

PREMATURITY



What is premature birth?

A premature baby is born too early, before 37 weeks gestation. About half a million babies are born prematurely in the US every year. Many premature infants require special care in a neonatal intensive care unit (NICU). As NICU care and medical technology improves, more and more premature infants are surviving. However, the earlier a child is born, the higher the risk for long-term health and developmental problems.

What types of health problems are associated with prematurity?

Prematurity can affect every part of a child's body. The following are some common complications of prematurity:

- **Anemia:** decreased red blood cells
- **Apnea:** periodic pauses in breathing >20 seconds
- **Bradycardia :** episodes of low heart rate, often associated with apnea
- **Bronchopulmonary dysplasia (BPD):** a lung condition associated with prematurity and long-term use of breathing machines
- **Infection:** infections of the lungs, blood, and brain are common because of poor immune system function
- **Intraventricular hemorrhage (IVH):** a bleeding in and around the ventricles (fluid reservoirs) in the brain
- **Jaundice:** yellowing of the skin due to liver immaturity
- **Necrotizing enterocolitis (NEC):** a type of intestinal problem
- **Patent Ductus Arteriosus (PDA)** a heart problem that can affect blood flow
- **Respiratory Distress Syndrome (RDS):** a breathing problem
- **Retinopathy of Prematurity (ROP):** a problem with blood vessels in the eye that can affect vision

Prematurity can also lead to long term health and developmental issues. It is very important that the growth and development of a child born prematurely be closely monitored by their pediatrician. Neurological and developmental issues associated with prematurity can range from very mild to severe, and can include:

- Motor delays and coordination problems
- Speech delays
- Intellectual impairment
- Learning disabilities
- Sensory processing disorders
- Impairments in social functioning

- Behavior problems, including ADHD
- Cerebral Palsy
- Seizures

How can prematurity affect my child's brain?

Yes. Premature birth can have both immediate and long-term effects on brain structure and function. As newborns, premature infants are at risk for brain injuries (such as bleeding, stroke, and injury to brain cells due to low oxygen levels) and infection of the brain and surrounding tissues. During childhood, children born prematurely have a higher risk of developmental delays, learning problems, and behavioral issues than their peers. Outcomes vary widely from child to child.

How can a neurologist help my premature child?

While a neurologist is unable to reverse the neurological or developmental effects of premature birth, they can help assess and monitor the effects of prematurity on your child's nervous system. They may also help evaluate your child's developmental progress and recommend appropriate interventions.

The role a neurologist will play in the care of a child born prematurely varies greatly, depending on the child's unique situation. For instance, some children who have brain injury associated with prematurity may need to be evaluated and treated for cerebral palsy, a problem with stiffness and coordination in the body. Other children may need to be monitored for speech or motor delays, learning problems, or behavioral issues. Your neurologist will recommend a care plan for your child based on their specific needs. Your child may be referred to other specialists or therapists for further evaluation or treatment of developmental problems.

Many children born prematurely can be cared for by a pediatrician, and do not require long-term follow-up with a neurologist. Others may have significant neurological impairments requiring regular visits to the neurology clinic. Please discuss specific concerns regarding your child's health and development with your pediatrician and neurology provider.

References and Resources:

- <http://www.marchofdimes.com/baby/premature-babies.aspx>
- <http://www.marchofdimes.com/baby/long-term-health-effects-of-premature-birth.aspx>
- <http://www.cdc.gov/features/prematurebirth/>
- <http://www.cdc.gov/reproductivehealth/maternalinfanthealth/PretermBirth.htm>
- <http://kidshealth.org/parent/growth/growing/preemies.html#>

