FRIENDS OF NEUROVISUAL TRAINING NEWSLETTER. ISSUE 4, VOLUME 3.

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Introduction.

Welcome to Issue 4, Volume 3 of the Friends of NVT Newsletter! In this issue we hear from Blake Bacevich, one of our authors as well as a defensive end for the University of Cincinnati Football team. Blake discusses his perspective as a Division 1 athlete on why peripheral vision is so important for on-field performance.

We also further enhance our previous discussions of assessing suppression as Dr. Joseph F. Clark presents a "How-To" on a 3-part panel for assessing Near/Far suppression.

We wish everyone a safe and happy New Years and are excited to continue providing more NVT content going into 2021. If you have any requests for future issues, please feel free to reach out!

As always, be sure to follow us on Twitter for even more NVT related content at @FriendsofNVT!

Peripheral Vision. It's not about seeing; it's about trusting what you see – An Athlete's Perspective

If you were to sit in a football meeting or stand on the sideline to watch a practice, the phrase "use your peripherals" is not an uncommon line to hear from a coach. The idea that athletes need strong peripheral vision skills to excel in their sport is no secret, however, many individuals limit the concept of peripheral vision to strictly the visual component while neglecting the neurological aspect. This approach fails to address the 3rd Pillar of NVT (I1V1) and limits an athlete's ability to utilize the visual input they are receiving from their peripheral field and therefore hinders performance capabilities and heightens injury risk. Peripheral vision is an integral component of success and safety in ones given sport. However, individuals must also recognize that

peripheral vision is not restricted to what you are able to see, but also how efficiently you process and trust that information. An athlete may have a great peripheral field of vision but without the neurological capabilities to process and trust the information they receive they are limiting themselves from reaching their optimal level of performance and will often find themselves reacting slowly to visual cues.

In the realm of sports performance, it is important to not only be able to see what's going on around you, but to also be able to process and trust your eyes and brain to provide information on the visual input you are receiving. As a defensive end my responsibilities are often dependent on many different visual cues from the opposing team. While I have a primary responsibility and focal point at the snap of the ball, the action of others throughout the play can result in me moving onto a secondary responsibility. The recognition and transition to my secondary responsibility often involves use of my peripheral vision to recognize and react quick enough that I do not miss my read and give up an explosive play.

As an example, in a passing situation I often have a primary responsibility of rushing the quarterback and certain defensive calls will also give me a secondary responsibility of covering the running back if he runs a route out of the backfield. This is one of the most common roles of a defensive end and involves numerous uses of peripheral vision and recognition in a 3-4 second period, very little time for error or hesitation. As the ball is snapped my focus is primarily on the offensive linemen as I quickly need to recognize run vs pass. In addition to this, I often need to be aware of what is taking place in the offensive backfield. As I transition into my pass rush, I must continue to focus on defeating the offensive linemen in front of me while also being aware of the possibility of the running back releasing into a route or the offense running a screen/draw play. The running back releasing would require me leave my primary responsibility and run with the running back whereas a screen or draw would require me to retrace my path back to the line of scrimmage and not fall into the trap of a fake pass set from the offensive linemen in attempt to bait me upfield. The only way for me to recognize either of these situations in an efficient way is to use and trust my peripheral vision in order to have awareness of the running back and quarterback in the backfield while I stay engaged with the offensive linemen throughout my pass rush.

Football is a very fast paced sport in which numerous decisions must be made over a 3-4 second play, 60-70 times a game. Many people refer to football and other sports as a game of inches, but it could also be referred to as a game of seconds. The difference between me covering the running back versus him having a half step on me and completing a 30-yard gain for a touchdown could be the result of me reacting to him releasing from the backfield 0.5 seconds slower. Having strong peripheral vision and recognition may be the difference in that 0.5 second delay of a reaction. In this situation, as well as numerous others across a variety of sports, time is saved by not having to re-scan the field of play after disengaging from a primary responsibility and can often be

the slight difference in a positive play for your own team versus an explosive play for your opponent.

In today's world of sports, it seems coaches expect their athletes to naturally have great peripheral vision skills. They often simply instruct their athletes to "use their peripherals" instead of aiding in the development of peripheral vision. As we have discussed in previous issues, the eyes and brain can be trained in a synonymous fashion to strength and speed training in the weight room. As athletes and coaches are always looking for the next leg up in terms of performance enhancement, peripheral vision training with neurocognitive progressions such as call and recall are a great tool to add to any training regime. Together we can see more, react quick, and play fast!

"How To" – Near/Far Suppression

In I3V2 we presented a "How To" on suppression in general. Therefore, we will not revisit all the reasons to assess suppression nor will we talk about the reasons for suppression. In today's "How To" segment we will talk about the reasons for assessing near and far suppression and why it is important to assess both.

In I3V2 we presented three main methods for assessing suppression: Brock String, Thumb Thing and Bates Field Splitters (I3V2, I5V2). The brock string is very good for assessing near suppression as well as accommodation-convergence issues. Thumb thing is very good to assess far suppression and can work for near suppression too as well as being useful to assess the duction muscles. The Bates Field Splitters work best for assessing far suppression and gives some information concerning visual perception. When these three are performed as a panel the tester can get information concerning near and far suppression as well as to determine which eye (eyes) is suppressing.

Briefly, for the Brock string use one bead on the string. Have the bead at 14 inches and have the person look at the bead with the string held between their eyes extending orthro from the bridge of the nose. If they see one bead and one string, they may be suppressing. If both eyes are open and you cover one eye and the string 'jumps' the eye you covered was not suppressing. Thus, the other eye is suppressing near.

For the thumb thing, have the person focus on and dwell on a target greater than 20 feet away and smaller than 1 foot in size. Bring their thumb up to the level of the far object. If they only see one thumb and the thumb jumps when one eye is covered the eye covered was not suppressing far, the uncovered eye was suppressing far. Repeat with the person looking at their thumb. They should see two of the far objects in the background. If they only see one and that one object jumps when one eye is covered the covered eye was not suppressing near.

The bates field splitters require a person to put two different colored cards in front of their face such that one eye sees one color and the other eye sees the other color and the cards are at the bridge of their nose. They look at a far target more than 20 feet away and should see two colors. If they only see one color the eye seeing no colors is likely suppressing far.

If a person is suppressing one eye near and far the suspicion is that the non-suppressed eye is doing all the work. This could lead to fatigue, headache and a host of problems. If a person is suppressing only near, you might wish to consider an ocular motor or accommodative issue for the suppressed eye. Conversely if a person is suppressing one eye near and the other eye far, what could that mean? Well a common reason for that is it is a learned or adaptational response to different acuity lenses for correction. Imagine if a person has prescription eyeglasses and for whatever reason got a near correction in one eye and a far correction in the other eye. With time that person would learn to suppress the eye with the poorer acuity for that distance.

Do you want to 'treat' a person with learned suppression like this? Maybe not. Locally we have worked with military service members who regularly work with binocular night vision goggles. They choose to set the focal length for the goggles for one eye to focus far and one eye to focus near. They have learned to use one eye for far and one eye for near eventually suppressing the contralateral eye. This adaptational response when using the night vision goggles may be very important for their battlefield performance and therefore it might not a good idea to treat this alternating near/far suppression. Treating suppression becomes a case by case decision.

Suppression can impact other test results. For example; near point of convergence could be impacted by near suppression. Phoria assessments as well as depth perception could be nearly impossible with suppression. Most drills that require binocularity would be impacted by suppression; making tranoglyphs and vectorgrams impracticable.

Following a post traumatic brain injury, a person may have intermittent suppression, alternating suppression, alternating and intermittent suppression as well as near or far suppression. It is important to check suppression regularly, check near and far suppression and use more than one modality to assess suppression. Treating the suppression post brain injury would also be a case by case decision because a post brain injured patient might become overloaded with the treatment or with full binocularity. Notwithstanding it is important to know if you patient is suppressing and how to manage it as needed.

Announcements.

The #9 ranked Cincinnati Bearcat's football team travels to Atlanta this week to face the #10 ranked Georgia Bulldogs in the Chick-Fil-A Peach Bowl on New Year's Day! The

game will take place in Mercedes-Benz Stadium and will televised on ESPN at 12:00 PM. This will conclude the season for the Bearcats as they look to complete the first undefeated season and capture the first NY6 bowl victory in school history!

Dr. Joseph F. Clark was recently interviewed by Brain Advocates on the use of NVT for concussion prevention. This interview contains some of the material we have discussed in previous issues as well as some topics we have not yet touched on. You can view the full interview as well as a written summary using the link below.
http://www.brainadvocates.com/how-to-prevent-concussions/

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