A position stand guiding the sport-specific classification of athletes with vision impairment

What you need to know

David Mann & Rianne Ravensbergen
Vrije Universiteit Amsterdam
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PARALYMPIC VI SPORTS

Athletics  Swimming  Judo  Cycling  Triathlon

Goalball  Football  Equestrian  Alpine skiing  Nordic skiing  Rowing
CURRENT VI CLASSIFICATION

Visual acuity (logMAR units)

-1 0 1 1.4 2 2.6 3 4

Sport classes

Minimum impairment criteria

VF < 20 degrees radius

VF < 5 degrees radius

B3 B2 B1

Visual acuity (logMAR units)
AIM: to provide guidance for how sport-specific classification should be achieved in sports for athletes with vision impairment.
METHOD

1. EXPERT CONSULTATION

Expert meeting 23-25\textsuperscript{th} Jan 2015

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METHOD

2. STAKEHOLDER CONSULTATION
Should all VI athletes be required to use a blindfold?

[Bar graph showing the percentage of respondents]

Are there any situations in which blindfolds are appropriate?

[Bar graph showing the percentage of respondents]
KEY RECOMMENDATIONS

2. TESTING BEST EYE VS. BOTH EYES TOGETHER
Is the assessment of visual acuity and visual field sufficient for classification?

- Contrast sensitivity
- Sensitivity to light
- Motion perception
KEY RECOMMENDATIONS

3. MORE FUNCTIONAL ASSESSMENT OF VISION

- Visual acuity
- Visual field
- Motion perception
- Contrast sensitivity
- Colour perception
- Depth perception
- Sensitivity to light
- Visual reaction time
- Eye movements
- Visual stability
- Visual search
Do you believe that there is a difference in the impact of a congenital and acquired vision impairment on sport performance?

Almost all say that a congenital impairment is a greater disadvantage.
KEY RECOMMENDATIONS

5. ESTABLISHING THE MINIMUM IMPAIRMENT CRITERIA

Unadapted form of the sport

Should be used to establish the minimum impairment criteria

Adapted form of the sport

Should be used to establish the sport classes
International Paralympic Committee
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International Blind Sports Federation
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SPORT-SPECIFIC CLASSIFICATION
THE PROCESS

STEP 1: Expert consultation
athletes, coaches, administrators, referees, scientists

STEP 2: Measure vision on tests relevant to the sport

STEP 2: Measure ability on sport-specific tests of performance

STEP 3: Establish the relationship between impairment and performance
(1) whether blindfolds should be used to minimise the impact of VI on the outcome of competition.

(2) the need to test vision during classification when using both eyes together (i.e., habitual vision) rather than with the best eye only (as is presently done)

(3) the potential inclusion of new vision tests during classification (e.g., contrast sensitivity, motion and depth perception) to better account for the sport-specific impact of VI on performance

(4) the need during classification to account for the different types of lighting experienced during competition

(5) the potential impact on sport performance of the age at which an athlete acquired their impairment

(6) the minimum level of VI necessary to take part in competition
Background: The IPC Classification Code requires sports to develop an evidence-based classification system that is based on the impact of impairment on performance in that particular sport. However, sports for athletes with vision impairment (VI) classify athletes using a system based on the legal definition of low vision or blindness, employing essentially the same classification system across all VI sports. One key barrier to the development of evidence-based classification in VI sport is the absence of an agreed approach for how to perform research which addresses classification issues unique to athletes with VI.

Purpose: The aim of this position stand is to provide guidance for how sport-specific classification should be achieved in sports for athletes with VI.

Method: A four-round Delphi review of 25 experts in VI sport (athletes, coaches, classifiers, & administrators; Ravensbergen, Mann & Kamper, 2016) uncovered the issues to be addressed in the Position Stand. In response, the stand was developed by the IPC Research and Development Centre for the Classification of Athletes with Vision Impairment, in coordination with the International Paralympic Committee and the International Blind Sports Federation.

Results: On the basis of the expert consultation performed during the Depth review process, we provide guidance on how classification research can be performed to take into account (1) the minimum level of VI necessary to take part in competition; (2) the potential inclusion of new vision tests during classification (e.g., contrast sensitivity, motion and depth perception) to better account for the sport-specific impact of VI on performance; (3) the need to test vision during classification when using both eyes together (i.e., habitual vision) rather than with the best eye only (as is presently done); (4) the need during classification to account for the different types of lighting experienced during competition; (5) the potential impact on sport performance of the age at which an athlete acquired their VI; and (6) whether blindfolds should be used to minimise the impact of VI on the outcome of competition. Three specific research models are presented that can be used to develop sport-specific classification: (1) a correlational model that directly examines the relationship between impairment and sport performance; (2) a simulation model that simulates vision impairment to examine changes in performance in able-sighted athletes; and (3) a component-analysis model that establishes the visual information relied on by skilled able-sighted athletes, and examines the impact of impairment on the ability to pick-up that information.

Conclusion: The recommendations provide a clear pathway for sports to develop an evidence-based system of classification for athletes with vision impairment.
IPC R&D CENTRES FOR CLASSIFICATION

Physical Impairment
University of Queensland
Australia

Intellectual Impairment
University of Leuven
Belgium

Vision Impairment
Vrije Universiteit Amsterdam
Netherlands
Where should classification take place for sports played outdoors?

KEY RECOMMENDATIONS

4. THE IMPACT OF LIGHTING CONDITIONS
Widespread support for sport-specific classification
VI CLASSIFICATION ACROSS ALL SPORTS

2. VI POSITION STAND

AIM: to provide clear guidance for how classification research can be performed to meet the needs of athletes with VI

1. The impact of sport rules on VI classification
   - Blindfolds
   - Guides

2. Procedure for the classification of VI athletes
   - Generic vs. sport-specific tests
   - The incorporation of additional tests for VI classification
   - Testing the ‘best’ eye or both eyes together
   - Ambient lighting during classification
   - Congenital vs. acquired impairments

3. Models for VI Classification research
Do you feel that the way that vision impairments are currently classified fulfils the aim to ‘minimise the impact of eligible impairments on the outcome of competition’?

88%
KEY RECOMMENDATIONS
2. TESTING BEST EYE VS. BOTH EYES TOGETHER

Should the decision to test one eye or both eyes be sport-specific?

Percentage of respondents

Yes
No

0% 20% 40% 60% 80% 100%
DEVELOPMENT OF SPORT-SPECIFIC CLASSIFICATION

R&D across all sports

VI Swimming
VI Judo
VI Snow sports
VI Shooting
VI Athletics