

METERS TO IMPACT CONCEPT: Changing the way we look at driver risk.

Traditionally, transport operators test whether a driver can see or not, by testing his eye sight and giving him glasses if there is a problem. This however does not directly impact decision making based on what you are seeing. What we forget is that eyes are possibly only a third of the equation. There is a complex series of muscular and neuro processes that go on after the eye has seen the hazard and before the foot hits the brake. The faster this process is the more time and space we create, the more time the closer one gets to impact.

Professor Mehdi Ordikhani-Seyedlar (a Neuro scientist) explains that when we drive there are two main parts of the brain at play.

Frontal cortex: Professor Mehdi Ordikhani-Seyedlar explains that the frontal cortex is where our overt attention is processed, in other words where our active or conscious thinking where active seeing happens.

The frontal cortex is also our *filter* which governs how we think, a driver may believe that he is “bullet proof” for example, and be more open to taking risks, which may be fine if his reactions are fast.

The back of the head: This is where our overt attention happens, or our unconscious decision making, which allows us to do things without thinking. (Can you remember driving a stretch of road and being unable to remember changing gears?) It is also where our peripheral vision is processed, something we don't usually actively try to do.

The more familiar we become with our vehicle, the greater time a driver spends in the *unconscious space*. This is all good and well, but what if a driver's eye brain function is sub-standard or not fit enough for the task at hand?

OCULAR

Ocular is a product developed with EyeGym. It is an internet based assessment that measures your visual performance skills and decision making. One could call it an eye-brain assessment and its function is to measure if a) a driver's eye brain function is sub-standard or not, and b) to measure if the driver is aware of this or not (unconsciously incompetent).

HOW DOES THIS HELP?

The results of the assessment are the starting point to shifting the driver from being unconsciously incompetent to being aware of his weakness (consciously incompetent).

If we are successful in creating this shift, the driver's frontal cortex will adopt a new filter, meaning that having accepted the weakness, the driver is likely to be more cautious.

What this physically means on the road is that drivers will begin to give themselves more time, which means more space. The change can be instantaneous as it is essentially the switching on of a filter.

What driver trainers need to do with a driver with poor scores is to help them to begin to shift his reliance from the the back of the brain (driving unconsciously) to drive using the active part of his brain and think more about what he does. Again, being Conscious of one's weakness makes this easier. This is in fact a major win for Driver trainers, who often meet with driver's resistance without realising

that what they are asking from drivers is a shift in how their brains function and it is naturally uncomfortable.

This fits in well with defensive driver trainers, who teach an active routine in the cabin. A greater percentage of active decision making should, in practical terms, mean earlier detection of hazards, which again means more time to break to respond accordingly.

Finally, to have the ultimate impact, transport operators should consider training their drivers on Eyegym Trucker where like in a Gym Eye brain function can be improved. (Even the better drivers will have weaknesses in their systems).

Our research has taught us several things:

1. Drivers with unfit Eye-Brain performance can still be good drivers. This requires create care and actively practicing defensive driving techniques.
2. Drivers with unfit Eye-Brain performance and poor telematics scores are where the biggest risk lies.
3. Drivers with unfit Eye Brain performance are likely to be affected by fatigue more easily.
4. Most drivers tend to overestimate their ability (Dunning-Kruger effect).

CONCLUSION

Ocular's ultimate function is to create space between the hazard and impact and overall decision making and driving skills. Eye-Brain performance needs to be assessed annually as an unfit system is directly affected by ageing and health.

Using lessons learned from the world's top sporting teams who are using EyeGym, this low cost, easy to access approach holds great promise in better understanding a better risk assessment of drivers, and in strengthening the importance of defensive driving and creating caution. We hope you have enjoyed looking at this subject from a completely new angle.

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References:

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