

## **The Importance of Motor Development in Infancy and Beyond**

The more a brain cell is stimulated the more it will increase in size and the better it works. How often, how intensely and over what period of time the brain is stimulated will determine this.

The connections between brain cells are the key to both brain development and physical growth. One cannot occur without the other.

After birth the brain will grow from the lower, least complex areas to the higher most complex areas. At first only basic life functions such as breathing, heart rate and metabolism are present, followed by more complex activities as the brain matures.

Because gravity is always acting on the body and we are always forced to resist it, the amount of time it stimulates the brain is greater than any other form of sensory input.

Repeated muscle activity is the single most important element in brain development. The ability to use muscle control and balance is the greatest stimulus for brain growth.

If a child is not exposed to the proper stimulation at the right time or if the sensory pathway is too weak brain cells miss their chance to connect. This causes a slow down in development of that brain area as well as the other areas associated with it.

The brain is dependent on the body to provide the stimulation necessary for growth as much as the body is dependent on the brain to signal the muscles to move. And just as the muscles of the body develop with exercise, so do the cells of the brain. The more activity they get the more they grow in size and density.

The quality and quantity of movement of all the joints and muscles are directly related to the quality and quantity of the functional capacity of the brain. If children do not use their bodies appropriately their brains will not develop appropriately either.

Unequal use and imbalance in body movement causes the activities of the left and right sides of the brain to differ as well. Over time this discrepancy can affect the ability of the brain to share and integrate information.

This disconnection can be reflected as clumsiness, poor timing and rhythm, poor posture and an awkward gait. Proper use of the eyes can also be affected. These children are often late with early milestones. Fine motor function can also be observed and is evidenced by poor handwriting as they get older.

These children will also have associated cognitive, behavioral and psycho-emotional signs and will differ depending on whether the left or right side of the brain is predominantly involved.

It is possible though using a series of specifically targeted sensory, motor and cognitive activities to gradually integrate and achieve balance with the brain.

Proper motor development is not only important for its own sake but because it is the foundation for the development of higher brain functions.

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