Newborn babies can get infections easily because their defenses against infections are not well developed. The more premature a baby is, the more likely she is to get an infection.

Many newborns are tested and treated for infection, even when their doctors are not yet sure that they have an infection because:

- Infection is a common problem for newborns.
- Newborns can get sick very fast.
- Babies respond very quickly to antibiotics. They do extremely well if they start getting antibiotics when an infection has just begun.

What is the cause?

Most newborn infections are caused by bacteria. Bacteria normally live in the birth canal, and the baby is exposed to them during birth. The baby may swallow or breathe in the fluid in the birth canal and then the bacteria may get into the baby’s lungs and bloodstream.

A baby may be sick at the time of birth or become sick any time during the first week. You may not notice the first symptoms, but as the bacteria multiply the baby can become quite sick very fast. If an infection is found and treated early, the baby will do very well. If the baby is not treated until later, the baby may get very sick and need intensive care to recover.

Sometimes newborns catch a viral infection. Viruses cause colds, flu, and some diseases such as herpes and chickenpox. A virus may travel from the placenta into a baby’s bloodstream before birth. Or the baby may be exposed to a virus in the birth canal during delivery. Occasionally, a newborn catches a viral infection after birth by being exposed to someone with a cold.

What are the symptoms?

When a baby first develops an infection, the baby might:

- not feed well
- be very sleepy, not wake up for feedings
- be irritable, not settle down after feedings
- breathe fast (over 60 breaths a minute)
- have trouble keeping a normal temperature (a normal rectal temperature is 99.8°F, or 37.5°C)
- not act right, have a change in behavior.

Many healthy newborns have these symptoms occasionally. However, if a baby keeps having these symptoms, she needs to be checked.

As the infection gets worse, a baby might:

- have pale or greyish skin
- work hard to breathe
- have a bluish color around the lips and mouth
- have a low body temperature despite normal wrapping with clothes or blankets (a rectal temperature under 98°F, or under 36°C)
- have a high body temperature (a rectal temperature over 100°F, or over 38°C).

Some newborns may have an infection in one specific part of their body. In these cases you might see:

- redness or swelling of skin, often around the umbilical cord or circumcision
- redness, swelling, or yellowish discharge from the eyes
- blisters on the skin.
How is it treated?

- The Special Care Nursery (SCN) If a baby has signs of infection, she is taken to the special care nursery (SCN) for evaluation and treatment. The baby is placed on a warming bed. She is attached to a cardiorespiratory monitor, which continuously measures heart rate and breathing. If the baby is having trouble breathing, she is attached to a monitor that records the amount of oxygen in her skin. This monitor is called a pulse oximeter.
- Antibiotics Suspected bacterial infections are treated with antibiotics. After the laboratory tests are begun, an intravenous line (IV) is put into one of the baby’s veins. The IV is used to give antibiotics to newborns to make sure that the right amount of antibiotic reaches the baby’s bloodstream. Antibiotics are not well absorbed into the blood from a baby’s stomach. If the baby is given antibiotics by mouth, the concentration of the medicine in the baby’s blood will be too weak. Treatment usually begins with two antibiotics. These antibiotics treat all the bacteria that might cause infection in a newborn. We often use ampicillin (a kind of penicillin) and gentamicin. Both antibiotics are very safe and have been used for a long time in newborns. They have very few side effects. In general, newborns do not have allergic reactions to medications, even if other family members are allergic. We can monitor gentamicin levels in the bloodstream and adjust the dosage so that it is just right. Your baby’s antibiotics are

\[ \text{If the lab tests are positive for a bacterial infection or the baby’s symptoms strongly suggest infection, the baby will continue to receive IV antibiotics for 7 to 14 days.} \]

- Supportive care Antibiotics help a baby fight infection. Other treatments help the baby’s symptoms. If the baby is breathing too fast to eat, he is given fluids through the IV so he won’t get dehydrated. If he is too sleepy to eat, he may be given IV fluids or he may be fed by dripping milk through a tube that passes through his mouth and into the stomach (gavage feeding). If the baby needs extra oxygen, he is placed in a plastic hood into which extra oxygen is blown. Some babies are relatively well and the only treatment they need is antibiotics. These babies are able to breast-feed or bottle-feed.

Viral infections

If your baby has a viral infection, supportive care is usually the most important part of the treatment (see above). Generally, viral infections cannot be treated with antibiotics, and most babies will be able to fight the infection without medication. However, there are now a few antiviral antibiotics that can be used for specific viral infections, such as herpes and chickenpox.
**Are there complications?**

Nearly all babies who have infection when they are newborns recover completely and do not suffer any long-term problems.

Babies who have meningitis are at risk for hearing loss and will need to have their hearing checked several times during their first year. They can also develop learning or other developmental problems later on and will need to be followed by their doctor for these problems.