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FRIENDS OF NVT

OFFICIAL NEWSLETTER OF INNEURACTIVE

INTRODUCTION

Welcome back to Issue 5 Volume 7 of the Friends of NVT Newsletter! In the main portion of today's newsletter, author Esha Reddy reviews Bertec HQ's YouTube channel and resources.

In our "How To" this week, Dr. Clark provides methods for performing NeuroVisual Training in small groups – including the benefits and pieces of advice for conducting this type of training.

We encourage you all to leave questions and/or comments below. Thank you for the continued interest and enjoy!

If you missed an issue, please visit https://inneuractive.com where all issues are available for free. Please tweet and share with your friends as we plan to release more great content. @FriendsofNVT.

WHAT'S IN OUR LATEST ISSUE:

@FriendsofNVT

YouTube Channel Review: Bertec HQ

Visual processing speed and reaction time are hugely relevant in the world of sports and rehabilitation. What originated as a training modality for Israeli air force fighter pilots using slide projects and photographic shutters has transformed into a common training routine for athletes. For football quarterbacks, the faster their visual processing speed, the more looks they will be able to get when they drop back. In baseball, a faster visual processing speed equates to more looks that a hitter can get at the pitched ball to predict the path and timing of the pitch. Even in our daily lives, visual processing speed helps us make decisions regarding driving and safety.

In Bertec's Knowledge Series lecture, "Visual Processing Time & Reaction", Dr. Charles Shearer outlines the definition of visual processing time and reaction time, the effects of aging and concussion on reaction time, and how to test and improve response times.

Visual processing speed can be defined as how fast the mind understands what the mind captures from the environment. Similarly, reaction time can be defined as the time between the onset of a stimulus to the start of a response. As mentioned above, the implications of visual processing speed and reaction time are vast in both sports and daily life. Through the utilization of computerized touch-sensitive screens, tachistoscopes, or the traditional ruler drop test, clinicians can test and identify areas where a deficit may be present in their athletes or patients. Given that concussions lead to slower response times and that visual processing speed decreases by 4-10 milliseconds annually as a person ages, there is great significance in training these skills for injury rehabilitation, prevention, and performance enhancement.

As a clinical biomechanical equipment company, Bertec designs, manufactures, and markets its data-rich products to clinicians, researchers, and sports practitioners across the globe. For example, Bertec manufactures a vision trainer named the Bertec Vision Trained (BVT) to train visual-motor performance and balance. The BVT can also be used in the aforementioned testing of visual processing speed and reaction time.

Bertec's Knowledge Series provides video lectures, that are approximately an hour each, on topics beyond visual processing and reaction time. Their collection ranges from "Balance and Brain Injury" to "Neuro Visual Training for Sports Performance Enhancement". While not all the videos on their YouTube channel are relevant to NeuroVisual Training, Bertec's lecture series is a great resource to learn more about biomechanics and certain NeuroVisual Training topics. For those interested in the NVT oriented sessions, they are linked below.

For Friends of NeuroVisual Training (@FriendsOfNVT), these video lectures provide lessons and techniques to improve NeuroVisual training methods and align with our mission to continuously learn and improve the efficiency of all our training regiments and to provide the latest NVT newsletter.

Knowledge Series Links:

Balance and Brain Injury
Neuro Visual Training for Sports Performance Enhancement
Neuro Visual Training for Sports Performance Enhancement Pt. 2
Visual Processing Speed & Reaction Time
Early Recognition of Vestibular Ocular Impairments Post-Concussion
DVA Test and Its Clinical Application
Eye Movement & VOR Therapy
Your Brain on Exercise
Basics of Eye Alignment
Multi-Disciplinary Approach to Concussion

“How To” – NeuroVisual Training In Small Groups

If you are fortunate enough to work with dedicated athletes who are equally dedicated to improving their craft, NVT training in small groups is a great way to maximize your time, their time and engender healthy competition amongst the athletes. In this issue of FoNVT newsletter we are going to talk about some benefits and pointers to consider when creating and running small group-based Neuro-Visual Training.

By way of an example, we are going to do hypothetical vision training for a group of batters on a baseball team. As a frame of reference, this is similar to what we did in Clark et al., 2012 (https://journals.plos.org/plosone/article?id=10.1371/journal.pone.0029109).

Some things you will want to consider: How large will the groups be? How long do you have those groups for each session? What are the goals you are looking for? What equipment do you have available to you? What frequency and length of time will you be seeing the groups? What space do you have available to you?

Let’s answer some of these questions. We are going to see a group of 6 batters at a time for 20 minutes. We’ll see them twice a week for 6 weeks prior to the beginning of the season. We have lots of modalities and plenty of space. The goal is we want to aid in batting performance.

What we want to do is to have modalities where the athletes can do one- or two-minute drills.

We are going to assume that the athletes have already been trained on how to do the activities so there will be no time taken for instructions.

Instructions are given separately at the beginning of the season and the athletes should be proficient to do the training.

For modalities we’ll choose the following:
Brock string, Near Far Hart Charts, Vertical Hart Charts, Dynavision, Marsden Ball pitch and catch. Hanging Marsden ball (colored ball and colored bat).

Each drill is done for one minute. Each Drill is performed using standard methods. The methods can be found in the following FoNVT newsletter issues (I1V2, I7V4, I2V5, I2V6, I6V6, I8V6)) as well as the Clark et al., paper (https://journals.plos.org/plosone/article?id=10.1371/journal.pone.0029109).

The athletes do each drill three times. The second and third time they do a different Dynavision drill. With 6 stations a training session will last about 20 minutes. Eighteen minutes of drills and about 2 minutes for rotating to the next station.

In the activities referenced above, we might have one NVT trainer monitoring all the stations and keeping time and a second NVT trainer doing the pitch and catch with the Marsden ball.

With practice and proficiency of the athletes, one NVT trainer can run a training session.

For a typical training session, we do not record the data or scores from Dynavision or other modalities. However, by way of tracking, we may have testing days where the athletes are given sheets to record their scores and we’ll examine those for proficiency, progress, and problems.

We’ll rotate the modalities for each day’s sessions. Typically we’ll keep about half the drills the same and then rotate in new drills. That way they have familiarity with the drills and can gain proficiency in the repeated drills while progressing to something new to keep the sessions fresh.

When possible, we’ll engender a sense of competition. For example, we can set the Dynavision on competition mode to determine who has the best score. Competitive athletes always want to know where they rank within the team as well as how they are progressing. So, we often have leaderboards as a place of pride for the leaders.

We will design each session to include the three pillars of NVT (I1V1). We will increase the difficulty and change the modalities based on progress as well as the availability of modalities/equipment.

Announcements

If you are interested in learning more about NeuroVisual Training modalities such as how to use a phoropter in a rehab setting, please look into this course: tinyurl.com/b9x3wv2z. The course is designed for Athletic Trainers, Physical Therapists, Chiropractors and NeuroVisual Training specialists to gain more skills on the uses of the phoropter. Feel free to contact Dr. Clark if you have questions, clarkjf@gmail.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.