



Interview with Melvin Kaplan, O.D.

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Melvin Kaplan, O. D. of Tarrytown, New York, is one of the pioneers in the field of visual management training. Dr. Kaplan has lectured extensively on visual training and has been mentioned in two books, *Rickie* and *Dancing in the Rain*. Dr. Kaplan is the Director of The Center for Visual Management (150 White Plains Road, Suite 410, Tarrytown, New York, 10591; Fax: 914-631-1004). Dr. Stephen M. Edelson (SE) interviewed Dr. Kaplan (MK) on September 17, 1996.

SE: Let's start out with a basic and rather general question: What is visual management training?

MK: Vision Management Therapy is an individualized program that measures, observes, and is designed to develop, improve, remediate, and enhance visual performance. The ultimate goal is to raise levels of performance which, in turn, affects behavior and influences how one performs in social, academic, and vocational surroundings.

SE: Have you ever noticed anything unique or different about the vision of autistic children versus the vision of other types of disabilities?

MK: I do not view people with various disabilities as different. I look at them as having different levels of visual performance. Let us view visual performance on a bell curve with the optimal performance at the peak. At one end of the curve are people who are experiencing visual compression; and at the other side are people who are experiencing visual disparity. The issue is then: How far from optimal is the person? or What level is the person at? One does not need to look at labels, whether it is autism, a learning disability, or dyslexia, I do not want to become hung up on labels because once you have a label then the community tells you how the person should be treated. It has been said, "Labels are for cans, not for people."

This reminds of a great article, "Labels are for Cans, Not for Kids." The question is not of labels, but of levels of performance. When we observe the level of performance of autistic individuals, can we, through visual intervention of lenses and therapy, raise the level of performance? What is the difference between autism and learning or emotional problems? The difference is a lower level of performance on the ladder of processing information with a greater dysfunction in organization and orientation shifts from the optimal.

SE: Could you comment on why autistic children appear to rely heavily on their peripheral vision?

MK: I believe that this is a compensation. By turning their head, they get a monocular view of the world. What happens to be peripheral vision is simply a way to realign their focal or visual system. This is probably a way to avoid a mismatch between the right and left visual system which most likely fails to coordinate. Research indicates that autistic individuals have between 21 and 50 percent greater amounts of strabismus as compared to "normal" individuals.

SE: I once met someone who relied primarily on peripheral vision. I asked him why he does not look at people directly, and he said it was like looking through a "bowl of jelly."

MK: I think this person may have difficulty thinking and attending at the same time. This is a case of rivalry between the two visual systems; they are competing and out of synch. That is, if a person has difficulty handling bits of information, he/she may look at the individual letters but not at the whole word. If one is using just his/her identification portion of the visual system, he/she will likely take a long time to process the information so it will be difficult to attend while they are thinking. In fact, for almost everybody, if you look at them when they are thinking, their eyes tend to go up and to the left. When people have a disability, and this happens in non-autistic individuals as well, they cannot look at you when they are thinking; or they cannot look at you when they are talking because they would be unable to maintain the conversation. In other words, they cannot process visual and auditory information simultaneously.

SE: Could you comment on the idea that vision is a learned behavior?

MK: The focal vision, which involves identification, is not learned. There is a great deal of literature indicating that blind people, whose vision later returns, such as through cornea transplants, were able to identify letters because of their previous experience. In contrast, the ambient system is learned. Using this example, these individuals, can have much difficulty perceiving depth, organizing space, and orienting themselves.

Literature has demonstrated that 'focal vision,' which involves identification, can be learned through other sensory systems, whereas the ambient visual system needs rehearsal. The literature talks about people who have reclaimed vision after a long period of lost sight. They are able to identify objects, but they are unable to deal with the spatial organization of objects.

SE: In your opinion, who would be a good candidate for visual management training? Based on my conversations with you in the past, it seems as though people who display many self-stimulatory behaviors, have coordination problems, engage in toe walking, fail to reach out to touch things, and/or have problems with eye contact. It seems that many of these problems can be explained by improper depth perception.

MK: You just mentioned expressive problems, but I tend to look at these problems as receptive problems. Eighty percent of the information we receive comes from the visual sensory system. When we cannot obtain visual information from the environment due to some kind of receptive problem, we then start to see changes in performance or behavior. In fact, they spend so much energy trying to find the information that they do not have time left to speak.

Let me answer the question of who is a good candidate for visual management training. During the course of a non-verbal evaluation, if the individual can demonstrate awareness to their level performance and demonstrates that ambient lenses can make a more positive change on their visual performance, then both the patient and examiner will be highly motivated to a successful conclusion. This means that through the lenses and visual management training, they can reduce the symptoms that are characteristic of autism.

SE: Do you believe there is a relationship between activity level and the visual system?

MK: I think most cases have to do with visual processing. Hyperactive individuals cannot locate things with their visual system so they use their motor system to get to it. As a result, they are always running into things because their world is 2-dimensional rather than 3-dimensional. Things appear flat to them. They don't visually 'feel' it. In addition, their space is limited so they have to run and check on everything. When they go to a new room, they have

to know where the doors really are; they have to know where all the light switches are. What they are really doing is rehearsing so they can be in a room without having to think much about it. That is why autistic individuals do not like new situations.

SE: What about those individuals who are at the opposite end of the continuum, those who are hypoactive?

MK: Hypoactive children simply do not attend. They are the ones who run away. This is no different than the child who just says, "That's it, I quit; I'm not going to read." And if you ask them a question, they will just say anything so that you will leave them alone. These are the wallflowers. They just do not want to play. They are the spectators and not the players.

SE: Do you think this is the same as 'learned helplessness,' in which the person learns to be helpless and simply gives up?

MK: Yes. They give up and have other people do things for them.

SE: Can visual training affect stereotypic, self-stimulatory behavior?

MK: Self-stimulatory behaviors appear to be inappropriate to us; but to the child, they are appropriate and necessary. What these individuals are doing is finding a way to interact with their world. For example, if a child is flapping his arms, he wants to know where his body is located. I should mention that people without autism exhibit these behaviors as well. This is what people should understand. For example, many people stick out their tongues when cutting a piece of bread. This is a stim that is not considered inappropriate.

SE: Does visual management training help people with strabismus or cross-eyedness?

MK: Approximately three to four percent of the normal population have strabismus; and based on our recent study, it appears that 21 to 50 percent of the autistic population suffers from strabismus. The question is: "Why is their such a relatively high percentage of autistic individuals with strabismus?"

The answer to this question involves the ambient system and a lack of coordination between the eyes. This may result in amblyopia, strabismus, or the use of one eye for far viewing and one eye for near viewing. These are all natural adaptations to viewing the world singularly and enable interaction with the world in a simplified or reduced fashion.

SE: Some people have surgery to correct strabismus. This does not seem to be a 'healthy' way to realign the eyes given that vision also involves learning.

MK: Surgery is the structural way to deal with strabismus. The literature suggests that surgery is a cosmetic cure for strabismus, but it is not a functional cure. I guess it depends on what you are trying to accomplish. Many people are looking for a cosmetic cure because they can still function moderately well. However, with only a cosmetic cure, the eyes are not working as a team to create depth perception. Depth can be accomplished with monocular cues, but it is not as effective as with two eyes.

Unfortunately, the classical approach is a surgical approach to strabismus. In my view, however, the question is not one of eye structure but of performance. Case in point is the five year old autistic male whose father, a physician, diagnosed him with esotropia at two years old and was bedwetting. The condition at age five, when I saw him, was alternating esotropia with little change in performance. After a non-verbal examination, he was given ambient lenses. Within one week of receiving the lenses, he stopped bed-wetting, began to attend to objects above his head (previously, he looked down), and was walking with greater facility. Two months later his eyes were aligned.

SE: Another problem which is common in autism and sometimes involves surgery is toe walking. From my experience working with you, it appears that, for many, toe walking may simply be due to a visual dysfunction.

MK: Nothing is simple. There are many postural changes that are due to visual management, one happens to be toeing in. That is, autistic individuals may have a problem in orientation in which they are not able to let go of the ground; as a result, they become toe walkers or they will place their toes inward as they walk. If you can change their visual emphasis, they may not need so much energy to manage it and could start to pay more visual attention to themselves. When this happens, the toe walking stops; and they become flat footed.

Dr. Richard Herman, an Orthopedic Surgeon, has written that idiopathic scoliosis is probably due to a visual perceptual problem. It has been my experience that posture changes can be elicited through visual management training. For example, toeing in while walking is a visual perceptual problem, the failure to be aware of self and space simultaneously. The act of walking is a sequence of landing on one's heels and pushing off with the toes. When the visual system is dysfunctional, an individual holds his/her toes longer to the ground; and the body moves with the appearance of the toe turning in. I have seen a normal gait established in both autistics and others who have been labeled as visually deprived.

SE: What are some behaviors which may help a parent predict whether visual management training will help their child?

MK: One behavior is lack of eye contact. This is a key issue. Another key issue is a postural shift in which they turn their head to one side. A third behavior would be if the child walks on his/her toes or if the child runs aimlessly. What visual management goals are raising is the child's level of performance by reducing the number of symptoms. When the number of symptoms is reduced, the diagnosis disappears.

Autism is a symptomatic-based spectrum disorder that displays obvious and not so obvious visual characterization. Most professionals working with autistic individuals would list poor visual attention, looking from the side of the eye, and not making eye contact as obvious visual characteristics. In my view, there are other visually-based characteristics which are not usually considered. For example, rocking from side to side usually is indicative of an orientation problem and difficulty paying visual attention. Rocking forward and backward allows one to create depth perception as does flicking the fingers in front of the eyes. My advice to parents is to seek out a vision professional who is also experienced with autistic individuals with whom to share their concerns. This can lead to a judgment as to whether or not visual management is an option for them.

SE: Can you describe how you assess an individual?

MK: Basically, we do two different assessments. We perform a conventional eye examination to see whether or not there is a refractive error, meaning whether or not the person is nearsighted or farsighted. In other words, how well they identify things; however, 20/20 is not always enough.

A visual assessment of an autistic individual requires investigation for "sight" glasses to see if the individual needs a compensating lens for identification of objects in his/her environment. Taking into mind that measurements of autistic individuals is difficult at best and lacks a verbal response, I have designed a non-verbal performance test to see if ambient lenses (performance lenses) can 'Jump Start' visual information processing. I refer you to a recent research paper of mine, "Postural Orientation Modifications in Autism in Response to Ambient Lenses" which appeared in *Child Psychiatry and Human Development*, Volume 27, Winter, 1996.

SE: How soon do you see changes in these individuals?

MK: There are certain areas in which we see changes almost immediately, such as posture, eye contact, and attention. It usually takes two months before the subject displays behavioral changes to the care-giver.

Paraphrasing Dr. A. M. Skeffington, he once said 'the fastest way to change a person is through a lens.' Basically, lenses transform light which then changes the electrical activity of the central nervous system. In contrast, drugs also affect the nervous system, but it takes five times as long since it involves chemical changes.

SE: Could you describe a couple of recent patients of yours?

MK: Well, I had a very interesting patient who had a history of speaking and then stopped talking. I believe she was verbal until she had the DPT shots and then lost her ability to speak due to seizures. We tried a series of non-verbal tasks and nothing happened. Since I was unable to direct her visual system, I decided to disrupt it. After I placed disruptive lenses on her, she then stood up in front of the mirror and began to dance and talk. This was a really exciting experience for me. I performed an evaluation on her three months later, and she was still doing extremely well. She was verbal and acting very appropriate.

Another example is a four year old patient with a PDD label. When he came to see me, we performed a battery of non-verbal tests. Overall, the child was physically fine and behaved very appropriate, but he did not have language. He was visually involved, and I felt that he was simply delayed. I told the parents that I did not consider him a PDD case, and that he may be suffering from visual deprivation. After three months in my program, the child had language and was starting to function well. The family brought the child to his neurologist six months later, and the neurologist said that the child did not have PDD anymore. He couldn't understand it.

SE: Have you ever seen a case in which a person did not respond at all to visual management training?

MK: I have rarely seen a case who did not respond to at least some degree of visual integration training.

SE: So the changes range from mild to dramatic?

MK: Yes. Let me tell you about another case we recently had. This was a six year old child whom we literally had to pull off the walls. The child was strabismic, one eye was turned inward. He entered my office screaming and was uncooperative. We finally got some lenses on him, and he responded very well. Six months later this child was completely verbal and was doing well in school. His eyes appeared straightened. The child went back to the neurologist who nearly fainted when she saw him. She could not believe that this was the same person.

SE: How long does the program last?

MK: It varies depending on the specific needs of a person. If the person has a visual learning problem, the program usually requires approximately six months of therapy. If a person has a visually-related emotional problem, the program requires about one year of therapy, depending on his or her level of dysfunction. In a person with panic disorder or bi-polar disorder for example, the program takes about one year to complete.

SE: What about a person with autism?

MK: I do not have a timeline when it comes to people with autism. We can get very positive results within a year's time. With some people, we feel that more enrichment is possible and so the program takes longer than a year. But within a year's time, we have been very successful with vision as well as language development and more appropriate behavior.

Autism, as you know, is a spectrum disorder, as such, we give degrees to levels of performance as well as visual involvement. In the study I did with you at Gateway in Ladner, B.C., we showed marked improvement in the behavioral characteristics of autistic children within two months. The time frame depends on the individual. As a rule, most visual systems display higher levels of performance within a year.

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