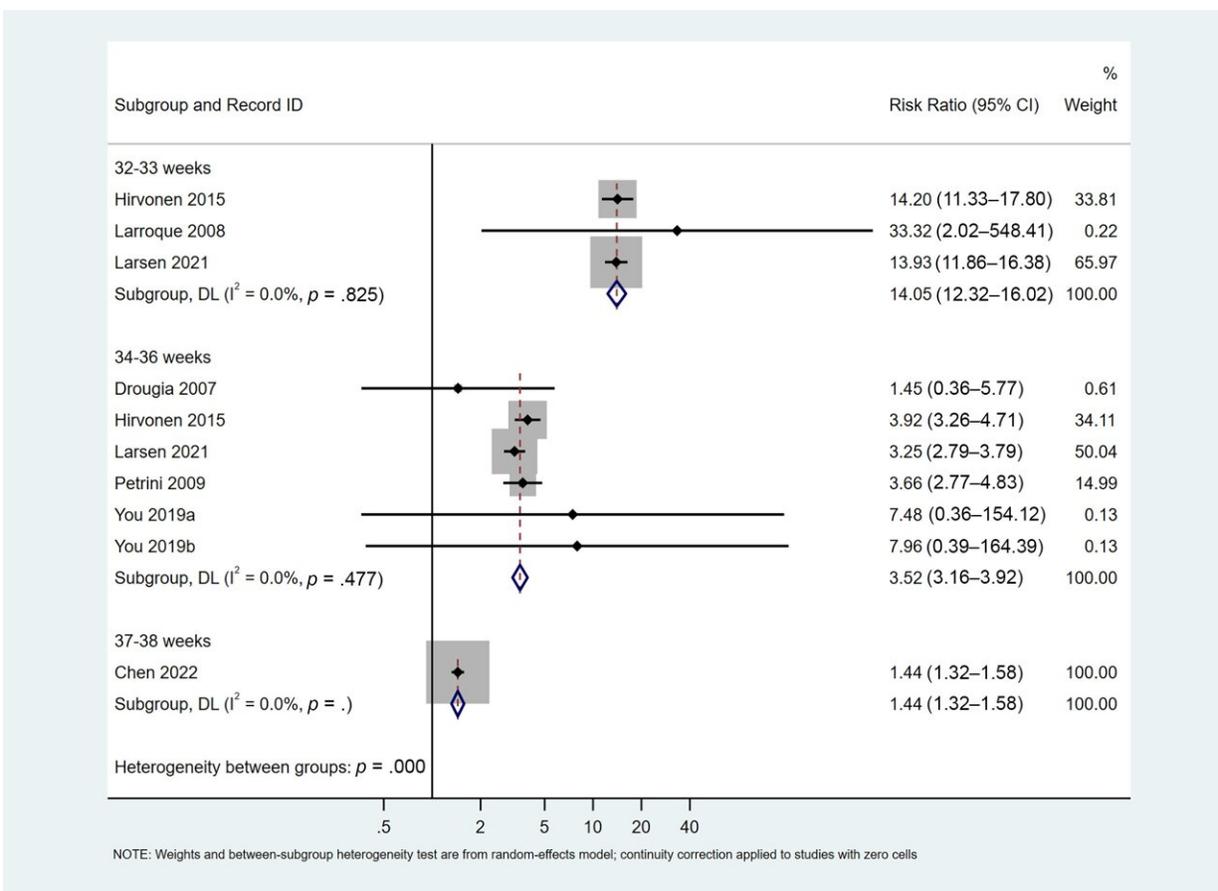


# Children born moderately early are at an increased risk of developmental disorders, meta-analysis finds

December 7 2023, by Shelley Hughes



Relative risk of cerebral palsy by gestational age. Credit: *Pediatrics* (2023). DOI: 10.1542/peds.2023-061878

Children born between 32 and 38 weeks' gestation are more likely to have developmental disorders—such as language delay, cognitive impairment, ADHD and Cerebral palsy—compared with children born at full term, according to a major new study.

While many of the increased risks are small, because around seven percent of babies in the UK are born moderately preterm each year, they could have significant consequences at the [population level](#), the authors of the National Institute of Health and Care Research (NIHR) study said.

For the study, researchers at the Universities of York, Leeds, and Leicester examined data from more than 75 studies from around the world, which involved a total of over eight million children.

Compared with children born at full term, the study identified an increased risk of most developmental disorders. While risks decreased with each week of gestation, there was still evidence of a small increase in the risk of several developmental disorders, such as cerebral palsy, [developmental delay](#), and cognitive impairment, even when children were born "early term," between 37-38 weeks.

One of the most common disorders was language delay, which affected 222 per 1,000 children born between 32-36 weeks, compared with 47 per 1,000 for full-term children. Many children face low educational attainment during the primary school years, affecting 300 per 1,000 children born moderately preterm, compared to 160 per 1,000 children born at full term.

While the risk of [cerebral palsy](#) is relatively low for all children, the results of the study suggest it is 14 times higher for infants born at 32 to 33 weeks compared with children born at full term.

The review also found that difficulties faced by children born at 32 to 38

weeks persist through childhood, with evidence of increased risk and prevalence of [cognitive impairment](#) and low educational achievement persisting into the high school years.

Lead author of the study, Dr. Katherine Pettinger from the Department of Health Sciences at the University of York, said, "It is important to remember that while our study shows an increase in risk for children born moderately early relative to their peers born at full term, many children will not experience any developmental problems."

"The reasons behind our findings are not yet clear, but babies born just a few weeks early have different brain maturation to full-term children, and it is possible that birth between 32 and 38 weeks' gestation may disrupt the evolution of neural connections, potentially contributing to a developmental disorder."

"Many babies that are born moderately preterm are delivered early for very good reasons, for example, when the mother has a [health condition](#) such as preeclampsia. However, understanding the long-term implications of birth before [full-term](#) may influence obstetric decision-making in some cases."

"It is also vital that all health care professionals, and particularly pediatricians, are well informed of the potential consequences of preterm birth so that they can give evidence-based information to families and so opportunities for early intervention are not missed. "

According to current [guidelines](#) from the National Institute for Health and Care Excellence (NICE) children should be monitored up until the age of two if they were born before the age of 30 weeks.

The researchers do not recommend that all children born between 32 and 38 weeks gestation should also receive multiple routine health

appointments as many will not show any signs of developmental disorders, and this would place significant strain on NHS services.

However, the researchers are calling for more communication between schools, parents, and health professionals and better support for teachers.

Dr. Pettinger added, "The data tells us the effects of being just a few weeks early are still there at primary school age. It, therefore, makes sense for teachers to be informed if they have students who are born preterm and early term and receive training on how to support them."

"Further research is now needed to look at large-scale population studies to explore how incidents of developmental disorders relate to gestational age and see if the patterns we observed in the present study are replicated. We also want to look at whether children are commonly affected by more than one disorder, as understanding which conditions are likely to co-occur can help to produce more tailored interventions for children."

The findings are [published](#) in the journal *Pediatrics*.

**More information:** Katherine J. Pettinger et al, Risk of Developmental Disorders in Children Born at 32 to 38 Weeks' Gestation: A Meta-Analysis, *Pediatrics* (2023). [DOI: 10.1542/peds.2023-061878](https://doi.org/10.1542/peds.2023-061878)

Provided by University of York

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