



# Septicaemia

**This information sheet from Great Ormond Street Hospital explains the causes, symptoms and treatment of septicaemia and where to get help.**

Septicaemia is another term used to describe blood poisoning. It is an infection caused by large amounts of bacteria entering the bloodstream. It is a potentially life-threatening infection that affects thousands of patients every year. It is often a result of another infection in the body. Bacteria from that infection can enter the blood stream and spread throughout the body. It is a potentially life-threatening infection unless treated promptly.

## What causes septicaemia?

Blood contains millions of white blood cells that fight off infections from bacteria and viruses. These cells are very efficient at fighting infection and will usually keep it under control. For example, when a wound becomes infected white blood cells will destroy the infection and heal the wound.

Sometimes infections can develop that can't be controlled by these cells. This might be because the infection is very bad or because the immune system is weak from another illness. When this happens the bacteria causing the infection can enter the blood stream. Once in the blood, bacteria can be carried to other tissues and organs in the body causing other complications.

Blood poisoning can develop from a simple wound or burn or as a result of a serious illness. It is most likely to occur in older people or in young children because their immune systems are weaker. Children are more at risk if they have recently had surgery or already have a weak immune system.

## What are the signs and symptoms of septicaemia?

When septicaemia occurs, the immune system will immediately try to fight the infection in the bloodstream. This will bring on a number of sudden symptoms as the body fights the bacteria.

These might include:

- high temperature
- extreme tiredness
- violent shivering and chills
- faintness
- pale and clammy skin
- rapid and shallow breathing

The skin may also develop pinpoint bruises (called petechiae) or large purple areas (called purpura), which do not change colour if you roll a glass tumbler over them. This is a common



sign of meningococcal septicaemia, a type of blood poisoning caused by the meningococcus bacteria, which can also cause meningitis.

In severe cases of blood poisoning the proteins and chemicals released in the blood to fight the bacteria can cause the blood vessels to become leaky and loss fluid such that the flow of blood is affected. When the flow of blood is affected this can lower blood pressure and ultimately cause damage to some of the organs like the brain and kidneys. This is called septic shock.

## How is septicaemia normally diagnosed?

Blood poisoning can be life threatening and the child will need to be admitted to hospital as soon as possible. The doctor will aim to discover:

- What infection originally caused the blood poisoning
- What type of infection is in the bloodstream
- How badly the body has been affected

Blood tests will be taken to find out what is causing the infection. Other tests such as x-rays, scans and kidney, liver and heart function tests may be needed to see how badly other parts of the child's body have been affected.

## How is septicaemia normally treated?

If blood poisoning is diagnosed early enough and it hasn't affected the function of any internal organs, it can be treated at home with a course of antibiotics.

If it is a severe case of blood poisoning then the child will stay in hospital and be put on antibiotics intravenously. This is when antibiotics are delivered straight into the bloodstream by a tube in a vein. If possible, the source of infection (for example an infected wound) will also be treated.

In the most serious cases the child may also need medication to treat low blood pressure and be supported by machines to help their organs function properly.

## Can septicaemia be prevented?

There are few things you can do to prevent the risk of infection:

- To reduce the risk of wounds and burns becoming infected, keep them clean and properly dressed.
- Seek treatment for any mouth infections and boils.
- Keep up to date with the child's immunisations. Immunisation can protect people from certain bacteria that can cause septicaemia. In the UK all babies are vaccinated against group C meningococcus and haemophilus as part of their immunisation programme.
- Ensure the child eats a healthy diet and exercises regularly in order to keep their immune system strong.



## **When to ask for medical help about septicaemia**

If the child has an infected wound or you think they have any of the symptoms of blood poisoning, it is important to seek medical help straight away.

## **What happens next?**

If the child has blood poisoning and it is diagnosed and treated quickly they should recover fully without any long-term damage.

With more severe cases of blood poisoning the damage to the child's organs and body tissue may affect them permanently.

In the most severe cases of blood poisoning, when treatment is too late to correct any damage done to the child's body, it can be fatal.

### **Notes**

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