



Judo Classification Research Update

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AMSTERDAM

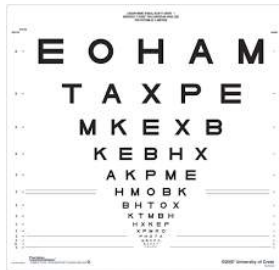
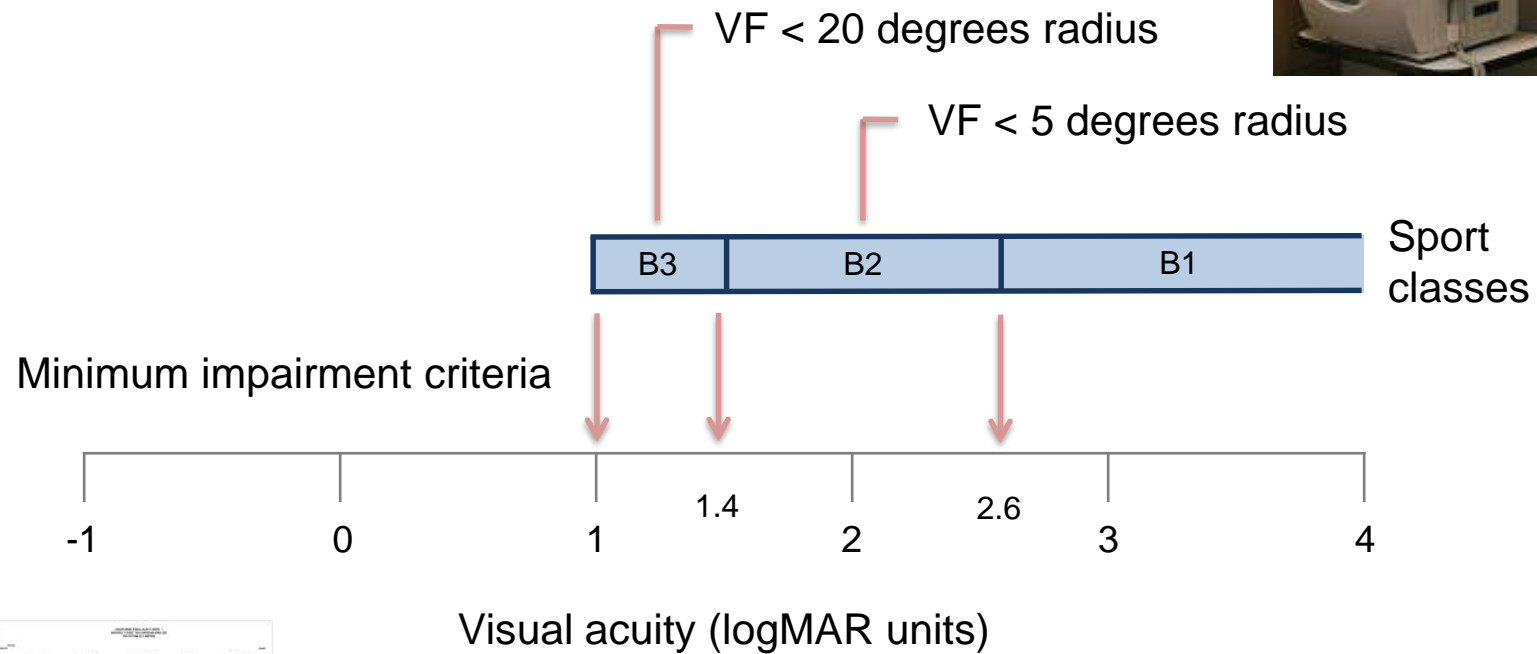
Faculty of
Behavioural and
Movement Sciences

TODAY'S AGENDA

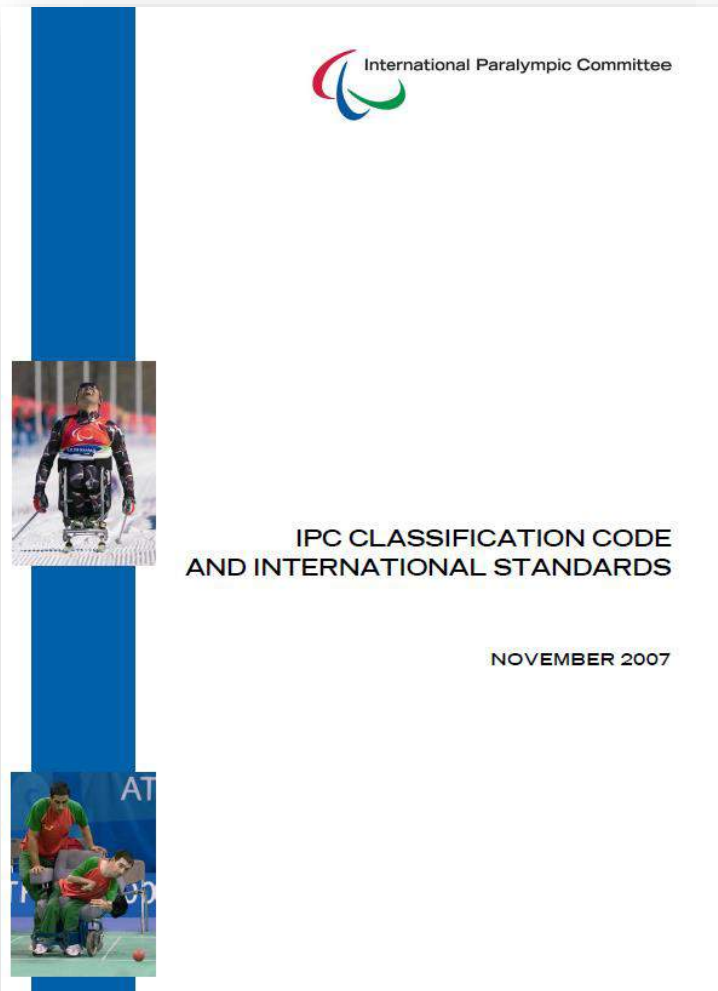
1. Introduction evidence-based classification
2. Timeline classification research judo
3. Summary of preliminary findings
4. Explanation of main studies



CURRENT VI CLASSIFICATION



IPC CLASSIFICATION CODE



Each para-sport should develop a **sport-specific** system of classification **based on scientific evidence** examining the relationship between impairment and performance in that sport.

IPC CLASSIFICATION RESEARCH & DEVELOPMENT CENTRES



Physical Impairment
University of Queensland
Australia



Intellectual Impairment
University of Leuven
Belgium



Vision Impairment
Vrije Universiteit Amsterdam
Netherlands

IPC CLASSIFICATION RESEARCH & DEVELOPMENT CENTRES

R&D across all VI sports



VI Swimming



VI Judo



VI Snow sports



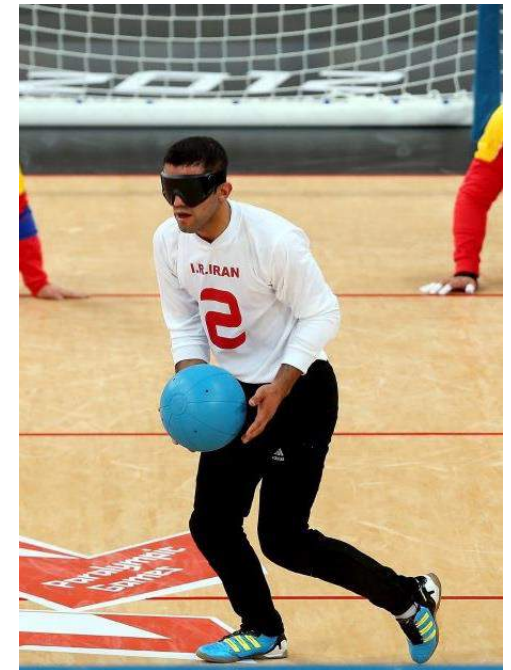
VI Shooting



VI Athletics



5-a-side Football



Vision Impairment
Vrije Universiteit Amsterdam
Netherlands



GENERAL APPROACH

STEP 1: Expert consultation

athletes, coaches, administrators, referees, classifiers

STEP 2: Measure vision on tests relevant to the sport

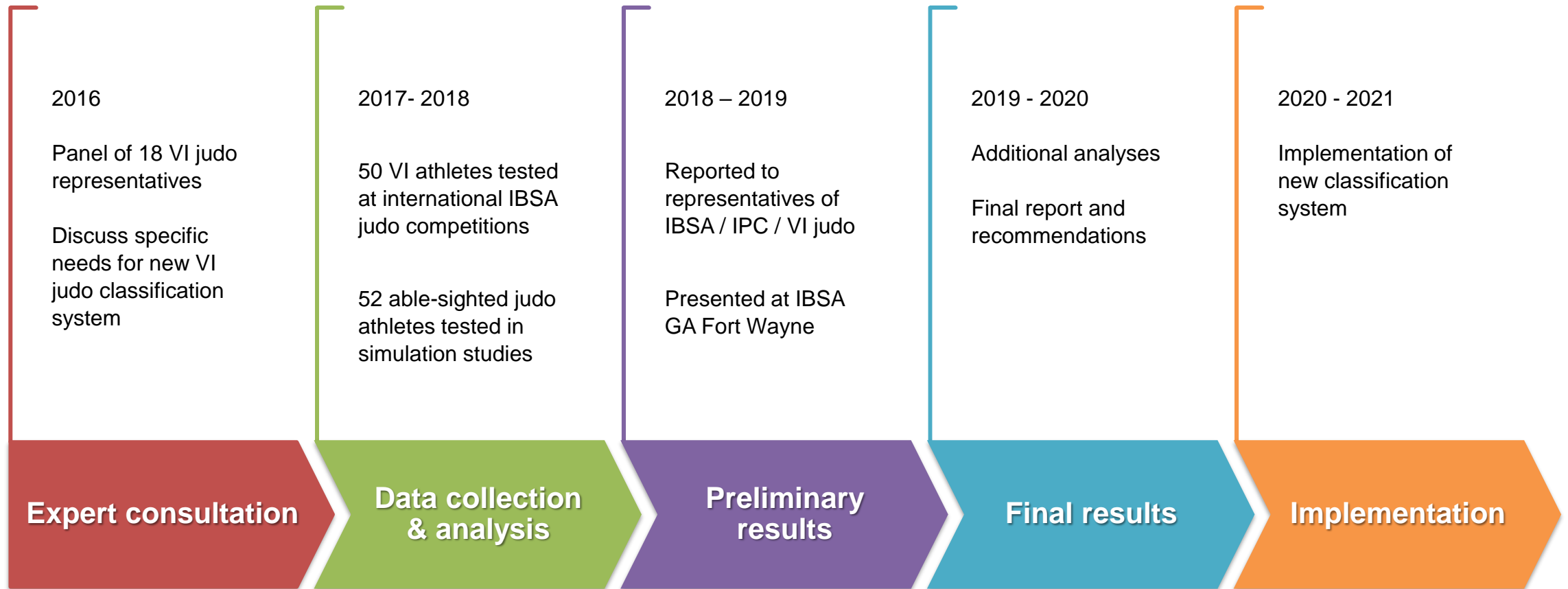


STEP 2: Measure ability on sport-specific tests of performance



STEP 3: Establish the impact of impairment on sport-specific performance

TIMELINE JUDO CLASSIFICATION RESEARCH



A blue flag of the Vrije Universiteit Amsterdam is shown waving against a light blue sky. The flag features a large red 'VU' logo and the text 'VRIJE UNIVERSITEIT AMSTERDAM' in white. A semi-transparent red rectangle is overlaid on the center of the flag, containing the text 'SHORT SUMMARY' in white.

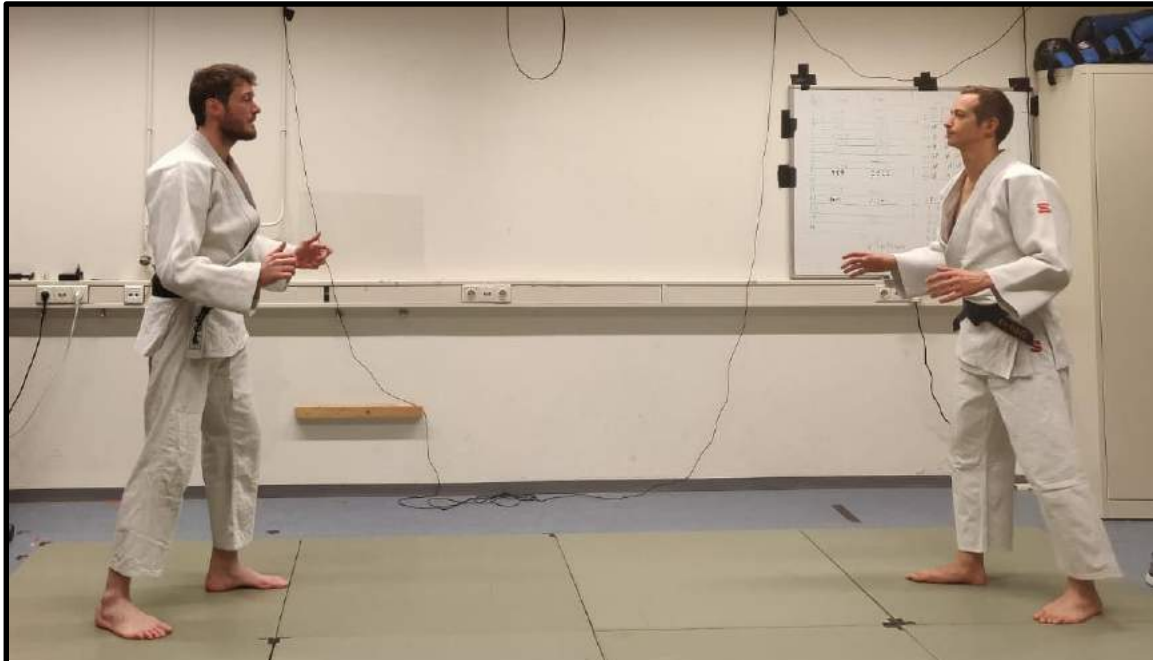
SHORT SUMMARY

MAIN RESEARCH QUESTION

- What is impact of vision impairment on judo performance?
- Consequently, how should judokas with vision impairment be classified for competition, so that the impact of impairment on performance is minimised?



MAIN ADAPTATION: STARTING POSITION



Able-sighted judo



VI judo

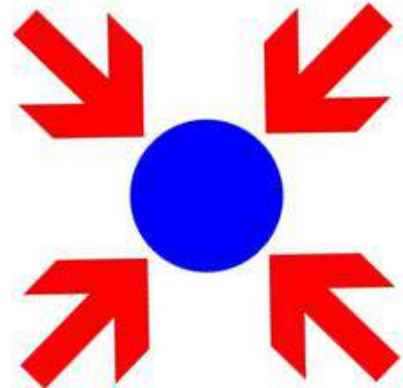
VI JUDO EFFECTIVELY ONLY HAS ONE SPORTS CLASS

- Athletes are classified as B1, B2 or B3 as in most VI sports
- But in VI judo competition, all athletes compete against each other



DIFFERENT STUDY DESIGNS

1. Expert consultation (Delphi) – collect opinions from VI judo community
2. Simulation study 1 – simulate low vision in able-sighted judo athletes
3. Simulation study 2 – simulate blindness in able-sighted judo athletes
4. Database study – large scale analysis of existing classification and competition data
5. Main study – collect data on impairment and performance during VI judo events



SUMMARY OF PRELIMINARY FINDINGS

1. Clear need to change the current classification criteria
 - > Impact of impairment on outcome of competition not yet minimised
 - > Findings supported by both expert opinions and research studies
2. Results suggest to split VI judo in two classes
 - > Athletes with and without functional vision (e.g., “functionally blind” and “partially sighted”)
 - > Further analyses ongoing to decide optimal cut-off between classes
3. Results suggest more impairment is needed to qualify to compete in VI judo
 - > No impact on able-sighted performance for impaired visual acuity simulated at current MIC
 - > Further analyses ongoing to decide how much the MIC for visual acuity should shift
 - > Research into an MIC for visual field is still ongoing

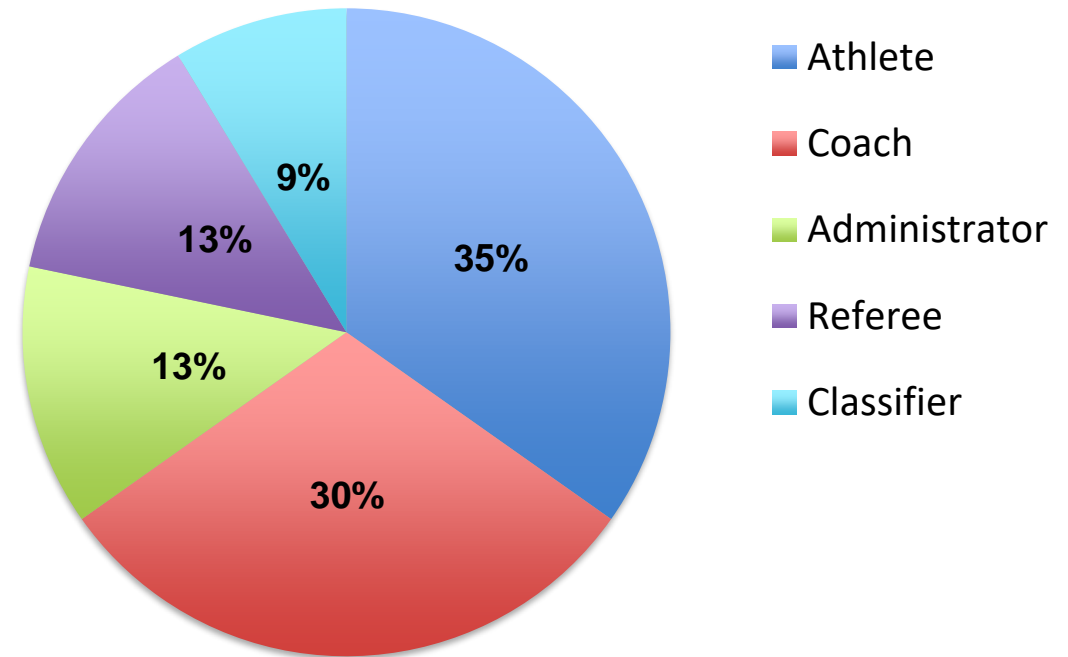
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EXPERT CONSULTATION

Aim: establish specific needs of a sport-specific classification system for VI judo

Participants

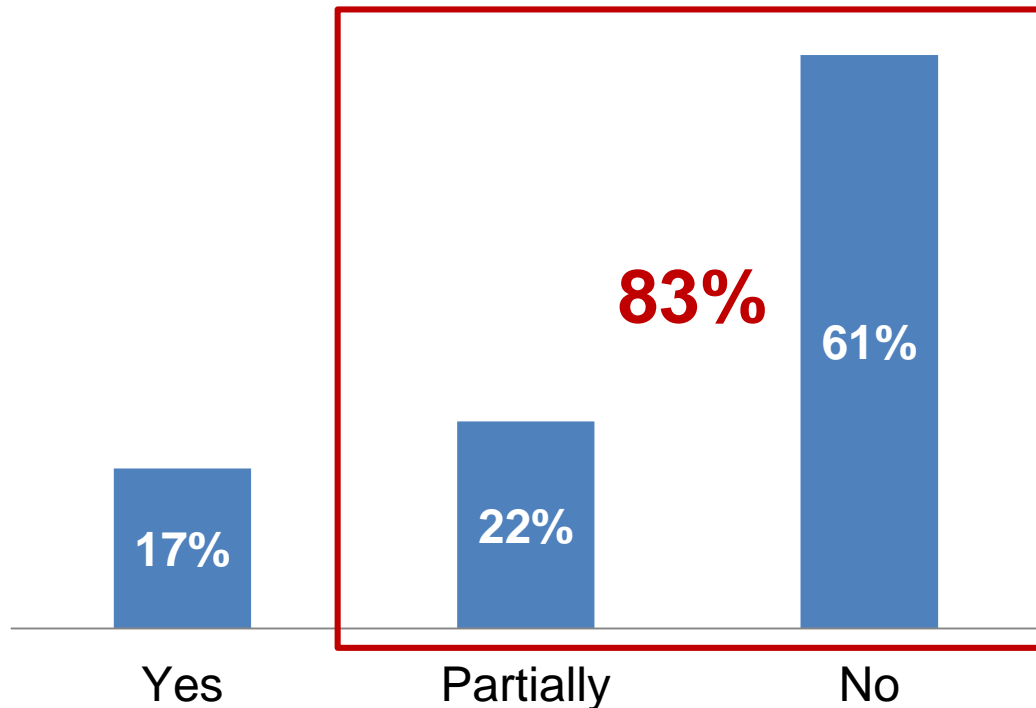
- 18 experts in VI judo
- From across the world
- Three rounds of online surveys



EXPERT CONSULTATION

AIM OF CLASSIFICATION

Does the current classification system in VI judo fulfil the aim *to minimise the impact of impairment on the outcome of competition?*



Why not?

1. Unfair that blind and partially sighted athletes compete together.
2. Additional measures of visual function might be needed.
3. More VI might be needed to qualify to compete.
4. The potential for intentional misrepresentation undermines fair competition.

EXPERT CONSULTATION

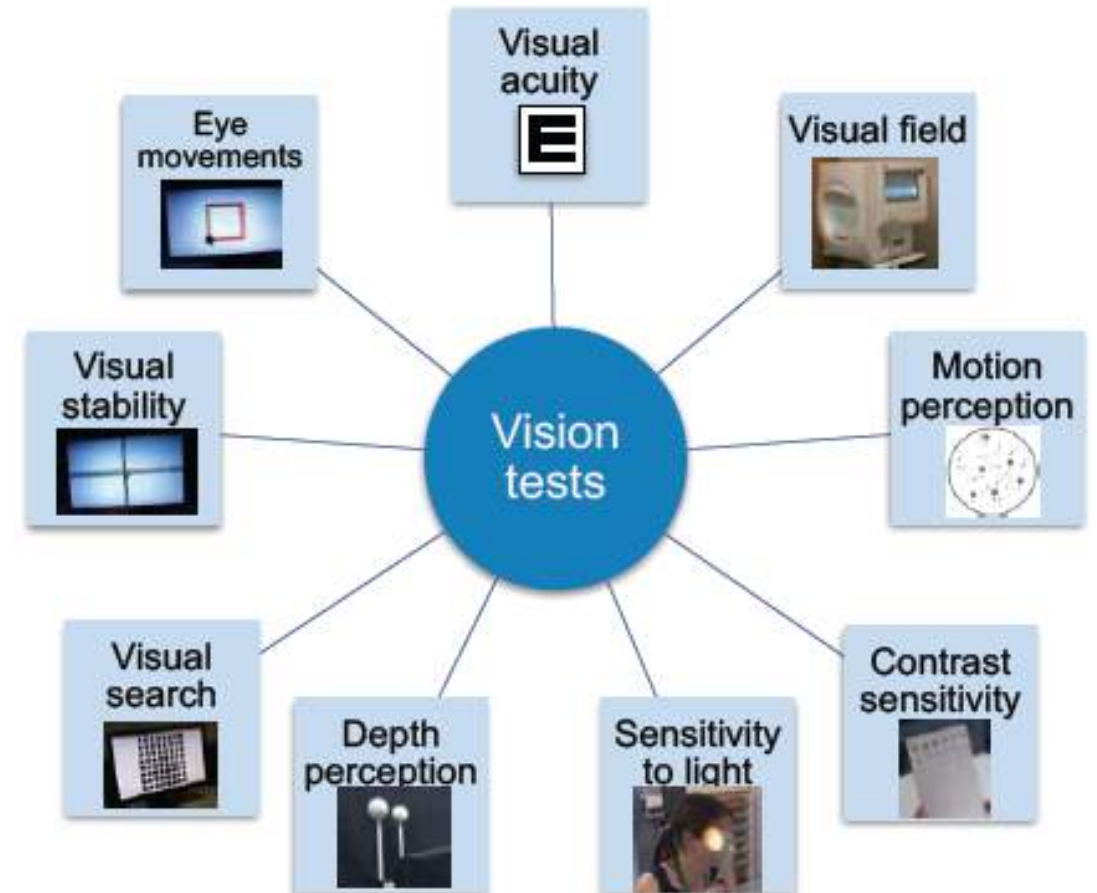
ASPECTS OF VISUAL FUNCTION

Measure of visual function	Important enough to include in VI judo classification research	Not important enough to include in VI judo classification research
Visual acuity	100%	0%
Visual field	100%	0%
Motion perception	71%	29%
Dynamic visual acuity	69%	31%
Light sensitivity	69%	31%
Depth perception	64%	36%
Ocular coordination	56%	44%
Contrast sensitivity	53%	47%
Colour vision	19%	81%

EXPERT CONSULTATION

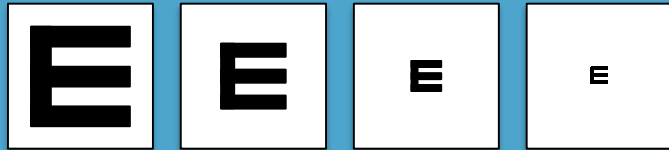
VISION TEST BATTERY

- Which visual functions best predict judo performance?
- Vision test battery developed to test all visual functions of interest



TESTS OF INTENTIONAL MISREPRESENTATION

Consistency on the existing test
of visual acuity



Electrophysiological testing



Gaze tracking



Testing in virtual reality



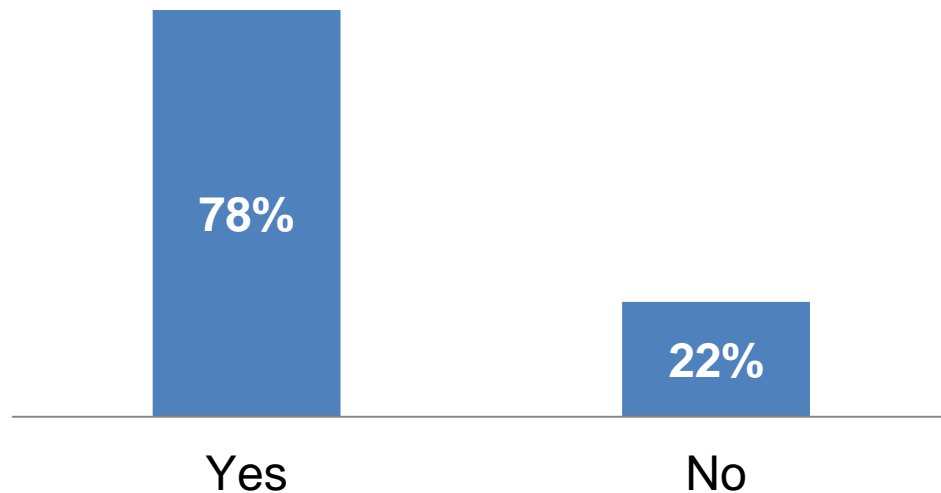


SPORT CLASSES

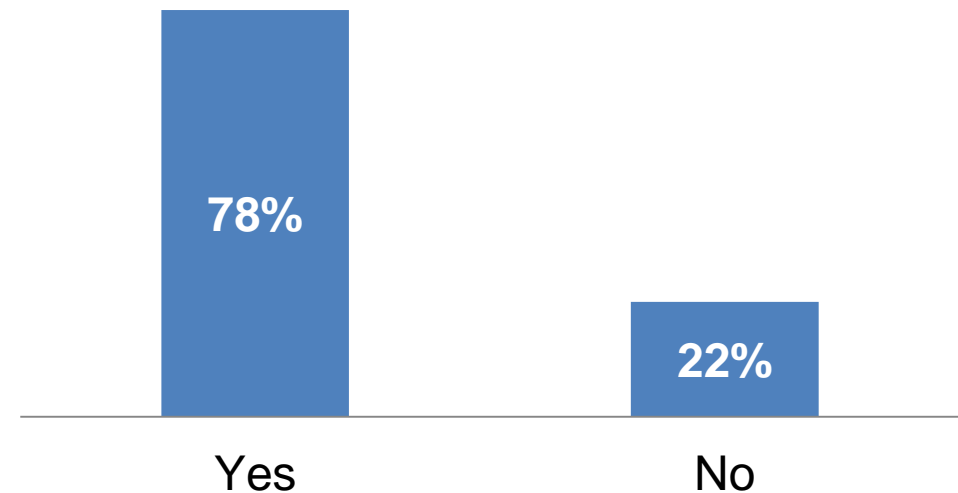
SPORT CLASSES

EXPERT CONSULTATION

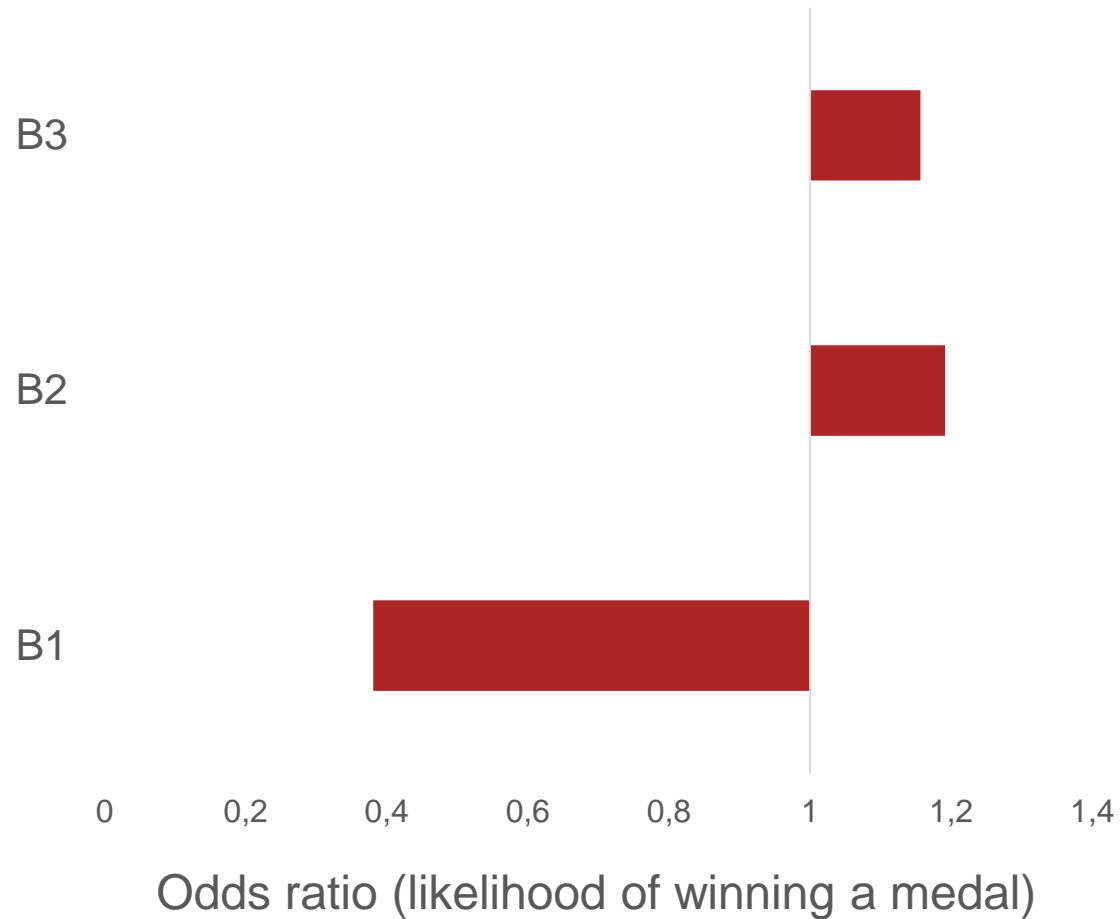
Should VI judo be split into more than one class?



Should there be a separate class for blind judokas?



ANALYSIS OF COMPETITION RESULTS



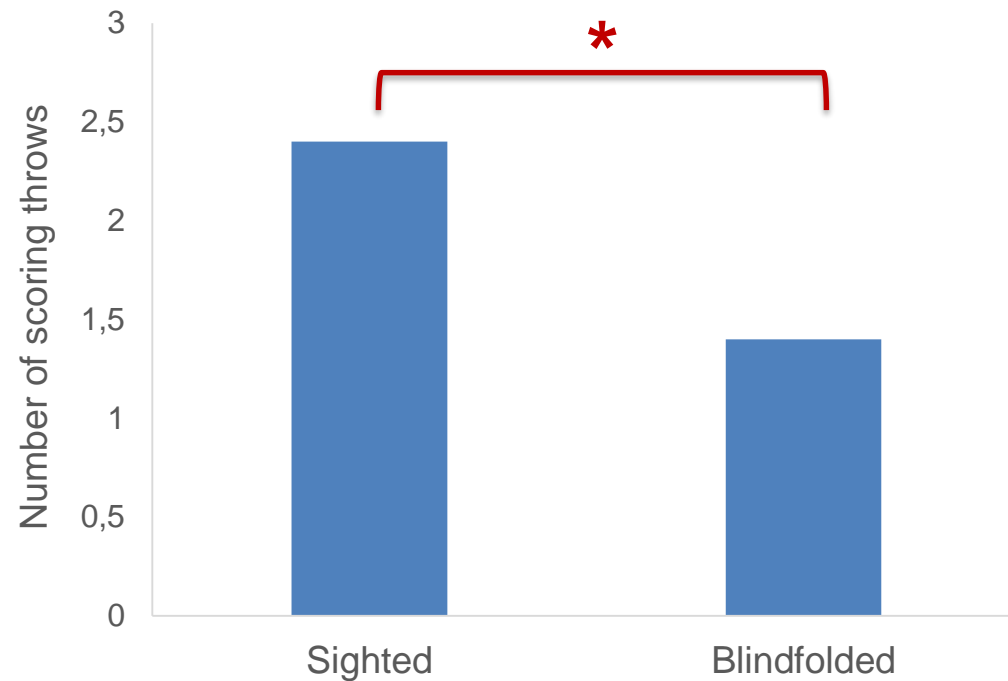
IBSA Judo WC 2014				
	Participants		Medals	
B1	45	20%	1	2%
B2	103	47%	27	52%
B3	72	33%	24	46%
Totaal	220	100%	52	100%

IBSA Judo WC 2015				
	Participants		Medals	
B1	45	21%	4	8%
B2	99	47%	29	56%
B3	68	32%	19	37%
Totaal	212	100%	52	100%



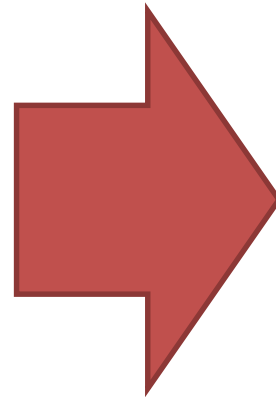
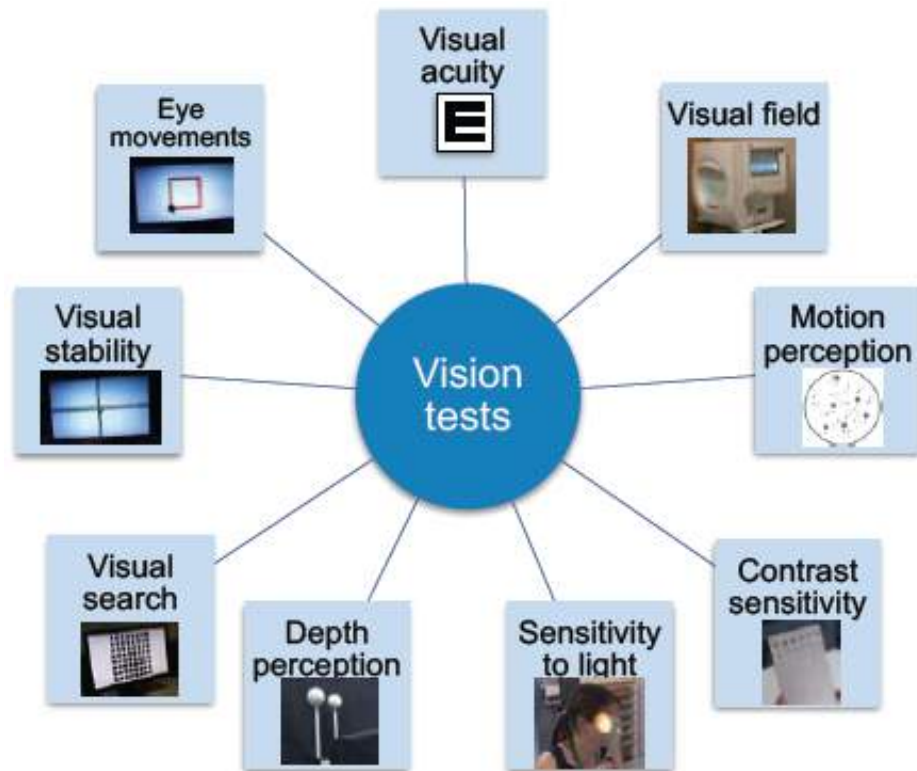
- 24 able-sighted judokas

- > Simulation matches under VI judo rules
- > Compete against same opponent sighted and blindfolded
- > Performance: number of scores in 3 minutes



SPORT CLASSES MAIN STUDY

What is the relationship between different measures of VI and judo performance?



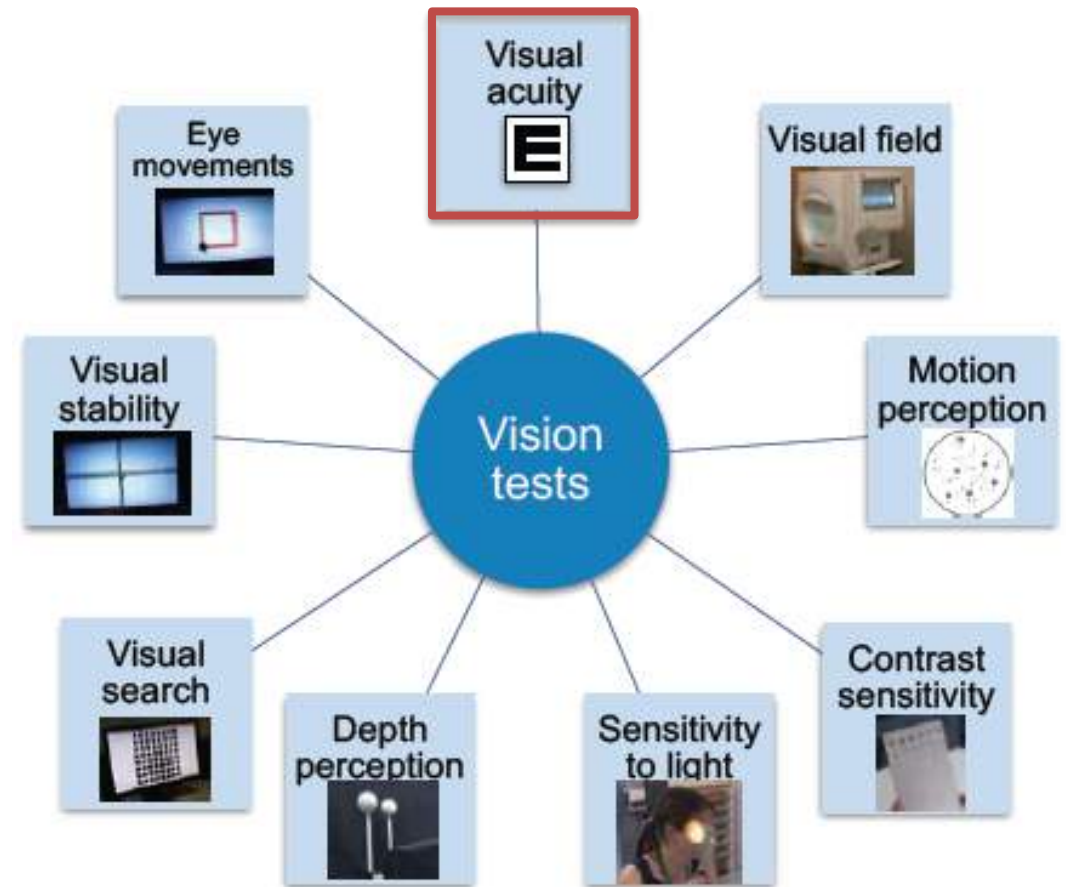
2017 IBSA
EUROPEAN JUDO
CHAMPIONSHIPS



IBSA JUDO PAN AM
Calgary 2018

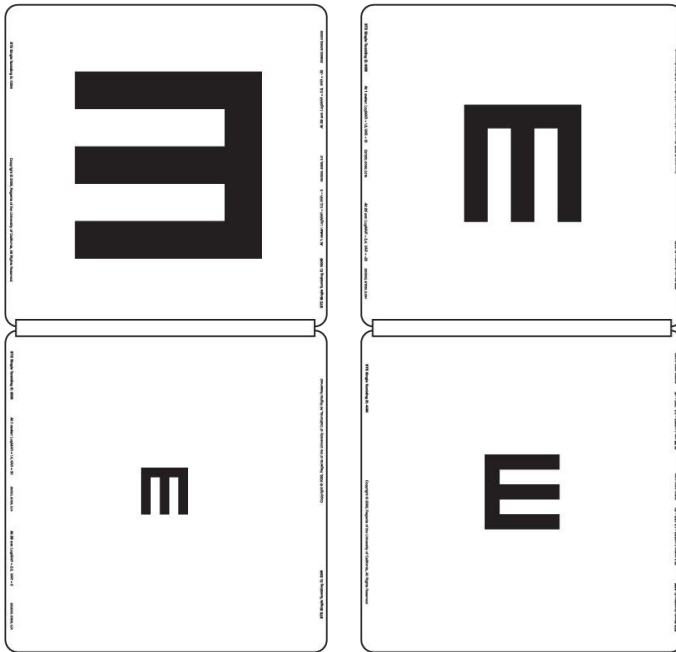
SPORT CLASSES - MAIN STUDY RESULTS

- Results of 47 athletes analysed
- Visual acuity best predictor of performance
- Other tests do not add anything on top of VA
- Main difference between functionally blind and partially sighted athletes

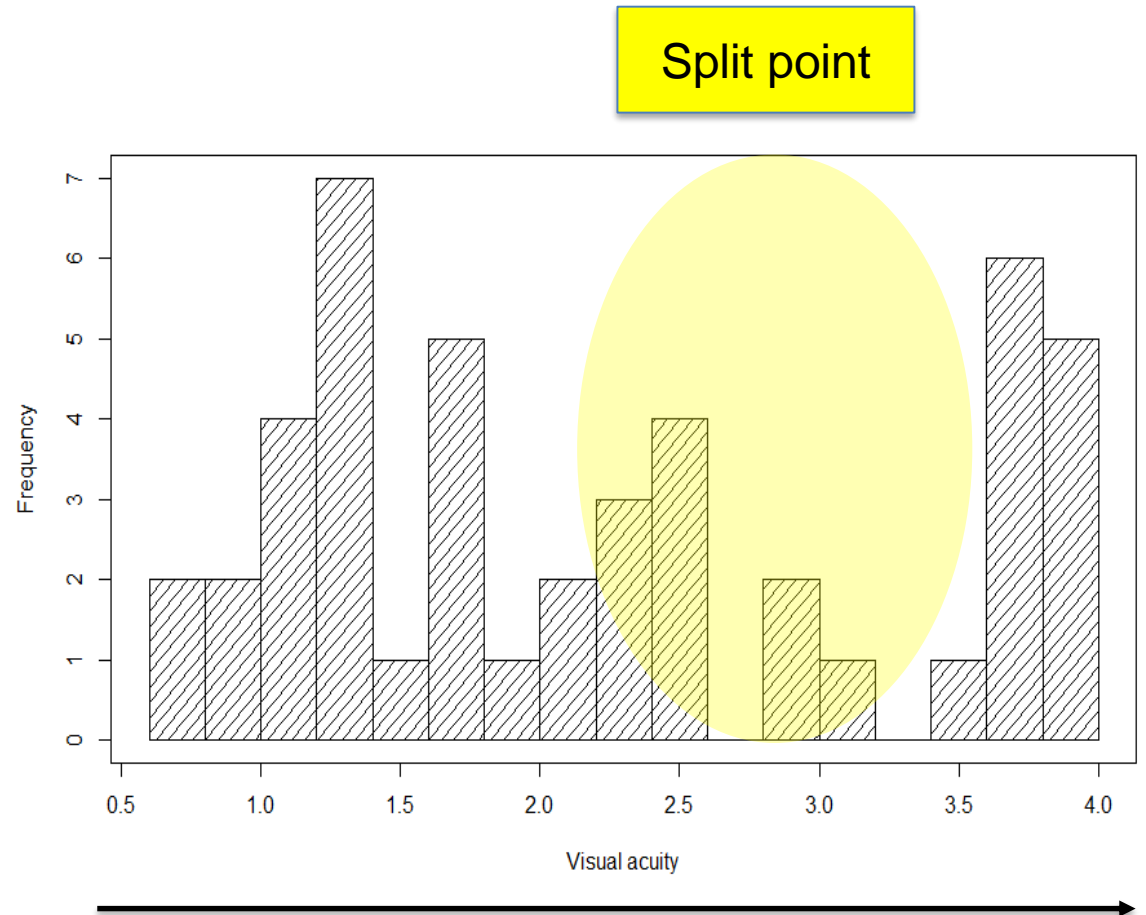


SPORT CLASSES – MAIN STUDY

VISUAL ACUITY



More
common
among
athletes



- Multiple studies suggest to split VI judo into two classes
- Athletes with and without functional vision supporting judo performance
- Further analyses ongoing to decide optimal cut-off between classes

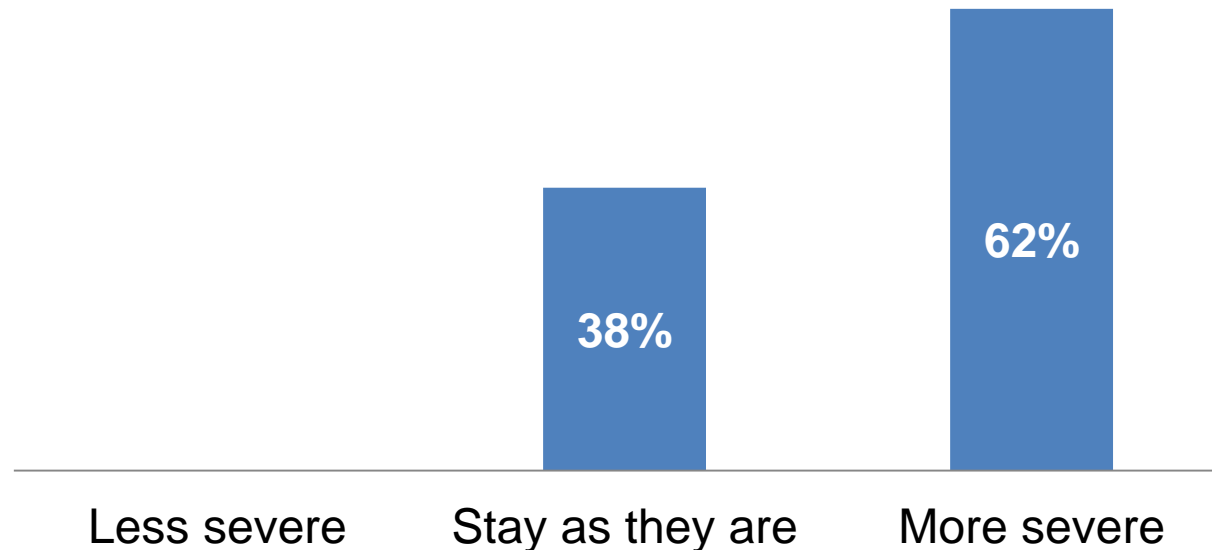
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MINIMUM IMPAIRMENT CRITERIA

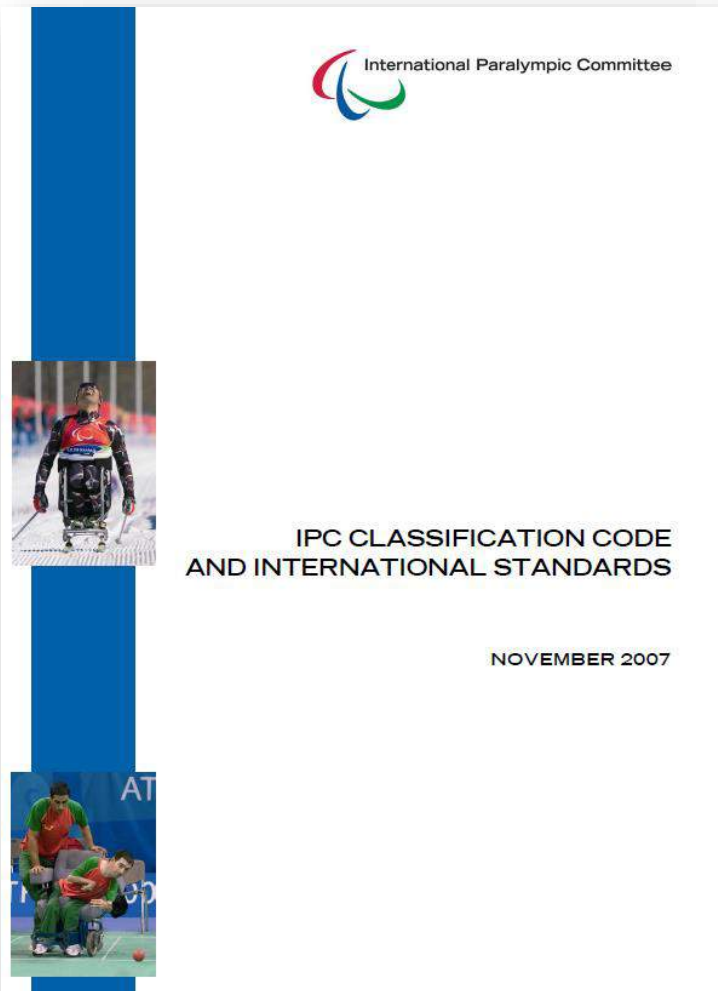
MINIMUM IMPAIRMENT CRITERIA EXPERT OPINION

The minimum impairment criteria for judo:

- > should be **less severe**, allowing some to compete who are currently not eligible
- > should **stay as they are**
- > should be **more severe**, excluding some athletes who are currently eligible to compete

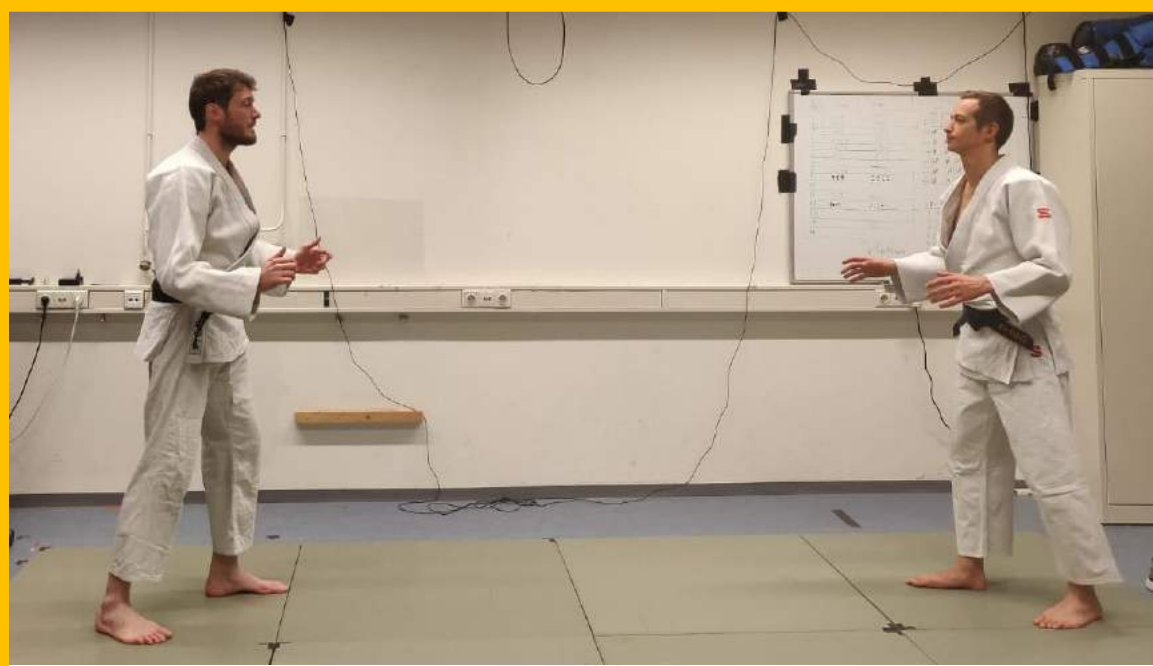


MINIMUM IMPAIRMENT CRITERIA IPC CLASSIFICATION CODE



The minimum impairment criteria are defined as the minimum level of impairment that has an impact on performance in that sport.

MINIMUM IMPAIRMENT CRITERIA APPROACH



Able-sighted judo



VI judo

MINIMUM IMPAIRMENT CRITERIA

GRIP FIGHTING



*“Gripping is one of the most important
and fundamental judo skills”
– Jimmy Pedro, Olympic medallist*

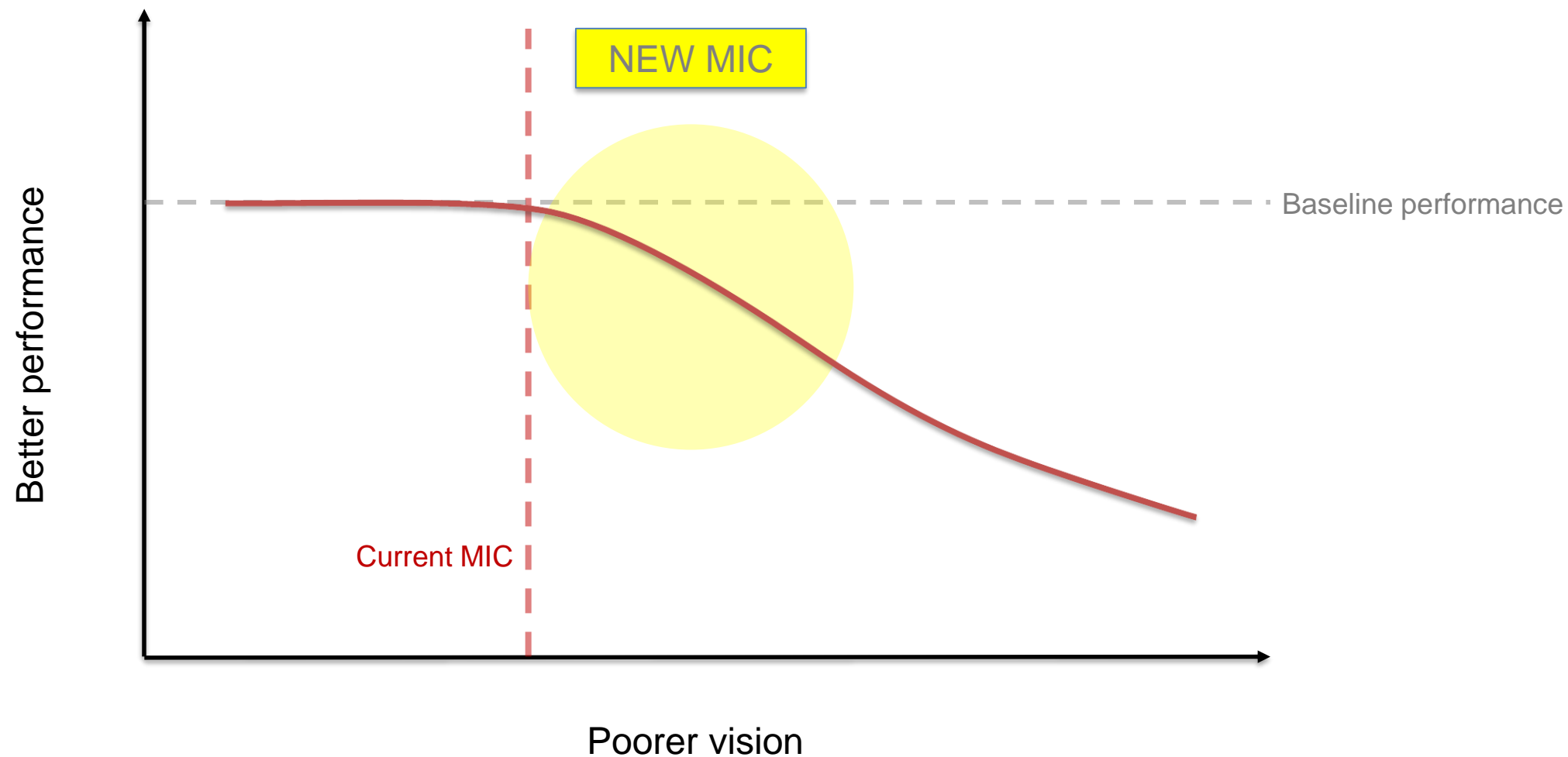
MINIMUM IMPAIRMENT CRITERIA

STUDY DESIGN

- 28 able-sighted judo athletes (brown or black belt)
- Competing in pairs in short grip fighting exchanges
- Simulated impaired visual acuity with Bangerter foil attached to swimming goggles

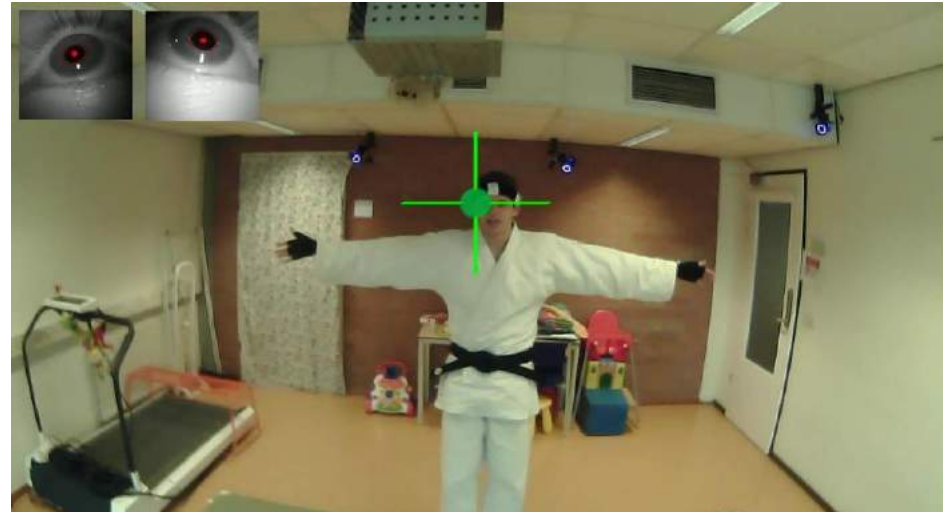
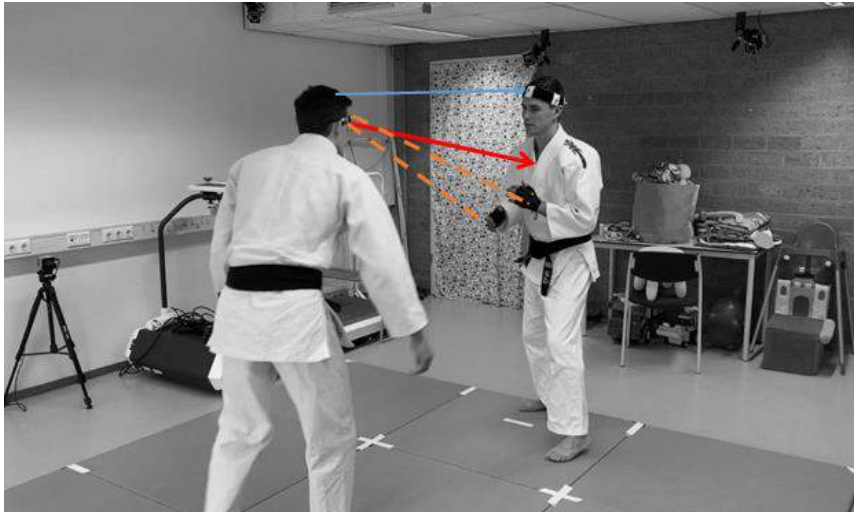


MINIMUM IMPAIRMENT CRITERIA RESULTS: PERFORMANCE



MINIMUM IMPAIRMENT CRITERIA CONCLUSION

- Results suggest current MIC for VA is too mild
- More severe impairment needed to be eligible to compete in VI judo
- Additional analysis in progress to determine how much the MIC should shift
- Additional work to set a MIC for visual field is in progress



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TIMELINE

