

THE CLINICAL USES OF BROCK STRING IN VISION THERAPY



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It is not uncommon to find the busy practitioner and student overwhelmed by research publications. *Vision*, in each edition will present summaries of certain clinical research topics highlighting some of the most salient points. This will aid clinicians and students to keep in touch with the latest developments in eye care and related fields.

INTRODUCTION

Brock string is a white string with different coloured beads used for vision therapy. The Brock string is used to train the patient to see with both eyes simultaneously. The optometrist utilises/makes the patient aware of the phenomenon of physiological diplopia. Based on the optometrist's vision therapy regimen, either 2 or 3 beads are used with optional colour preferences. I prefer a Brock string consisting of 3 beads with red, green and yellow beads chiefly because of my personal preference of making the patient appreciate physiological diplopia at 3 distances rather than 2 to enable the patient to function efficiently at a variety of near working distances.

HOW TO USE THE BROCK STRING

The patient holds one end of the string close to the nose while the other end is held by the optometrist/family member or fastened to a door knob/chair etc. The string is held taut and pointed slightly downwards, say 5 to 15 degrees depression (depending on a suitable angle when all 3 beads are visible). Initially, space the beads 20cm apart from each other and present the side with the green bead towards the patient.



Figure 1. Brock String schematic. Brock string consisting of a white cord with 3 beads, red, yellow and green. The beads can be moved to different positions. P. Ramkissoon, 2014.

The patient is instructed to first look at the middle, yellow bead. When looking at the middle yellow bead, it will appear single and clear. While looking at the middle bead, the patient will see 2 red beads far away and two green beads close to the patient. In addition, the patient will see 2 strings intersecting at the middle yellow bead, forming an X-pattern.

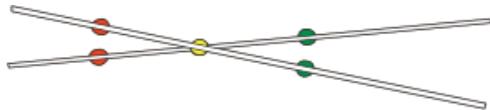


Figure 2. When looking at the middle, yellow bead both the green and red beads appear double. P. Ramkissoon, 2014.

Next, the patient is instructed to look at the green bead (closest to patient), both the middle, yellow bead and the red bead (farthest away) will appear double. Again, an X-pattern will be formed at the bead the patient is looking at.

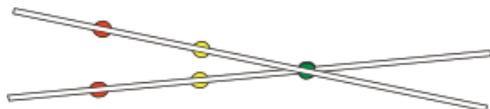


Figure 3. When looking at the front, green bead both the yellow and red beads appear double. P. Ramkissoon, 2014.

When looking at the red bead, the patient will notice two yellow beads and 2 green beads. The middle of the X-pattern is the single, red bead.

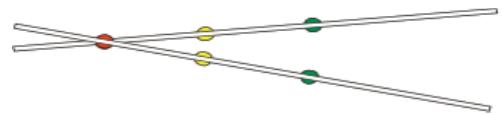


Figure 4. When looking at the far, red bead, both the yellow and green beads appear double. P. Ramkissoon, 2014.

There are 3 goals for the patient to attain: 1st goal-The bead that the patient is looking at should be single and clear. The second goal is that the other two beads should be double, the 3rd goal is to see 2 strings that form an X-pattern with the middle of pattern is the bead you are looking at. The challenge for the patient is to move the green bead closer and closer to the nose till the patient sees two green beads. Once the patient sees two green beads, move the green bead slowly away till the patient sees 1 green bead and then look at the yellow bead and see that the green and red beads appear double. After the 3 goals are attained then move green bead even more closer to the patient's nose till it appears double. Then move green bead slightly further away till it is single and look at the red bead, as before the yellow and green beads should appear double. If the patient only sees one string, ask the patient to blink a few times and alternately close each eye. After a few attempts, the patient should see 2 strings. If the patient sees an X-pattern crossing behind 2 beads it means that the patient's eyes are not converging enough. The patient has to imagine/pretend that there is a fly or insect coming towards him and that he wants to watch its movement towards his nose, this will help to centre the bead he is looking on the X-pattern. If the patient sees an X-pattern in front of the bead he is looking at but sees 2 beads instead of 1, it means that he is converging too much. This time, the patient must pretend that he is following the insect that is moving from his nose slowly away from him, this will enable him to see the single bead at the centre of the X-pattern. The eyes have to cross when looking close and move outward when looking further away. Explain to the patient that because he has 2 eyes he should see 2 strings that look similar and should cross where his eyes are pointed at. For some people their eyes are looking either in front or behind the bead they are looking at. Because the beads and strings provide feedback to the patient they can train their eyes to correct their eye alignment to where it should be.

CLINICAL PEARLS

- Brock string is used to improve convergence in convergence insufficiency patients.
- It is very useful in breaking down suppression.
- It improves fixation skills.
- Often, children with reading problems or who are slow readers have convergence problems. Improving convergence dramatically improves their reading skills.
- Brock string can be incorporated during amblyopia treatment.
- Vision therapy using the Brock string improves stereopsis.
- The Brock string helps develop better binocular vision.

CONCLUSION

Brock string is a simple, inexpensive yet successful tool in vision therapy since it provides immediate feedback to the patient to guide the patient in achieving treatment goals.

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