Three independent studies demonstrate the effects of NeuroTracker training transfer to visual abilities, in-field performance and for athlete profiling.

**French Rugby – FFR & Stade Toulousain**

**NeuroTracker** trained players showed better performance gains than untrained NeuroTracker levels closely matched FFR players’ abilities on the field.

Their main findings demonstrated that the following all correlated significantly:

- Progression in performance rating with NeuroTracker training through blind assessments by expert field coaches (using questionnaires)
- Progression in both the ability to anticipate opponents and to execute performance based decisions with NeuroTracker training, as self-assessed by players (using questionnaires)
- Initial and trained elevated NeuroTracker baselines with FFR player positions

FFR assert strong positional differences in the processing of performance information with their international class players. They found that the best NeuroTracker scorers were dominantly positioned where the acquisition of game information is very frequent and the pressure is highest to act on very short timescales.

Based on a multiple regression analysis with a final vs initial evaluation ratio of 9 / 1, the study summarized, “...given these surprising results we are encouraged to validate the tool for improving visual-related performance of elite rugby players.” FFR are planning further studies to quantify the transfer of NeuroTracker progression against anticipation abilities and decision reaction times in actual rugby play.

**Stade Toulousain Rugby Club study conclusions:**

NeuroTracker can profile players by baseline comparisons with field positions NeuroTracker improved visual processing, reactions and concentration levels

Ranked one of Europe’s top teams, Stade Toulousain undertook NeuroTracker research with the University of Paris XI while the team used NeuroTracker for direct performance training. After 10 NeuroTracker sessions MOT thresholds increased an average of 52%, with some players tripling their levels.

Particularly interested in profiling efficacy, their analysis showed that initial baselines highly correlated with specific player positions and with the ranked levels of players; the top ten initial baselines were achieved only by world class players.

‘Neurotracker demonstrates the ability to profile athletes according to their decision-making role in the game, we can actually map out the team by players position and their decision-making role in the game.’

Using questionnaires pre and post training with both athletes and coaches, assessments showed players as being more responsive, more sensitive to their peripheral vision, and higher mental focus.

‘The players felt the impact of training Neurotracker on their overall performance...an improvement in their concentration, their sensitivity to information in their peripheral vision, and for increased reactivity.’

**CAR – Spanish Olympic Training Centre**

**Optometric tests confirmed** NeuroTracker training increased visual abilities 2000+ assessments showed NeuroTracker improved visual performance NeuroTracker rapidly conditions functional integration of added motor loads

CAR’s three tiered study involved 37 elite athletes in multiple sports undertaking 26 NeuroTracker sessions.

1. **Pre and post training evaluations** by a qualified optometrist at the ‘CAR High Performance Vision Center’

‘We observed that all the skills have improved in a statistically significant way.’

Significant measured improvements in **dynamic visual acuity** and **response time to peripheral stimulus** were of key interest as inference on the top-down influence of higher level perceptual-cognitive abilities with lower level visual functions.

2. **Scaled questionnaires** carried out 20 times per athlete and coach assessing performance on: peripheral vision (1), visual concentration and selective attention (2), perception speed and information processing (3).

Referencing in-game statistics, coaches of the ‘team-sport’ athletes asserted the players had improved greatly, with some remarkable performance developments for goalkeepers.

‘Comments largely agreed on increases in their comprehension of game play...goalkeepers claimed to literally ‘see it all’.’

3. **Cognitive adaptation with added motor-loads** – the sessions added two levels of motor loads while training – sessions 14-20 standing up, and 21-26 performing a sports related balance task. These matched other findings that NeuroTracker levels drop with motor loads. The data here showed rapid adaptation to this functional integration within 6 sessions. This effect of training consolidation shows that increases in the efficiency of shared mental resources can be conditioned with NeuroTracker.

‘Neurotracker led to an improvement in most visual skills, as well as some transference to sports performance, we believe that the training of perceptual-cognitive skills can enhance athletic performance.’

Elite athletes (red) and their coaches (blue) rated significant athlete improvement in all 3 performance areas

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