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Efficiency in Movement through Ideokinesis (The Sweigard Method)

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Perusing Dr. Sweigard's writings on movement education leads to one conclusion: that her life-long quest was to define and delineate the ultimate conditions which foster optimum movement efficiency and to devise an educational procedure by which these conditions can be attained. She viewed movement efficiency as the frugal expenditure of energy to obtain a desired result and established as its prime requisite a well-balanced skeletal alignment, one that approaches mechanical balance. The pursuit of efficiency in movement is not a spurious diversion because it provides us with the necessary substrate for the development of our ultimate capacity for movement not as an ephemeral quality but rather as an intrinsic enduring quality.

Humans stand and move in the upright position. This position, though it provides us an immense range of movement, is structurally unstable. This is because of the design and structure of the skeleton—the skeleton cannot stand on its own two feet—and because the elevated location of the centre of gravity, affords only unstable equilibrium. At best the balance in the upright position is precarious and fleeting so that the structure as a whole can be in mechanical balance for only infinitesimally short periods of time. Therefore, the upright position is ever dynamic and never static.

Inherently we possess one of the most beautifully designed, harmoniously and synchronously coordinated mechanisms to cope most efficiently and effectively with both balance and movement problems. However, some of us seem to have lost some of the use of these mechanisms by tampering with their performance. It seems that irrespective of our innate ability to cope with the problem of stability and to perform movement in its complete protean complexity, we often either fail to achieve the desired goals or else do so at the cost of undue strains, stresses and premature debilitation. These failures are best attributed to the inefficient use of abuse of all mechanisms particpating in movement.

The Sweigard method attacks the problem of inefficiency in movement through neuro-muscular recoordination for better balance and concomitantly greater freedom of movement. The method completely precludes the use of any and all so-

called fitness exercises and relies entirely on ideokinesis as a means of working toward better structural balance. In her book *Human Movement Potential—Its Ideokinetic Facilitation*, she defines ideokinesis as follows:

> Kinesis is motion, here defined as physical movement induced by stimulation of muscles and characterized by qualitative and quantitative positional changes of the skeletal parts—the levers of movement. *Ideo*, the idea, the sole stimulator of the process, is defined as a concept developed through empirical processes. It is the idea, the concept of the movement, that is the voluntary act and is the sole voluntary component of all movement (Sweigard, 1974).

The early stimulus to pursue this approach to movement education came through the teachings of Todd (1929; 1968). Todd had her students imagine movement within their bodies as if it were occurring in a specific location and direction without giving any voluntary muscular help. She arrived at this method as a solution to some personal health problems and found the technique useful in the alleviation of postural strains and stresses. She defined the process as psycho-physical or psycho-physiological. Sweigard defined the process originally as psycho-motor or psycho-somatic and late in her career chose the term ideokinesis as being the most precise for the operant conditions of the process.

From the terminology applied to the method it is obvious that the process concerns itself with the role of the nervous system in the production of movement. The early, broad, all-encompassing labels, while giving the method a semblance of scientific respectability, also made it vulnerable to the labels of cultism and quackery. The more recent work elucidating the functioning of the nervous system should go a long way, however, in dispelling some of the lingering doubts regarding the validity of the original concept of this work. Particularly important is the better understanding of the inherent plasticity of the nervous system, the biofeedback mechanisms, and the sensory motor control, especially that of the muscle spindles.

The nervous system is inherently plastic. It is capable of change in synaptic activity and this can be initiated through training (Horn, Rose and Bateson, 1973). Biofeedback is an integral part of neuromuscular coordination. It is essential to all voluntary movement, because it cannot be regulated by efferent impulses alone (Luria, 1970). The most refined sensory-motor control is provided by the muscle spindles. The spindles are normally thought of as simply stretch recorders. However, because of their structure, the length of the striated terminal ends can be set by impulses arriving via the gamma fibres and thus establish the level of sensitivity for the spindle. It is a unique situation where a motor output, that of the gamma fibre neurons, is devoted to the regulation of the sensory input rather than to the production of movement (Granit, 1970).

The first attempts to obtain experimental evidence for the claims of Todd for postural realignment through what we now call ideokinesis were done by Sweigard.

The study covered a span of two years and involved 200 subjects, each exposed to the teaching method for one semester. The study was not published. Each subject was taught how to practice ideokinesis designed to favor improvement in postural alignment. Duplicate measurements were taken of each subject at the beginning and end of the experiment. These measurements were surface measurements of skeletal relationships and alignment. The study was *not* subjected to statistical analysis although the data were gathered with the necessary precautions, nor did the study include the necessary controls. The study was, therefore, in the nature of an exploratory study and in this respect it supplied extremely useful source material for the development of a meaningful teaching procedure. There were a number of changes in skeletal relationships which were common in the majority of subjects. Among the commonly observed changes were a more slender figure, increased standing and sitting height, better balanced head and pelvis, and realignment of the spinal column. Because these changes recurred in essentially all subjects they were considered to have been the result of the educational procedure and it was concluded that the improvement in symmetrical alignment through ideokinesis is feasible.

The utility of this study, however, did not end with the above finding; it also supplied invaluable information regarding the organization of the concept of ideokinesis into a standardized educational procedure applicable to the general population. Ideokinesis works through concentrating on the image of a movement, starting at a specific location within the body and moving in a specific direction without applying any voluntary muscle force. The direction corresponds to the resultant of the contractile forces of all the muscles involved in and contributing to the progress of the imagined movement in the projected direction without having been voluntarily selected. Sweigard has identified nine such specific directions for images which appear to be universally suitable for attaining more symmetrical alignment and concomitantly better balance. She calls them "The Nine Lines of Movement."

The concept of the line of movement provides a convenient vehicle for imagined movement because it identifies only the location and direction of the movement. The following lines of movement have been identified as having universal utility and as being effective in neuromuscular recoordination beyond their own immediate line of activity:

> (1) to lengthen the spine downward; (2) to shorten the distance between the midfront of the pelvis and the twelfth thoracic vertebra; (3) to lengthen or decrease (depending on need) the distance between the top of the sternum to the top of the spine; (4) to narrow the rib cage; (5) to widen across the back of the pelvis; (6) to narrow across the front of the pelvis; (7) to align the centre of the knee with the centre of the femoral joint; (8) to reduce the inside length of the feet, from the big toe to the heel; (9) to lengthen the central axis of the trunk upward.

Whereas the first research study concerned itself entirely with the effects of a [illegible] teaching procedure on postural alignment, the second study (Sweigard, 1939) took aim at examining the patterns of deviations from symmetrical skeletal alignment prevalent in the general population. This was an x-ray study and involved approximately 500 subjects. Measurements were taken for key skeletal points using a vertical line through the center top of the sacrum as the reference line. Horizontal, diagonal and vertical distances from the reference line were taken. The data were subjected to rigid statistical analysis not only for the degree of significance in the deviation, but also for the reliability of any correlations among the deviation found.

The study showed that deviations from symmetrical alignment are commonplace. The correlation and interrelationship among deviations was statistically significant in the pelvic area to a degree that it is possible to reliably and accurately predict the compensatory changes in structural alignment in response to the deviation of an arbitrarily selected reference point in the pelvic area. It should be noted, however, that compensatory changes in the alignment of the lumbar spine are occasionally the direct opposite of the expected. The coefficient of correlation between the pattern of deviation in the pelvic area and the pattern of deviation in the upper torso was too low to be significant. This is probably due in part to the fact that the upright position is dynamic and subject to continual sway which is longest at the apex.

The location and patterns of skeletal asymmetry as determined from x-ray photographs were finally compared with the patterns of muscle tonus throughout the same area. The tonus was determined by palpation (see Sweigard, 1939). The location of hypertonic muscles could be correlated with the location of the skeletal deviation, muscle always working to overcome the imbalancing effect of the deviation. The degree of hypertonicity was indicative of the severity of the deviation. The correlation was so good that it is possible for a skillled person to reliably predict th[illegible]atterns of skeletal deviation from the pattern of disproportionate muscle development. And the reverse is likewise possible. When we relate the findings of this study to efficiency in movement we can conclude the following:

In the average person skeletal alignment fails to meet the criteria for a well balanced structure and for this reason efficiency in movement is partially impaired. Muscles which are continually engaged to counteract the effects of poor structural alignment become hypertonic and thus lose their suppleness and tend to restrict movement. Consequently increased muscle work is needed to overcome the restriction caused by hypertonicity. The net result is a complex cumulative deleterious effect on the efficiency and range of movement with which the well balanced structure is intrinsically endowed.

It appears then that if we wish to work toward greater movement efficiency and concomitantly greater effectiveness, we must work toward an alignment of the skeletal structure that approaches mechanical balance and also work toward the release of

muscle hypertonicity that has been pressed into service to keep the structure upright. It is this very hypertonicity that makes skeletal realignment for better balance so difficult since it actually tends to accentuate the deviation.

In all work dealing with movement education and, in this particular case with skeletal realignment, one must remember that a person's movement patterns have become so ingrained and so individual-specific that the challenge of learning the performance of a new movement automatically calls into action established habit patterns.

Each one of us is blessed or cursed with individual-specific habit patterns which exert the primary influence on the performance of any new movement. When eventually a group has been trained to perform in unison, one cannot conclude that each member renders the effect of the movement to the same degree of efficiency. Some will fall by the wayside sooner than others, because they perform less efficiently. In order to achieve better skeletal alignment and concomitantly greater efficiency, established habit patterns must be changed. This is possible because the nervous system is inherently plastic. It is capable of long lasting and specific changes as a result of experience.

To produce the desired changes Sweigard recommends the use of the principle of ideokinesis which precludes all voluntary muscle work and thus bypasses the established habit patterns. The only control over movement in ideokinesis that is voluntary is the image of the movement. In this manner the feedback from the sensory organs is not derailed by habitual patterns.

The position in which ideokinesis is initially practiced is rather important. It is a position where the body is in equilibrium and where the only force acting on it is gravity. It requires no established habit patterns for its maintenance. The position is identified as the constructive rest position.

The subject assumes a supine position on a hard surface. The thigh and knee joints are bent, the knee-bend being approximately 90 degrees. The feet point straight ahead, and femoral, knee, and ankle joints are in a straight line. The arms are folded across the chest. For beginners the position is often uncomfortable; this is caused by the tension in hypertonic muscles and disappears with release of tension.

Ideokinesis is practiced in this position by concentrating on imagined movement as though it were actually occurring. The imagined movement must be of such nature and in such location and direction as to promote the desired change. To derive the full benefits inherent in the practice of ideokinesis requires intense concentration on the image of the movement. No frivolous or dilatory mental activity will achieve the desired result. But even with concentrated mental effort proprioceptive cues to help identify both location and direction may be needed. These cues are given through slight manual pressures and must be very specific in both direction and location to be effective.

Once the practice of ideokinesis becomes habitual it can be applied successfully during the performance of actual movement with salutary effects on both freedom and efficiency of movement.

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