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FRIENDS OF NVT

OFFICIAL NEWSLETTER OF INNEURACTIVE

INTRODUCTION

Welcome back to Volume 4 of the Friends of NVT Newsletter. We are excited to continue to bring you more NVT related content throughout the extent of this volume. In this issue (I1V4) we'll be talking about an NVT oriented paper written by Dr. Laby. Jon Vincent Reviews this paper with a focus on how important eye discipline is (I3V2).

The "How-To" for this issue features an introduction to a quick and easy tool used to test for suppression, the Thumb Thing. The Thumb Thing method is a simple test that can be used to assess near or far suppression very quickly. This can be a great addition for quick sideline assessment when you may suspect fatigue induced suppression.

We're glad to be back and hope you enjoy Volume 4.

As always, thank you for your continued support of NeuroVisual Training and be sure to follow us on Twitter @FriendsofNVT!

WHAT'S IN OUR LATEST ISSUE:

@FriendsofNVT

A Review of a Publication from the Journal of Sports and Performance Vision: Visual Fixation

Visual fixation is defined as the ability to aim the eyes to a particular spot and to accurately maintain that visual gaze on that single location. Imagine you are instructing someone to perform the Near Point of Convergence (NPC) assessment that we discussed during Issue 6, Volume 3 of the FoNVT Newsletter, and when you instruct the participate to focus on the tip of a ball point pen, the participant should be focusing on the ball of the ball point pen and that alone. This process relies on both the accommodative and vergence systems to maintain effective visual fixation. We usually refer to this as "Eye Discipline" – one's ability to efficiently direct their eyes to a designated target and maintain that fixed sight undistracted. Now, think back to our previous NPC participant. What if instead of maintaining the fixation point on ball of the ball point pen, you notice the subtle jump in the patient's eyes from the ball of the ball point pen, to the end of the plastic part of the pen, to the middle of the metal part of the tip of the pen, etc. This would most likely seem distracted or as undisciplined visual fixation. Visual fixation is used routinely throughout sports; think about a baseball batter maintaining their fixation on the pitch coming towards them across the plate, or a cricket batter fixated on the pitch after it bounces off the ground, a football quarterback fixating on the hands of an open wide receiver, or even the role of visual fixation in a basketball player shooting a free throw. Visual fixation plays a key role in effective sports performance.

The publication, "Visual Fixation in NBA Free-Throws and the Relationship to On-Court Performance", authored by Dr. Daniel Laby, MD in the Journal of Sports and Performance Vision evaluated the visual fixation metrics of 16 professional NBA players prior to the 2018-2019 season. For basketball, the literature has termed this final visual fixation just prior to the final movement of the motor task (in this case shooting a basketball) the quite eye. The study required these players to shoot 30 consecutive free-throws, measuring their success rate, while also wearing Tobii Pro 2 eye-tracking glasses (Tobii Technology, Inc.), which recorded several visual fixation parameters: (1) Fixation count – the number of times the shooter visually fixated on a location within the area of interest (area of interest = the basketball rim), (2) Visit count – the number of times the player's fixation left and re-entered the basketball rim, and (3) Total duration – the total amount of time the player's fixation remained within the basketball rim. These visual fixation metrics were then compared with these players' performance statistics from the 2018-2019 season: (1) Free throw percentage, (2) Three-point field goal percentage, (3) Offensive rebound percentage, and (4) Usage percentage.

When comparing the relationship between the three visual fixation metrics and free throw success, the results of this study demonstrated positive correlations ranging from 0.539 to 0.970, all of which were statistically significant (<p value =0.05). Furthermore, when comparing the three visual fixation metrics to the four on-court metrics, interestingly there was no correlation between any of the on-court metrics and the fixation count, but three-point field goal percentage, offensive rebounding percentage and usage percentage were correlated with total duration ranging from -0.598 to +0.604. This is interesting because the data suggests that the longer the time that a player's fixation remained on the basketball rim, the more likely they were to make a three-point field goal, although they were less likely to successfully get offensive rebounds and were less used for specific plays. Another interesting result, although possibly commonsensical, was that there was a correlation between the players' free-throw percentages during the study and their free-throw percentages on-court during a game. However, one may think that the better free-throw percentage during the study, the better free-throw percentage during a game would have been a strong correlation, and yet only a moderate correlation was found with a coefficient of 0.536 and p-value equal to 0.048.

Dr. Laby interprets this data as that the longer the players fixated on the basketball rim, the better three-point shooters they were and given this they are intrinsically further away from the basket and thus have less of an opportunity for offensive rebounds, and that since these players are better three-point shooters, they are used less specifically for setting up plays. This study highlights the role of vision fixation, specifically what and for how long a player fixes on, and basketball performance. Furthermore, this coincides with the idea of what we believe at the Friends of NVT, if deficiencies are found, the appropriate neuro-visual training exercises can effectively lead to improved athletic performance. In any field, especially at the professional level, where everyone is relatively at the 99th percentile in athletic performance, how can one differentiate themselves? We believe that it is through improving the more discrete metrics, vision, cognition, decision making, etc. through neuro-visual training.

To read the actual publication, please click the hyperlink found embedded in the publication title above and you will be directed to the published PDF of this study, or click the following link: http://www.jsapv.com/index.php/JOVP/article/view/3/3

“HOW TO” – Thumb Thing

“Thumb Thing” is a great on-the-go tool to quickly assess Near/Far suppression when an abundance of equipment may not be available. Fatigue induced suppression is a common form of suppression experienced among high level athletes and can have a significant impact on performance as well as present a heightened injury risk. This tests’ utility and lack of equipment needed make it a great sideline tool to assess fatigue induced suppression in athletes throughout a competition. This method can also be easily taught to athletes for them to quickly assess themselves on their own if they begin feel symptoms of suppression. In this section we will walk you through our protocol to quickly assess both near and far suppression in under 2 minutes.

Far Suppression:

1. Have the patient look at an object in the distance, about 20 feet away. The object should be no larger than softball sized.

2. Ensure that while giving the next set of instructions the patient keeps both eyes on the object and does not look away.

3. Ask a series of questions, “Does the object look normal? Is it clear? Is it in focus? Do you see one object?”

4. If all questions are normal instruct the patient to, without looking away, bring the thumb up to the level of the object. However, do not look at the thumb!

5. While they maintain focus on the object, not the thumb, ask the patient if they see one or two thumbs.

6. If the patient see’s two thumbs this indicates they are not suppressing at distance and pass the test for far suppression.

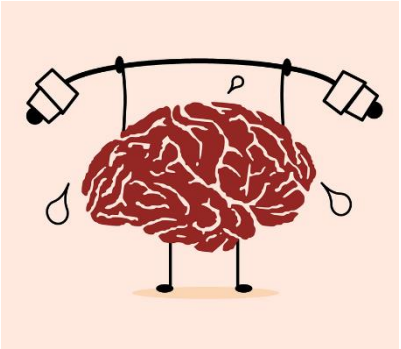
7. If the patient reports only seeing one thumb, cover one eye and ask if the thumb jumps. Then repeat the same for the other eye. The thumb will typically jump when the non-suppressed eye is covered and not jump when the suppressed eye is covered. If a patient reports the thumb not jumping for a particular eye, they are likely suppressing that eye at a distance.

Near Suppression:

1. Closely watching the patient eyes, ask them to transition their focus from the object to their thumb.

2. While mainlining focus on their thumb, now ask if they see two of the objects in the distance.

3. If they see two objects, they are not suppressing near.



4. If they do not see two objects, follow the same protocol as far suppression to determine white eye is suppression near.

While performing this assessment you can also ask your patient to shift their focus back and forth from their thumb to the object. Paying close attention to their eyes, one can assess symmetric eye movement as well.

This great on-the-go test can be conducted in under 2 minutes to gain valuable information on both near and far suppression, which eye may be affected, and eye movement to allow us the best opportunity to keep our athletes safe while performing at their best!

Announcements

Don’t forget to check out the ISVA symposium this weekend. Dr. Clark will be giving 2 lectures on doing NVT for performance enhancement.
https://www.isva2021.com/#home

If you are in the market for some new NVT devices, please check out the Inneuractive store for their expanded NVT tools.
www.inneuractive.com

A shout out to Robert Hasselfeld, a like minded NVT person, on his article discussing screen times impact on the process of accommodation. Check it out using the link below.
https://www.precisionelitegoalkeeperacademy.com/post/sacrifice-the-screen