



Structural Factors in Developmental Delay and Learning Difficulty

The Cranio-sacral system

Our central nervous system is the main controlling system for our body. It is composed of our brain, brainstem and spinal cord. These structures are completely enclosed by a membrane which is filled with clear fluid called cerebrospinal fluid. This fluid provides nutrition and protection to the central nervous system. It is a separate fluid system as the surrounding membrane isolates it from the other fluids of the body. The outer layer of this membrane, the dura mater, attaches at its uppermost end to the inside of our skull. It surrounds our brain, brainstem and spinal cord and attaches at its lowermost end to our tailbone.

The cerebrospinal fluid must be circulated, but unlike our blood it does not have a heart to pump it around. It is circulated mainly by the rhythmic movement of our cranial (skull) bones at the top and the movement of our sacrum (in the middle rear of our pelvis) at the bottom and joined by the dura mater between. This movement synchronises with our breathing. Cerebrospinal fluid is being produced all the time in the ventricles of our brain and the cranio-sacral pump is the main circulation system for this fluid.

All but the most recent anatomy books teach that the cranium is immobile at least in the adult but researches have shown that it is quite mobile and that

its movement is actually essential to life. Natural health practitioners have been correcting the movement of the cranium and sacrum since early last century with much benefit to their clients.

Cranio sacral correction is the major part of structural correction which assists developmental delay and learning difficulty.

Cranial or sacral correction is mostly gentle holding on a particular place or places on the skull or pelvis in a specific direction, often on a specific phase of breathing. This helps to restore the normal membrane-bone relationship and cranio-sacral movement. This in turn helps to normalize central nervous system function.

If the cranio-sacral system is not functioning correctly, many symptoms can occur. Basically, as the central nervous system is involved, almost anything can be prevented from functioning at its best. Headaches, muscular imbalance, hormonal dysfunction, developmental delay and learning disability are common problems.

Some examples:

Muscles which control the directional movement of the eyes attach to the cranium. Often looking sideways left or right will cause muscular weakening and mental confusion until the cranium is

corrected. Imagine trying to read if at the end of each line, your body suffers from weakness and confusion!
Another problem arising from cranial dysfunction is neurological disorganization - swapping left for right, right for wrong, transposing the sequence of numbers or letters, etc.

Structural correction, especially correction of the cranio-sacral system, can be likened to fixing the "hardware" of a computer. It does not necessarily mean that the unit then functions perfectly, for there is also the "software" to consider. Thus a chiropractor is only one of a team which includes Behavioural Optometrists, Neurodevelopmental Assessors, Reflex Therapists, Sound Therapists, Medical Practitioners, Nutritionists, Occupational therapists, Speech therapists, Psychologists, Educationalists, etc.

Applied kinesiology

This is used as a major tool in diagnosis. In kinesiological testing the client's own body responses are used to assess what needs to be corrected and to some extent, how to correct it. This means we are working in harmony with the body, not making assumptions about it. Muscle tests are not used to determine simple strength but to assess the client's neurological status. The muscle tests are performed in conjunction with physical, neurological or chemical challenge which allows detailed analysis of a broad range of body functions and systems. Retesting the muscle

response after structural or other correction is used to assess the success of correction. Kinesiological tests are not the only tests used. Diagnosis includes many classical and alternative diagnostic methods.

Recent advances

In the mid 90s some exciting new directions in cranial assessment and correction have been developed. These newly developed corrections assist in the integration of retained primitive reflexes. Primitive reflexes are very important for the newborn baby but need to be integrated into higher neurological function during the first year of life. If a reflex persists beyond the normal age of inhibition it becomes an automatic and therefore uncontrollable reaction which disturbs perception, behaviour, learning and general health. Integration of inappropriately retained primitive reflexes is essential in treatment of behavioural problems and learning disability.

Finding correctable "hardware" problems which facilitate the integration of retained primitive reflexes has been an exciting advance.

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