

## **MEDICAL BREAKTHROUGHS** **RESEARCH SUMMARY**

TOPIC:        SAVING SAM: NEC IN PREEMIES  
REPORT:       **MB #5103**

**BACKGROUND:** Premature birth is the number one cause in death of babies in the USA. Babies who survive premature births are at risk for long-term health issues such as cerebral palsy, chronic lung disease and even hearing loss. While the preterm birth rate declined in 2020 by one percent, race and ethnic differences in preterm birth rates remained the same with the rate of preterm birth in Black women about fifty percent higher than the rate of preterm births in Hispanic and white women. Necrotizing enterocolitis (NEC) is a gastrointestinal problem that can lead to death in premature babies. In some cases, NEC is mild while other cases are life threatening.

(Source: <https://www.marchofdimes.org/mission/prematurity-campaign.aspx#:~:text=In%20the%20United%20States%2C%20about,babies%20is%20born%20too%20soon>.  
<https://www.cdc.gov/reproductivehealth/maternalinfanthealth/pretermbirth.htm>  
<https://my.clevelandclinic.org/health/diseases/10026-necrotizing-enterocolitis#:~:text=Diagnosis%20and%20Tests&text=Blood%20tests%3A%20A%20blood%20test,the%20intestine%20or%20abdominal%20cavity.>)

**DIAGNOSING:** NEC can be confirmed in an X-ray if an abnormal gas pattern shows up. It looks like a bubbly or streaky appearance of gas in the walls of the intestines. In more severe cases, air can escape from the intestines and shows up in the veins of the liver or the abdominal cavity and a doctor may need to insert a needle into the stomach to withdraw the fluid to see if there is a hole in the intestine.

(Source: <https://kidshealth.org/en/parents/nec.html> )

**NEW TREATMENT ON THE HORIZON?:** Currently, there are no targeted treatments for NEC because the causes of the condition are not known. Researchers at Lurie Children's Hospital of Chicago have identified key players in the disease which could lead to a treatment. Building on their previous work which found that decreased development of tiny blood vessels in the intestines contributes to NEC, the researchers discovered that macrophages, a type of white blood cell, play a critical role in this process. They also show that a growth hormone called insulin-like growth factor-1 (IGF-1), which macrophages produce, stimulates microvascular development in the intestine.

(<https://www.sciencedaily.com/releases/2022/04/220406101704.htm>)

**FOR MORE INFORMATION ON THIS REPORT, PLEASE CONTACT:**

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**If this story or any other Ivanhoe story has impacted your life or prompted you or someone you know to seek or change treatments, please let us know by contacting Marjorie Bekaert Thomas at [mthomas@ivanhoe.com](mailto:mthomas@ivanhoe.com)**