

MORE ABOUT VISION WITHOUT SIGHT

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A previous article on vision without sight explained some of the basic principles of our research.¹ Since this time the definition has been refined to the term vision training, which means the creation of the imagination during profound concentration. This action produces a highly suggestible state of mind. In order to avoid confusion, the author has suggested that the standard term "visual training"² be made absolute, and the meaning be incorporated into the term "orthoptics".³ An increased advantage of changing and enlarging terms is that they would be understood by both the medical and the optometric profession.

Vision training is a highly specialized ocular procedure that promises to accomplish better results quicker and more efficiently than any previous method. It is used most frequently at our clinic⁴ as an aid to orthoptics. All vision specialists are aware of the fact that orthoptics is time consuming and boring to the patient and perhaps the doctor. Vision training can definitely improve the usual orthoptic techniques. However, the extent of improvement cannot be verified until much more research has been performed. Briefly, our research has developed a procedure which may be modified by the specialist according to the peculiarities and needs of the patient. For this reason, there is no exact method of inducing a pro-

1 Murrell, Stratton C., "Vision Without Sight: A New Phase of Optometric Research", Archives of the American Society of Ophthalmology and Optometry, 1960, Volume 3, No 1.

2 Vision training is distinctly different from the standard term visual training. Visual training is an optometric term which means the guiding and teaching of visual skills-fixation ability, fusion ability, amplitude, central acuity, peripheral acuity, stereopsis, perceptual span, accommodative binocularity, duction ability, and motility pattern (From "Your Vision and You", The Professional Press, Inc., Chicago, Illinois, page 116, 1960).

3 Orthoptics is a medical term which means the science of rendering visual reactions and responses right and efficient, usually by some form of exercise or training. These measures include the treatment of amblyopia, the education of stereopsis, and the treatment of muscle imbalances and strabismus (BLAKISTON'S NEW GOULD MEDICAL DICTIONARY, Blakiston Company, Philadelphia, 1949).

4 This clinic is sponsored by Multiple Research and Development.

found state of concentration. The general procedure is to make the patient comfortable. The patient is then instructed on how to use the stereoscope and the importance of the test cards in determining the ability of the ocular muscles to retain good vision. We use a variety of cards, but most often the I Series.⁵ These cards demonstrate to the patient in most cases that his visual mechanism could function more efficiently. He then views a scenic stereoscopic card⁶ which is printed in black and white. The patient is instructed to close his eyes and use his imagination to see this picture in his mind as clearly as possible. This picture is perhaps that of a waterfall tumbling into a beautiful lake surrounded by trees. The induction of a profound state of concentration in a semi-darkened room proceeds in the following manner:

"Mr., close your eyes and relax while keeping this stereoscopic picture in mind as clearly as possible. The best visual research has indicated that vision is more than 20/20. Therefore, it takes more than glasses to correct it. Now as I talk, I want you to imagine as clearly as possible that you are relaxing by this beautiful lake. Think of nothing except what I am saying and the suggestions that I make. The more you concentrate, the more clearly you can see all of these details and the more relaxed you will become. This is a new method of treatment called vision training. It relaxes your eyes by utilizing your imagination. As you gaze out across the lake, you are relaxing your eyes. Perhaps you even feel lazy and drowsy. This is good for your eyes, because vision is dependent upon the relaxation of mind and body. (Explain in detail about vision making frequent references to relaxing the eyes by looking out over the lake). Determine to yourself the colour of the water. Relax as much as possible; think of nothing except what I am saying, and the suggestions that I make. I want you to fill in all of the details of what you see as I suggest them. After you see all of these things clearly, we will recheck your ability to see the stereoscopic cards correctly. (The patient is instructed to fill in all details as suggested such as the trees, the number, types, etc. The doctor speaks in a pleasing, sincere voice, as if he could actually see all of these things. The patient fills in all of the details in color. He is reminded that the stereoscopic card was merely a guide and that is seen at the present time may not be an exact replica of the card.)"

After about ten minutes the patient is usually in a rather deep state of concentration. The depth depends upon the individual. However, the deepest point possible during the first visit has probably been achieved. The patient is asked to be truthful in his observations at all times because this is the only way that the doctor can determine the depth of relaxation. The patient is asked if what he sees

⁵ Dr. Well's Selection of Stereoscopic Charts, Twenty-fourth Enlarged Edition, Catalog N^o 1965, by American Optical Company, Southbridge, Massachusetts, U.S.A.

⁶ Any card in black and white will do, although we prefer those by Keystone View Company, Meadville, Pennsylvania, U.S.A.

is more clear, less clear, or the same clearness as the picture on the stereoscopic card. Approximately 80% of our patients reported that what they saw during the state of concentration was as clear as the stereoscopic card, and in most cases was more clear. About 30% of the patients, upon the proper suggestion, could see the scene realistically with their eyes open. But whatever the circumstances, we tell the patient that vision training is a skill which must be learned. The next treatment will enable the patient to react more efficiently in that he will go into a deeper state of concentration faster and easier. The patient is then told to open his eyes. He is reminded that as he does so, he will go into a deeper state of concentration.

At this point, we follow the general visual training of orthoptics procedures. In many cases we use vision training to produce a state of concentration before beginning a visual examination. In all cases, the results are more satisfactory than the use of standard methods.

But in spite of this, there are some disadvantages in using vision training. This method takes years of study and development of technique. The specialist must have a good background in psychology, physiology, and neural anatomy in addition to other subjects. The patient must be thoroughly screened psychologically and physically before treatment. The specialist must be very careful of the method of treatment as well as what is said during treatment because the patient is in a highly suggestible state of mind. For this reason, we always produce a state of amnesia regarding the actual details of treatment by suggesting to the patient that although he will forget the details of treatment that the results will remain subconsciously to work automatically. We make sure that he is properly orientated by telling the patient his name and the date. "Each time that we do this vision training, you will be able to go into a deeper state of concentration faster and easier. When I count to three you will open your eyes and be normal in every way, except that you will feel much better after the vision training, than you did before. One, two, three - open your eyes."

Actually vision training can be easily adapted to any situation. It can be used as a part of orthoptics, a visual exam, or in the fitting of contact lenses.

Orthoptics: Donald... was in the second grade. He was a very poor reader and often skipped words or saw double after reading for short lengths of time. His eyes became fatigued and he had apparently lost all interest in his studies.

His visual correction was as follows:

	<i>Visual acuity</i>		<i>Pin Hole</i>
	With Rx	Without Rx	
O. D. 1.25	20/1000	20/25-1	20/1000
O. S. Plano -0.25 x 90	20/20	20/1000	20/20

There was no ocular pathology and fusion was impossible. The examination indicated that the lowered visual acuity of the right eye was caused by amblyopia exanopsia. Spectacles were not prescribed because it was felt that they would do little to improve the visual mechanism. Instead, we initiated vision training. Donald was very cooperative, but could not achieve a very deep state of concentration during the first three visits. Suggestions were made that his right eye was properly relaxed. Standard orthoptic procedures were used during and after the state of deep concentration. Suggestions were also given to the effect that when the patient left the office his eyes were more relaxed and he would be able to see better as the result of vision training. During the first three visits, fusion had not been achieved although Donald's mother reported that his vision seemed much better. On the fourth visit, Donald seemed to be more relaxed and achieved a deep state of concentration. From the beginning we had stressed that he must be truthfull at all times, and to report his observations as accurately as possible. We started the procedure at this visit with the card picturing the waterfall and lake. The patient was asked to see this as clearly as possible with his eyes closed. He then reported that what he saw was more real than the card. He was then told to picture the screen that we use for projecting visual acuity letters. He pictured this screen suspended above the lake. We then suggested that when he opened his eyes he would go into a deeper state of concentration and see the lake and its surroundings clearly. On the second trial, he was able to see them clearly and could even feel the water. We taught Donald "to see" the smallest letters by interpreting the blurs. Standard orthoptic procedures were continued, and he was able to fuse pictures for the first time.

His phorias without a spectacle correction were as follows:

	<i>Lateral</i>	<i>Vertical</i>
Distance	12 esophoria	orthophoria
Near	20 esophoria	orthophoria

On the fifth visit, Donald reported that he could read the smallest letters from the back of his school room and that he had no visual problems. During vision training, he read all of the letters projected on the screen which appeared to be suspended above the lake. Retinoscopy indicated that no spectacle correction was necessary. His phorias without a correction was as follows:

	<i>Lateral</i>	<i>Vertical</i>
Distance	4 esophoria	orthophoria
Near	orthophoria	orthophoria

On the sixth visit, we suggested during vision training that the patient should repeat to himself each morning on arising that his eyes were relaxed and constantly improving. His visual acuity when not in a state of profound concentration and without a spectacle correction is as follows:

O. D. 20/30

O. S. 20/20

Visual examinations: Leo... was extremely nervous to the extent that even though he could see the Snellen letters clearly, he misread them until he was asked to calm down and read them again. His general concentration was so poor that it was felt that all of the subjective examination was invalid. Of course the visual acuity can be accurately determined by objective methods with the retinoscope, etc. But vision consists of more than merely 20/20. Most of the other visual skills can only be determined subjectively, that is the patient reports his perceptions. If the patient reports inaccurate observations, the entire subjective examination becomes invalid. That is possibly a major reason that there are so many patients that claim their spectacles are not as good as they could be. The first method of solving this problem is to induce a state of high concentration at the beginning of the examination. A well trained practitioner can aid the patient in achieving a high degree of mental efficiency. A deep state of concentration is not necessary. After about five or ten minutes of vision training, the patient is told to continue concentrating: "When I count to three you will open your eyes and concentrate even more on the examination and what I am saying." This application of vision training improves the visual examination. However, we find that a large percentage of patients need additional orthoptics and vision training for a satisfactory correction.

Contact lenses: It is a universal opinion that in most cases contact lenses are more difficult to fit and wear than spectacles. The ultimate goal is that contact lenses can be designed and fitted to the patient so that there is no corneal or conjunctival abrasion, and that the ocular mechanism functions normally in every way (i. e. normal metabolism, the necessary tear circulation, and no edema, etc.). The patient wearing these lenses should not even be aware that they are in place unless there is something wrong such as burning sensations, haloes around lights, sand or other foreign material under the lenses, etc. Naturally, this condition is only rarely achieved, and depends not so much upon the physical fit of the contact lenses as it does upon the mental attitude of the patient.

This phenomenon is so effective that even the best specialist fitting the best lenses on a patient with an unsatisfactory mental attitude is doomed to failure even before he begins. Unfortunately, such an attitude may be conscious or subconscious and quite often is beyond the control of the patient. It is not unusual for a patient

to be fitted perfectly in every way with contact lenses, and still not be able to wear them because of discomfort and many vague symptoms. The motivation of such a patient may be good and the eyes free from any pathology. After a thorough investigation that still does not produce the desired results, the specialist has no alternative but to assume that the patient cannot wear contact lenses.

However, vision training has been developed whereby even the most difficult problem patient may be able to wear contact lenses. This method has been used with tremendous success at our clinic. The following case demonstrates vision training in action.

Mrs. M. was sixty-one years old. She had a cataract extracted from her left eye three years previously, and complained that subsequent glasses were unsatisfactory. She couldn't see clearly and had frequent spells of vertigo. A thorough visual examination was done at the clinic and there was very little improvement over her previous Rx:

O. D.	+	1.25	Add:	+	2.50
O. S.	+	13.50	Add:	+	2.50

Her children had read about contact lenses and inquired if they would help Mrs. M. As the result of the examination, it was a simple deduction that the difference in size of the retinal images and poor fusion was the patient's main problem. They were informed that contact lenses were the only satisfactory method of enabling Mrs. M. 's visual mechanism to function even close to normal. In spite of this, the patient was definitely against the idea because of her age and highly nervous condition. She was obviously a hypochondriac, and this was later verified by her physician. All of her aches, pains, and vague complaints apparently had no physical origin. The immediate diagnosis was that she would be a highly unsatisfactory contact lens patient. But the children were convinced that she should wear contact lenses. We carefully explained the problems involved, and that a contact lens would be fitted on the left eye only.

On the first visit, the patient had highly exaggerated reactions toward the irritation involved and stated that she was sorry that she agreed to wear a contact lens. Subsequent visits showed little or no improvement in attitude or symptoms in spite of the fact that every test indicated that the contact lens was fitting perfectly. Both eyes were free of any pathology. Foreign material observed in the vitreous of the left eye was apparently fragments from the cataract extractions. There was no sign of a cataract in the right eye.

We then decided to try vision training. After four weeks the patient was not even aware that the contact lens was in place, and she could insert and remove it easily. She was given suggestions that each time she inserted her contact lens she would

have increased confidence. Needless to say, the hypochondriac symptoms disappeared almost completely. She claimed that her vision was nearly as good as when she was a young girl. Her final Rx included a contact lens and spectacles:

Contact lens Rx:

Radius	Diameter	Power	Secondary Curve	Width	Peripheral bevel	Width
O. D. None						
O. S. 7.73 mm.	10.0 mm.	+16.25	9.4 mm.	.4 mm.	9.0 mm.	.4 mm.

Spectacle Rx:

O. D. + 0.50 add: 2.50 O.U.
 O. S. + 3.00 Soft Lite N^o 2

Visual acuity (with spectacle and contact lens Rx):

Distance	Near
O. D. 20/25	20/20
O. S. 20/30	20/20

Vision training is not a panacea. It does not take the place of poor technique in the examination and correction of vision with orthoptics, spectacles, or contact lenses. Vision training is a highly skilled procedure that consumes a great deal of the patients and doctor's time. Although it is more time consuming than the standard methods, vision training has the tremendous advantage in that the patient becomes more satisfied with better vision. In addition to these aspects, vision training seems to coincide with the general thinking of the world's greatest philosopher and scientists. As an example, Le Compte Du Nuoy⁷ believed that the human race is developing towards a mental evolution. Vision training speeds up this highly desirable progression with mental calisthenics during each trial of this method. Albert Einstein has been quoted as saying, "Imagination is more important than knowledge."⁸ Imagination is one of the most important parts of vision training.

Summary: The term vision without sight has been refined to vision training which means the creation of the imagination during profound concentration. This training should be made absolute and its meaning should be added to that of orthoptics.

7 Du Nuoy, Le Compte. HUMAN DESTINY, 1945, Longban's, Green and Company, New York.

8 "Quotable Quotes", Reader's Digest, Volume 76, June 1960, page 178.

Vision training has been used with a great deal of success by the visual clinic sponsored by Multiple Research and Development. This technique can be applied to orthoptics, visual examinations, and the fitting of contact lenses. The practitioner must be highly trained in order to properly use this technique. Although it is more time consuming than the standard methods, vision training has the tremendous advantage in that the patient becomes more satisfied with better vision. Vision training coincides with the thinking of the world's greatest philosophers and scientists.