Brock String

Purpose
This procedure is designed to improve the ability to cross the eyes by providing feedback about what the eyes are doing at all times.

Materials
A brock string is simply a cord of string with threaded beads. The string should be approximately one metre in length. Between two and five different coloured beads are required.

Level 1
Hold the string tight against the bridge of your nose.

Set one bead 50 cm away and another bead 20 cm away. Place the other beads at the very ends of the string out of the way.

Look at the closer bead and describe what you see. Whilst you are looking at the front bead there should appear to be two back beads. This is a normal occurrence when you are looking at a closer object; objects further away tend to double.

Now if you look at the back bead you should notice two front beads. Again this is normal, when we look at objects further away objects closer tend to appear double.

When our eyes are pointing accurately at a target single vision is perceived. All objects in front or behind of the fixated object will appear double.

Now look again at the front bead. You should also notice that as well as there being two back beads there should also appear to be two strings behind the front bead. The string in front of the bead should also appear double. One string should appear to extend from your right eye and the other string should appear to extend from your left eye. Therefore the string should appear double behind the bead and double in front of the bead. If the doubled string in front of and behind the bead meet they should cross at the bead forming an “X”. The two strings intersect at the position where we “fixate” with both eyes. If you let your gaze pass slowly along the length of the string, the point of intersection will also appear to move!

Notice how your eyes feel as they move from close to far. As you look close they should feel tight and as you look far they should feel relaxed.

Ask yourself the following questions as you do the activity:

1. How many strings do you see?
2. Do they make an “X” or a “Y”?
3. Where do they emerge from?
4. Are both strings there all of the time?
5. Do any parts of the strings or beads appear to fade or disappear?
**Potential Problems**

- If you cannot see two strings, your brain may be ignoring the image of one eye. Try twanging or moving the string to overcome this.

- If one string is dull and the other is bright, try to direct your attention to the duller string whilst still looking at the bead. Alternatively, try squeezing the string with each hand and/or alter your posture by changing your weighting on each foot until both strings are equal.

- If you cannot see two strings move the bead to a position where you can see the strings as an “X”. Then trombone (slowly slide forward and back) the bead from this spot whilst you try to hold the centre of the “X” on the bead.

**Picture 1.** Look at the front bead and you will see one front bead, two back beads and two strings that cross at the front bead forming an “X”.

Where you perceive the two strings to cross is actually where your eyes are aimed. Thus if you are trying to look at the front bead but the strings appear to cross behind the bead (picture 2), this indicates that you are looking too far away. Use this information to look closer.

**Picture 2.** As you can see here the string crosses behind the bead, which indicates your eyes need to focus harder (you need to become more cross-eyed).

**Picture 3.** As you can see here the string crosses in front of the bead, which indicates your eyes are focussing too much. You need to relax your focus, try to look further away.

If you have trouble making the centre of the “X” meet at the bead, touch the bead and develop the feeling of looking close and crossing your eyes. Your eyes should feel like they are pulling inwards as you look progressively closer.
If the strings cross closer than the front bead (picture 3) this indicates that your eyes are working too hard. In order to make the centre of the “X” cross at the bead, try to relax your body and eyes, imagine the bead is transparent, and try to look through the bead into the distance.

Once you can hold the centre of the “X” on the bead consistently then progress to the following tasks.

Task 1 (Holding): Place one bead at 20 cm. Attempt to hold the centre of the “X” on the bead for 20 seconds at a time. As performance improves move the bead 5 cm closer then repeat, until you can successfully focus to a distance of 5 cm from your nose.

Task 2 (Sliding): Place one bead at 20 cm. Slowly slide the bead forwards and backwards along the string whilst you try to hold the centre of the “X” on the bead. Note you may need an assistant to move the bead.

Task 3 (Jumping): Place one bead at 20 cm a second at 35 cm and a third at 50 cm. Try to hold your eyes on the near bead for 5 seconds, then shift your eyes to the middle bead and hold for 5 seconds, then finally shift your eyes to the far bead and hold for a further 5 seconds. Repeat this three times and then move the near and middle beads 5 cm closer whilst always maintaining the far bead at 50 cm. Each time you can accomplish this task move the near and middle beads 5 cm closer until you can successfully focus the near bead at a distance of 5 cm from your nose, and the middle bead at a distance of 20 cm from your nose.

Note: You can make the exercise more challenging by increasing the number of beads.

Task 4 (Moving): Next, move the string in various patterns, e.g. horizontal and vertical lines, clockwise and counterclockwise circles; figure 8 patterns, etc. As your skill improves try moving around the room or stand on a balance board.

**Aspects to be emphasised**

- The ability to see two strings which cross to form an “X”.
- Try to be aware of how your eyes feel as they move in and out.
- The awareness of either string disappearing in whole, in part or in any area of movement. The ability for it to return by changing posture or squeezing the hand holding the string.
- The ability to look quickly and accurately from one bead to the next bead and back whilst still being aware of the “X” in turn.
- The ability to maintain awareness of the rest of the room and your body posture. Posture should be relaxed and balanced. Breathe in through your nose and out through your mouth.