



Sepsis *and* Children

Sepsis can affect anyone at any time but it does tend to strike more often people at the extremes of life, the very old and the very young. As a result, children, particularly premature babies and infants, can be more susceptible to developing sepsis.

Sometimes incorrectly called blood poisoning, sepsis is the body's often deadly response to infection or injury. Sepsis kills and disables millions and requires early suspicion and rapid treatment for survival.

Once sepsis sets in, if left untreated, it can progress to septic shock and death. Worldwide, one-third of people who develop sepsis die. Many who do survive are left with life-changing effects, such as post-traumatic stress disorder (PTSD), chronic pain and fatigue, organ dysfunction (don't work properly) and/or amputations.

More than 75,000 children in the U.S. develop severe sepsis each year. Almost 7,000 die. This is more than those who die of pediatric cancers. Sepsis in the developing world is even more serious, causing many more pediatric deaths.

Sepsis can occur from unsanitary conditions at birth, maternal infections that are passed on to newborns, or preventable infections, particularly in countries with limited vaccinations and medical care. Like adults, a child can develop sepsis as the result of any type of infection.

Neonatal Sepsis

When a child develops sepsis within a few months of birth (up to 90 days), it is called neonatal sepsis. If the sepsis develops within 24 hours of birth, it is called early-onset and the baby was infected during the

delivery. Sepsis that develops after delivery is called late-onset neonatal sepsis. The risk of early-onset neonatal sepsis is increased if:

- The mother has group B *Streptococcus* infection while pregnant
- The baby is premature
- The mother's membranes rupture (water breaks) more than 24 hours before the baby is delivered

Babies can develop sepsis after birth if they become infected by bacteria, a virus, or a fungus (rare). Certain situations increase the risk of a baby getting sick. They include:

- Being in the hospital for treatment
- Being exposed to people who have contagious infections.

The most common infections that can cause sepsis in babies include:

- Respiratory syncytial virus (RSV)
- Cytomegalovirus (CMV)
- E. Coli
- Candida
- Herpes simplex virus
- *Listeria monocytogenes*

Very young babies and those who have medical problems may not be able to receive childhood vaccines at the recommended times, making them more vulnerable. Many of these childhood diseases can lead to severe complications, such as sepsis. The most common ones are:

- Rubella (German measles)
- Varicella (chicken pox)
- *Haemophilus influenzae* type b (Hib)

Infection

Any open cut or scrape should be cleaned properly and kept clean. We all have bacteria on our skin, but when it gets into the wound, it could cause an infection. A common wound infection is caused by *Staphylococcus* bacteria, or more specifically, the one called *Staphylococcus aureus*.

The bacteria can enter the body through something as simple as a scrape on the knee or elbow, or even from a surgical incision. With the advent of the “superbug” or methicillin-resistant *Staphylococcus aureus* (MRSA), there are some infections that can be much more difficult to treat than others.

Infections can occur in other ways as well. Children, like adults, can develop illnesses such as urinary tract infections, ear infections, pneumonia, even meningitis. Left untreated, these can all lead to sepsis.

COMMON SYMPTOMS

Signs and symptoms of neonatal sepsis include:

- Change in body temperature
- Difficulty breathing
- Diarrhea
- Reduced movements
- Difficulty sucking

In general, signs of sepsis in children include:

- High fever (above 100.4 degrees)
- General illness or a previous injury, such as a scrape or cut
- Shortness of breath or very rapid heart beat
- Drop in or no urine output

People who have survived sepsis often say that they felt the worst they ever felt in their life. For example, they had the worst sore throat of their life, the worst stomach pain, etc. Best rule of thumb? When in doubt, check with your doctor or bring your child to the ER for evaluation.

Remember this rule of thumb for helping identify sepsis symptoms:

- S** – Shivering, fever, or very cold
- E** – Extreme pain or general discomfort (“worst ever”)
- P** – Pale or discolored skin
- S** – Sleepy, difficult to rouse, confused
- I** – “I feel like I might die”
- S** – Short of breath

TREATMENTS

Sepsis needs to be suspected and recognized as quickly as possible. It must be treated fast as every hour that sepsis is not treated increases the risk of death.

Treatment is with IV fluids and antibiotics. Other medications, such as those to raise blood pressure may be needed. If your child is admitted to an intensive care unit (ICU), you may see many machines used to monitor various things, such as body function (heart rate, blood pressure), medications and IV fluids that are being administered, and perhaps a ventilator to help your child breathe.

The key to preventing sepsis is to prevent an infection from occurring in the first place. If an infection does set in, it must be treated as quickly and effectively as possible.

The risk of getting an infection also drops with proper hand washing. Thorough, proper, and frequent hand washing with either soap and water or soapless products decrease the number of pathogens that could enter your body. Infections can also be reduced by proper care of all wounds, even the smallest scrape or cut.

Any infection should be taken seriously. Do not hope it will go away. Action must be taken.

SEPSIS IS A MEDICAL EMERGENCY IF YOU SUSPECT SEPSIS, PLEASE CALL 9-1-1 OR GO TO A HOSPITAL



SEPSIS ALLIANCE

Suspect Sepsis. Save Lives.™

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