

Prevention is key research goal for premature babies, scientists say

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Family history, infection and stress all may play a role in raising a woman's risk of having a premature baby - but they don't fully explain why some women give birth too soon and others don't, according to a review article published today in the *New England Journal of Medicine*.

Only if scientists of all disciplines work together and share information - databases, biological samples and new perspectives - will the research community be able to determine how to prevent spontaneous [preterm birth](#) and spare babies from the serious consequences of an early birth, according to "The Enigma of Spontaneous Preterm Birth," by Louis Muglia, MD, PhD, of Vanderbilt University Medical Center and Michael Katz, MD, senior vice president for Research and Global Program at the March Dimes.

Premature birth is a leading cause of infant death in the United States, and only about half of these deaths have a known cause, Drs. Muglia and Katz note.

More than 543,000 babies are born too soon each year in the United States. Worldwide, about 13 million babies are born prematurely each year. Babies who survive an early birth face serious risks of lifelong health problems, including learning disabilities, cerebral palsy, blindness, hearing loss and other chronic conditions.

Medical problems, such as preeclampsia, which is extremely [high blood pressure](#) in the mother, or fetal distress, do not fully explain the increase

of induced deliveries, which often result in late preterm births, birth between 32 and 36 weeks gestation.

"The decision to induce delivery in order to improve fetal viability must be balanced by recognition of the need to minimize the impairments that arise from preterm birth," the authors wrote. "Making this decision will remain a challenge for practitioners, because inducing delivery - by whatever method - before full term has adverse consequences for the newborn, even when it happens close to term."

Family history of preterm birth, stress, race, infection, inflammation and genetics do appear to play a role. One of every three preterm births occurs to a mother who has an infection in her uterus, but may have no symptoms. Recent research has shown that the genes of the mother seem to make the greatest contribution to preterm birth risk, and genes in the fetus may also play a role.

The [New England Journal of Medicine](#) review article is a summary of a three-day symposium held in December 2008, entitled "Preventing Prematurity: Establishing a Network for Innovation and Discovery." It was cosponsored by the Burroughs Wellcome Fund and the March of Dimes and brought together the top investigators in preterm birth prevention research.

The authors note in their article that technological advances allow clinicians to save premature infants from death and some complications by treating the consequences of prematurity. However, "prevention is what is needed, and current research is being directed toward reaching this goal," the authors wrote.

More information: The article was published in the Feb. 11, 2010, issue of the New England Journal of Medicine, Vol. 362, No. 6, pages 529-35.

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