

# Research strategy for the scientific review of the FEI classification system for Para-Equestrian sport



## Background

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The current IPC Classification Code<sup>1</sup> describes the purpose of sport classification as:

*“...to define who competes in Para-sport and to ensure that the impact of Impairment in each event is minimised. To achieve this purpose, an IF must develop and implement a Classification system that complies with the Code and the International Standards”*

The Code describes the purpose of a sport classification system as being:

*“to define who is eligible to compete in Para-sport and consequently has the opportunity to reach the goal of becoming a Paralympic Athlete; and (2) group Athletes into Sport Classes which aim to ensure that the impact of Impairment is minimised and sporting excellence determines which Athlete or team is ultimately victorious.”*

To achieve the above, the sport classification system must be both sport specific and evidence based.

To comply with the IPC Classification Code the FEI is required to:

1. Develop sports-specific classification systems through multidisciplinary scientific research. Such research must be evidence-based and focus on the relationship between Impairment and key performance determinants.
2. Ensure athlete input is solicited to assist in research and improvement in classification systems
3. Ensure that classification research complies with internationally recognised ethical standards and research practices

The classification system currently used by the FEI for Para equestrian sport was developed in the early 1990s as the outcome of unpublished PhD research conducted by Dr Christine Meaden. A Profile system for the purpose of classification was developed for use in classification of athletes with impairment. The system was applied to the evaluation of athletes for Para equestrian sport. Since then, the system has undergone minor modifications but remains, at large, the same system as first developed.

The current FEI Classification system has been reviewed by the FEI Classification Working Group with reference to the IPC Classification Code. The limitations of the current system have been identified as:

- The purpose and goal of the classification system lacks clarity and is unsupported by published evidence to support the evaluation methods used
- The athlete evaluation primarily focusses on impairment
- The athlete evaluation process is not specific to the sport of dressage as evidenced by the failure to identify and assess the tasks and activities required to by the athlete to be able to successfully compete in the sport of dressage
- The impact of the impairment on the activities required for the discipline of dressage is not recognised. This is exemplified by the failure to identify the impact of vision impairment on the ability of the athlete to perform the specific requirement of the sport of dressage
- There is no evaluation of the link between impairment and the determinants of performance and therefore athletes are grouped by level of impairment rather than the impact of their impairment on their performance of the tasks required
- The measures used to determine some impairments are not an appropriate standardised measure. For example, coordination tests are used to measure impairment for people with spasticity
- The system does allow for the impact of the use of equipment (compensating aids) on the performance by the athlete. The aids are assigned after the athlete evaluation.
- A standardized observation assessment tool is not available

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<sup>1</sup> <http://www.paralympic.org/classification-code>

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- The determinants of Minimal Impairment Criteria are not clearly identified or evidence based for some specific impairments, for example, short stature

## Objective

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This research strategy has been prepared for the purpose of defining the actions and steps required to achieve a FEI Classification System that meets the following criteria:

- Supports the purpose and conceptual basis for a robust and transparent classification system for Para equestrian and specifically dressage
- Sport specific for Para equestrian and dressage
- Has been developed in accordance with the best evidence available
- Objectively measures eligible impairment and thereby determines the Minimum Impairment Criteria for the discipline of dressage
- Objectively measures the extent to which athletes are able to execute the specific tasks and activities fundamental to the discipline of dressage
- Determine the requirements of each competition class
- Groups Athletes into Sport Classes according to how much their Impairment affects fundamental activities in the discipline of dressage

Statement of purpose and conceptual basis of classification are the first steps

The steps<sup>2</sup> for ensuring any classification system meets the above criteria include:

- Identify eligible impairments for Para equestrian- dressage
- Develop reliable measures impairment (e.g., paralysis, range of movement)
- Define the Minimal Impairment Criteria for each eligible impairment
- Develop standardized measures of performance for the discipline of dressage
- Evaluate the relative strength of association between impairment and performance using multivariate analysis

In working to meet the above criteria and in compliance with the 2015 IPC Athlete Classification Code, the FEI will notify the IPC before any change is made to the Classification system or any other change(s) that might impact on Sport Class allocation with the rationale for change, the proposed timelines for implementation, transition rules, as applicable, and an overview of the process of consultation that is initiated as part of the system review process. The IPC must be provided an opportunity to submit feedback and comments.

## Benefit

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A range of benefits will be realized from a classification system that meets the above criteria. These include:

- ✓ Athletes, classifiers and other stakeholders can be confident the system meets its designated purpose
- ✓ Promoting grassroots participation in Para-sports by people with an Impairment
- ✓ Competition that rewards athletes for their skill
- ✓ Compliance with the IPC Classification Code
- ✓ Continued inclusion in the Paralympic program

## Principles

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The approach determined in this strategy is underpinned by the following principles which underpin this research strategy include:

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<sup>2</sup> Tweedy, S. Evidence-based classification – what is it, why is it important and how can it be achieved? 2008 Classifying Disability & Sports Technology Conference, Singapore 20th - 22nd November 2008

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- Respect for the knowledge and expertise that all involved can contribute
- Collaboration with identified partners to achieve the objective and
- Consultation with key stakeholders including athletes and those with expertise in the sport of para dressage
- Partnerships that work to achieve the desired outcome
- Realize the review of the current system in several steps that can build upon each other but are staged to allow adequate consultation with stakeholders and consolidation of the information to enable implementation of outcomes along the way
- Implement any significant change slowly, following a process of intensive stakeholder consultation including athletes, coaches and administrators
- Ensure the compilation of sufficient scientific evidence in the short and long term
- Aim for research partnerships that will lead to scientific publications in peer reviewed journals in order to ensure a certain validity of the research outcome

## Goals

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Our objective will be realised through this research strategy and the achievement of staged goals. These goals have been grouped as either short, medium or long term and anticipated time frames assigned. The goals provide the scaffold for the development of an evidence based classification system for Para equestrian-dressage.

The required steps within the research framework<sup>3</sup> are described below.

**Step 1 Specify impairment types eligible for Para equestrian** - e.g hypertonia

**Step 2 Identify the determinants of sport performance**

**Step 3a Develop valid measures of impairment** – (ratio scaled; reliable; precise; training resistant; specific to one impairment and account for the greatest variance in performance)

**Step 3b Develop standardised sport specific measures that measure the determinants of performance**

**Step 4 Assess the relative strength between measures of impairment and sport specific measures of performance determinants** - looked at relationship between trunk impairment classification and activities of the sport. Need to consider use of equipment and compensating aids on this.

**Step 5 Use outcomes from step 4 to determine minimum impairment criteria, number of classes and class profiles.**

To achieve these goals within realistic timeframes, it is necessary for the FEI to engage with the research sector and to seek out suitable research partners who have access to the knowledge, expertise and resources required.

### Short term (1-2 years)

1. Develop a research strategy
2. Establish a research partnership with a suitable institution
3. Achieve Steps 1- 3a above

### Medium term (3-4 years)

4. Achieve Steps 3b-5 above

### Long term (5-6 years and ongoing)

5. Build on the evidence to support the new classification system
6. Conduct ongoing classification related research

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<sup>3</sup> Tweedy, S; Beckman, E and Connick, M. Paralympic Classification: Conceptual Basis, Current Methods and Research Update. 2014. American Academy of Physical Medicine and Rehabilitation, Vol.6, S11-S17.

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## Strategies, Timelines, responsibilities and budget (action plan)

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Please refer to the attached Action Plan (page 5).

## Budget

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Offer a scholarship to a PhD or Post-Doc student over a period of 3.5 years (amount depending on the country).

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Research Action Plan				
Objective	Sport specific, evidence based classification system			
Goal level	Goal	Strategy	Timeline	Responsibility
Short term	Develop a research strategy	<ul style="list-style-type: none"> <li>• Draft a strategy defining the objective, goals (steps), strategies, timelines and responsibility</li> <li>• Consult with stakeholders including, IPC, FEI Classifiers and PE tech Committee regarding the strategy</li> <li>• Establish a research sub working group of the Classification Working Group</li> <li>• Finalise the strategy</li> <li>• Seek approval, firstly from the PE Technical Committee</li> <li>• If approved by the PE Technical Committee seek further comment through consultation with the NFs and IPC</li> <li>• Seek endorsement through the FEI HQ including resource allocation</li> </ul>	Dec 2015	FEI HQ and CWG
Short term	Establish a research partnership	<ul style="list-style-type: none"> <li>• Identify possible research partners (through IPC, FEI contacts, brief literature search in the areas of riding (preferably dressage), disability, impairment, therapeutic riding, hippotherapy)</li> <li>• Present Research Strategy to identified partners</li> <li>• Engage with possible partners to identify areas for collaboration</li> <li>• Seek out possible partnership with a University to offer a PhD scholarship/grant</li> <li>• Seek applications</li> <li>• Identify PhD student</li> <li>• Identify relevant studies and compare PE classification with that of other sports.</li> </ul>	June 2016	FEI HQ
Short term	Step 1 -Specify impairment types eligible for Para equestrian	<ul style="list-style-type: none"> <li>• Confirm existing eligible impairment types</li> <li>• Document in line with IPC Standard on Eligible Impairments</li> </ul>	June 2016	

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Research Action Plan				
Objective	Sport specific, evidence based classification system			
Goal level	Goal	Strategy	Timeline	Responsibility
Short term	Step 2 - Identify the determinants of sport performance for an athlete within Para dressage (excluding the horse)	<ul style="list-style-type: none"> <li>Identify experts relevant to the sport of para dressage including athletes, classifiers, coaches, technical officials, administrators</li> <li>Clarify research questions and determine most appropriate consensus research methodology</li> <li>Organise a “round table” meeting of experts</li> <li>Set the agenda based on the research questions, for example:               <ul style="list-style-type: none"> <li>- review of the current system</li> <li>- short term goals</li> <li>- steps to progress in the future</li> <li>- what other sports have done</li> <li>- published research.</li> </ul>               The expert panel should i.e include athletes, coaches, classifiers, administrators and researchers.             </li> <li>Conduct an on line survey as an alternative method to the above</li> <li>From the above determine the specific tasks and activities fundamental to dressage</li> </ul>	Dec 2016	FEI Headquarters; Classification Working Group; PE technical Committee
Short term	Step 3a -Develop valid measures of impairment – (objective; reliable; precise; training resistant; specific to one impairment and account for the greatest variance in performance)	<ul style="list-style-type: none"> <li>Identify evidence based standardised measurement tools for use in measuring eligible impairments</li> <li>Research standardised measures used within other sport systems</li> <li>Identify which measures currently used are to be replaced with standardised measures</li> <li>Align current measurement of impairment in PE with that of other sports where possible e.g. spasticity</li> <li>Implement the use of reliable measures through an education strategy which will include:               <ul style="list-style-type: none"> <li>Written description of new measures to be used in the classification process</li> <li>Distribution of information via email</li> <li>Classifier forum 2017</li> </ul> </li> </ul>	Dec 2016	Research Working Group Classification Working Group

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Research Action Plan				
Objective	Sport specific, evidence based classification system			
Goal level	Goal	Strategy	Timeline	Responsibility
Medium term	Step 3b- Develop standardised sport specific measures that measure performance	<ul style="list-style-type: none"> <li>Develop sport specific performance tests</li> <li>Identify the impact of equipment (compensating aids) on the athletes ability to</li> </ul>	March 2017	
Medium term	Step 4 - Assess the relative strength between measures of impairment and sport specific measures of performance determinants	<ul style="list-style-type: none"> <li>Research to identify the impact of each impairment on the determinants of sport performance as identified above</li> <li>Compare impairment to performance.</li> </ul>	Sept 2017	
Medium term	Step 5 - use outcomes from step 4 to determine minimum impairment criteria, number of classes and class profiles.	<ul style="list-style-type: none"> <li>The level of impairment required for an athlete to compete within each of our grades</li> </ul>	Dec 2017	
Medium term	Develop a revised classification system and test it in parallel to the current system ("ghosting" the revised system).	<ul style="list-style-type: none"> <li>Use the outcome of the consensus research for the development of a revised classification system</li> <li>Test it in parallel to the current system to compare the two systems in order to see what the differences are in real life and which athletes are affected for which reasons.</li> </ul>	end 2018	Classification Working Group? PhD student?
Medium term	Implement a revised classification system	<ul style="list-style-type: none"> <li>All athletes who have competed within the last five years and are listed on the FEI Classification Master List to be given Review status</li> <li>All Athletes , as above, to be reclassified</li> </ul>	From January 2021	
Long term	Build on the evidence to support the new classification system	<ul style="list-style-type: none"> <li>Continue to monitor and evaluate the system</li> <li>Utilise the data gathered to enhance the system</li> </ul>	2021 and ongoing	FEI HQ

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Research Action Plan				
Objective	Sport specific, evidence based classification system			
Goal level	Goal	Strategy	Timeline	Responsibility
Long term	Conduct ongoing classification related research	Put together list of research topics and offer research grants to NFs/universities interested in conducting classification related research.	2021 and ongoing	FEI HQ