

Simple measures cut sepsis deaths nearly in half

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Sepsis, commonly called blood poisoning, is a common affliction that can affect people of all ages. A series of simple measures tested at a Norwegian hospital can make a difference in successfully treating sepsis.

Researchers were able to cut the number of patients who died from [sepsis](#), or infections that spread to the [bloodstream](#), by 40% (from 12.5% to 7.1%) after the introduction of relatively simple steps at the wards at Levanger Hospital in Nord-Trøndelag, Norway.

The steps, which included increased training and a special observation chart, were introduced as part of a research project carried out by Nord University, Levanger Hospital, and the Mid-Norway Centre for Sepsis Research at the Norwegian University of Science and Technology (NTNU) and St. Olavs Hospital in Trondheim, Norway.

"This study suggests that ward nurses have a key function in increasing the survival for patients with serious infection. The use of cost-effective and clear tools for the identification of sepsis and the scoring of severity in patients as well as a standardised treatment course can achieve this," says Erik Solligård, the senior author of the study and head of the Mid-Norway Centre for Sepsis Research. "These simple steps should be implemented in all Norwegian hospitals."

A serious, potentially fatal problem

According to the Global Sepsis Alliance, a worldwide alliance of health care providers working to increase knowledge about the problem, the majority of sepsis cases are caused by common infections. Pneumonia, urinary tract infections, skin infections like cellulitis and infections in the abdomen (such as appendicitis) can cause sepsis, as well as invasive medical procedures like the insertion of a catheter into a blood vessel. The Alliance says sepsis is the primary cause of death from [infection](#), despite advances in modern medicine like vaccines, antibiotics, and intensive care.

Sepsis is a "common" disease that occurs relatively often and affects individuals of all ages. The illness can quickly evolve from being relatively mild to life-threatening. With a mortality rate of over 10%, sepsis is among the seven most common causes of death in North America and parts of Europe. Mortality increases further for every hour the patient goes without treatment in the form of antibiotics and fluids. It is therefore vital to identify sepsis early and start treatment quickly.

"Sepsis is a very common and serious condition that many people die from," Solligård says. "Patients with lifestyle diseases such as diabetes or cancer are particularly at risk. However, sepsis is not as easy to detect as lifestyle diseases, and it doesn't attract nearly as much attention."

Solligård said rates of sepsis are expected to increase in the future, fueled by the double problem of increasing incidences of lifestyle diseases and antibiotic-resistant bacteria. For that reason, hospitals should have a standardized observation regime so sepsis can be diagnosed early in its progression, and should create clear treatment plans for addressing sepsis, he said.

"We need much more research on sepsis, especially on how the illness can be prevented," he said.

Training and an observation "tool"

In their study, the researchers created a flow-chart for the identification of sepsis and an observation chart with a severity score that nurses at Levanger Hospital could use at the ward (for triage). Doctors who worked in the ward were given written information, whereas nurses and nursing students were given a 4-hour training course, and the treatment course was standardized with clear guidelines for doctors and nurses.

In addition to increasing survival, the use of these measures reduced the development of serious sepsis during hospital stays by 30% and the number of days in intensive care was reduced by an average of 3.7 days per patient, thus making the methods not only life-saving, but simple and cost effective.

The study, Early identification of in-hospital sepsis by ward nurses increases 30-days survival was published in the internationally renowned clinical intensive care journal *Critical Care*.

More information: Malvin Torsvik et al. Early identification of sepsis in hospital inpatients by ward nurses increases 30-day survival, *Critical Care* (2016). [DOI: 10.1186/s13054-016-1423-1](https://doi.org/10.1186/s13054-016-1423-1)

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