Using the Scientific Method to develop new, evidence-based methods of Paralympic Classification (Part 2 of 2)

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Background

• In support of their policy commitment to development of evidence-based methods of classification, the IPC are developing an audio-visual resource that aims to facilitate improvement of Paralympic classification through science by fostering meaningful functional collaborations among key stakeholders – International Sports Federations, Classifiers (including Heads of Classification), coaches, athletes and researchers

• Features:
  • Delivered by suitable qualified person
  • Modular - easily adjusted so that the presenter can make it relevant for a wide range of sports at different stages of development;
  • Accessible (i.e. easily understood by a wide range of audiences)
Aim of this presentation

• This presentation is Part 2 of 2. The aim is to briefly review the framework on which the audiovisual presentation will be based and emphasise those aspects that will lead to the development of new classification structures and the translational research required.

• Your role: Focus on form. Is it modular? Is it accessible? What could make it more useful as a tool.
4-Part Framework

1. Purpose and conceptual basis
2. Improving current methods
   i. Eligibility criteria
   ii. Class allocation
3. Developing new methods and structures
4. Translating new methods and structures into practice
Purpose and conceptual basis of the system

Develop valid measures of impairment

Assess relative strength of association between measures of impairment and measures of key performance determinants

Develop standardised, sports-specific measures of performance

Identify impairment types and assess performance determinants

Eligibility Criteria
- Type of Impairment
- Severity of Impairment

Translation of new methods/structures to practice

Athletes into Classes - Current best practice

Fig 1: Improving Paralympic classification through science
Supplementary publications


• Tweedy, SM, Mann, DL, Vanlandewijck, Y.C (accepted) Research Needs for the Development of Evidence-based Systems of Classification for Physical, Vision and Intellectual Impairments, In Vanlandewijck, Y.C. and Thompson, WR, Training and Coaching the Paralympic Athlete, Blackwell Publishing ltd
Part 3: Developing and validating new structures or novel methods of assessment

**Overview of the approach**
(Tweedy & Vanlandewijck, 2011)

- Identify eligible impairments – vision impairment, impairment types?
- Develop valid, reliable measures for impairment (e.g., movement, coordination)
- Develop standardized measures of key performance indicators
- Conduct studies that evaluate the relative strength between impairment and performance using multiple measures
- These are conventional scientific methods – try to address these questions

**Organisational requirements**

- Two common responses from classifiers and sports:
  - Overwhelmed
  - Threatened

- Therefore it is important that:
  - Paralympic sports have a Classification manual with a statement of purpose and description of conceptual basis
  - Engage with research sector – Universities and research centres
  - Set realistic timeframes – studies are conceptually challenging and transition process must be carefully planned and implemented (years, not months)
  - Encourage stakeholder involvement (athletes, coaches, administrators)
3 main areas covered in Part 3

1. Novel, sport-specific methods of impairment assessment that have been published:
   
i. Physical impairment assessment
   a. Range of movement
   c. Strength - *Beckman, E.M et al. (2014) Novel Strength Battery to Permit Evidence-based Paralympic Classification, Medicine, 93(4), e31

ii. Intellectual impairment – developed by IPC Classification Partner, Intellectual impairment

iii. Vision impairment developed by IPC Classification Partner, Intellectual impairment
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Part 4: Translating research outcomes into practice

1. Important to recognise that decisions around adoption and implementation of new structures and measures reside with the Ifs;

2. Athlete impact and input is critical

3. Translational Research frameworks exist and may be able to be adapted/applied to IPC (e.g., RE-AIM – Reach, Effectiveness, Adoption, Implementation and Maintenance)
Conclusion

- This 2 part presentation described an IPC initiative to develop an audio-visual resource that aims to facilitate improvement of Paralympic classification through science.

- Features of the presentation include:
  - Delivery by suitable qualified person
  - Modular - easily adjusted so that the presenter can make it relevant for a wide range of sports at different stages of development;
  - Accessible (i.e. easily understood by a wide range of audiences)

- Feedback is welcome!