

DISCUSSION PAPER – CLASSIFICATION OF VISUAL IMPAIRED ATHLETES FOR SPORTS UNDER IPC GOVERNANCE

Sports under IPC Governance (including VI-athletes) : Athletics, Swimming, Alpine Ski, Nordic Ski

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- Beijing 2008 Paralympic (pre-)Games observations & informal meetings
- Different Meetings and communications with IBSA representatives on IPC – VI classification, October 2008 onwards
- Academic expertise consultation
- Internal IPC meetings (Medical & Scientific Department – Sports Department)
- Input IPC Athletics Summit

The Discussion Paper serves:

- The IPC Athletics Summit Working group on VI-classification
- As discussion paper for the IPC Swimming Summit

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Aim

To discuss IPC Classification Code Compliance from the perspective of assessment of athletes with visual impairments participating in IPC Sports.

Classification Code Compliance (Code implementation to be achieved by March 2010) consists of (if not yet achieved):

- implementation of a sport-specific classification system with evidence-based criteria for eligibility and sport class allocation (evidence-based should be read as: measurable, objective and standardized criteria, with reference to scientific evidence if available)
- upgrade, where applicable, rules and regulations, as well as processes, procedures, policies and operations, to be compliant with the IPC Classification Code.

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The document should be considered a 'working document' and feedback / input is welcomed from the relevant parties, incl. athletes with visual impairment. Once 'finalized' within a small 'task force', wider consultation and communication of the proposed pathway to the Membership should be considered.

The document is limited to IPC Sports as these are the sports IPC has jurisdiction of. It is however recommended that IFs and IOSDs that include events and competitions for VI-athletes revisit the existing rules and regulations to align with the IPC Classification Code requirements in similar way.

1. Short term objectives

Short term objectives mainly focus on the enhancement of actual rules and regulations, and processes, procedures, policies and operations to guarantee a fair, objective process of athlete assessment, which is reliable and replicable.

The actual assessment in VI-classification consists of the assessment of visual acuity (VA) and eventually visual field (VF) to define eligibility and allocate the athlete B1 (no light perception or inability to recognize the shape of a hand from any distance or direction), B2 ($VA < 2/60$ and or $VF < 5^\circ$) or B3 ($VA 2/60 < 6/60$ and/or $VF 5 < 20^\circ$) sport class status, independent of the specificities of the sport competing in. The only criterion applied is a medical assessment, with the best eye and the best correction (glasses, lenses,...). If an athlete fails to meet the above criteria, he is deemed Ineligible to Compete.

The rules and regulations concerning eligibility and sport class allocation will not change in the immediate future as the development of a sport-specific system will take some time and includes Membership consultation rounds prior to an approval by the IPC GB (see section 2. Long term objectives). It is therefore expected that the VI sports for the season 2009-2010 will still run under the actual system. However, an action plan to move into the direction of a sport specific classification needs to be developed and proposed to the IPC GB (compliant with the Code requirements).

It is recommended that all documents (e.g. classification manuals) and communication (e.g. letters to practicing nations) currently made available have a 'Note', indicating the potential changes in eligibility and sport class allocation for the future.

General Assessment

Bringing medical documentation today is not a mandatory requirement of the classification system, nor always asked for by classifiers. This needs amendment, with a listing of expected documents VI-classifiers want to have on file. All documents should be officialized by an ophthalmologist/optometrist with clear identification (name, contact details, accreditation number). This applies in particular to:

- medical diagnostics
- assessment of Visual Field (see further)

Eligibility Criteria



Vision impairment arises from a variety of conditions and can occur during the perinatal period or as result of (progressive) illness or trauma. Vision impairment occurs when there is damage to one or more of the components of the vision system.

There is a need for more detailed description of the kind of 'damaged components' that will be considered for VI-athletes sports participation. These can include damage to:

- eye structure/receptors
- optic nerve
- visual cortex

Assessment Techniques

It is important to remember that VI-classification is NOT a diagnostical process on vision impairment. Supportive evidence to the type and nature of the impairment should be provided ahead of the assessment.

The assessment needs to focus on the loss of visual function, preferably related to the sport the athlete participates in.

Today's assessment includes the assessment of Visual Acuity and Visual Field.

Assessment of **Visual Acuity** currently is conducted using visual acuity cards, put in a distance from 1 to 6 meters from the athlete. Room luminosity should be controlled for an no great differences in luminosity between waiting area and assessment room should occur.

While the standardization of the process is described in the IBSA Medical Procedures, practical problems are often a challenge to stick to the standardization. In particular the requirements for luminosity cannot always be controlled for. It is further recommended that the positioning of athlete support personnel in function of the assessment should be standardized (coach of athlete guide should not see the vision charts presented to the athlete)

Visual Field assessment calls for the availability of Goldmann kinetic visual field perimetry with III / 4 isoptere (or equivalent). This equipment however is not portable, and the classifiers therefore have implemented 2 alternative options over the past period. Both procedures bring their own challenges as indicated between the brackets, and should be reviewed:

- access to a nearby hospital with the needed equipment to conduct the testing upon demand (slows down assessment process, who pays, transportation issue, weekend service,)
- the athlete has to bring the medical documentation of the VF test conducted by his own ophthalmologist (only control of paper work, match with athlete in front of you, procedures followed (best eye, best correction, ...))

It furthermore compromises the integrity of the actual IBSA medical procedure with the VF equipment only available at the Paralympic Games or at (limited number of) Major Events. From reports in Beijing, we learned that the assessment of VF even could not be guaranteed in lead-up Competitions. This needs to be resolved with absolute priority.

Proposed short term objectives:

1. IPC to appoint the VI-classifiers to act as IPC Certified Classifier. Recruitment of the classifiers from the 'IBSA-classifier pool' is recommended though not exclusive. The necessary skill sets to review medical diagnostics and conduct VA / VF field testing need to be guaranteed, which implies the classifier needs to have a qualification as ophthalmologist or optometrist. (or equivalent). Besides ophthalmological/optometric expertise, it should be guaranteed that the administrative paperwork is carefully completed in accordance with the IPC sports rules.
2. Mandatory requirement to bring all relevant (recent) medical documentation, appropriately translated in English.
3. VA to be assessed with a computerized VA assessment tool, "Freiburg Visual Acuity, Contrast and Vernier Test" (FrACT). This tool currently is freely available from the Universität Freiburg (www.michaelbach.de/fract/). The test items are adjustable to the size of the computer screen, corrects for 'guessing' and luminosity can be controlled for. The test will definitively lead to an increase of standardization and reduced risk of 'guessing' by the athlete. The test equipment needed is a zip-file to upload on every PC. Classifiers need to be appropriately trained.
4. The assessment of VF as part of the mandatory medical documentation to be brought by the athlete 'in preparation of' the actual on-site assessment. VF to be assessed by a 'selective' number of ophthalmologists, appropriately registered as expert and experienced by an official authority (i.e. international ophthalmology/optometry association). The challenges with VF assessment call for a long-term objective to reconsider this assessment.
5. IPC to amend the existing (IBSA) rules that currently apply in IPC Sports to reflect the recommended changes.
6. Administrative processes that go along with the revised assessment operations should be viewed in light of easy merging of information into the IPC Sport Data Management System. This means that data on-site preferably are stored electronically in a user-friendly format to facilitate upload in the IPC database (in short-mid term perspective).

2. Long term objectives (2010 onwards)

Classification of VI-athletes needs to be revisited from a sport-specific approach. It will lead to differentiated eligibility criteria and (potential) revision of sport classes per sport. Consequently, an athlete may meet eligibility criteria for one sport, and not for another sport.

This process is to be initiated without further delay as it asks for in-depth reflection in consultation with actual classifiers, researchers, eye-care specialists and sports experts. Once draft criteria are available a process of membership consultation needs

to be put in place as to familiarize the athletes with expected changes, indicate implementation timelines and transitional plans, provide feedback opportunities.

Criteria to be considered in the exercise:

1. assessment of multiple parameters. E.g. if applicable to the sport, criteria such as 'speed of motion', 'contrast sensitivity', 'colour discrimination', 'location of stationary/moving objects', 'postural and swing balance' ... should be considered next to the actual assessment of VA and VF. All test results should lead to a composite score ($y = a + b(VA) + c(VF) + d(SM) + e(CS) + \dots$ [a=regression constante; b-e=test scores]).
2. Besides identifying the relevant parameters for a particular sport, the 'best' test(s) should be identified for on-site measurement.
3. Weighting mechanism for multiple parameters. Depending on the sport, each parameter (acuity, field, sensitivity, ...) may have a different importance. Furthermore, making a final assessment on e.g. eligibility is preferably done over the assessment of multiple tests and eventual thresholds to be considered.
4. Built-in control for trainability of parameters (which should not be considered in a classification procedure).
5. Development/impact of equipment (glasses, lenses, ...).
6. Standardization of assessment in terms of reliability and replicability (with control measures to eliminate potential 'misrepresentation of skills')
7. Amendment of technical sport rules to accommodate for VI-athletes. This may imply the procedures for goggle check (standardization of procedures over all sports), the use of tappers, light adaptation, flags, ... (IPC Swimming), the use of jump take off areas, use of multiple lanes, tethers, ... (IPC Athletics), guide bibs, audio-equipment, holding areas, ... (IPC Nordic Ski), guide bibs, audio-equipment, ... (IPC Alpine Ski)

From this perspective, it is proposed that :

1. IPC takes the lead in the development of VI-classification for the sports under IPC Governance.
2. eligibility criteria (impairments related to eye, optic nerve, visual cortex) need to be clearly defined.
3. This process already has been initiated in 2007 for **IPC Wintersports** with an IPC Sports Science Committee approval of a research project from Dr. Jendrusch and dr. Bolsinger named 'Optimization/objectification of the classifying process for the visually impaired athletes'. This project largely aims to identify parameters (multiple criteria) to include in the assessment in wintersports as described above. This project continues over the winter seasons 2008-2009 and 2009-2010.
4. **IPC Athletics** needs to initiate a similar process to identify different sport-specific parameters. These may differentiate for running, jumping and throwing events.

5. The same exercise in **IPC Swimming** leads to the following proposal for consideration: Up to 95% of the swimming potential is defined by antropometric components (limb length, hand/feed surface in combination with drag forces (frontal, vertical)). VI-athletes are not challenged from this perspective. The only other factor to be considered from a sport-specific perspective could be Visual Acuity (VA) with the criterion to all or not (clearly) differentiate the black orientation marking line in the lane on the bottom of the pool. An easy calculation could then be : $VA = \text{value (incl. breaking index of water)} + a(\text{depth of pool}) + b(\text{width of the markign line}) + c(\text{impact of swim goggles, if applicable})$ (with a,b and c being regression coefficients). This results in the following:

minimum disability criterion	marking line: 20cm	marking line: 30cm
pool depth: 2m	$VA < 0.0029$	$VA < 0.0019$
pool depth: 3m	$VA < 0.0043$	$VA < 0.0029$

The Competition then could be structured with a 2 class format :

- Class 1 : no light perception or inability to recognize the shape of a hand from any distance or direction
 - Class 2 : $VA < 0.0043$ (as pools depth can differ and marking lines width may change, the least restrictive measure could be considered as consensus measure)
6. IPC jointly works with IBSA on the future of Athletics and Swimming within the framework as outlined above. The ultimate goal is that both governances can agree on the same criteria on VI eligibility and sport class allocation so that athletes compete under the same (classification) provisions in both IFs.
7. All processes initiated need to go along with a communication strategy to ensure that all relevant parties, incl. media, are kept informed on the directions considered/taken through the development of sport-specific criteria.
8. Proposals for classification system changes in IPC sports will follow the normal pathway of rule/regulation change as approved by the IPC GB in May 2008.

3. Classifier Appointment and Certification

The following will be implemented by IPC on classifier appointment and certification:

1. In the actual situation and considering the Beijing 2008 PG experience as a major indicator, IPC will appoint the VI-classifiers needed to conduct assessments during IPC Sanctioned Competitions and Events from now onwards. If applicable, IBSA will be consulted to retrieve names and contact details, but the final recommendation for classifiers is to be confirmed by the IPC (for each Sport).
2. VI-classifiers will act as a panel of at minimum 2 classifiers (Code requirement), and assessment only will take place at the occasion of competitions the athlete is duly entered. In the past classification outcomes of VI-athletes who presented at



other sport competitions (e.g. swimmers presenting at athletics competition because classifiers were there) or who consulted with VI-classifiers in their private (ophthalmology) practice were accepted.

3. In the (mid-)long term and to be compliant with the Classification Code, IPC will develop an accreditation and certification pathway for classifiers to act on behalf of IPC for sports under IPC jurisdiction.

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