Today’s piece was prepared by Erica Gadizk, MS-4 based on Time Magazine story [Weak Brain Connections May Link Premature Birth and Later Disorders](http://www.npr.org/sections/health-shots/2015/10/19/450012150/weak-brain-connections-may-link-premature-birth-and-later-disorders).

This article discusses recent data which suggests a link between premature birth and an increased risk for later developing autism, ADHD, and emotional disorders. Two MRI-based studies are described, both comparing MRI imaging of premature vs. full-term infants (one conducted prenatally, one postnatally near due date). Researchers found differences in the white matter tracts of children born early, particularly in those networks regulating attention, communication, and emotion, with the greatest differences evident in the frontal-parietal network. The NPR article provides a broad summary of the studies’ results, mentioning several challenges in interpreting and utilizing these data, including not assuming causality (both premature birth and altered brain connections may be triggered by stress, illness, or exposure to toxins).

One must consider that while the data may bring scientists closer to understanding a mechanism for sequelae of prematurity, we still have a long way to go before being able to apply this knowledge to prevent premature infants from developing autism, ADHD, or other emotional disorders. Also, the NPR article fails to mention a key challenge to interpreting the data. While the MRI imaging captures a moment in time, there were no longitudinal data, making it impossible to link “weakened networks” on MRI to actual diagnostic outcomes. Notably, the researchers will follow these children until 9 or 10 years of age, obtaining additional imaging along the way.

**RESOURCES ON RISK FACTORS FOR AUTISM:**

 CDC: Study to Explore Early Development (SEED)

*Largest US study to identify risk factors for ASD and other developmental disabilities.*

[Prenatal Risk Factors for Autism](http://www.ncbi.nlm.nih.gov/pmc/articles/PMC3712619/)

*Meta-analysis of 40 studies examining the association between pregnancy related factors and autism.*

And that’s today’s Developmental & Behavioral Pediatrics: IN THE NEWS!