

# The impact of vision impairment on navigation in sport

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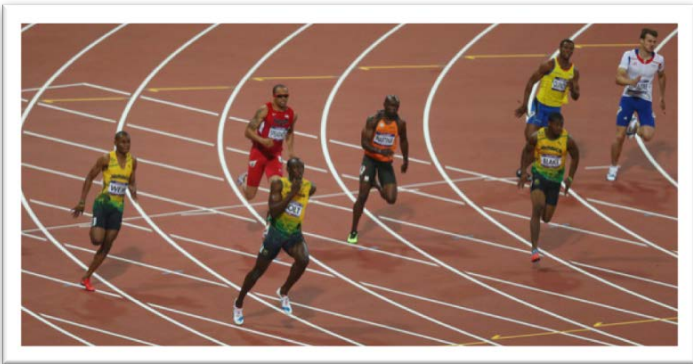


Classification Research Partner



Faculty of  
Behavioural and  
Movement Sciences

# NAVIGATION IS A PERFORMANCE DETERMINANT IN MANY SPORTS



# THE DEGREE OF THE IMPACT OF VI IS SPORT-SPECIFIC

Factors determining the degree of impact:

- The visual demands of a sport
- Outdoor – changing lighting conditions
- The use of guides vs. no guides

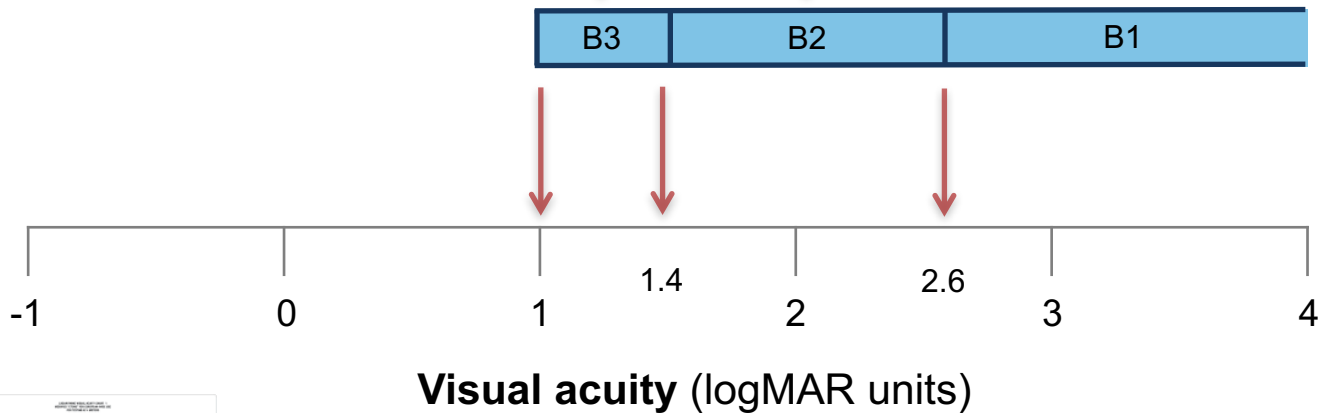


# CURRENT VI CLASSIFICATION



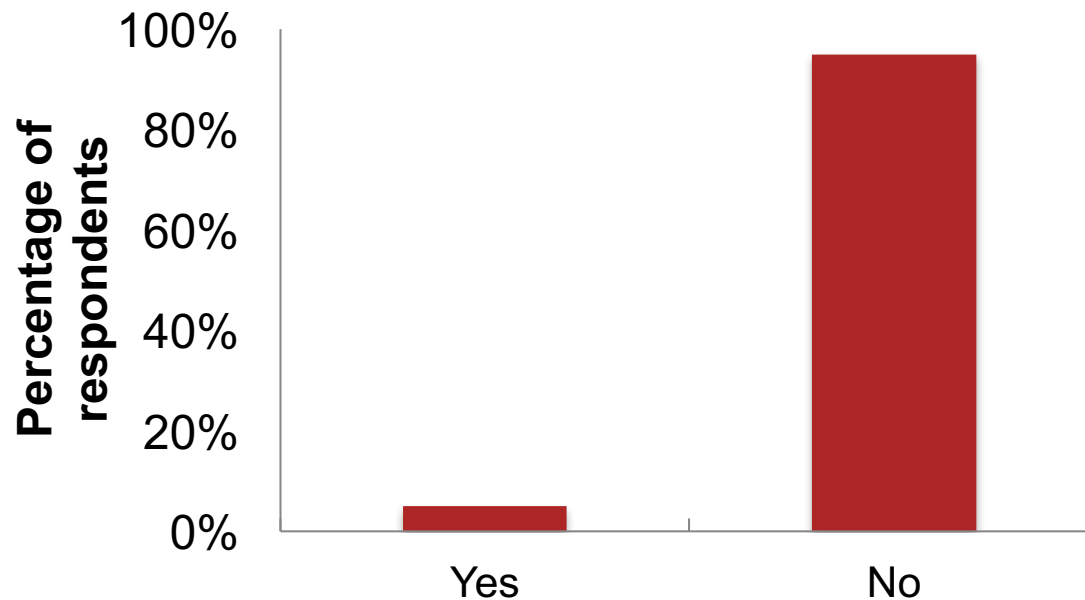
**Visual field** < 20 degrees radius

**Visual field** < 5 degrees radius

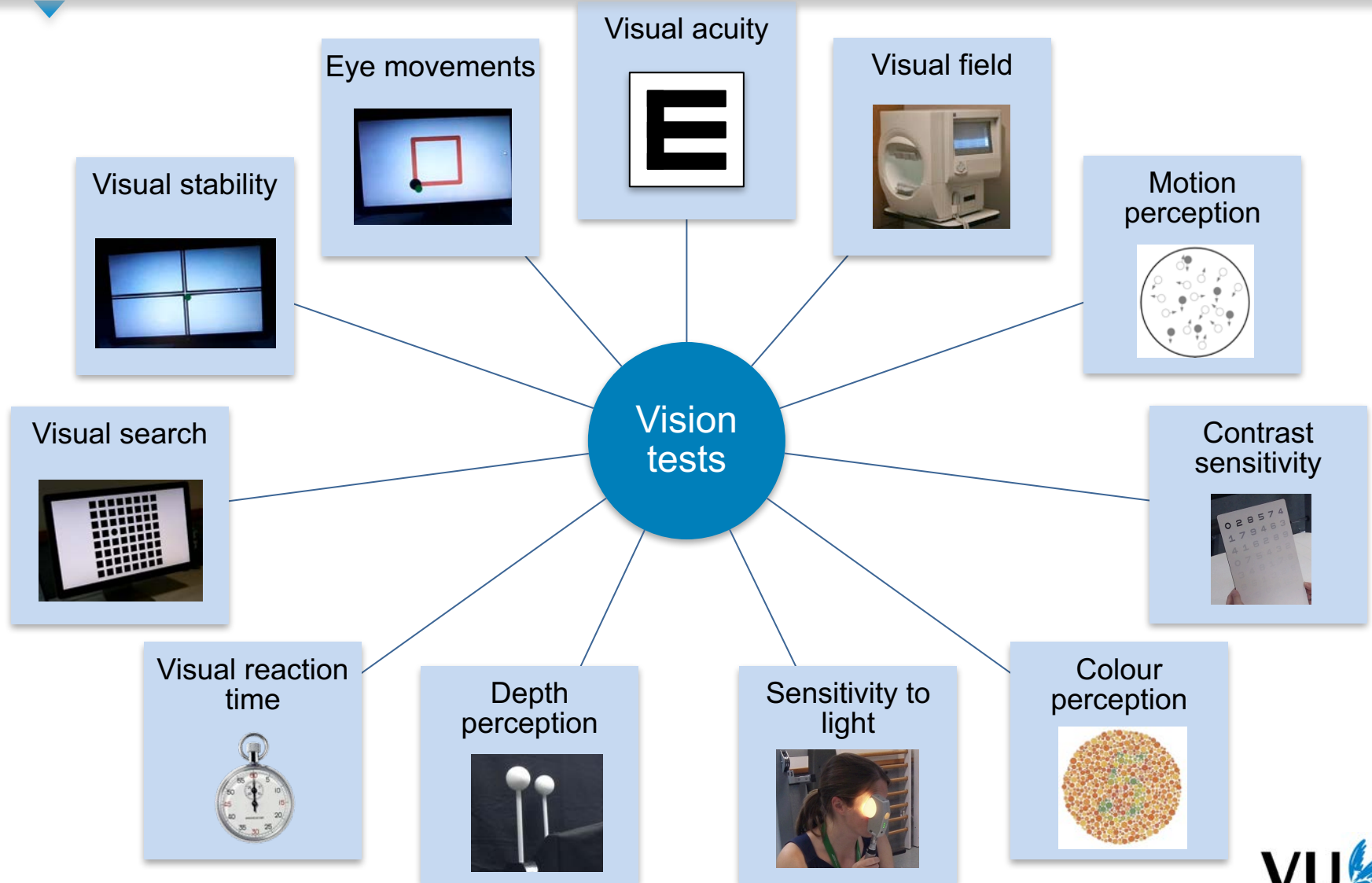


# EXPERT CONSULTATION ACROSS VI SPORTS

Do you believe that the assessment of only visual acuity and visual field is sufficient for the classification of vision impairment?



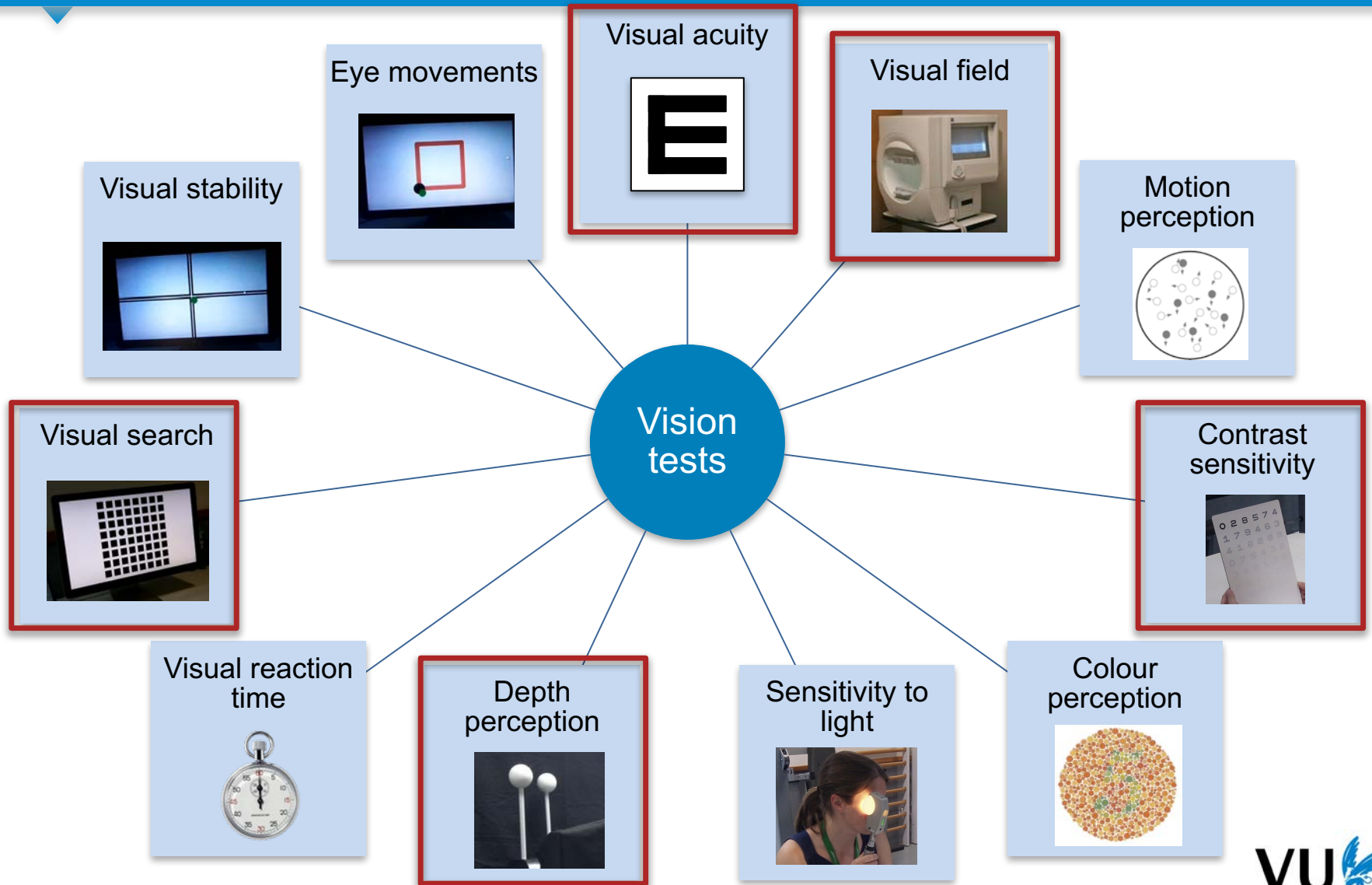
# VISION TEST BATTERY





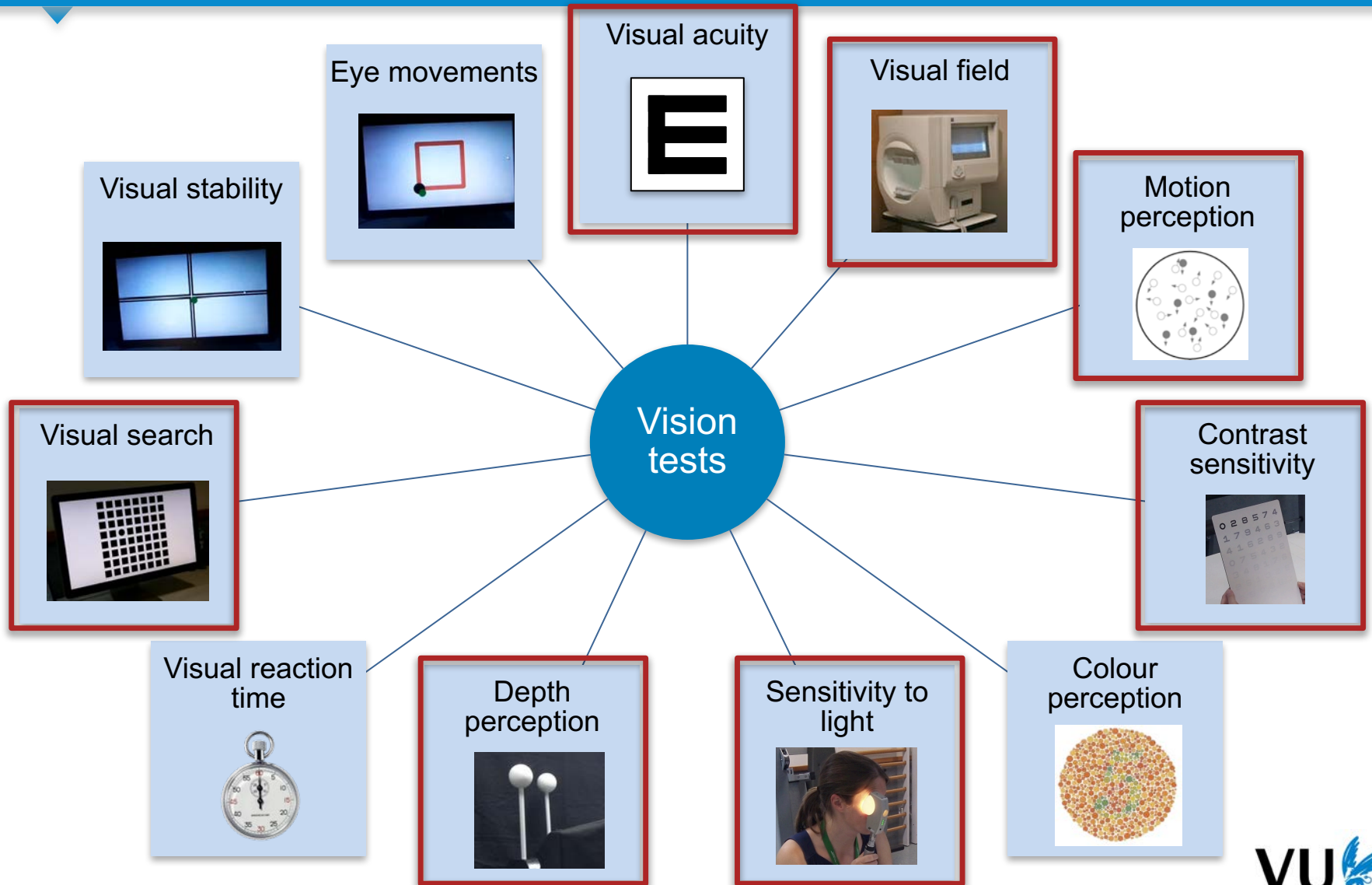
# VISION TEST BATTERY – SWIMMING

HYPOTHETICAL EXAMPLE



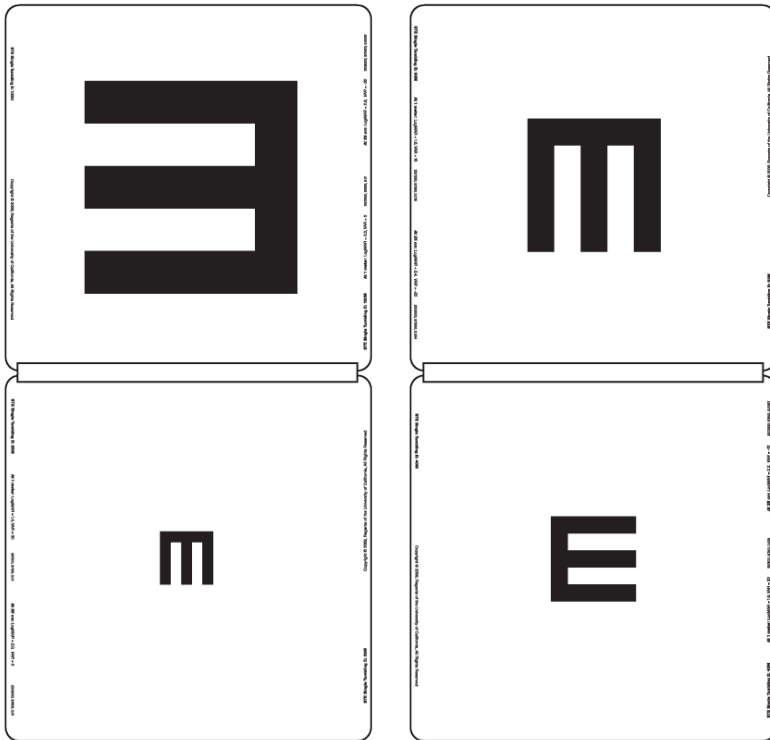
# VISION TEST BATTERY – SNOW SPORTS

HYPOTHETICAL EXAMPLE

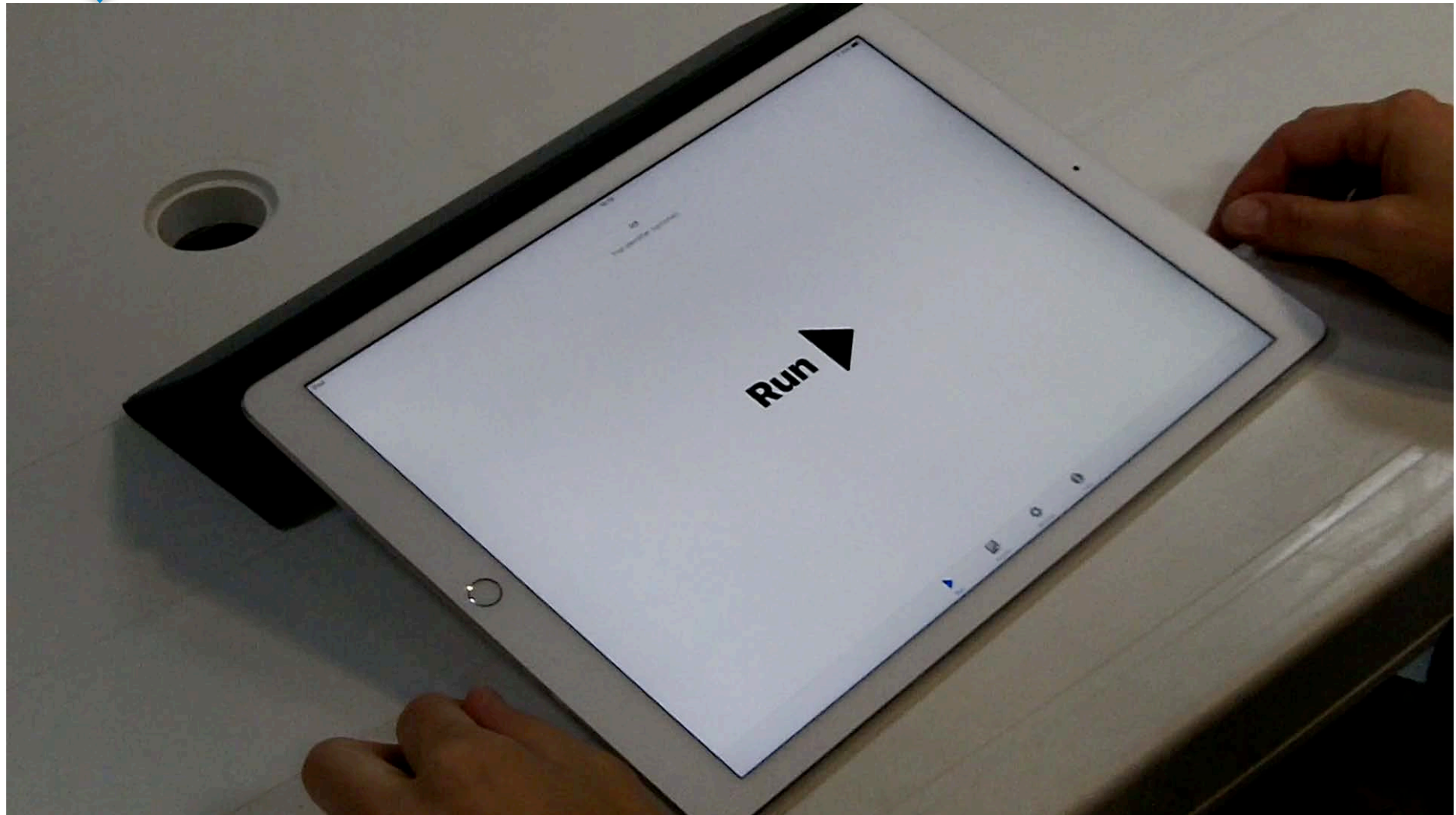




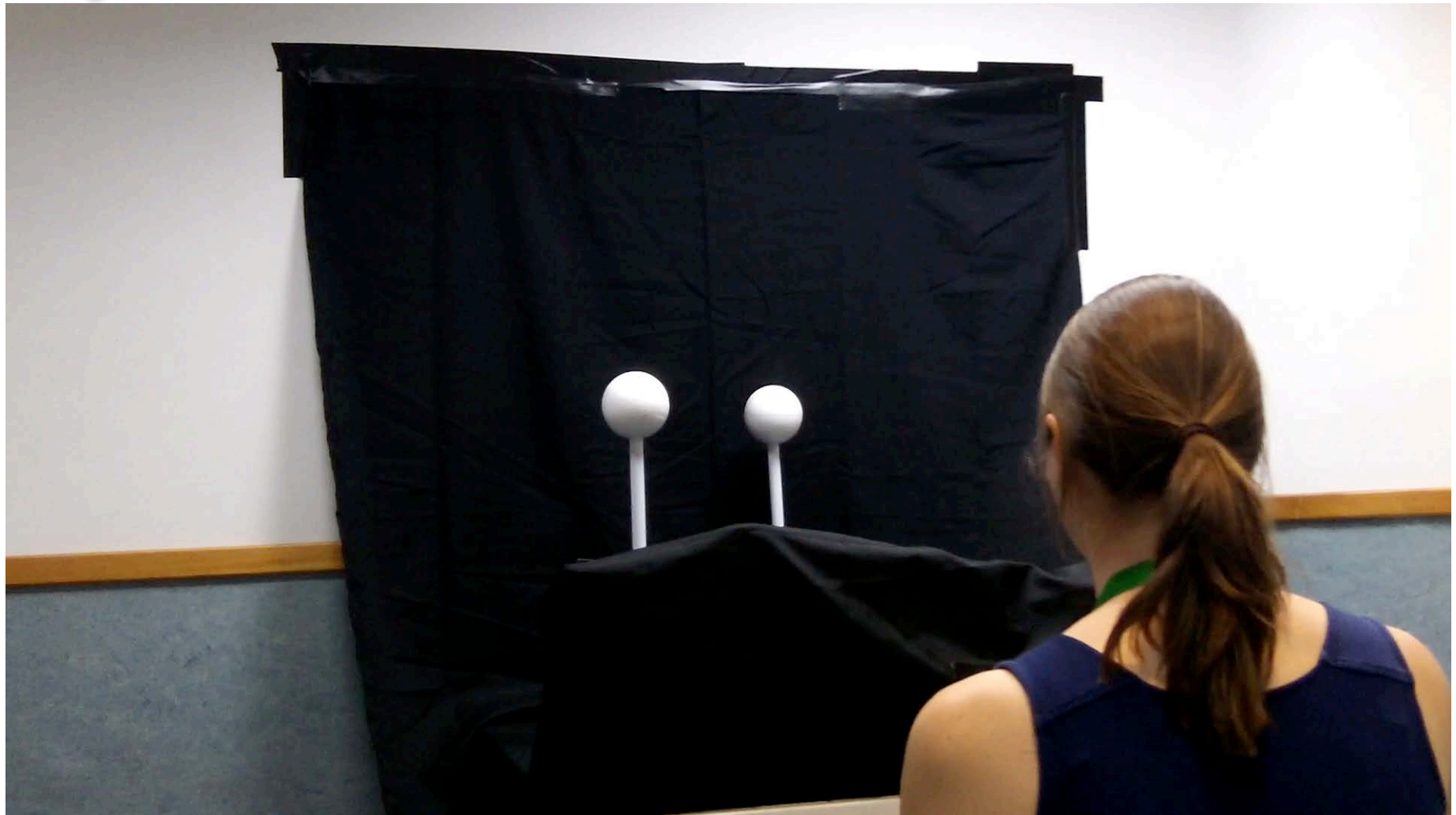
# VISUAL ACUITY



# CONTRAST SENSITIVITY



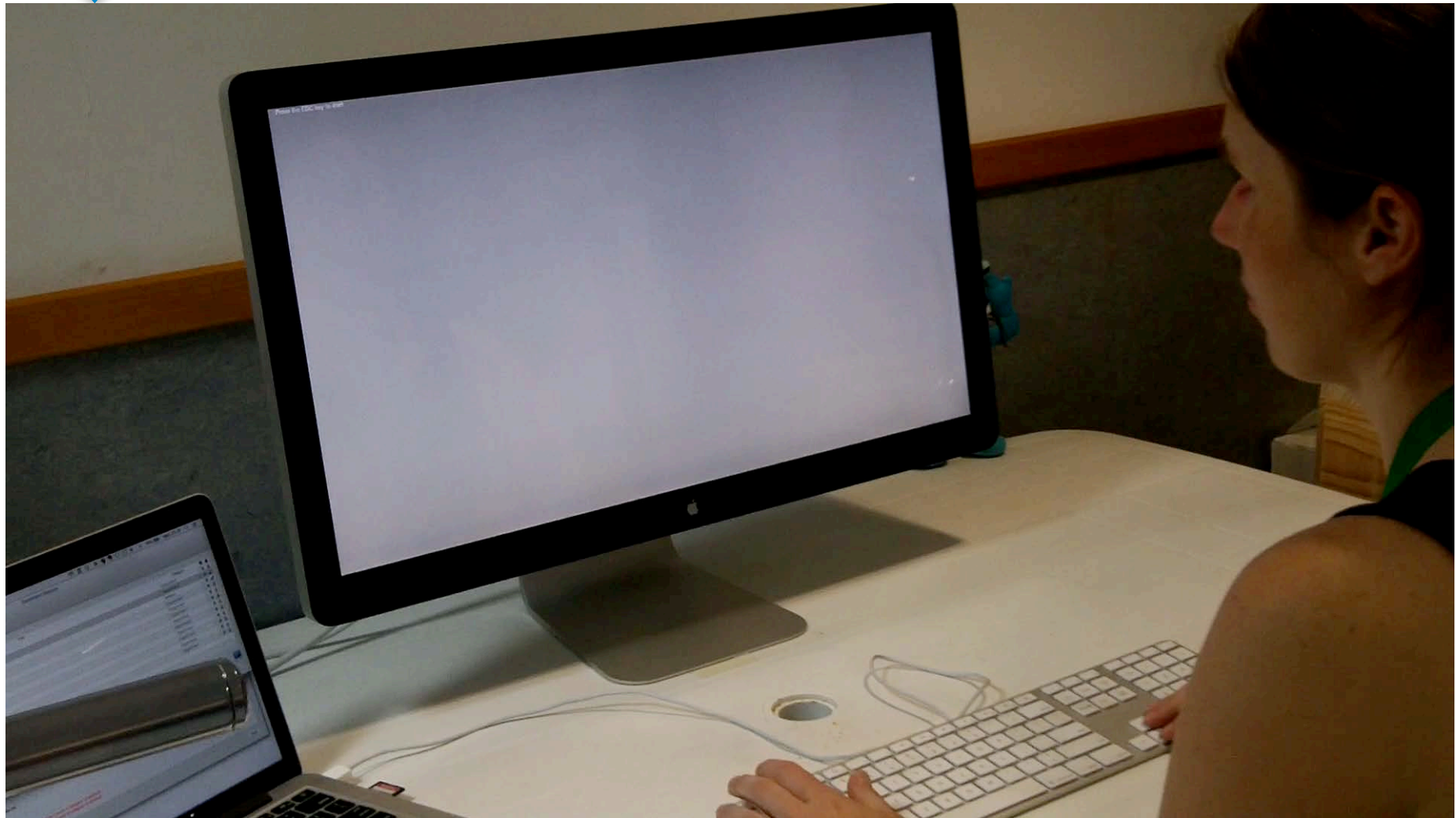
# DEPTH PERCEPTION



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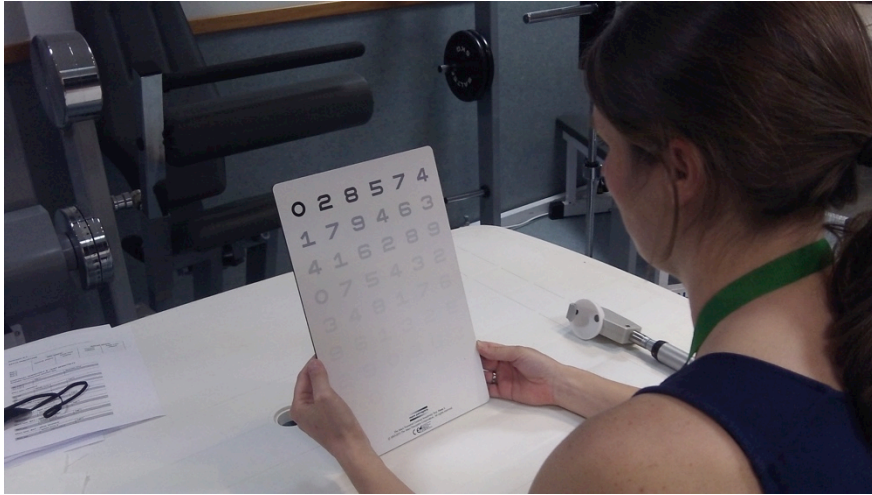


# MOTION PERCEPTION





# LIGHT SENSITIVITY

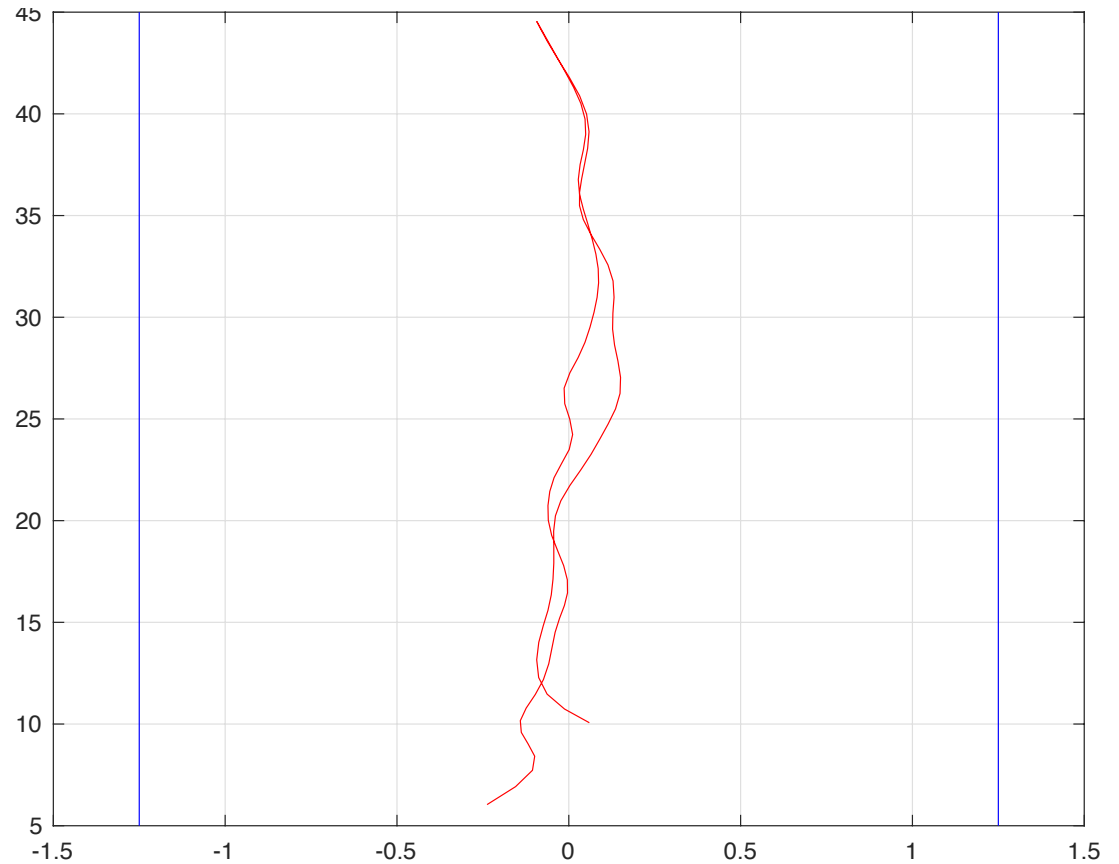
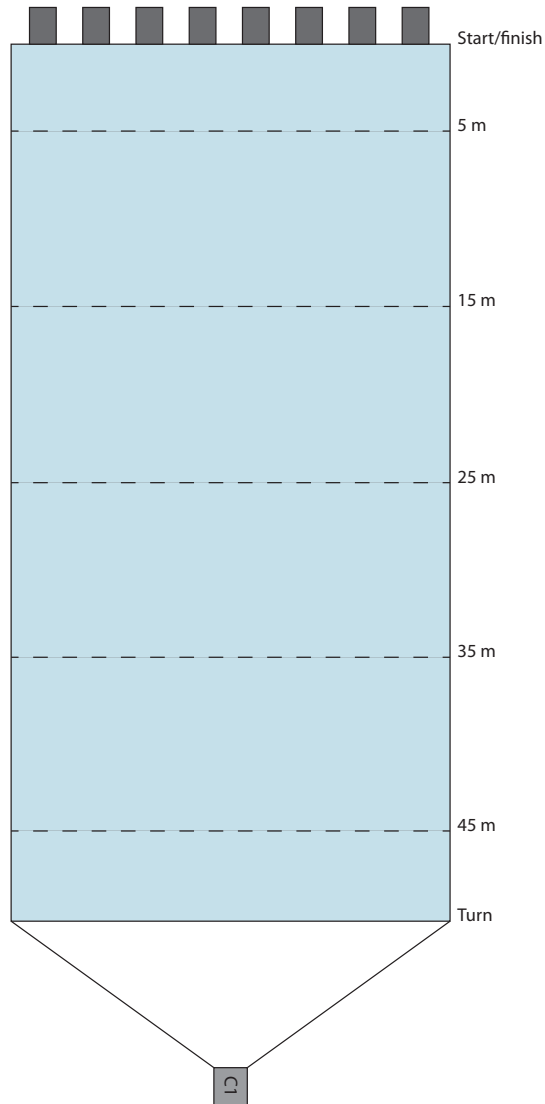


# VISUAL SEARCH



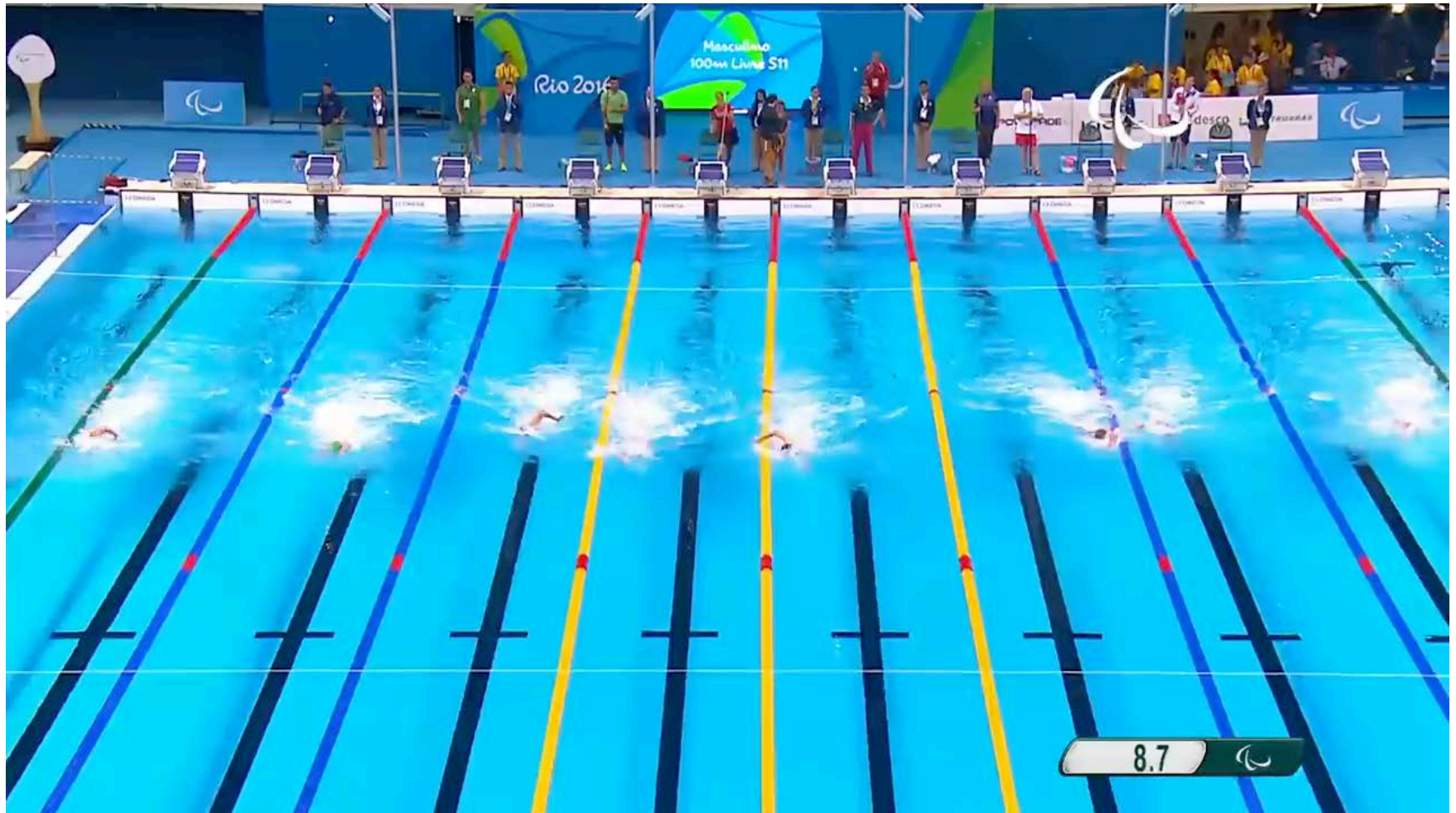


# NAVIGATION WITHIN THE LANE



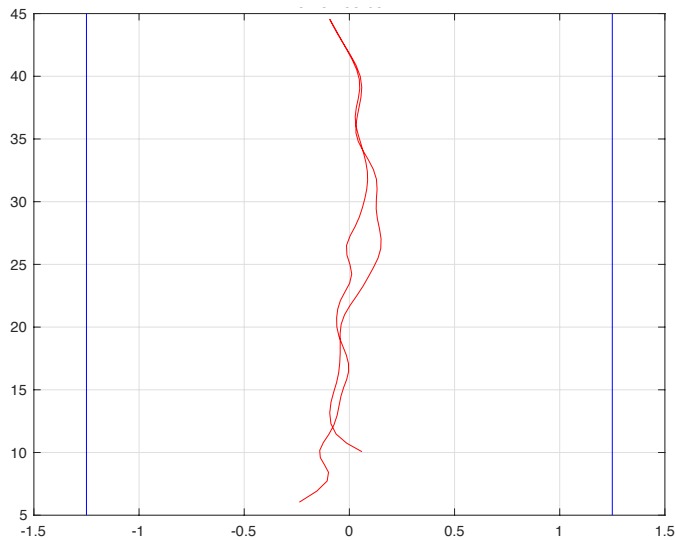
# NAVIGATION WITHIN THE LANE

VIDEO 100M FREESTYLE S11 (PG2016 – RIO DE JANEIRO)

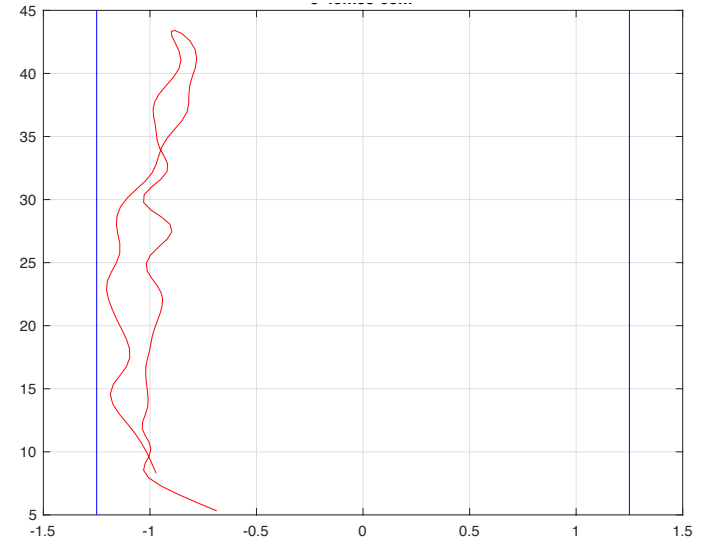


# NAVIGATION WITHIN THE LANE

**Optimal: straight through the middle**



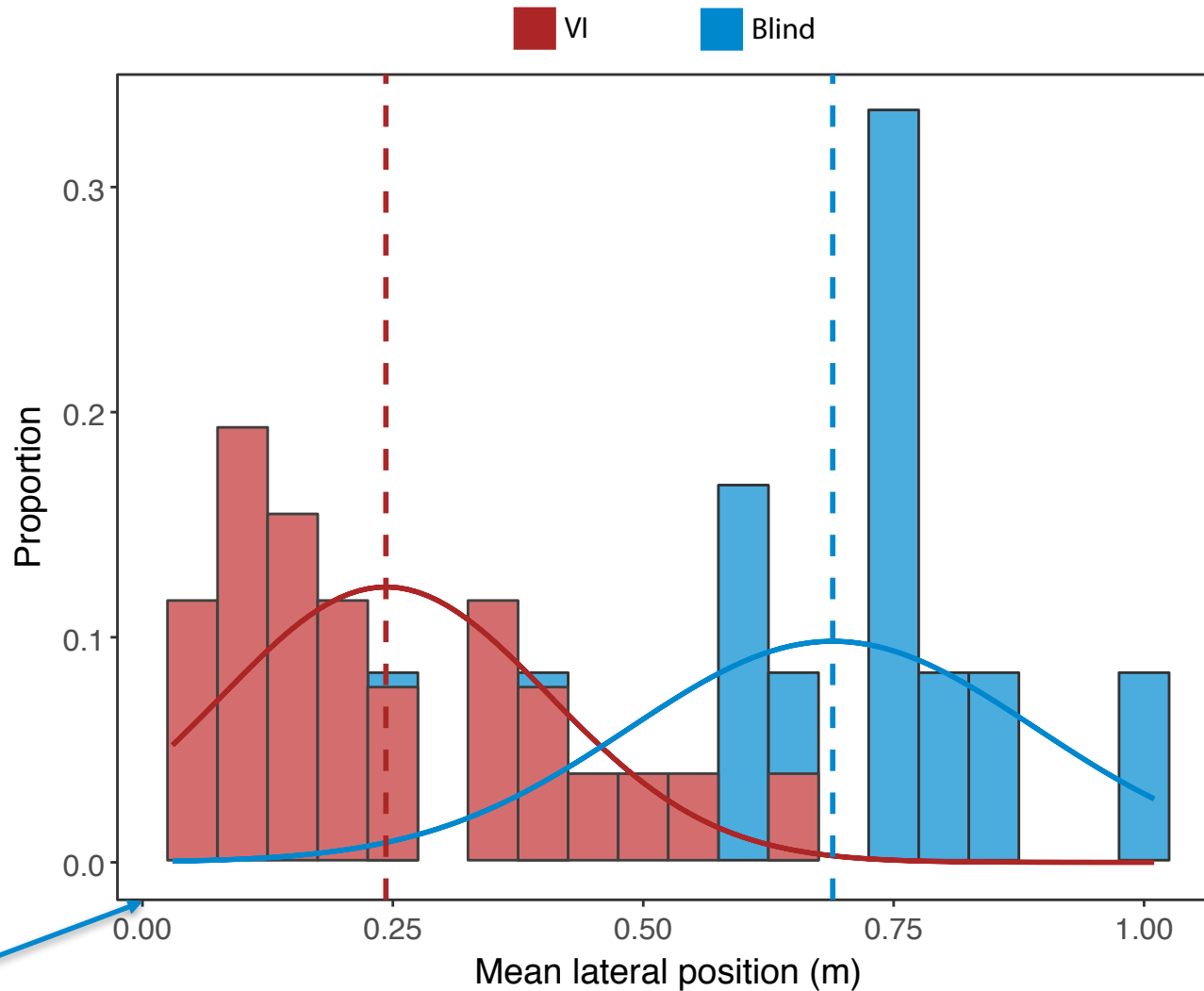
**Following the lane rope**



## Outcome measures

- Mean position
- Variation in position

# ONLY BLIND SWIMMER'S ABILITY TO NAVIGATE IS AFFECTED



Closest to the middle

# FUTURE

The impact of VI on navigation is expected to be very different across sports

Currently ongoing research in Athletics and Snow Sports

# ACKNOWLEDGMENTS



Classification Research Partner

## International Paralympic Committee

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## International Blind Sports Federation

This project is supported by a Research Grant awarded by the International Blind Sports Federation.

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## Agitos Foundation

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