

# Preemies may have higher risk of blood clots, even as adults

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Odds are small, but family, doctors should keep possibility in mind, researchers say.

(HealthDay)—Babies born prematurely appear to have a slightly increased risk of potentially fatal blood clots that they will carry into adulthood, Swedish researchers report.

Doctors have previously suspected that babies born earlier than 37 weeks' gestation have a raised risk of deep [vein thrombosis](#) and pulmonary embolism, two serious conditions caused by blood clotting in the veins, the researchers noted in background information.

This new study confirms that link, and takes it even further. Premature birth appears to be linked to an increased chance of blood clots in the veins in childhood and early adulthood, according to findings published online July 28 in the journal *Pediatrics*.

The researchers also reported that a baby's chances of blood clot-related illnesses are directly related to the degree of prematurity. "The more premature, the higher the risk," said Dr. Edward McCabe, chief medical officer of the March of Dimes. A full-term pregnancy lasts from 39 to 40 weeks.

While parents and doctors should keep this risk in mind, they should also be aware that the risk is not huge, said Dr. Kristi Watterberg, chair of the American Academy of Pediatrics' committee on the fetus and newborn. Watterberg and McCabe were not involved with the study.

The association between premature birth and clot risk seen in the study does not prove a cause-and-effect relationship.

The study involved 3.5 million babies born in Sweden between 1973 and 2008, including almost 207,000 born preterm. Out of all the births, only about 7,500 children—0.2 percent—suffered either [deep vein thrombosis](#) or pulmonary embolism later in life.

"I think it's important scientifically to know, but it's such a low incidence phenomenon that there are a lot of things to think about before that," said Watterberg, a professor of pediatrics and neonatology at the University of New Mexico School of Medicine.

Deep vein thrombosis involves blood clots that form in a vein deep in the body. If these clots aren't treated and dissolved, they can break off and travel through the bloodstream to the lungs, causing a blockage called a [pulmonary embolism](#). Such a blockage can be deadly.

For the study, Dr. Bengt Zoller, of the Center for Primary Health Care Research at Lund University in Malmo, Sweden, and colleagues used records from the Swedish Birth Registry to track the babies' health. The researchers found that premature babies had an increased risk of blood

clots in their veins in infancy, but also from ages 1 to 5 and from 18 to 38.

Very preterm births—before 34 weeks of gestation—also had a risk of blood clot-related illness in adolescence, from age 13 to 17.

Boys had an increased risk of blood clots in infancy, while girls were more likely to carry the risk into adolescence and adulthood, the study authors reported.

No one knows why this increased risk exists, but it could be due to genetic factors that caused the mother to deliver prematurely in the first place, Watterberg and McCabe said.

Diseases such as diabetes, thyroid problems and obesity are genetic in nature and can cause [preterm delivery](#), McCabe said.

Also, some mothers who suffer a genetic deficiency in a key protein that controls blood clotting may be predisposed to give birth prematurely, Watterberg said.

"It may be that maternal genetics are a setup for preterm delivery, and those problems are passed along to the infant," she said.

The mother's wellness and lifestyle also play a role in a baby's lifelong health, and could influence their risk of blood clots, McCabe said.

Finally, this link might arise because the babies are born prematurely, and are robbed of maternal hormones and nutrition in the womb that could have decreased their future risk of [blood clots](#).

"We are not as good at getting nutrition into those babies as the mother and placenta are, and we do know that hormones have something to do

with the predisposition to clotting," Watterberg said. "It makes sense to me you'd have changes in those long-term outcomes as well."

In any case, it is something for the family and doctor of a person born prematurely to keep in mind, McCabe said.

"If a patient has a history of preterm birth, and the more preterm, the more attention it needs to have," he said. "It helps us be better prepared. If a patient comes in with unusual findings, this provides us some clue."

**More information:** For more on deep vein thrombosis and pulmonary embolism, visit the [U.S. Centers for Disease Control and Prevention](#).

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