



Sepsis and Children Fact Sheet

Overview: Sepsis is a leading cause of death for children in the U.S., taking more young lives than childhood cancers.¹ More than 18 children die from sepsis each day in the U.S.¹ and many of those lives could be saved with improved public awareness of sepsis symptoms and expanded health provider education.

Prevention: The risk of sepsis can be reduced by preventing infections: practicing good hygiene, staying current with vaccinations, using antibiotics as prescribed, and treating open skin wounds.

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

Symptoms: Sepsis symptoms can be different for children compared with adults and include a combination of the following:

- Skin abnormally cold to touch
- Bluish or very pale skin
- Fever
- Rash that does not fade when pressed on
- Very fast or rapid breathing
- Seizures
- Lethargy or difficulty waking up
- Drop in or no urine output

Additionally, for infants, symptoms may include:

- Not drinking or feeding
- Repeated vomiting
- Dry diaper

If you **suspect sepsis** (you observe two or more of these symptoms), particularly if there has been a recent illness or injury, contact/see your medical professional immediately, CALL 911, or take your child to a hospital and say, "I AM CONCERNED ABOUT SEPSIS."

Global Burden of Sepsis in Children

- Sepsis affects more than 25 million children every year, representing over half of all sepsis case worldwide.²
- More than 80% of all pediatric sepsis cases and 40% of all sepsis cases occur in children under 5 years of age (20.3 million cases).²
- Globally, sepsis is the leading cause of death of children, taking nearly 3.4 million lives each year.^{2,3} Approximately 85% of pediatric sepsis deaths occur in children under age 5.²

Critical Facts

• Every day, more than 200 children are diagnosed with severe sepsis in the U.S. This is more than 75,000 cases in the U.S. per year.¹

- Mortality rates are high: each year, as many as 9% of children hospitalized with sepsis die in the U.S. (6,800 children or more than 18 on an average day).¹ That is more children than are lost to childhood cancers.⁴
- More than 68% of children admitted to the hospital for sepsis have one or more chronic illnesses.⁵
- As many as 8% of pediatric sepsis cases may be missed during emergency department visits ⁶

Life After Sepsis

- Survival from sepsis can be very challenging, with many children requiring amputations.⁷ Many more experience a decrease in cognitive and physical function, with 34% of pediatric sepsis survivors (more than 1 in 3) still showing a decline in their functional status at 28 days after hospital discharge.⁸
- Among pediatric sepsis survivors, almost one-third (31%) are discharged from the hospital with some disability, including cognitive or physical impairments, skin graft, amputation, or hearing loss.⁹
- More than 20% of child sepsis survivors are readmitted to the hospital within three months of the initial hospitalization.⁵
- More than half of the readmissions among children who were hospitalized for sepsis are related to recurring sepsis or infection.⁵
- Among children who survive hospitalization for sepsis, nearly one-quarter experience a decrease in health-related quality of life. More than half of children surviving septic shock have lower healthrelated quality of life even after leaving the hospital,¹¹ and as many as 35% fail to return to their previous quality of life one year later.¹⁰
- Immunocompromised children and children who require longer hospital stays are less likely to return to their previous quality of life after hospitalization than other children hospitalized for sepsis.¹¹

Economic Cost

- Caring for children with sepsis in hospitals is expensive and is estimated at \$7.3 billion nationally each year, accounting for 18% of all pediatric hospitalization costs.¹²
- The median cost of acute care per sepsis hospitalization (\$26,592) is nearly 12 times the median cost per hospitalization for other conditions in the U.S.¹²
- The cost of hospitalizing children for sepsis increased almost 25% between 2005 and 2016, after adjusting for inflation.¹²
- The average cost of a readmission after a sepsis hospitalization for a child is \$7,385, which is 27% more than a non-sepsis readmission.¹³
- The average length of stay for sepsis patients is 31.5 days, which is nearly 8 times longer than the average stay for other childhood conditions. 14

Pediatric Sepsis Disparities

- Preterm infants who are Black are more than twice as likely to develop sepsis and are more likely to die than non-Black infants.¹⁵
- Black children are 30% more likely than white children to develop sepsis after surgery.
- Infants from lower income families are 20% more likely to die from sepsis. 17

- Infants from families without health insurance are 3 times more likely to die from sepsis. 17
- Children with severe sepsis or septic shock with public insurance are more likely to die than children with private or other types of insurance.¹⁸
- Children with severe sepsis or septic shock who are Black or Hispanic are more likely to die than non-Hispanic white children.¹⁸

To find out more please visit sepsis.org/sepsisand/children

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https://www.sepsis.org/education/resources/fact-sheets/

Sources

1 Hartman ME, et al. Pediatr Crit Care Med. 2013;14(7):686-693.

https://www.ncbi.nlm.nih.gov/pubmed/23897242

2 Rudd KE, et al. Lancet. 2020 https://www.ncbi.nlm.nih.gov/pubmed/31954465

3 Kisson N, and Carapetis J. J Infect. 2015;71 Suppl 1:S21-26.

https://www.journalofinfection.com/article/S0163-4453(15)00109-7/fulltext

4 Cancer in Children and Adolescents. *National Cancer Institute*. Retrieved 3/31/20.

https://www.cancer.gov/types/childhood-cancers/child-adolescent-cancers-fact-sheet

5 Prout AJ, et al. J Pediatr. 2018;199:194-199. https://www.ncbi.nlm.nih.gov/pubmed/29753542

6 Cifra CL, et al. Diagnosis. 2020. https://www.ncbi.nlm.nih.gov/pubmed/32191624

7 Carlton EF, Donnelly JP, Hensley MK, Cornell TT, Prescott HC. *Crit Care Med.* 2020;10.1097. https://pubmed.ncbi.nlm.nih.gov/32108704/

8 Farris RW, et al. Pediatr Crit Care Med. 2013;14(9):835-842. https://www.ncbi.nlm.nih.gov/pubmed/24108117

9 Boeddha NP, et al. Crit Care. 2018;22(1):143. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5984383/

10 Zimmerman JJ, et al. Crit Care Med. 2020;48(3):329-337. https://pubmed.ncbi.nlm.nih.gov/32058370/

11 Killien EY, et al. Pediatr Crit Care Med. 2019;20(6):501-509. https://www.ncbi.nlm.nih.gov/pubmed/30720672

12 Carlton EF, et al. JAMA Pediatr. 2019;173(10):986-987.

https://jamanetwork.com/journals/jamapediatrics/article-abstract/2748380

13 Prout AJ, et al. *Hosp Pediatr.* 2019;9(4):249-255.

https://hosppeds.aappublications.org/content/early/2019/02/28/hpeds.2018-0175

14 Weiss AJ and Elixhauser A. HCUP Statistical Brief #180. 2014. https://www.hcup-

us.ahrq.gov/reports/statbriefs/sb180-Hospitalizations-United-States-2012.pdf

15 Weston EJ, et al. Pediatr Infect Dis J. 2011;30(11):937-941.

https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3193564/

16 Nafiu, OO, et al. Pediatrics. 2020;146(2):e20194113.

https://pediatrics.aappublications.org/content/146/2/e20194113

17 Bohanan FJ, et al. Pediatr Infect Dis J. 2017.

https://www.ncbi.nlm.nih.gov/pubmed/29189608

18 Odetola FO and Gebremariam A. J Intensive Care Medicine. 2019.

https://www.ncbi.nlm.nih.gov/pubmed/31707898