

Patient information from BMJ

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Sepsis in children

Sepsis is a medical emergency. It happens when the body has a bad reaction to an infection. Without treatment, sepsis can quickly lead to multiple organ failure and death. Spotting the signs of sepsis can help in getting treatment quickly.

What is sepsis?

Children get infections all the time, from simple viral infections like colds, to more serious infections that need treatment.

The body's usual reaction to an infection is to help fight it. But sometimes our bodies react to infections in ways that harm us. This is called sepsis. It can cause damage to major organs and even death.

If you suspect that your child might have sepsis, get emergency medical help immediately. Sepsis is life threatening, and early treatment gives a child the best chance of recovery.

Children can get sepsis at any age, including when they are babies. This is called neonatal sepsis.

Any child with an infection can develop sepsis, but it is more likely in children:

- who have had a recent injury, especially if the skin was broken
- who have recently had surgery or another medical procedure
- with a weakened immune system, either because of illness or certain medicines they have been taking
- whose mother had an infection late in her pregnancy
- who have an indwelling (this means it is inside the body) catheter to drain urine.

Septic shock

You might have heard the phrase septic shock. Septic shock is a dangerous complication of severe sepsis. When sepsis progresses to septic shock it becomes harder to treat.

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What are the symptoms?

Sepsis can be hard to recognise, because the symptoms are not always obvious. Some children with sepsis might just appear to be over-tired or a bit 'under the weather'.

In babies, it might simply be that they behave differently from usual. For example, your baby might:

- not want to feed
- have irregular breathing
- have an abnormally fast heartbeat (called tachycardia).

Other symptoms of sepsis, especially in toddlers and older children, can include:

- changes to the appearance of the skin, such as a rash that doesn't go away when you gently press it, or a very pale or bluish tinge. But many children with sepsis don't have any changes to their skin
- fever, or sometimes even an unusually low temperature
- a fast heartbeat
- fast breathing (called tachypnoea)
- altered mental state: for example, sleepiness, irritability, floppiness, or seeming confused or unaware of what is going on around them
- not urinating as much as usual.

Septic shock symptoms

If a child has septic shock he or she will probably have some extra symptoms. There are two types of septic shock in children. These are called cold shock and warm shock.

Cold shock is the most common type in infants and young children. The main symptoms are:

- cold hands and feet
- a weak pulse
- a fast heartbeat.

Warm shock is the most common type in older children. The main symptoms are:

- an unusually strong pulse
- fever.

Tests

If your doctor thinks that your child has sepsis, he or she will want to do some tests. These might include blood and urine tests, and a chest x-ray.

What treatments work?

If you think your child has sepsis it's vital to get treatment as soon as possible. Get emergency medical help immediately.

Antibiotics

The main treatment for sepsis is antibiotics. These are drugs that kill bacteria. Bacterial infection is the most common cause of sepsis.

Your child will have blood tests to try to find out exactly what has caused the infection. The doctor can then target the infection with the best antibiotics for that particular bacteria. This is because different antibiotics work better for different infections.

But if your doctor thinks that there is a good chance that your child has sepsis, he or she will not wait for test results. After the blood tests your child will be given general antibiotics straight away. The doctor can then change your child's antibiotics, if needed, based on the test results.

Other treatments

Your child will probably need other treatments to give him or her the best chance of recovery. These might include:

- oxygen to help your child breathe regularly
- intravenous (IV) fluids, to make sure your child is not dehydrated
- medicines to raise low blood pressure. This helps make sure that enough blood and oxygen get to your child's organs
- antifungal medicine. Some infections that cause sepsis are caused by fungal infections.

Some children might also need to use a ventilator for a while to help them breathe normally. This involves inserting a breathing tube into the lungs through the mouth. This is called intubation.

What will happen?

If your child has sepsis he or she will need to stay in hospital for about a week, possibly in an intensive care unit (ICU).

Sepsis can be fatal. About 10 in 100 children treated for sepsis will not survive.

Most complications of sepsis, such as organ damage, are temporary. But some children, especially babies, have long-term problems with their nerves. For example, they might have weakness or numbness in their hands or feet.

The nervous system can often repair itself over time. But some children need treatment for these problems.

After your child's treatment is finished, your doctor will want to keep a close eye on his or her health and development.

Sepsis in children

Some children get sepsis several times. This is called recurrent sepsis. If this happens to your child, he or she might need treatment to help prevent sepsis happening again.

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