ISSUE 5, VOLUME 6 · MAY 27 2022

FRIENDS OF NVT

OFFICIAL NEWSLETTER OF INNEURACTIVE

INTRODUCTION

Welcome back to the Issue 5, Volume 6 of the Friends of NVT Newsletter! In this issue, Dr. Joseph Clark discusses the role of best corrective vision for neurovisual training. Read more below to find our recommendations on which training modalities to use best corrected vision for, and which to not. In our How To this week, we will be discussing how to use the rotary. A classic, but very useful optometric tool that can be incorporated into your neurovisual training regimen.

Thank you for joining us for another issue and we encourage you all to leave questions and/or comments below. Thank you for the continued interest and enjoy!

WHAT'S IN OUR LATEST ISSUE:

@FriendsofNVT

The Role of Best Correction for Vision Training

With several of our NeuroVisual training modalities we require a person to change focus or accommodate. Accommodation is required to keep the image clear on the retina and clear when the brain perceives the object. Accommodation gets harder with age. For the brain, the clear image is used to do calculations and to make decisions.

Consider the task of estimating the trajectory of a ball. If the image of the ball is out of focus the blurred image often is perceived as bigger. The edges are not clear. The spin of the ball may appear absent or distorted. All these deficiencies can contribute to difficulties or the inability to estimate the trajectory of the ball.

Concerning best correction, it is also relatively important to ensure symmetry with both eyes when practicable. Anisometropia is when the two eyes have different acuities. In its severe form anisometropia can impact binocularity. Usually this would be a drastic difference in acuity. But for sports performance enhancement small differences may be magnified. Thus, it is important to ensure that the acuity is symmetric for the two eyes in order to give the brain the best and cleanest information possible.

In post brain injured or stroke patients a pre-existing anisometropia can exacerbate symptoms. What can occur is that prior to the injury or the stroke the brain had enough cognitive reserve to adjust to the acuity differences. After the injury the task of 'digital correction' of the acuities is using cognitive resources the patient may no longer have. Therefore, it is a good idea to check that in brain injured and or stroke patients.

Some healthy people choose to have different acuities in their two eyes. Some people who need correction near and far, and who might need bifocals may choose to have one eye corrected to near and the other eye corrected to far. Thus, avoiding the bifocal look. However, this can result in suppression of one eye and or the other. Indeed, we've seen patients suppressing near and far with alternate eyes based on their choice for near far correction. Related to the anecdote above we've also seen military service members who use binocular night vision goggles set the focal lengths to near in one goggle, and far in the other.

Recall that there is an accommodative – convergence reflex (ACA). This reflex links the response of the accommodative system to the vergence system. If the accommodative system is inadequately corrected the vergence system can be off too. With the vergence system being off the ability to estimate depth will be impacted. The result is that stereopsis can be diminished. This is highly relevant at distances less than 20 feet, which can be an important distance range for numerous sports and combat related activities.

A caveat concerning best correction. There is the concept of 20/20 vision. With patients or clients especially post brain injury or stroke please consider the concept of 20/happy. We have had several patients who could be corrected to 20/20 post brain injury but the 'felt' better at a correction of 20/30 (for example). The perception of a 'softer' image was more comfortable for some patients, so if you are an OD or working with an OD be aware that for some brain injured patients an image that is too crisp and too clear can be overloading. Please strike a balance between ideal and comfortable correction.

In summary best correction is a foundation to high performance NeuroVisual training. Ensure your client is wearing the best correction for their craft. Make sure that the acuity is as symmetric as possible for them. Make sure the do the NeuroVisual Training with best correction in and that same correction is used when performing.

"HOW TO" – Rotary, Rotation Training, Rotating Pegboard, Trajectory Training

While scanning twitter I came across a misguided tweet. The tweeter said something to the effect of, prior to today's electronic media-based technology the ability to do vision training of trajectory and curvilinear based tracking was not possible. He/she was referring to some programs and technologies that allows a person to track one or more multiple moving objects. Which is great leap forward in technology, but this person was extremely ill informed because such training has existed for a long time. One such training modality is the rotary, rotating peg board, rotation trainer or similar device; pictured below.

Figure 1. Rotary Pegboard

Heretofore, rotary will be what we will be talking about. The rotary can be used for NeuroVisual training. It is a relatively simple mechanical device with a disc rotating on a stand. The disk can rotate clockwise or counterclockwise. On the disk can be lines to follow as the disk rotates or pegs. Patients or clients are advised to track a line or a series of lines as the disk rotates for a period of time. Alternately you can put pegs on the board and have the person track the pegs.

When doing the pegs, we will add a brain component to the task. Using golf tee-like pegs we write or paste an alpha numeric on a series of pegs. The person is told to track each peg for one full circle starting with A, 1, B, 2, C, 3 et cetera until the time is up or they finish the task. We also have reflective numbers where they shine a laser pointer on the alpha numeric training eye hand coordination. For memory training we might have a person do the alpha numeric of A, B, C et cetera but tell them there are NO vowels. They need to remember there are no vowels or they get stuck searching for A, E, I, O U.

Typically, we do these drills for 1 minute or one run through the alpha numeric sequence. If we wish to keep score, we do an alpha numeric for one minute and record how far they get.

When a person is learning how to do this it is best to watch a person's eyes to ensure they are following the instructions.

Changing the speed and direction of the rotation changes and progresses the difficulty. Most people will have a preferred direction. Notwithstanding do mix the directions to progress the training.

Announcements

A lot of people in the neuro-visual training community have asked us what nutrition or supplements we recommend. For years we've recommended three compounds as good for brain health. Finally, a company has taken these three compounds and put them into one product; Tricerapro™. If you are interested in finding out more or how to purchase some Tricerapro please visit; www.tricerapro.com. Try Tricerapro, it is your brain's new best friend. Please see the add on the first page of this issue!

This weekend Dr. Clark is presenting at the ISCN conference on the use and utility of exit baselines for concussion management for athletes. More information on the ISCN conference can be found here https://iscn.carrickinstitute.com.

As always, if you're interested in learning more about Inneuractive, our mission, our products and service offerings, or just Neuro-Visual Training in general, please click the following link: www.inneuractive.com.

Have suggestions for a future issue? Please reach out to clarkjf@gmail.com or info@inneuractive.com and we will do our best to include your request in the future.