

Preconception and Early Child Development

Little Things Make a Big Difference

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Preconception is the time before conception to plan a pregnancy. During this time, evaluate and make changes to your lifestyle and diet that can both help increase your chances of getting pregnant and birthing a healthy baby.

The Beginning

Taking a quality prenatal vitamin is important for any woman of child bearing age. Often, by the time a new mother discovers a pregnancy and starts taking prenatal vitamins, it is 4 to 5 weeks into the pregnancy or later. Taking folic acid before the baby's conception is critically important because at 4 weeks of embryonic development spinal cord and other brain defects can be already present in the developing embryo, if the mother is deficient of this simple B vitamin,

At 8 weeks of gestation the auditory nerve begins to develop in the growing baby. Taking supplemental fish oils, flax oils and lecithin during pregnancy helps the baby's brain development and actually adds a minimum of 5 IQ points to the child later in life. These Essential Fatty Acids help form the myelin in the brain and central nervous system. Myelin is the protective sheath that covers communicating neurons in the brain and it is composed of 30% protein and 70% fat.

At 25 weeks the fetus is able to remember sounds. Both supplemental choline and vitamin C in fetal development affect the hippocampus of the brain where memory centers are housed. In studies where vitamin C is excluded from the diets of pregnant Guinea Pigs, the consequent offsprings have underdeveloped hippocampuses in the brain. In the pathology of cognitive dysfunction, Alzheimer's disease and epilepsy, the hippocampus represents one of the first brain regions to suffer damage.

When choline was fed to pregnant rats, their offspring showed significantly better memory in maze tests than rats whose mothers were not fed choline. Nutrition Science News October 1997, Lecithin and Choline Redeemed

At 30 weeks of development inside the womb, the brain is gaining an astounding 250,000 cells a minute. This puts a huge demand on the mother's body to supply the nourishment for proper brain development. If our diets were perfect and our food completely organic and nutritious we could receive all the components we need for growing healthy babies simply through our diets. But because there is a growing lack of vital nutrients in our food supply we need to supplement our diets to fill in the nutritional gap.

The Child: Birth to 6 Years

A child is born with about 100 billion brain cells which is the most brain cells the child will ever have throughout life! These 100 billion cells grow about 100 trillion connections, most of which connections occur in the first 6 years of life. So the greatest time throughout life to influence brain development is from conception to 6 years of age.

The fact is that a child's brain grows to nearly full adult size between birth and 6 years of age. This is mostly due to the formation of connections and pathways that are produced as the brain wires and

develops. The brain is approximately 60% fat and the myelin is responsible for the bulk of brain size. The baby receives the basic building blocks of myelin as Essential Fatty Acids from the mother's breast milk. The mother's body will actually deplete her natural supply of Essential Fatty Acids to deliver them to the baby. The mother's nutritional status has a direct impact on the baby's brain development because of this. Cow's milk is not even close in comparison to the Essential Fatty Acids found in the human breast milk and cannot supply the amount critical for healthy brain development.

Breast feeding has proven to add up to 8 IQ points to child by the age of 4 according to the Indian Journal of Pediatrics Volume 72 March 2005.

The Final Product

The child's brain develops in a predictable timetable and order, giving us a model of how a brain and central nervous system should develop. This model is called neurodevelopment.

After the proper building materials are supplied to the child the rest of development becomes a product of the environment. Every child is a product of the input they receive through the receptive functions of sight, hearing and touch. Receptive functions determine the expressive - or output - functions of mobility, manual skills and language in the child.

The way the child takes in auditory, visual and tactile information and where they process and store it in the brain will determine the expressive function of all aspects of the child. If there are aberrations in the receptive functions such as sensory integration problems or missed development levels the child will not relate appropriately to sight, sounds and touch. Speech and language development, academic skills, social skills and motor skills will suffer from these sensory integration problems.

Processing skills are how many sequences a child can take into the brain, process, store, and finally recall in the original order presented. If the child has low processing skills the child will struggle with concepts and behave developmentally according to the level of processing abilities neurologically. For instance, if a ten year old child processes on the level of a five year old they will behave like a five year old and relate to children younger than they are rather than their peers. This child will often display bully tendencies as adaptive function when relating to his peers.

"You cannot expect organized function from a disorganized brain!"

Organized brains are more efficient than the disorganized ones. Brain organization has a lot to do with hemispheric brain dominance. The naturally right handed child should also prefer a dominant right ear, eye and foot. Conversely, the left handed child should prefer the left ear, eye and foot. Attempts to switch handedness in the developing child can severely disorganize the brain. The organized brain needs to express a dominance of either; complete right hand, ear, eye and foot; or complete left hand, ear, eye and foot for optimal brain function.

Putting it All Together

We should never accept any child's developmental inefficiencies as a limitation. There are answers available to those seeking them. The child does not fail. *We* fail the child. Because there are no child failures, we as parents should shoulder the responsibility of child development and never hide behind the excuse of a diagnosis like ADHD, Autism or even Down Syndrome. We cannot rely solely on our taxed educational system for early intervention, when - as parents - there are things we should be doing ourselves. Day care workers are now the front line defense for early child development in

America because the day care worker often has 3 to 4 times the amount of contact with the child than the parent.

After all, who is ultimately responsible for your child's development? Every child is born a potential genius and it is up to the parent to provide all the necessary opportunities for child development.

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