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Enhance reaction time for the masses and elite goalkeepers via smartphone and BlazePod

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Abstract

Reaction time is one of the important methods to study a person's central information processing speed and coordinated peripheral movement response. Visual choice reaction time is a type of reaction time and is very important. Athletes need excellent vision to perform well in their sports, and many athletes have turned to vision training programs as a way to augment their traditional training regimen. The growing practice of 'sports vision training' relies on the notion that practice with demanding visual perceptual, cognitive, or oculomotor tasks can improve the ability to process and respond to what is seen, thereby improving sport performance. This enterprise is not necessarily new, but has been advanced greatly in the past few years by new digital technology that can be deployed during natural training activities, by perceptual-learning- inspired training programs, and by virtual reality simulations that can recreate and augment sporting contexts to promote certain sports-specific visual and cognitive abilities. These improved abilities may, in turn, instill a competitive advantage on the playing field, underscoring the potential value of these approaches. This article reviews emerging approaches, technologies and trends in sports vision training. Introduces a whole new attitude towards exercise. Small, touch sensitive pods are used as visual cues to enhance your workout experience. The Blaze Pod mobile app enables you to precisely measure and analyze your drills in the most effective and user friendly way.

Keywords: vision training, oculomotor, virtual reality simulations, BlazePod

1. Introduction

The concept is relatively simple. Choose from one of more than 100 exercises via the smartphone app. When each pod lights up, it prompts the user to move. The water-resistant and smash-proof pods are designed to flawlessly integrate into exercises.

Pushing you to work on your reaction time and reflexes, as well as agility, speed, balance, and stamina. Users can run through different training modules and measure their performance down to the millisecond. The wireless, portable system uses lights and sensors with pre-programmed exercises to help you increase agility, reaction time and more. You essentially get a Flash Reflex Training system, designed to supercharge the workout.

2. Materials and methods

Arrange the pods to suit the many Blaze Pod drills, record and challenge your speed, agility, power, pace and reaction times down to the millisecond. The most efficient and affordable Flash Reflex Training solution for everyone, from the fitness enthusiast to the world's largest sports clubs. Train harder, exceed your limits and beat the numbers. Blaze Pod is a modular workout aid that delivers intense, addictive training sessions to improve users' agility, balance, strength, stamina, reaction time and speed. The innovative training system uses sensors and bursts of light as visual prompts in more than 100 interactive exercises that can be done anywhere, at any time. It also provides users with performance stats accurate to the

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2.1 BlazePod Activities

For those of you who aren't sure where to begin, there's a host of activities to choose from. Use professional, pre-defined activities to improve your hand-eye coordination, agility, speed, stability and strength

2.2 Custom Activities

With a highly flexible system, you can create your very own activities and mold them into the perfect workout, to suit your needs. You have the option of customizing existing programs, or for those with a more active imagination, new programs can easily be created from scratch.

2.3 Group and Individual Training

With Blaze Pod, group training can be taken to a whole new level. The group training mode challenges you and your friends with fun, competitive activities. Compete and push each other's motivation to the sky

2.4 Physical and Cognitive Training

Blaze Pod drills along with the visual cues of the pods lights, creates a more motivating environment to training. Adding the element of training to the light, will automatically push the body to perform an exercise faster, technically better, stronger, and at the same time, keep the brain working much more actively.

2.5 Measure and Analyze Your Performance

Blaze Pod's real-time data analytics allows you and your clients to be the very best you can be through measuring your performance and keeping you on your toes. Pods connected to the app will relay information on agility and speed - your overall performance - to give you the best workout ever, each

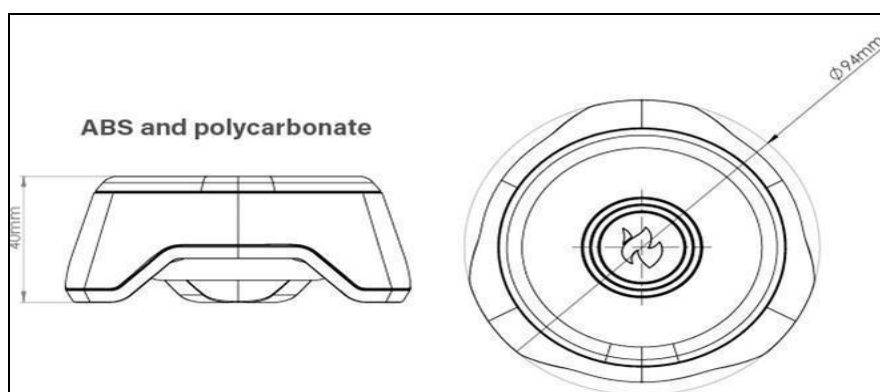
and every time.

3. Results & Discussion

Having a slow reaction time in midlife increases risk of having died 15 years later, according to new research published in the journal *PLOS ONE*. Researchers from UCL and the University of Edinburgh looked at data from more than 5,000 participants (age 20 to 59) collected from the Third National Health and Nutrition Examination Survey (NHANES-III) in the US. At the start of the study in 1990s, participants visited an examination centre and had their reaction times measured. The task was very simple -- they had to press a button when they saw an image appear on a computer screen. Over the next 15 years, they were followed to record who had died and who survived. A total of 378 (7.4%) people in the sample died, but those with slower reaction times were 25% more likely to have died (from any cause) compared to those with average reaction times. This remained the case after the researchers had accounted for the participants' age, sex, ethnic group, socio-economic background and lifestyle factors into account. There was no relationship between reaction time and death from cancer or respiratory problems. Lead researcher Dr Gareth Hagger-Johnson, from the UCL Department of Epidemiology and Public Health, said: "Reaction time is thought to reflect a basic aspect of the central nervous system and speed of information processing is considered a basic cognitive ability (mental skill). Our research shows that a simple test of reaction time in adulthood.

can predict survival, independently of age, sex, ethnic group and socio-economic background. Reaction time may indicate how well our central nervous and other systems in the body are working. People who are consistently slow to respond to new information may go on to experience problems that increase their risk of early death. In the future, we may be able to use reaction times to monitor health and survival. For now, a healthy lifestyle is the best thing people can do in order to live longer." Reaction time is an ability often overlooked in sport. It simply means how fast an athlete is able to respond to a stimulus. Think a sprint start in running, returning a serve in tennis or dodging a punch in a boxing match. But that's not all it's good for. Quick reaction time is required in almost all sports and in everyday life. And the good news is, it's a strength that can be improved.

3.1 Tables and Figures





BLAZEPOD


- ◆ High brightness RGB LEDs
- ◆ High performance accelerometer
- ◆ BLE (Bluetooth Low Energy)

CHARGER & BATTERY

- ◆ 45 minutes charging time
- ◆ USB powered charging dock
- ◆ Charge up to 6 BlazePods stacked on a single dock.
- ◆ Lithium-Ion, 250mAh rechargeable battery (12h workout)

POD ENCLOSURE

- ◆ IP65 water protection
- ◆ Anti-slip traction tape on the bottom
- ◆ Keyhole for attaching accessories (suction caps and hanging straps)
- ◆ High impact ABS



4. Conclusions

Reflexes do play a role in reaction time. Some people are born with faster reflexes. Electrical impulses actually travel more quickly through their nerves. But you can also speed up nerve conduction through practice. A soccer player, for example, can improve his running or kicking. In doing so, his knee jerk might get faster. But those kinds of improvements are specific to the activity. A soccer player's feet and legs might develop faster nerve conduction than average. But if that same soccer player were to have a contest of finger speed with a classical pianist, the pianist would win, hands down. The real key to reaction time is practice. By repeating the same movements, you make them almost automatic. That's why professional baseball players can dive to catch a sizzling line drive. And it's also why once you learn to ride a bike, you never forget. These actions aren't classical reflexes. But with so much practice, your movements almost mimic a reflex. They are motor skills that have been etched into your nerves and brain so that those.

motor pathways are almost reflexive. Reflexes do slow with age. Physical changes in nerve fibers slow the speed of conduction. And the parts of the brain involved in motor control lose cells over time. But the effect of age on reflexes and reaction time varies greatly from person to person. You can actually slow down-even reverse-the effects of aging by staying physically active. blazepod will enhance the reflex action of both for athletes and non athletes .this equipment user friendly for differently abled people and Para athletes. Goal keepers often only have a split second to react to shot, which means that they need regular training this blazepod will

make training sessions much enjoyable and effective .it also enhance eye hand coordination Blaze Pod is based on the flash reflex training method, which challenges athletes to touch, kick or smash the interactive lights while training. Developed to make the costly method available to everyone, this is the first system to deliver these types of workouts through the users' smart phones.

5. Acknowledgments

Being a field hockey goalkeeper I had gone through vigorous training some special days my coach were interested to give reaction time increasing drills even this drill have some limitations to enhance the reaction time so during this days I had visited to watch reaction drills in Google .this lead me to the topic impact of sports vision training.

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