Visual Impairment and Sporting Performance

Implications for Vision Classification in Paralympic Sport

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MEASURING VISUAL PERFORMANCE
HOW GOOD DOES VISION NEED TO BE FOR SUCCESSFUL SPORTING PERFORMANCE?

“Any improvement in vision will lead to an improvement in performance”

“Normal vision is needed for best performance”

“Vision can be below normal levels for best performance”

Performance

Worse than normal

Normal

Better than normal

Vision

Performance

Worse than normal

Normal

Better than normal

Performance

Worse than normal

Normal

Better than normal
VISION AND CRICKET BATTING

Plano
(6/6)

+1.00D
(6/11)

+2.00D
(6/20)

+3.00D
(6/49)
STUDY 1: VISION AND BATTING PERFORMANCE

Mann, Ho, De Souza, Watson & Taylor (2007). *Human Movement Science*
STUDY II – VISION AND BATTING PERFORMANCE

Mann, Abernethy & Farrow (2010). Human Movement Science
STUDY III – VISION AND ANTICIPATION

Mann, Abernethy & Farrow (2010). *Attention, Perception & Psychophysics*
IMPROVING PERCEPTION WITH BLUR

Motion perception

Blurring peripheral vision
IMPROVING PERCEPTION WITH BLUR
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“Vision can be below normal levels for best performance”
• Surprisingly high levels of visual impairment are required to decrease sporting performance
  – Even greater effect for less visually-demanding sports
  – Sometimes the results can be very counter-intuitive!
  – Visual control of movement may act sub-consciously
• Evidence-based sport-specific testing is necessary to establish impairments likely to impact performance
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