



KINESTHETIC REEDUCATION:

WHAT IT CAN OFFER THE BEHAVIORAL OPTOMETRIST

■ Ingrid Lorch Bacci, Ph.D.

ABSTRACT

The kinesthetic and visual senses are interdependent, and kinesthetic reeducation can support more accurate and effective vision. This paper presents basic principles and specific techniques of kinesthetic reeducation. A patient's inefficiencies of movement derive from an inaccurate awareness of one's body in space and improvement comes with the growth of self awareness. Procedures to improve the patient's kinesthetic sense help the patient to explore the subjective experiences which correspond to more global kinesthetic awareness. Kinesthetic reeducation can therefore provide a useful adjunct to techniques used by behavioral optometrists. It can also provide potential insights for the development of further vision enhancement procedures.

KEY WORDS

kinesthetic reeducation, behavioral optometry, Alexander technique, global awareness, sensory training, visualization, perception, kinesthetic integration

The kinesthetic and the visual senses are closely related and build upon each other. The kinesthetic sense verifies or disconfirms information that vision conveys about distances when we reach out for a book on a shelf, serve a tennis ball over a net or walk down a flight of stairs. The mutual feedback loop between vision and the body's experience of space constantly corrects small errors of judgment and enhances the accuracy of each of these senses. However, as they can support each other's efficiency, vision and kinesthesia can also promote each other's inefficiency. If, for example, spatial perception is distorted as the result of a visual dysfunction, kinesthetic accuracy can be adversely affected. And if a person habitually holds his limbs fairly rigidly, this will frequently promote a fixed way of looking and seeing. Kinesthetic reeducation which enhances the efficiency of the patient's movement can frequently support more accurate and effective vision in its broadest sense.

This paper presents both basic principles and specific techniques of kinesthetic reeducation. I believe that this knowledge can be of value in the practice of behavioral optometry. The techniques to be described have been applied successfully in individual and group performance

training sessions, in kinesthetic reeducation classes, and in group and individual stress management classes. I developed the techniques on the basis of extensive training in the Alexander technique.

The Alexander technique is a form of movement reeducation developed by Frederick Mathias Alexander.^{1,2,3} It is widely used in this country as a method for enhancing the quality of actors', dancers' and musicians' performance. The technique has also been applied as a tool for reducing or eliminating pain related to poor spinal alignment and inefficient muscular use.^{4,5,6} Understanding some of the basic principles of the Alexander technique will help the reader to appreciate the rationale of the procedures described later in this paper. These basic principles will also enable the reader to develop his or her own specific techniques suited to the presenting complaints of patients.

BASIC PRINCIPLES

The first principle of kinesthetic reeducation is that inefficient or dysfunctional movement is a result of a patient's "debauched kinesthesia." Few of us move as well as we might. Consequently, many suffer to some extent from debauched kinesthesia, or from an inaccurate awareness of our body in space. This means that

our kinesthetic sense masks our own bodily inefficiencies. For example, we may think we are standing straight when we are actually slightly stooped or twisted, or have our neck tilted to the side. In this case, we have forgotten what "straight" feels like.

"Debauched kinesthesia," like inefficient vision, is usually a function of the incremental development of poor habits related to distorted perception. Thus, a child may begin to round his shoulders. He may do this because he feels self-consciously large for his age and wants to make himself smaller. He may be surrounded by round-shouldered people, and may imitate them in the way that most children pick up character traits from their elders. Or he may pull his shoulders down and push his chest in as a gesture of self-protection in a hostile world. Whatever the reason, the behavior begins to some degree as a conscious choice but soon becomes an unconscious habit. By the time it is unconscious, the boy's shoulders will feel straight when they are actually rounded. He will have a debauched kinesthetic sense. This is analogous to the amblyopic individual who gradually learned to interpret her one-eyed perception of her space world as if it were similar to that given by binocular vision.

The second principle of kinesthetic reeducation is that positive change happens through the growth of conscious awareness or what Alexander called "conscious control"¹ (p. 15ff, pp. 77-92). Albert Shankman, O.D., has used the term "self-awareness" to describe the same phenomenon.⁷ The principle of conscious awareness or self-awareness means that an individual's kinesthetic or visual performance improves as the individual becomes *experientially* aware that his habitual pattern of behavior is dysfunctional. This happens when the individual begins to have new experiences which provide a yardstick against which to compare his habitual patterns. For example, you cannot simply tell a round-shouldered person to stand straight and expect to obtain either proper or long-lasting results. This person has lost touch with the experience of standing straight, and will interpret what you say in a "debauched" manner. Similarly, you cannot tell a patient with limited peripheral awareness to "see more of the world" and expect to accomplish much by these means. Instead

of telling the patient how to change, you have to give him the experience of an improved posture or perception. Thus, the optometrist can help the patient achieve greater peripheral awareness by helping him explore the difference between "looking hard and looking easy."⁸

Further, the Alexander practitioner leads the patient through sensory experiences which correspond more closely to efficient body use. For example, the practitioner may have her patient sit down and stand up in slow motion, while combining verbal suggestions with gentle contact of her hands on the patient's body, to guide him into more efficient ways of moving. In addition, she will ask her patient, while he moves under her guidance, to bring his attention to different parts of his body and to notice the way he habitually holds or moves those parts. Finally, since the Alexander technique recognizes that inefficient muscular use involves excessive contraction of muscles surrounding the spinal column, she will ask him to think of or to mentally see his spine, limbs, and specific muscles lengthening, releasing, etc. This type of thought process is a form of autogenic suggestion. The patient must avoid trying to *make* his spinal column lengthen, or his muscles release, because these actions will inevitably engage habitual patterns. Instead, he must practice being open to easier movement by mentally allowing for muscular release at the same time that he inhibits the understandably strong desire to do things in the "normal way." As the patient and the practitioner work together in this way, the patient notices again and again what it feels like to move in the habitual manner, and what it feels like when movement is guided into more effective and efficient patterns. The patient can then compare between two alternatives, and choose the more satisfying one. His choice is now based on self-awareness.

The third principle is a necessary consequence of the pursuit of greater self-awareness. It states that improvement occurs as we become increasingly attentive to *process* rather than to the outcome we are trying to attain. When we focus on a particular outcome, or when we do what Alexander called "end-gaining"² (p. 61ff), we revert to habitual modes of behavior. We pay too much attention to the desired goal, and generally ignore the process needed to reach that goal. This occurs

whether the goal is to hit a ball over a tennis net or to fuse two polarized stimuli through the appropriate Polaroid lenses. Since real improvement becomes very difficult when we "end-gain," we can make ourselves more amenable to change by feeling and seeing *how* we are trying to do something, holding in abeyance our desire for a particular result. For example, in kinesthetic reeducation, a patient must be reminded again and again to stop trying to "get it right," and instead to simply observe more closely how he is moving. The importance of process must be particularly stressed because of our virtually universal habit, both as practitioners and as patients, of overemphasizing the results we wish to achieve.

The fourth principle is that certain subjective experiences characterize all types of kinesthetic improvement, no matter what the presenting complaint. These subjective experiences are important in part because they are likely to be similar to experiences accompanying improvement in other areas of sensory training. Improvements in visual, auditory, tactile and kinesthetic functioning all involve similar subjective experiences. And these experiences act as essential *guides* for the patient in learning more accurate and effective movement, visual perception, touch, hearing, etc.

The first of these experiences is that the patient will find that he is more at ease and expends *less effort* in most tasks. Practitioners of the Alexander technique call this discovery one of "non-doing."⁹ In the optometric literature, Shankman calls this the discovery of a free mind flow which is true concentration⁷ (p. 12). The second experience is that the patient will feel himself to be more *open, expansive, and fluid*, both physically and emotionally. Third, he will have a greater sense of his *whole* body, and of the relation between parts of his body, or of what different parts of his body are doing at a given time. Finally, he will be more in touch with what is happening in *the total space around him*. Expanded body awareness goes hand in hand with an expanded spatial awareness.

These subjective experiences can all be summarized as involving more *global awareness*. For example, a patient experiencing kinesthetic reeducation might improve by learning how to sit down in a chair with a greater conscious awareness of what all his limbs are doing, how they

move in space together, and how his whole body is related to the space around him. Kinesthetic dysfunction results from a type of kinesthetic "tunnel vision" which produces a failure of bodily integration because the patient is ignoring certain areas of the body. Therefore, the more inclusive our kinesthetic awareness, the more likely we are to operate accurately and effectively.

The principle of global awareness applies across sensory boundaries as much as within a single area. The more we are aware of both the gross movements of our body and the finer movements of our eyes, the more likely we are to enhance both vision and kinesthesia. The interrelatedness and mutual dependency of all the senses in the process of perception lies behind procedures in sensory integration that were proposed by both Ayres¹⁰ and Getman.¹¹

In what follows, I will present three types of techniques to improve kinesthetic perception and kinesthetically motivated activity. All of the activities involve increased self-awareness, and can contribute to the process of personal and perceptual enhancement. More specifically, all of them promote the experience of more global and effortless awareness. Finally, all of them use the subjective experiences associated with improved performance to guide the individual patient in finding greater bodily integration.

I. Techniques Which Focus on Effortlessness

Many people suffer from an overly rigid gross musculature. Behavioral optometrists may find this to be particularly true of some of their patients with binocular dysfunctions. The two following activities can help the client to learn to relax. The kinesthetic "letting go" may in turn facilitate visual relaxation.

1. Body Scanning.

This activity can be practiced at any time, at work or at home. In the beginning, it should be done while seated. The patient is instructed to bring his attention systematically to different parts of his body, starting with the toes, and to notice what these parts feel like, while releasing any excess tension. He should be instructed to notice parts of his face and the area behind and around the eyes. Once the patient has

scanned and relaxed his entire body in this way, his next challenge is to continue doing this while simultaneously being engaged in some other activity. For example, he should notice how "easy or tight" his body and face are while he reads or writes. He should stop reading or writing as soon as he notices any tension, and should eliminate the tension before returning to the task at hand. The goal is for him to execute the primary task with less effort. Over time, the individual will experience himself as more in touch with his body. A frequent additional benefit is that his body movements become more fluid.

2. This procedure guides the patient into a parsimony of effort and gives him experience in visualizing. The patient stands in front of a mirror. Ask him to lift an arm or a leg, to be aware of what it feels like, and to see what it looks like in the mirror. Then ask him to let "the person" in the mirror lift his arm or leg, and to observe whether this movement looks and feels different. In other words, he is to change his attitude toward the actual movement by seeing the arm or leg in the mirror lifting itself, instead of seeing the arm or leg rise as a result of what he does. Follow this activity with other movements, all of which "happen in the mirror," as opposed to "being done in front of the mirror." The experience of "seeing it happen" involves being less directly responsible for making something happen and instead allowing it to "just happen." It is invariably associated with greater bodily relaxation and demonstrates that "seeing" is a powerful and efficient tool for physical and mental reeducation aimed at lessening unnecessary tension in the body. Forrest has extensively explored the relationship between visual thinking, relaxation and learning.¹² He demonstrated that visual thinking is less effortful and more creative than verbal thinking. Further, he was of the opinion that visual thinking is the mechanism primarily responsible for the deep learning which goes beyond information processing to change attitudes and belief structures. Moshe Feldenkrais, a leader in the field of kinesthetic reeducation, was also aware of the power of visual thinking

for learning new patterns of behavior.¹³ He developed an approach to movement reeducation called "Awareness Through Movement," which goes so far as to use visualization of movement, rather than movement itself, as a primary technique for increasing kinesthetic self-awareness and ease. Finally, visualization is widely used in sports training and frequently even takes the place of actual physical activity. For example, the ability to see oneself hitting the perfect serve in tennis has been suggested to be more effective than an hour of practice hitting balls.¹⁴

II. Techniques Which Focus on Openness

The subjective experience of openness encourages a more fluid, receptive and alert body, and an enhanced awareness of external space. Procedures to develop openness can work with either internal or external space.

1. Internal Space.

Focusing on the sense of space internal to the body develops more accurate bodily perception and releases excess muscle tension. The experience of internal bodily space can be fostered by asking the patient to find the center of some part of the body (shoulder, hip, chest, etc.), and to imagine the body expanding outwards from that point, becoming "lighter and more airy." This expansion process should gradually incorporate the whole body, so that shoulders, hips, torso, etc. all together and all at once feel like they are expanding outwards, becoming softer and lighter.

2. External Space.

When we focus on being aware of space around us, and see ourselves expanding out into that space, the body can also be experienced as more fluid and open. Ask a patient performing some activity to become aware of the space in back of him and to his sides as he performs his activity. His movements should become easier and less effortful. The same will happen if the patient thinks of his body expanding out to the sides and to the back of him. Techniques which allow the patient to expand his awareness further into external space discourage kinesthetic

tunnel vision and excessive effort. They can also encourage the use of peripheral awareness.

III. Techniques Which Focus on Kinesthetic Integration

These enable the patient to be more aware of what is happening simultaneously in different parts of the body, and to maintain this integration for more effective performance. Basically, working with such procedures is like teaching the right hand to know what the left hand is doing, with the idea that the right hand's performance will be enhanced. Invariably, the more we are in touch with more parts of our body while doing an activity, the easier and more efficient that activity will be.

1. The first stages of integration can be approached simply by asking the patient to notice what is happening to two or more parts of his body simultaneously (for example, his shoulders and his feet) while he engages in some movement. By noticing several parts of the body simultaneously or in close succession, the patient learns to appreciate how these different parts are related. He moves toward more global kinesthetic awareness and should automatically become more integrated in his movements. If he proceeds with this kind of bodily awareness enhancement on a regular daily basis, he can begin to feel more in touch with and aware of himself.

2. More advanced integration can be achieved by having a patient work in front of a mirror. For example, he might have a conversation in front of the mirror, and notice what he does with his body and his eyes as he talks. This kind of experience frequently brings revelations of unconscious behavior patterns, and particularly of excessive jerkiness and abruptness. It is also an excellent technique for developing more efficient visual functioning, as I believe it is impossible to maintain a coherent global visual image without an effortless use of vision.

DISCUSSION

I hope that the procedures described above will provide a useful adjunct to techniques currently used by behavioral optometrists. In addition, I trust that the

basic principles of kinesthetic reeducation yield insights for the development of further vision enhancement procedures. Similar to vision enhancement, kinesthetic reeducation is based on the principle that positive change happens through a growth of conscious awareness of dysfunctional patterns. Dysfunctional patterns are by nature stressful. They require the individual to exert more rather than less effort to reach a goal. As the patient becomes aware of such dysfunctional patterns, he can choose to approach daily tasks in a more efficient, effective and integrated manner. Indeed, the learning of greater ease through awareness gives the patient a crucial tool with which to approach change for the better in all activities. It shows him that self-awareness gained through self-observation, whether in visual or kinesthetic tasks, in social engagements or in intellectual pursuits, is the vehicle for constructive change.

References

1. Alexander FM. Man's supreme inheritance. Long Beach, Calif; Centerline Press, 1988.
2. Alexander FM. The use of the self. Long Beach, Calif; Centerline Press, 1984.
3. Alexander FM. The universal constant in living. Long Beach, Calif; Centerline Press, 1986.
4. Caplan D. Back trouble: a new approach to prevention and recovery. Gainesville, Fla; Triad, 1987.
5. Leibowitz J and Connington B. The Alexander technique. New York: Harper and Row, 1990.
6. Brody J. Personal health. New York Times, June 21, 1990, Section B: p. 6.
7. Shankman A. Vision enhancement training. Santa Ana, Calif; Optom Extension Prog, 1988: p. 5.
8. Bimbaum MH. The use of stress reduction concepts and techniques in vision therapy. J Behav Optom, 1990; 1 (1):3.
9. MacDonald PJ. Memorial lecture, Society of Teachers of the Alexander Technique. Medical Center, London: November 12, 1963.
10. Ayres AJ. Sensory integration and learning disorders. Los Angeles, Calif; Western Psychological Services, 1973.
11. Getman GN. How to develop your child's intelligence. Santa Ana, Calif; Optom Extension Prog, 1981.
12. Forrest E. Visual imagery: an optometric approach. Santa Ana, Calif; Optom Extension Prog, 1981.
13. Feldenkrais M. Awareness through movement. New York; Harper and Row, 1972.
14. Gallwey WT. The inner game of tennis. New York: Bantam, 1974.

Corresponding author:

Ingrid Lorch Bacci, Ph.D.

455 Sleepy Hollow Road

Briarcliff Manor, NY 10510

Date Accepted for publication:

October 26, 1990

LETTERS continued from page 37

Dear Mr. Baer,

Thank you for your letter. I will publish it in the near future. Your comments are important and do need answering. I trust publication of your letter will bring about information.

However, I can make a recommendation that I believe will be helpful. In Vol. 76, #12, 1990 p. 863-865 of Optometry and Vision Science (the publication of the American Academy of Optometry) there is the transcript of a symposium entitled "The Impact of 'Europa '92' in Optometric Licensure and Certification and the Delivery of Optometric Care and Services."

This article gives answers to some of your questions. If you have any difficulty obtaining it, please contact me.

I'm pleased that you've enrolled as a student associate of OEP.

If I can be of further assistance, please call on me.

Sincerely,

Irwin B. Suchoff, O.D.
Editor-in-Chief