

सवाल: तीरन्दाज़ निशाना सधते समय एक आँख बन्द करके निशाना क्यो साधता है?

Answer:

Well, the issue of closing one eye while aiming turned out to be a far more difficult question than hitting the bull's eye!

For example, while searching the Internet I found that it's mostly to do with habit – most people keep one eye shut when aiming at a target simply because they have been taught to do so. Some also feel that focusing with one eye shut is easier and faster than keeping both eyes open. But the truth is that your accuracy increases if you keep both eyes open. In fact, many trainers now say that aiming at something with both eyes open is the best option, especially in situations where your target is mobile, whether it is a human one or some other animal, or whether you are trying to hit moving targets.

How do we 'see' things?

The thing is, each eye takes in visual stimuli and then this information (images on the retina of each eye) is transmitted to the brain. Our brain takes these two slightly different images (different as there is a horizontal distance between our two eyes which makes them see slightly different views) and reconciles them into one. This allows us to see in three dimensions, determine distances and speed of the object, allows for spatial orientation, and assists with balance. This sensitivity is what provides a shooter with the ability to respond to changes in the environment, especially with respect to a moving target.

However, when aiming at a stationary target kept at a fixed (known) distance away (as is often the case in competitions), the situation is completely different. This is because our brain has a tendency to prefer the visual input from one eye over the other. Just like we are right or left-handed, most of us are also right, or left-eyed. We can say that one eye is dominant when compared to the other. So perhaps an archer closing one eye while taking aim at a distant stationary target is doing nothing else but closing the non-dominant eye, and using only the dominant eye - why bother the brain unnecessarily in this particular kind of situation by feeding it with visual data from the less-favoured eye?

However there definitely is one practical problem in taking aims with one eyes closed: It is physically discomforting! Forcibly keeping one eye shut for several seconds at a stretch takes a lot of effort from our eye muscles and is quite irritating. This impacts our ability to concentrate on what the open eye is showing us. Thus most professional shooters either practice aiming with both eyes open, or they place some opaque device fixed in front of their non-dominant eye (such as, one black eyepiece in the goggles they wear)!

Are you left or right-eyed?

There are several ways to find out which is your dominant eye. Here is one of the simplest methods, called as the 'Porta test'. Extend one arm, then with both eyes open aligns the thumb or index finger with a distant object. Now close one eye. Your alignment will shift and the finger will not point in the direction of the object. Do the same with the other eye. The eye which suffers less shift is the dominant eye.

When I took the Porta test before writing this answer, I learned that I am most probably right-eye dominant. So is it better to use the dominant eye while shooting? The answer is not straight forward.

About 80 percent of the world's population is right-handed (i.e. they prefer to use their right hand). However, about 65-70 percent of the population is right-eye dominant, with about 20-25 percent being left-eye dominant. About 10 % of the population is cross-eye dominant, ie, right-hand dominant but left-eye dominant (or vice versa.) Only a small number (roughly 1 percent) have no dominance by either eye. These variables affect accuracy during shooting practice.

For instance, one professional shooting instructor noticed students who are cross-dominant usually miss slightly high on the target, but way off to the side. For example, a right-handed-left-eyed shooter will hit high and to the left. He says one can usually recognise a cross-dominant shooter when they move the gun toward their non-dominant side or see their head moving sideways as they aim. Of course, this varies. Usually most shooters use their dominant eye along with their dominant hand, for shooting. It seems natural for most and usually one does not have to struggle with their eyes, head movement to the side, covering one eye or putting tape on one eye, etc. However, It is frustrating, takes a lot of time and practice, and is counter to our basic physiological composition to try to overcome our natural tendencies to use our dominant eye and hand and gravitate to the other eye or hand. Of course, medical factors, eye and hand injuries, early training, distances and bullseye or close-quarters type of shooting, follow-up shots and response time, and other factors all impact our decisions. Certainly, each of us may have different degrees or magnitude of eye and hand dominance and some may shoot just as well with either eye or hand.

Why don't you give it a try too? Write to us and tell us – are you left, right or cross dominant?

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May 10, 2017