Brock String Instructions

Introduction

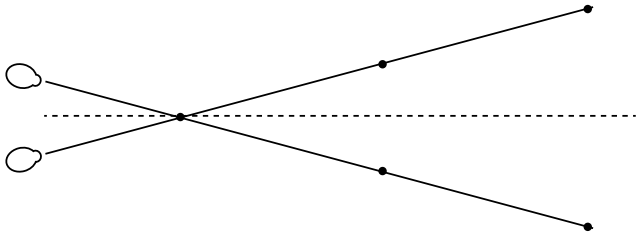
Brock String is an extremely valuable and cost effective instrument in the diagnosis and treatment of many binocular vision problems. Suppression, convergence excess and convergence insufficiency, among others, may be detected and treated using the physiological diplopia techniques employed by the Brock string. It may also be an accurate predictor of an athlete's binocular balance and skills, as well as yielding information of where an athlete perceives objects in space. Brock Strings are available in 10 and 20 feet lengths.

Training Procedure

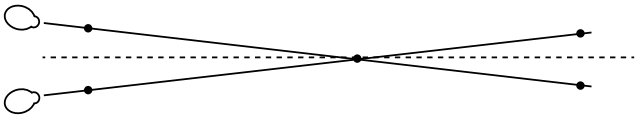
A Brock string is simply a piece of white string, usually 10 feet long, with three or more movable color beads placed on it. Normally one end of the string is placed on a distant object such as a door knob. The other end with the blue stick is held to the tip of the nose. Unless otherwise directed by the physician, the first bead is placed at a distance of 16 inches from the nose, the second bead at approximately 5 feet and the last one at approximately 9 feet.

Note that when evaluating an athlete, it is appropriate to place the string in a position that relates to his sport. For example, instead of placing the distant end of the string on a door knob in the straight ahead position as you would for a baseball player, move it down to the floor for a hockey player, or place one end up at ten feet high for a basketball player. To accomplish this, a 20 feet string may be needed and is available.

When the subject looks at the first bead, he or she should see one bead with two short strings leading toward it and two longer strings leaving it. On the two strings which leave the bead there will be two beads at the 5 feet distance and two more beads at the 9 feet distance.



Next, have the subject look at the second bead or the one at the 5 feet distance from the nose. Here again the subject should see two strings entering the bead and two strings leaving it, making a large "X". This will also mean that there are two beads ahead of (at the 16 inch distance) and two behind (at the 9 feet distance) the single bead at 5 feet.



Finally, look at the last bead or the one at the 9 feet distance from the nose. You should notice the two strings making a "V" toward the bead and crossing exactly at the bead. The beads at the 16 inch and 5 feet distances will be double. The door knob or whatever object the string was tied to may also appear doubled if there is adequate separation between it and last bead.

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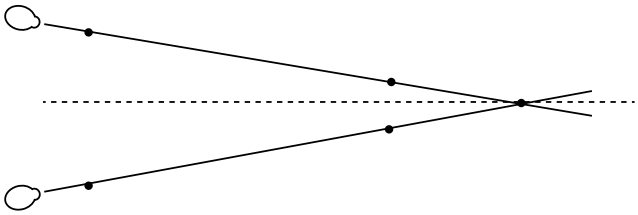

Interpretation of Results

If only one string is seen, the subject is suppressing one eye.

Results: Absence of depth perception, poor overall performance.

If the strings seem to cross in front of the beads, this is referred to as an “eso-posture” and they will tend to perceive things being closer then they really are.

Results: A baseball player might “pull” the ball, swinging early because the ball appears closer than it really is. A basketball player may consistently miss short.

If the strings seem to cross behind the beads, this is referred to as an “exo-posture” and they will tend to perceive objects being farther away than they really are.

Results: A baseball player would “push” the ball or consistently swing late because the ball appears further away than it really is, a basketball player would be missing long.

Sometimes a change in the player’s stance or body position may alter or improve the above findings, if not therapy is needed.

Training procedures:

Again it is most appropriate to train athletes in a situation as normal to his or her sport as possible. It may be necessary to start with the string in a level or straight ahead position to begin with. After achieving all the goals set forth below, move the string to a position which normal to his or her sport.

The object of any Brock string training is to be able to have the subject see the strings cross exactly at the bead he or she is looking at. Everything in front of and behind this bead should be doubled. If not, have the subject find some spot on the string where it is possible to achieve the proper image (strings crossing exactly at the bead). From this point he or she will slowly slide the bead closer then further from them, maintaining proper alignment and fusion. The goal is to expand the range from this point until normal fixation can be obtained at all distances.

If there is no spot on the string were normal fixation can be achieved, the use of loose prisms may be necessary. This is done by finding the point on the string where the least amount of prism is needed to achieve fusion, and expanding the range from that point. Once the range is expanded to include the entire string, the prism is reduced and the process begun again.

Once normal fusion and fixation can be achieved at all distances, the next goal is to be able to jump quickly from one bead to another achieving proper fixation each time. The position and separations of the beads should be varied during this part of the training to include many different possibilities. Once this has been successfully accomplished, next goal is to be able to look away from the beads at a distance object and then look back at them and regain fusion, alternate beads after each distance glance.

The Brock string may also be used in connection with prism flipper bars, accommodative flippers, balance boards, and other devices to make the task more challenging.