

# Study shows nearly one-third of extremely premature infants develops late-onset sepsis

November 11 2022

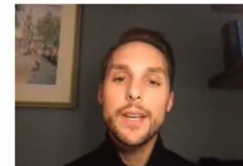
## Background

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- **Late-onset sepsis (LOS) is a significant cause of morbidity and mortality among very preterm infants**
- **Typically defined as culture-confirmed infection of blood and/or spinal fluid >3 days after birth**
- **Epidemiology of LOS is changing over time and drives empiric antibiotic decisions**



Stoll, *Pediatrics*, 2002. Greenberg, *PIDJ*, 2017.



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Credit: *Pediatrics* (2022). DOI: 10.1542/peds.2022-058813

Nearly one-third of very premature infants develop late-onset sepsis, a life-threatening infection that occurs more than three days after birth, according to new research from Children's Hospital of Philadelphia (CHOP), in collaboration with the Vermont Oxford Network. The study, published today in *Pediatrics*, also found that 1 in 2 infants born at 23 weeks or earlier either died and/or developed the infection.

"Late-onset sepsis is associated with a greater chance of death or, for those who survive, technology-dependent chronic illness," said first author Dustin D. Flannery, DO, MSCE, an attending neonatologist at Children's Hospital of Philadelphia and Assistant Professor of Pediatrics at the University of Pennsylvania.

The researchers analyzed a large national sample of very preterm infants born at Vermont Oxford Network centers. Infants who died in the first 3 days after [birth](#) were excluded from the study. Of 118,650 infants included in the study, 10,501 (8.9%) developed late-onset sepsis.

The researchers identified 34 pathogens causing late-onset sepsis, the most common being coagulase negative staphylococci (29%) and *Staphylococcus aureus* (23%). Infected infants were less likely to survive, and those who did had increased risks of requiring home oxygen, tracheostomy, and gastrostomy. One in 2 [infants](#) born 23 weeks or earlier either died later and/or developed the infection.

"These results shine a light on a current challenge in our field: despite successful, coordinated national prevention efforts, infection rates have plateaued in recent years," Dr. Flannery said. "As [resuscitation](#) at the limit of viability increases, we must identify innovative ways to improve late-onset sepsis prevention in order to improve outcomes for these patients."

**More information:** Dustin D. Flannery et al, Late-Onset Sepsis Among Very Preterm Infants, *Pediatrics* (2022). [DOI: 10.1542/peds.2022-058813](https://doi.org/10.1542/peds.2022-058813)

Provided by Children's Hospital of Philadelphia

Citation: Study shows nearly one-third of extremely premature infants develops late-onset sepsis (2022, November 11) retrieved 20 November 2023 from <https://medicalxpress.com/news/2022-11-one-third-extremely-premature-infants-late-onset.html>

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