



Sepsis and Cancer Fact Sheet

Definition: Sepsis is a life-threatening emergency that happens when your body's response to an infection damages vital organs and, often, causes death.

Who it Hurts: While sepsis is an equal-opportunity killer, impacting the sick, the well, and people of all ages, some groups are more likely to be affected. These include very young children, older adults, those with a weakened immune system, racial and ethnic minorities, and lower income individuals and families.

Prevention: The risk of sepsis can be reduced by preventing or quickly identifying and managing infections. This includes practicing good hygiene, staying current with vaccinations, and seeking treatment when infections are suspected.

Treatment: Sepsis is a medical emergency that requires urgent attention and rapid treatment for survival. Sepsis can be treated and, in many instances, lives are saved by using existing and proven protocols.

Recovery: Many people fully recover from sepsis while others may have long-lasting effects, such as amputations or organ dysfunction, like kidney failure. Other after-effects of sepsis are less obvious, such as memory loss, anxiety, or depression.

Symptoms: When it comes to sepsis, remember *It's About TIME™*:

- T – Temperature** - higher or lower than normal
- I - Infection** – may have signs or symptoms of infection
- M – Mental Decline** - confused, sleepy, difficult to rouse
- E – Extremely Ill** – severe pain, discomfort, shortness of breath

If you **suspect sepsis** (observe a combination of these symptoms), see your medical professional immediately, CALL 911, or go to a hospital with an advocate and say, **“I AM CONCERNED ABOUT SEPSIS.”**

Critical Facts

Infection and Sepsis Risk in Cancer Patients

- The risk of developing sepsis is increased 10 times by the presence of any type of cancer.¹
- Cancer patients are at increased risk of lower respiratory tract, intra-abdominal, fungal, and anaerobic infections.² A recent French study of breast cancer patients found that sepsis was the leading cause of admission to the ICU.³
- Sepsis can be caused by any type of infection, including a viral infection, and is commonly associated with severe COVID-19. COVID-19 patients with cancer are 30% more likely to develop sepsis than those without cancer.⁴

- In a study of hospital discharge data from six states, cancer patients had 3-5 times the incidence of severe sepsis as did patients who did not have cancer. There were 16.4 cases per 1,000 people with cancer.⁵
- The risk of sepsis among African American and other nonwhite cancer patients is elevated by 28% and 47%, respectively, as compared to white cancer patients.¹
- The incidence of severe sepsis in cancer patients is not related to how old patients are. However, in patients who do not have cancer, the incidence of sepsis does increase with age.⁵
- The rate of severe sepsis in cancer patients varies with the type of cancer. The rate of severe sepsis in patients with hematologic (blood) tumors is almost 9 times higher than the rate in patients with solid tumors, such as colon cancer or breast cancer.⁵
- The likelihood of developing severe sepsis is 1.8 times higher for patients with solid tumors and 15 times higher for patients with hematologic tumors compared to the risk for patients who do not have cancer.⁵
- Cancer survivors have more than double the risk of developing sepsis compared to patients without a history of cancer.⁶

Mortality Risk in Cancer Patients with Sepsis

- Severe sepsis is associated with nearly 10% of all cancer deaths.⁵
- A large U.S. study showed that in-hospital death rates for sepsis in cancer patients are higher than in patients who don't have cancer. In-hospital sepsis death rates in cancer patients were 27.9% as compared to 19.5% in non-cancer-related sepsis.⁷
- Another study found that a severe sepsis diagnosis in cancer patients carries a 52% higher hospital mortality rate (37.8%) than in non-cancer patients (24.9%).⁵
- In one study of ICU patients in Europe, patients with hematologic tumors had considerably higher severe sepsis death rates (42-58%) than patients who did not have cancer (18-23%). Patients with solid tumors had severe sepsis death rates that were close to those of patients who did not have cancer.⁸
- Hospital length of stay and hospital costs are nearly 3 times higher in cancer patients with severe sepsis than in those without severe sepsis.⁵
- The readmission rate 30 days after hospitalization is higher after a cancer-related sepsis admission (23.2%) than a non-cancer related sepsis admission (20.1%).⁷
- Sepsis-related mortality rates in cancer patients are improving. A recent study reported a mortality rate of 26% in sepsis patients with cancer based on data from 2014, a reduction from the mortality rate of 31% in this population in 2003.⁹

Cancer in Sepsis Patients

- More than 1 in 5 sepsis hospitalizations is cancer-related.⁷
- People with sepsis often have other illnesses, and cancer is one of the most common ones.^{10, 11}

- Cancer is present, on average, in 15% to 20% of all sepsis patients.^{10, 11}

Pediatric Facts

- Severe sepsis death rates are higher in pediatric cancer patients than in patients without cancer of similar ages.⁵
- An oncology study found that 16% of pediatric cancer patients (age 21 or below) with febrile neutropenia (fever and abnormally low count of white blood cells) were also diagnosed with sepsis. Sepsis in these patients more than doubled the length of hospital stay and resulted in a 10 times higher risk of death.¹²

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References

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