



Sepsis: A New Global Health Priority

By Ralph Morris, M.D., M.P.H.

“Sepsis,” according to the [Centers for Disease Control and Prevention](#) (CDC), is “a complication caused by the body’s overwhelming and life-threatening response to infection, which can lead to tissue damage, organ failure, and death.” More commonly known as “blood poisoning,” sepsis strikes “with equal ferocity in resource-poor areas and in the developed world,” according to Dr. Konrad Reinhart, Chairman of the [Global Sepsis Alliance](#). Sepsis is now front and center for the world health community: At a May 2017 [World Health Assembly](#)¹, sepsis was designated a new global health priority and a [resolution](#) was adopted to improve its prevention, diagnosis and management.

Although reliable data is unavailable, globally there are an estimated 31 million cases and some six million deaths from sepsis annually.² Most of those deaths are preventable, however, with early detection and timely treatment with antibiotics. According to one study involving over 2,000 septic shock patients, following the onset of hypotension (abnormally low blood pressure), each hour of delay in administering an antimicrobial was associated with an average decrease

Know the signs and symptoms of sepsis.

- Shivering, fever, or very cold
- Extreme pain or discomfort
- Clammy or sweaty skin
- Confusion or disorientation
- Short of breath
- High heart rate

If suspected, get medical care immediately.

SOURCE: CDC Vital Signs, August 2016 #VitalSigns

Vital^{CDC}signs™

<http://www.cdc.gov/vitalsigns/sepsis>



¹ The World Health Assembly is the decision-making body of the World Health Organization.

² Fleischmann, C. et al., (2016). Assessment of Global Incidence and Mortality of Hospital-treated Sepsis. Current Estimates and Limitations, *American Journal of Respiratory and Critical Care Medicine*, v. 193, No. 3. On line, available: <http://www.atsjournals.org/doi/10.1164/rccm.201504-0781OC>

in survival of 7.6%.³ A [Perspective in the New England Journal of Medicine](#) by Dr. Reinhart and others notes, “The progression from infection to sepsis can be insidious and is unpredictable.”⁴

Difficult to Diagnose

The signs and symptoms of sepsis are represented in the CDC poster above. In its early stages, sepsis is difficult to diagnose because many of the signs and symptoms match those for other conditions. A combination of two of these symptoms should be sufficient to suspect sepsis.

Anyone can develop sepsis from an infection, but it is most common in people aged 65 years old or older, children under the age of one and people with weakened immune systems or chronic medical conditions, such as diabetes.

Prevention

Preventing sepsis starts with preventing infection through:

- Appropriate [hand hygiene](#)
- Access to vaccinations
- Access to clean water, sanitation and hygiene
- Proper disinfection of wounds with iodine, hydrogen peroxide or sodium hypochlorite (see, for example, [Vibrio Infection: Rare, but Worth Knowing About](#))
- Clean childbirth and surgical practices
- Increased awareness of sepsis among the public and the medical community so that asking the question, “Could this be sepsis?” becomes more routine

Why are sepsis cases on the rise?

According to the [Global Sepsis Alliance](#), sepsis cases may be on the rise due to a combination of potential factors, including:

- ✓ Poor socioeconomic conditions
- ✓ Increased awareness and tracking of the condition
- ✓ An aging population with more chronic diseases
- ✓ An upsurge in major surgical interventions and invasive procedures
- ✓ Broader use of immunosuppressive and chemotherapeutic agents
- ✓ The spread of antibiotic-resistant organisms

Sepsis has been called “one of the oldest and most elusive syndromes in medicine,”⁵ and it remains largely unknown to the public. Meanwhile, there are indications that sepsis is on the rise in the US where hospital admissions for the condition have overtaken those for heart attack and stroke⁶. Sepsis also causes or contributes to half of all deaths in US hospitals and is a leading cause of annual hospital

³ Kumar, A. et al. (2006). Duration of hypotension before initiation of effective antimicrobial therapy is the critical determinant of survival in human septic shock, *Critical Care Medicine*. On line, available: <https://www.ncbi.nlm.nih.gov/pubmed/16625125>

⁴ Reinhart, K. et al., (June 28, 2017). Perspective: Recognizing Sepsis as a Global Health Priority — A WHO Resolution, *New England Journal of Medicine*. On line, available: <http://www.nejm.org/doi/full/10.1056/NEJMp1707170>

⁵ Angus, D.C, van der Poll, T. (2013). Severe sepsis and septic shock. *New England Journal of Medicine*. On line, available: <http://www.nejm.org/doi/full/10.1056/NEJMra1208623#t=article>.

⁶ Fleischmann, C. et al. *op. cit.*

costs. Improvements are needed so that healthcare providers everywhere can better define and code the disease to enable reliable global statistical data.

As Dr. Reinhart and his colleagues note, the World Health Assembly resolution on sepsis has the potential to save millions of lives. We agree and look forward to measurable progress in the struggle to control this subtle killer.

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