

## Maternal Influences On Fetal Neurodevelopment Clinical And Research Aspects

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### Maternal Influences On Fetal Neurodevelopment

Maternal obesity during pregnancy is associated with increased adiposity and cardiometabolic risk factors in adult offspring . Maternal obesity is also associated with impaired neurodevelopment and executive functioning [19,20] and with adverse neuropsychiatric outcomes in children , including Attention Deficit Hyperactivity Disorder (ADHD) and Autism Spectrum Disorder (ASD) [22,23].

### Maternal influences on fetal brain development: The role ...

Maternal Influences on Fetal Neurodevelopment: Clinical and Research Aspects advances the field by discussing a wide range of issues impacting several neurodevelopmental disorders. These include ADHD, autism, schizophrenia, bipolar disorder and obsessive-compulsive disorder.

### Maternal Influences on Fetal Neurodevelopment | SpringerLink

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### Maternal Influences on Fetal Neurodevelopment - Clinical ...

Here we investigate how depletion and selective reconstitution of the maternal gut microbiome influences fetal neurodevelopment in mice. Embryos from antibiotic-treated and germ-free dams exhibited reduced brain expression of genes related to axonogenesis, deficient thalamocortical axons and impaired outgrowth of thalamic axons in response to cell-extrinsic factors.

### The maternal microbiome modulates fetal neurodevelopment ...

Maternal Influences on Fetal Neurodevelopment | SpringerLink An adverse intra-uterine environment can affect fetal neurodevelopment either through direct effects and/or maternal signals, or indirectly as a consequence of preterm birth, which is

### Maternal Influences On Fetal Neurodevelopment Clinical And ...

Maternal Influences on Fetal Neurodevelopment Book Review: Novel Approaches into the Origins of Neurodevelopmental Disorders: The Fetal Physiology Foundation Over the past two decades, autism, a neurodevelopmental disorder that is defined by behavior and was once believed to be rare, became recognized in increasing numbers of children and recently received distinction as an “epidemic” [1].

### Maternal Influences On Fetal Neurodevelopment ebook PDF ...

Abstract. An adverse maternal hormonal environment during pregnancy can be associated with abnormal brain growth. Subtle changes in fetal brain development have been observed even for maternal hormone levels within the currently accepted physiologic ranges. In this review, we provide an update of the research data on maternal hormonal impact on ...

### Maternal hormonal milieu influence on fetal brain development

Subtle changes in fetal brain development have been observed even for maternal hormone levels within the currently accepted physiologic ranges. In this review, we provide an update of the research data on maternal hormonal impact on fetal neurodevelopment, giving particular emphasis to thyroid hormones and glucocorticoids.

### Maternal hormonal milieu influence on fetal brain ...

Patrick J, Campbell K, Carmichael L, Probert C (1982) Influence of maternal heart rate and gross fetal body movements on the daily pattern of fetal heart rate near term. Am J Obstet Gynecol 144:533-538 PubMed Google Scholar

### Maternal Influences on the Developing Fetus | SpringerLink

The Impact of Preconception and Prenatal Maternal Nutrition on Fetal Neurodevelopment. Maternal undernutrition is common in some settings, such as South Asia, where >10% of women have a BMI <18. 16 This undernutrition is associated with high rates of intrauterine growth restriction (IUGR), low birth weight (LBW), and infants born small for gestational age.

### Neurodevelopment: The Impact of Nutrition and Inflammation ...

Of value to practitioners and researchers in the areas of pediatric neurology, obstetrics and gynecology, fetal physiology, neuroscience, genetics, developmental medicine, perinatology, toxicology and developmental psychology, Maternal Influences on Fetal Neurodevelopment: Clinical and Research Aspects joins together research from various disciplines and demonstrates interrelated and common ...

### Maternal Influences on Fetal Neurodevelopment: Clinical ...

fetal thyroid secretion, human data show that maternal transfer still represents about 30%–60% of fetal serum T4 and continues to have an important protective role in fetal neurodevelopment until birth (Morreale de Escobar et al., 2004b; Vulsma, Gons, & de Vijlder, 1989). The majority of thyroid hormone actions in brain development are

### Maternal hormonal milieu influence on fetal brain development

However, it is unclear whether the maternal gut microbiome influences neurodevelopment during critical prenatal periods and in the absence of environmental challenges. Here we investigate how...

### **The maternal microbiome modulates fetal neurodevelopment ...**

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### **The maternal microbiome modulates fetal neurodevelopment ...**

Even before birth, maternal psychosocial stress effects can be detected in indices of fetal neurodevelopment such as greater fetal heart rate (FHR) reactivity to stimuli, overall reduced heart rate variability, diminished habituation to stimuli, and differences in newborn amygdala volume and resting-state functional connectivity (15 ↓ ↓ ↓ ↓ ↓ ↓ -22).

### **Maternal prenatal stress phenotypes associate with fetal ...**

We present novel methods for isolating fetal neuronal exosomes from maternal plasma as a noninvasive platform for testing aspects of fetal neurodevelopment as early as the 1st trimester. Our methodology represents an important breakthrough both in understanding mechanisms of injury in vivo in a human system and potentially for monitoring clinical interventions seeking to promote fetal brain ...

### **Novel window on early human neurodevelopment via fetal ...**

While the maternal gut microbiota has been associated with abnormalities in the brain function and behavior of offspring — often in response to factors like infection, a high-fat diet or stress during pregnancy — scientists had not known until now whether it influenced brain development during critical prenatal periods and in the absence of such environmental challenges.

### **Guts and brains: How microbes in a mother's intestines ...**

To assess for potential critical windows of fetal neurodevelopment, the researchers look at whether the anemia was first recorded at  $\leq 30$  weeks or  $> 30$  weeks. They also compared risk of ASD, ADHD, and ID diagnoses in siblings exposed to anemia versus nonexposed siblings, with adjustment for factors such as sex, birth year, and interpregnancy interval.

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