DEVELOPING THE SPORTS SPECIFIC CLASSIFICATION SYSTEM FOR ATHLETES WITH INTELLECTUAL DISABILITIES TO COMPETE IN INTERNATIONAL PARALYMPIC COMPETITION
Terminology

- IPC - International Paralympic Committee
- INAS – the International Federation for sport for para-athletes with an intellectual disability
- Intellectual Disabilities /Learning Disabilities/Mental Retardation

My Roles

- Part of large international research group funded jointly between INAS & IPC
- Lead Eligibility Officer for INAS
History

- Sydney Paralympics 2000 – Spanish 10/12 basketball team found to be cheating due to not having an ID

- ID athletes disallowed from competing until can provide evidence that can comply with IPC governance
IPC Rules and Procedures

Eligibility i.e. Have they the disability they claim to have?

Classification i.e. what impact does the disability have on the sport?

Appeals & Protests i.e. How do we test if the classification is challenged?
What does ‘classification’ mean for athletes with ID in the Paralympics?

Initial Eligibility

Sports Classification

Confirmed as eligible for that sports class at Paralympic sanctioned events
Primary eligibility

- Adopt a universally accepted definition of ID
  - Disability evident before age 18
  - IQ below 75
  - Significant impairment of adaptive behaviour

- Adopt a ‘gold standard’ approach to assessment
  - International Association for the Scientific Study of Intellectual Disabilities (IASSID)
  - Make appropriate adaptations based on available evidence to treat nations fairly
INAS Registration Procedure

Primary evidence submitted, signed off by psychologist

Screened by INAS admin.

Panel of two-three review evidence

Sufficient information submitted

Criteria met

Criteria not met

Insufficient evidence more requested

Athlete rejected

Athlete registered
Part 2: Classification

- Does having an intellectual disability impact on the ability to perform the sport and in what way?
IPC – INAS Research Group

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IPC General Assembly Oct 2009 agreed that ID athletes could re-join for London 2012

3 sports
- Athletics
  - 1500m
  - Shot
  - Long jump
- Table tennis
- Swimming 100m

About 80 -120 athletes
How are other groups classified?

1. Impairment – have they the actual impairment and at what level?
2. Generic activities – activities that reflect the impairment but not sports specific e.g. Balance
3. Practiced activities – sports specific wheelchair manoeuvrability
4. Training history and other environmental factors e.g. training
1. Does ID impair sports performance?

2. If so how, and in what way for different sports?

3. So how do classify ID athletes?
Starting from a conceptual model

Understanding

Sports performance

Cognitive skills impacted by ID

Impact of ID on sports performance
Sports Intelligence

Process of Response
- Fluid Intelligence e.g. Sequential learning
- Memory & Learning e.g. Visual memory

Content of Response
- Visual Perception e.g. Perceptual Speed

Manner of Response
- Processing Speed e.g. Simple and complex reaction times

Generic ‘sports intelligence’ applicable to all sports

Sports ‘specific intelligence more relevant to certain sports’
Key components of intellectual functioning that likely have sport specific applications include:

- Reasoning
- Visual-spatial perception
- Working Memory
- Attention & Concentration
- Reaction time & processing speed
- Executive function

Sports Intelligence
Developing the classification system

G - An assessment generic of sport intelligence

S - A sports specific assessment of sport intelligence
The Sport Cognition Test Battery

- Collection of proven psychometric tests chosen to test each area
- Able to be administered largely non-verbally
- Quick to administer
- Largely touch screen computer, with some ‘table top’ tests
- Easy and quick to score
inductive reasoning (fluid intelligence)

visual processing (visual perception / visuo-spatial abilities)

memory (Corsi blocks)
- Sport specific assessment

Two components
1. Observation in competition – video analysis of relative stroking speed, mid-pool. ID athletes have relative low stroke speeds compared to non-disabled athletes
2. TSAL-Q – a questionnaire based inventory of training and experience
Sports intelligence tests – Bandwidth model

- Statistical analysis of the results of the tests are used to create a profile of the athlete
- A standardised profile is also taken for non-disabled athletes
- The two profiles will then be compared and the parameters by which to identify an ID athlete will be agreed on a sport by sport basis
Bandwidth model

Non-disabled sample

Tests 1 2 3 4 5 6 7 8

High scores
Low scores

High scores
Low scores

Disabled Sample
Bandwidth model

Non-disabled sample

Tests 1 2 3 4 5 6 7 8

High scores

Low scores

Overlap

Cut-off scores

High scores

Low scores

Disabled Sample
## Swimming

<table>
<thead>
<tr>
<th>COMPONENT</th>
<th>Tests</th>
<th>Task</th>
<th>Scoring</th>
<th>Cut-off Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>Memory and Learning</td>
<td>Corsi (memory capacity)</td>
<td>To remember a sequence of blocks and to repeat the sequence in the same order</td>
<td>Average length of a sequence</td>
<td>6.69</td>
</tr>
<tr>
<td>Executive Functioning</td>
<td>Tower of London (executive functioning)</td>
<td>To copy the frame structure by moving balls in the least number of moves possible</td>
<td>Number of items solved correctly</td>
<td>12.43</td>
</tr>
<tr>
<td>Visual Perception &amp; Fluid</td>
<td>Block Design (visual spatial ability)</td>
<td>To copy patterns with 3D white/red cubes</td>
<td>Raw total performance score</td>
<td>58.31</td>
</tr>
</tbody>
</table>
Example 2: Table Tennis classification
Table Tennis Classification

- **3 parts**
  1. Touch screen generic sports intelligence tests
  2. On court technical tests
  3. In competition observation
Table Tennis Tactical Battery: protocol

INSTRUCTION:

Let’s play a game to 5 points (12 times). Your opponent will be the one to deliver the service every time and you return.

The service will be 5 times identical in spin, speed and position.

You have to try to win each point, starting with a good return.
Sport specific Battery: tactical

- Short no spin
- Short backspin
- Short topspin
- Short lateral left
- Short comb back right
- Short comb top left
- Long quick no spin
- Long backspin
- Long topspin
- Long lateral right
- Long comb back left
- Long comb top right
Table Tennis Tactical Battery

# Lost rallies

Service

1 2 3 4 5

ID AB
What next?

- Lots more to do
- Other sports, basket ball, skiing, football
- Funding an issue
- However, good developments and we will see ID athletes compete in London this summer
- Questions?

Thank you for listening