelid with bloody pus after the baby is 5 days old is likely a chlamydia or gonorrhea infection in the eye. The treatment for chlamydia is erythromycin by mouth, by grinding it up and mixing it into a little breast milk for the baby. The treatment for gonorrhea is an injection of ceftriaxone. If you cannot test to know which disease is causing the infection, give medicines for both (see page 26). The mother and father should also be treated for chlamydia and gonorrhea. See Genital Problems and Infections (in development). If an eye infection does not improve in a day or two, you need another antibiotic to prevent blindness. Get help.



## The soft spot

The soft spot on the top of the head should be flat. A sunken or swollen soft spot are both signs of very dangerous problems.



A sunken soft spot is a sign of dehydration. Give more breast milk and rehydration drink. See page 22 in *Belly Pain, Diarrhea, and Worms*.



A swollen soft spot is a sign of meningitis. Give antibiotics. See page 13 in *Caring for Children*.

## The cord

After the cord is cut, leave the stump alone. Do not cover it. Keep diapers and clothes away. Avoid touching it, but if you must touch it, first wash your hands with soap and water. If the stump or belly button becomes dirty or caked with dried blood, clean with soap and water and a very clean cloth.

If the mother does cover the cord stump with a band or cloth, make sure it is clean and loose, and change the cloth a few times each day.

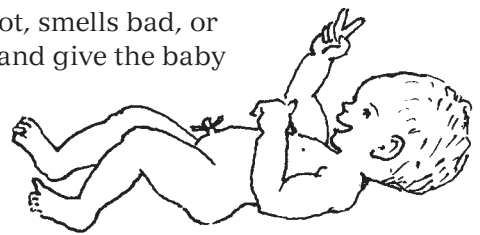
The stump should dry and fall off in about a week.

If the area around the cord becomes red or hot, smells bad, or drains pus, it is probably infected. Clean it well and give the baby amoxicillin. See pages 24 to 25.

If the baby has a grimace, cannot nurse, or seems stiff, especially if the area around the cord seems infected, she may have tetanus.

**This is an emergency.**

See page 20 in *First Aid*.



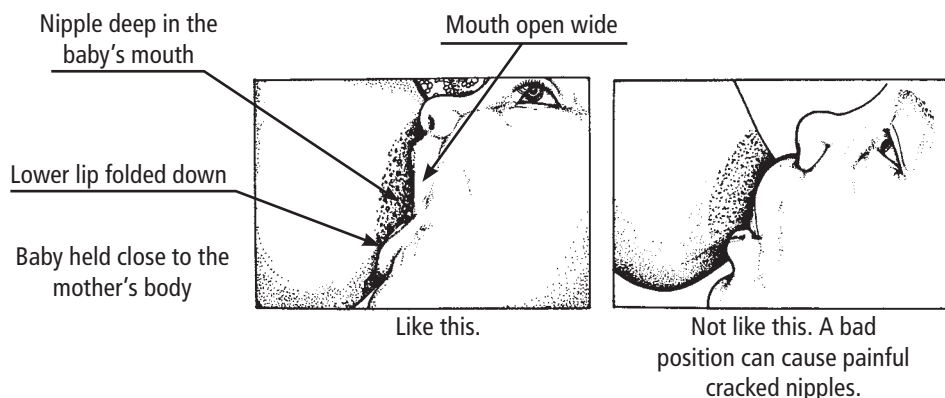
Keep away from the baby's cord – and you will keep infection away too.

## Breastfeeding

*Breast milk is better for a baby than any mix or formula.*

A first-time mother may need help with breastfeeding. Help her stay calm and focused. Prop her up with blankets and pillows so she is sitting upright and comfortable. Ask family and visitors to give the mother and baby some privacy. Be encouraging. Breastfeeding becomes easier with time and practice.

Avoid painful, cracked nipples with a good breastfeeding position. Turn the baby's whole body toward the mother so his neck is not twisted. Wait until he opens his mouth wide. Then bring him onto the breast. The nipple and much of the dark area surrounding it (areola) should be deep in his mouth.



## The first milk is like liquid gold

The first milk, called colostrum, comes in small amounts, but it is the right amount for a new baby. (Their stomachs hold only a few teaspoons at a time.) Colostrum is sticky and looks yellowish, but even though it looks different, it is the perfect food for a new baby. It contains antibodies – substances made by the mother's body that protect the baby from infection. Do not throw the first milk away: it is worth more to a baby than any medicine. Breastfeeding in the first 2 days is also important because it brings the mature milk that the mother begins to produce in about 3 days after birth. The more the baby nurses, the more milk the mother will make.

## Is the baby getting enough milk?

Do not let anyone tell you that you cannot produce enough milk for your baby, especially in the first few days when your body is just starting to produce milk.

Because of pressure from others and self-doubt, mothers (or grandmothers or aunts or nurses who are trying to help) give formula, or porridge, or some other food to a new or young baby. These extra foods are a waste of money and can cause diarrhea in the baby. Diarrhea causes the baby to lose weight and become weak. And using these extra foods makes the mother produce less milk. So she becomes even more convinced she cannot feed the baby enough with just her breasts. If you are a health worker, you can prevent this cycle of serious health problems by showing mothers that you believe in their ability to nurse. Help with positioning the baby, but also give the mother time to learn for herself how nursing works. Speak gently. Be patient.

### To make enough milk

- Nurse often. The more you breastfeed, the more milk you will make.
- Drink enough fluids and eat more. Feed your baby by feeding yourself.
- Rest often. When the father and family help with chores, the mother can better care for her new baby.

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*The more you breastfeed, the more milk you will have.*

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Most babies lose a little weight in the first week, which is normal. After that, weight loss means the baby is not getting enough to eat. Similarly, babies do not urinate much on the first day, but after that should start passing urine every few hours. If a baby does not urinate much after two days, he is not getting enough milk. But what if the baby is nursing often and does not urinate or grow? In these rare cases, you may need to substitute with another milk. Do not give sugar or rice water. Do not give packaged formula unless you are sure you can afford to give the recommended amount (watering it down causes diarrhea and sickness). And do not use bottles: they are hard to clean so they spread germs that cause diarrhea.

Other milk must be given if the mother dies or is separated from her baby, or in the rare case that she truly is not making enough milk. You can ask another mother to breastfeed the baby. She should get an HIV test to know if this is safe, because HIV can pass to the baby through breastfeeding.

Another option is to make an animal milk formula:

Mix:

2 parts cow or goat milk →  
 1 part water →  
 1 large spoonful of sugar →



OR

1 part sheep milk  
 1 part water  
 1 large spoonful of sugar

OR

2 parts canned evaporated  
 (not sweetened) milk  
 3 parts water  
 1 spoonful of sugar

Briefly boil your formula to kill germs. Then let it cool and feed it to the baby with a clean cup or spoon.

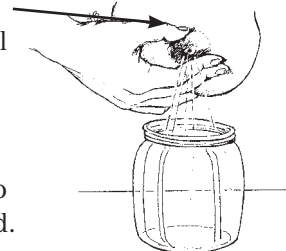
## Milking the breast by hand (extracting milk)

If you must go to work or leave the baby for another reason, you can try milking the breast and when you are gone someone else can give the baby your milk.

1. Wash your hands and a jar. Boil the jar if you can.

2. Hold your fingers and thumb at the edge of the dark part of the breast (areola). Press toward the chest. Then press your fingers together as you roll forward toward the nipple. Relax and think about the baby while you extract the milk – it can help the milk come down.

Breast milk will keep about 8 hours if it is not too hot outside. It will keep longer if you can keep it cold.



## Thrush

White patches on the tongue or inside the cheeks and irritability with nursing can be signs of a yeast infection of the mouth, called thrush. This infection can spread to the mother's nipple and cause redness, itching, and pain.

Try rinsing the nipple with a little vinegar, and then water. Or if you have no vinegar, just gently rinse and dry the nipples after each time you nurse. If this does not cure the thrush, paint a little gentian violet on the nipple 2 times a day for 3 days. Also paint the inside of the baby's mouth once a day. (This will turn everything purple, but it is safe.) See page 27.

If gentian violet does not help, give the baby nystatin. See page 28.

If thrush keeps coming back again and again, the baby may have another problem that is weakening her ability to fight the infection. For example, babies who have HIV may get thrush many times. See HIV and AIDS (in development).



Use a small, clean piece of cloth to spread the medication inside the baby's mouth.

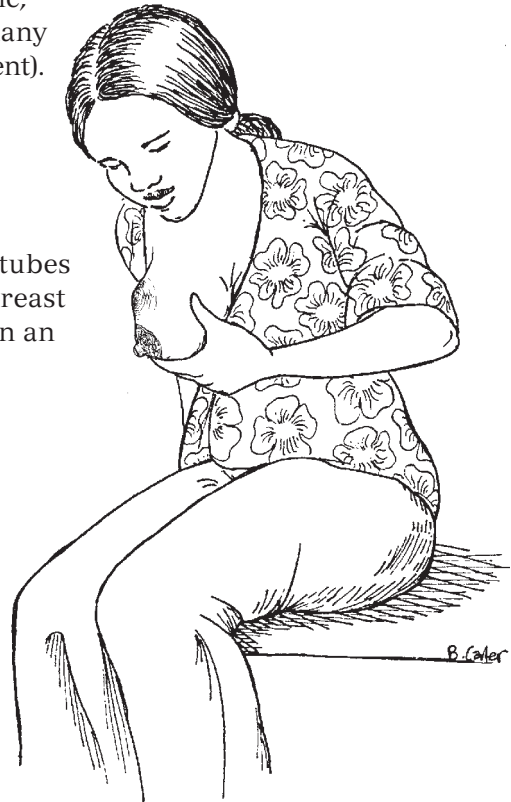
## Breast pain, swelling, blockage, or infection

Sometimes milk clogs a duct (the small tubes inside the breast that carry milk). The breast becomes swollen, red, and painful. Soon an infection can start.

### SIGNS

- A hot, red, hard area on one breast.
- Pain in the breast and while breastfeeding.

If there is fever, then the blocked duct has become infected.



### TREATMENT

- Rest. Drink fluids.
- Breastfeed at least every 2 hours.  
Breastfeeding with a breast infection is safe for the baby and is the best way to flush out the infection.
- Be sure you have a good breastfeeding position. The baby's whole body should face the mother. The baby's mouth should open wide, and the nipple should go deep in the baby's mouth.
- Breastfeed on the sore side first, and let the baby empty that breast.
- Warm, wet cloths or a hot bath can help. Warm the breast for 15 or 20 minutes, at least 4 times a day. Or, put cool cloths or cabbage leaves on the breast to relieve the swelling.



If there is fever, give 250 mg erythromycin, 4 times a day. See page 26.

## HIV and breastfeeding

Pregnant women with HIV can take medicines to stay healthy and also prevent their babies from getting HIV. To protect women and children, every pregnant woman should be able to get an HIV test. And if she has HIV, she should be provided with HIV medicines during pregnancy, and for the entire time she is breastfeeding which will protect her baby from HIV, and afterwards for her own health. See HIV and AIDS (in development).

Is it safe to breastfeed when you have HIV?

HIV medicines taken by the mother and the baby prevent babies from getting HIV during breastfeeding. The baby must take medicines every day for at least 6 weeks. If the mother did not get HIV medicines through her entire pregnancy, give the baby medicine for at least 12 weeks. If the mother is not taking HIV medicines, give the baby medicine until 1 week after the baby stops breastfeeding. The baby's health is also protected by giving only breast milk for the first 6 months (or until he gets his first teeth). Giving porridge and other drinks before 6 months is not healthy for the baby and can make HIV infection more likely.

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*HIV medicines for the mother and her baby  
will keep both of them healthy.*

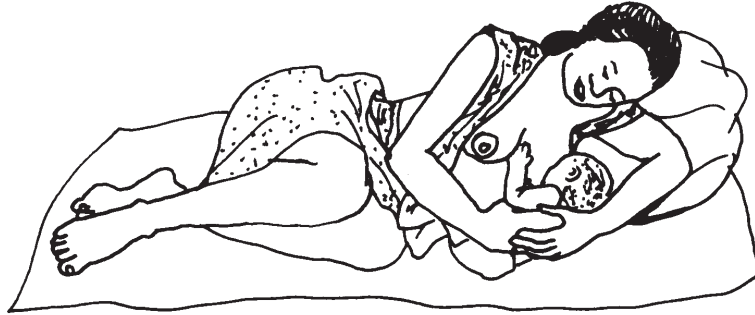
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When there are no HIV medicines, there is some risk of HIV passing through breast milk. But the risk of sickness from giving formula is much greater. Most mothers with HIV do not have the clean water, fuel, or money to safely get, prepare, and give formula. Their babies are likely to become malnourished and get diarrhea, and they may die. What this means is breast milk is safest – even when the mother or baby is not taking HIV medicines.

## For babies and mothers everywhere, breast is best

### Breastfeeding

- Is much less expensive. You do not need to buy formula, bottles, or anything else.
- Helps stop the mother's bleeding after birth.
- Helps prevent pregnancy in the months after birth.
- Protects the mother from cancers and weak bones later in life.
- Is always fresh, warm, and ready-to-eat.
- Has all the nutrients a new baby needs.
- Helps protect babies against diarrhea, pneumonia, and other illnesses.
- Gives long-term protection against diabetes, allergies, and cancers later in the baby's life.
- Keeps the baby safe and warm next to the mother.
- Brings the mother and baby closer together.



# Newborn Babies and Breastfeeding: Medicines

## Antibiotics Fight Infection

### Ampicillin and Amoxicillin

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Ampicillin and amoxicillin are broad-spectrum penicillins, which means they kill many kinds of bacteria. The two are often interchangeable. When you see a recommendation for ampicillin in this book, you will often be able to use amoxicillin in its place, in the correct dose (see below).

Ampicillin and amoxicillin are very safe. They are both useful in treating pneumonia or ear infections. Ampicillin is also useful in treating meningitis and other severe infections in newborns.

#### Side effects



Both these medicines, but especially ampicillin, tend to cause nausea and diarrhea. Avoid giving them to children who already have diarrhea if you can give another antibiotic instead.

The other common side effect is rash. But, raised, itchy bumps that come and go in a few hours are probably a sign of penicillin allergy. Stop giving the medicine right away and do not give the child a penicillin medicine again. Future allergic reactions may be more severe and even life-threatening. For some problems erythromycin can be used instead, see page 26. A flat rash that usually appears a week after starting the medicine and takes days to go away, is not necessarily an allergy. But it is impossible to know for sure if the rash is from allergy or not, so it is usually better to stop taking the medicine.

#### Important

Resistance to these medicines is growing more common. Depending on where you live, they may not work any more against staphylococcus, shigella, or other infections.

#### How to use



Ampicillin and amoxicillin work well when taken by mouth. To give tablets or capsules to a baby, crush the pills or empty the capsules and divide the powder to get the amount you need. Then mix it into a little breast milk. Feed the milk and medicine to the baby with a cup or spoon. Ampicillin can also be given by injection, but should only be injected for severe illnesses such as meningitis, or when the person is vomiting or cannot swallow.



As with other antibiotics, always give these medicines for at least the shorter number of days shown here. If the person still has signs of infection, have her continue taking the same amount every day until all signs of infection have been gone for at least 24 hours. If the person has taken the medicine for the maximum number of days and is still sick, stop giving the antibiotic and get medical help. For people with HIV, always give the medicine for the maximum number of days listed.

Likewise, the amount of antibiotic to take depends on the age or weight of the person and the severity of the infection. In general, give the smaller amount for a thinner person or a less severe infection, and the larger amount for a heavier person or a more severe infection.

## AMOXICILLIN

### For most newborn infections

- ➔ Give 62 mg, 3 times a day for 3 to 7 days. Each dose is:  
 $\frac{1}{4}$  of a 250 mg capsule **OR**  
 $\frac{1}{2}$  teaspoon (2.5 ml) of 125 mg/5 ml syrup **OR**  
 $\frac{1}{4}$  teaspoon (1.25 ml) of 250 mg/5 ml syrup.

## AMPICILLIN

### For most newborn infections

- ➔ Give 125 mg, 3 times a day for 3 to 7 days. Each dose is:  
 $\frac{1}{2}$  of a 250 mg capsule **OR**  
1 tsp (5 ml) of 125 mg/5 ml syrup.

### For severe infections in newborns such as meningitis

Inject a combination of ampicillin and gentamicin in the side of the thigh muscle. See Medicines, Tests, and Treatment (in development) for how to inject.

Dilute a 500 mg vial of ampicillin with 2.1 ml sterile water. This makes a concentration of 500 mg per 2.5 ml. Use an undiluted 2 ml vial of gentamicin at 40 mg per ml.

## Important

Gentamicin is a very strong antibiotic of the aminoglycoside family. It can only be given by injection or IV (in the vein). This drug can damage the kidneys and the hearing, and therefore should only be used in emergencies on the way to get medical help. If the baby is dehydrated, also give breast milk and rehydration drink immediately. See pages 14 and 15.

### For a baby less than 1 week old

- ➔ AMPICILLIN Inject 50 mg per kg, 2 times a day for at least 5 days,  
**AND**  
GENTAMICIN Inject 5 mg per kg, once a day for at least 5 days.  
Do not give for more than 10 days.

### For a baby 1 week to 1 month old

- ➔ AMPICILLIN Inject 50 mg per kg, 3 times a day for at least 5 days,  
**AND**  
GENTAMICIN Inject 7.5 mg per kg, once a day for at least 5 days.  
Do not give for more than 10 days.

## Erythromycin

Erythromycin works against many of the same infections as penicillin and can be used by those who are allergic to penicillins. For many infections it can also be used in place of tetracycline. It can also be used for diphtheria and pertussis (whooping cough).

### Side effects

Erythromycin often causes nausea and diarrhea, especially in children. Do not use for more than 2 weeks as it may cause jaundice.

### How to use

#### For newborns up to 1 month old

- ➔ Give 30 to 50 mg per kg each day, divided into 3 doses a day. Give for 7 to 10 days. For an average-sized newborn of about 3 kg, each dose should be:  
0.75 ml (this is a bit more than  $\frac{1}{8}$  teaspoon) of 250 mg/5 ml erythromycin syrup, **OR**  
62 mg ( $\frac{1}{4}$  of a 250 mg tablet) ground up in a little breast milk or water.

#### For breast infection (mastitis) in a breastfeeding mother

- ➔ Give 250 to 500 mg (1 or 2 tablets of 250 mg), 4 times a day for 10 days.

## Ceftriaxone

Ceftriaxone is in the cephalosporin antibiotic family. Cephalosporins are antibiotics that work against many kinds of bacteria. They are often expensive and not widely available. However, they generally have fewer risks and side effects than many other antibiotics and can be useful in treating certain serious diseases, including sepsis and meningitis, and for infections resistant to penicillin. Only use ceftriaxone to treat the specific infections for which it is recommended in your area. This will help prevent resistance and keep this drug useful. Ceftriaxone is especially useful for gonorrhea, including gonorrhea infection of the newborn's eyes but otherwise should not be given to newborns under 1 week old and should be avoided in babies under 1 month old.

### Important

Do not give ceftriaxone to a baby less than 1 week old. Avoid in babies who were born early or especially small (if there is a chance that they may have been early). Do not give if there is jaundice.

### How to use

Ceftriaxone is only available for injection or IV (in the vein). It can be painful to inject. Mix with 1% lidocaine if you know how.

#### For gonorrhea eye infection in the newborn 7 days or older

- ➔ Inject 50 mg per kg, one time only. Do not give more than 125 mg.

**For severe infection when other antibiotics are not available, in a baby or child older than 7 days**

- ➔ Inject 75 mg per kg, once a day for 7 to 10 days. So:  
**For a newborn of 3 kg**, inject 225 mg once a day.  
**For an older baby of 6 kg**, inject 450 mg once a day.

## Antibiotic Eye Treatments

Antibiotic eye ointment and drops are used to protect the newborn baby's eyes from severe infection and blindness that can occur if the mother has gonorrhea, a sexually transmitted infection, during birth. They are also used to treat other eye infections caused by bacteria.

**How to use** 

Use one of these antibiotic ointments with every newborn baby in both eyes to prevent gonorrhea infection:

**1% tetracycline OR 0.5% to 1% erythromycin**

- ➔ Put a thin line of ointment in each eye, 1 time only, within 2 hours after the birth. Gently pull down the lower eyelid and squeeze a thin line of ointment along the eye moving from the inside corner outward. Do not let the point of the tube touch the baby's eye.

If there is no ointment, use one of these kinds of drops to prevent infection:

**2.5% solution of povidone-iodine OR 1% solution of silver nitrate**

- ➔ Put 1 drop in each eye, 1 time only, within 2 hours after the birth. Pull down the lower lid and squeeze 1 drop into the eye. Do not let the dropper touch the eye.

Silver nitrate becomes more concentrated over time as it evaporates – so do not use old silver nitrate. It will burn the baby's eyes. If in doubt, it is better to avoid using silver nitrate at all.

## For Thrush (Candida, Yeast Infection)

**Gentian violet, GV, crystal violet,  
methylosanilinium chloride**

Gentian violet is an inexpensive treatment for yeast infections in the mouth, on the nipples of a breastfeeding mother, in skin folds, or on the vulva or vagina. It also works against some bacterial skin infections.

**Side effects** 

Gentian violet can irritate the skin and cause sores when used on the mouth or vagina. Stop using if a rash or sores develop.

### Important

Gentian violet turns everything purple. It fades off the skin in a few days but can permanently stain cloth.

### How to use

- ➔ Use a solution of 0.5% methylrosanilinium chloride (gentian violet).  
 Paint it on the skin, in the mouth, or on the vulva 2 or 3 times a day.

If the infection does not start to heal within a couple of days, try another medicine.

## Nystatin

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Nystatin works well for most yeast infections in the mouth, on the nipples or skin, or in the vagina. It comes in a liquid for the mouth, a cream, a powder, or an insert (pessary) for the vagina.

### Side effects

The skin may become irritated where nystatin is used. This is uncommon. Stop using if you get a rash. Nystatin sometimes causes diarrhea.

### Important

A yeast infection that does not get better with nystatin, or keeps coming back again and again, can be a sign of HIV.

### How to use

Liquid nystatin comes in 100,000 Units per ml (or sometimes 500,000 Units per ml). Most people should use 100,000 to 200,000 Units, but people with HIV may need as much as 500,000 Units in each dose.

#### For a baby with thrush in the mouth

- ➔ Give 200,000 Units of liquid (2 ml, less than ½ a teaspoon), 4 times a day.  
 Use a little clean cloth or dropper to spread the nystatin inside the mouth. Keep giving the medicine for 2 days after the yeast infection is gone, or it may come back.

#### For a breastfeeding mother with yeast infection of the nipples (itching, redness, or pain)

- ➔ Put 100,000 to 200,000 Units of nystatin cream, powder, or liquid on her nipples 4 times a day.

# To Stop Bleeding in Newborns

## **Vitamin K, phytomenadione, phytonadione**

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The body uses vitamin K to clot blood and stop bleeding. But babies are born without much vitamin K, so if for some reason they start bleeding it can quickly get out of control. If a newborn starts to bleed from any part of his body (mouth, cord, anus) you can give vitamin K to prevent excessive bleeding. You can also give vitamin K to very small or early babies (under 2 kg) to prevent bleeding because they are more likely to bleed.

Vitamin K does not stop bleeding in older children or adults.

### **How to use**

- ➔ Inject 1 mg (one 1 mg ampule, or ½ of a 2 mg ampule) of vitamin K into the outer part of the thigh within 2 hours after birth.

Do not inject more, it will not help and can harm.