

Bacteria in the cervix may be key to understanding premature birth

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Depending on the specific type, bacteria in a woman's vagina and cervix may increase the risk of premature birth or protect against it, according to new research from the Perelman School of Medicine at the University of Pennsylvania. Results of the study provide groundbreaking information that the authors suggest could help physicians learn how to prevent preterm birth, either by eliminating the "bad" bacteria, or increasing the "protective" bacteria. The study was presented this week at the Society of Maternal Fetal Medicine's 37th Annual Pregnancy Meeting in Las Vegas, and received the March of Dimes Award for Best Abstract on Prematurity.

Premature birth (before 37 weeks of pregnancy) is the #1 killer of babies in the United States and the leading cause of death in children under age 5 around the world. Babies who survive an early birth often face serious and lifelong health problems, including breathing problems, jaundice, vision loss, cerebral palsy and intellectual delays. In addition to the human toll, preterm birth accounts for more than \$26 billion annually in avoidable medical and societal costs, according to the National Academy of Medicine.

"For the first time in 8 years, the number of pre-term babies in the United States actually increased in 2016, and unfortunately, there are underlying causes that doctors still don't understand," said lead author Michal Elovitz, MD, a professor Obstetrics & Gynecology at the Perelman School of Medicine at the University of Pennsylvania, director of the Maternal and Child Health Research Center at Penn, and a co-

investigator for the March of Dimes' Prematurity Research Center at the University of Pennsylvania. "Decoding the causes of prematurity has been a riddle that's stumped researchers and clinicians for years, but our new study is finally shedding some light on a path toward offering treatment to women we can identify as being at-risk."

In the study, researchers examined vaginal swabs from a sample of 2,000 pregnant women, taken at three distinct points in pregnancy, to determine the microbial colonies that were present. Analysis showed that among the many specific types of bacteria, some - such as certain bifidobacterium and lactobacillus species - actually lowered the risk of spontaneous [preterm birth](#), while others - specifically several [anaerobic bacteria](#) - significantly increased the risk.

Elovitz says the new findings are the result of a multidisciplinary team of experts from immunology and microbiology, who came together and took a new approach to the issue, examining the cervix and vagina instead of limiting the scope of their study to the uterus, as conventional wisdom would suggest. The authors say more research is needed to confirm the findings, but if proven, it could mean treatments targeting "bad" cervical bacteria, or replenishing the "good" [bacteria](#) could be used to prevent [premature birth](#) in the immediate future.

Provided by Perelman School of Medicine at the University of Pennsylvania

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