

## Erythropoietin did not protect extremely preterm infants

March 24, 2020

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**Article type:** [Health Briefs](#)

**Topics:** [Fetus/Newborn Infant](#)

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- Juul SE, et al. *N Engl J Med.* 2020;382:233-243, <http://bit.ly/39fyVkw>.

Treating extremely preterm infants with high-dose erythropoietin did not lower their rates of death or severe impairment, researchers found.

Extremely preterm infants — those born before 28 weeks — are at high risk of developing major impairments, and previous studies have found the hormone erythropoietin can protect infants from brain injury.

Researchers studied its effectiveness and safety in 941 infants born at 24 through 27 weeks' gestation who were randomized to receive either erythropoietin or a placebo within 24 hours of birth.

They received 1,000 U per kilogram of body weight every 48 hours for six doses. Then they dropped down to 400 U per kilogram subcutaneously three times a week through 32 weeks.

About 13% of the erythropoietin group and 11% of the placebo group died. By age 2, roughly 11% of the erythropoietin group and 14% of the placebo group had severe cerebral palsy or a composite motor or cognitive score below 70 on the Bayley Scales of Infant and Toddler Development, third edition.

"We speculate that the contributing factors to neurologic dysfunction are heterogeneous and that the targets that are responsive to erythropoietin may be diluted by pathways not affected by erythropoietin, particularly in the most premature infants," authors wrote.

The erythropoietin and placebo groups had similar rates of adverse events such as retinopathy of prematurity, necrotizing enterocolitis, intracranial hemorrhage, bronchopulmonary dysplasia and patent ductus arteriosus, according to the study.

Authors noted their findings don't align with previous studies. Their study was larger and the infants they analyzed were born earlier. Other studies also used different doses of erythropoietin.

Author Sandra E. Juul, M.D., Ph.D., said in a news release she was surprised and disappointed by the results, and the team plans to continue following the infants.

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