



# Para-Cycling Handbook



*Phillipa Gray and Laura Thompson (pilot), multiple medal winners at the London 2012 Paralympic Games. Photo: Getty Images*

## Contents

Para-Cycling Handbook.....	0
Introduction .....	3
PNZ Background.....	3
The Classification System.....	4
Description of Events .....	5
Road Race.....	5
Individual Road Time Trial.....	7
Hand-Cycling Relay.....	9
Track Tandem Sprint (men only).....	9
Track Team Sprint .....	10
Track Time Trial.....	10
Track Individual Pursuit.....	11
Athlete Pathway.....	12
Recreational Athlete .....	12
Development Athlete.....	13
Academy Squad.....	13
High Performance Squad .....	13
Paralympic Squad.....	13
Qualifying standards .....	14
<i>Women Road Time Trial Standards</i> .....	15
<i>Men Road Time Trial Standards</i> .....	15
<i>Men Track Standards</i> .....	16
<i>Women Track Standards</i> .....	16
Carding and Performance Enhancement Grants (PEG's).....	17
Joining a Club / the Licencing System .....	19
Drug Free Sport New Zealand (DFSNZ) .....	20
PNZ Staff Contact Details .....	21
Useful Website Links.....	21
Appendix 1 – Guideline to Classification .....	22
Hand-Cycle Class H1.....	22
Hand-Cycle Class H2.....	22
Hand-Cycle Class H3.....	23
Hand-Cycle Class H4.....	23

Tricycle Class T1 .....	23
Tricycle Class T2 .....	24
Cycling Class C1 .....	24
Cycling Class C2 .....	24
Cycling Class C3 .....	25
Cycling Class C4 .....	25
Cycling Class C5 .....	26
Tandem Class Blind or Visually Impaired (BVI) .....	26

## Introduction

---

The purpose of this handbook is to provide an informative guide for new athletes or athletes considering becoming involved in para-cycling. It is our intention to provide a general overview of the structure of Para-cycling both domestically within New Zealand as well as on an international scale. Information within this booklet includes sports specific reference to the para-cycling classification system as well as an overview of the events that athletes of various disabilities are eligible to compete in. An outline of the athlete pathway from a new athlete, through the development stages to a high performance and internationally competitive athlete has been included to provide an insight into the level of commitment required to become successful at the different levels of competition.

## PNZ Background

---

Paralympics New Zealand (PNZ) is affiliated to the International Paralympic Committee (IPC) as the National Paralympic Committee of New Zealand and is recognised by Sport New Zealand (SportNZ) and High Performance Sport New Zealand (HPSNZ) as the National Sports Organisation for disabled athletes.

PNZ supports and encourages opportunities for disabled people to participate in sports, from regional, through to national and international levels. Sports are offered through a network of regional para-fed associations, national disabled & able-bodied sports organisations, clubs, coaches and individuals.

PNZ provides athletes and coaches access to international competitions, such as the summer and winter Paralympic Games and IPC and UCI World Championships.

Cycling is one of the 27 current sports competed in at the Paralympic Games and caters for a range of different disabilities. Cyclists compete in categories including visual impairments, amputees, cerebral palsy, and other disabilities, on both the track and road. In addition, paraplegic and tetraplegic cyclists compete in hand cycling and tricycle events in road racing only.

Para-cycling was first introduced as a Paralympic sport in the 1988 Seoul Paralympics. In 2007, governance of para-cycling was transferred from the International Paralympic Committee (IPC) to the International Cycling Union (UCI). The UCI is the international governing body for all forms of cycling. Para-cycling is a fast evolving sport and field sizes, as well as the standard of performance, are improving annually both on the domestic and international scene.



*Fiona Southorn wins Bronze in the C5 Women's Pursuit at the London 2012 Paralympic Games.  
Photo: Getty Images*

## The Classification System

The purpose of the para-cycling classification system is to minimise the impact of an athlete's impairment on the outcome of competition to ensure that an athlete's success in competition relies on training, physical fitness and personal athletic talent.

Classification is an on-going process whereby all athletes are under regular observation by classifiers to ensure consistency and fairness for all athletes. In order to achieve this athletes are classified according to the extent of activity limitation resulting from their impairment. Classification places athletes according to how much their impairment affects core determinants of performance in cycling. The two main roles of classification in para-cycling are to determine eligibility of athletes to compete; and to group athletes of equal functional ability for competition, in order to create an even playing field.

There are 13 classifications for men, and the same 13 classifications for women.

Hand cyclists are categorised from H1 to H5. H1 cyclists are most severely affected by their disability in the sport while H5 athletes have the lowest level of impairment. H5 cyclists kneel, and hence have the contribution of the trunk musculature, whereas H1-H4 athletes are completely recumbent.

Tricycles are categorised as either T1 or T2 with T1 having greater impairment than T2.

Athletes who use regular cycles are categorised from C1 to C5. C1 cyclists have the greatest level of impairment, ranging through to C5 with the least impairment.

Blind or visually impaired athletes compete on Tandems with a sighted pilot. Pilots can be any athlete over 18 years of age, provided they have not competed in a UCI World Championships or Olympic Games in the 36 months preceding the Para-cycling event. The pilot must also have not competed in a UCI World Cup or Continental Championship (i.e. Commonwealth Games) in the 24 months preceding the para-cycling event. See Appendix 1 for a guideline as to the likely classification of athletes with various impairments.



*Phillipa Gray and Laura Thompson (pilot) win Bronze in the Tandem Women's Time Trial at the London 2012 Paralympic Games. Photo: Getty Images*

## Description of Events

---

This section will provide a brief description of the events that athletes from each classification are eligible to compete in.

### Road Race

Athletes within every classification have the option to compete in road races. The basic format of a road race is that everybody starts together and the first person across the finish line wins.

Road race circuits at all UCI para-cycling events are between 7km and 15km in distance. Circuits which are shorter than 7 km, but with unique, desirable features (for example purpose built cycle parks or motor racing circuits), may be permitted at the discretion of the UCI. Circuits are designed to be achievable for all athletes to complete, and as such, hill climbs are restricted to an average gradient of as between 8% and no more than 15% maximum gradients on the steepest section. Furthermore, the total amount of climbing must not be more than 25% of the total circuit length. Occasionally, if field sizes are too small to justify their own race, road races can be combined between two classifications, allowing riders from the different classifications to work together while still racing for their own medals. In order to distinguish between categories, each classification is designated a specific helmet colour, and it is compulsory for at least 80% of the athlete's helmet to be the specified colour. The following helmet colour regulations apply:

### Road Race Guide to Helmet Colours

HELMET COLOUR	CLASSIFICATION
RED	C5 men and women
RED	T2 men
RED	H4 men and women
RED	Tandem men
WHITE	C4 men and women
WHITE	H3 men and women
WHITE	Tandem women
WHITE	T2 women
BLUE	C3 men and women
BLUE	H2 men
BLUE	T1 women
BLACK	H5 men and women
BLACK	C2 men and women
BLACK	T1 men
YELLOW	C1 men and women
YELLOW	H2 women

<b>Green</b>	<b>H1 men</b>
<b>Orange</b>	<b>H1 women</b>

In order to make para-cycling achievable for all, the UCI has specified the following maximum distances for road races:

*Road Race Maximum Distances Guide*

<b>CLASSIFICATION</b>	<b>MAXIMUM RACE DISTANCE (kms)</b>
H1 men	60
H2 men	60
H3 men	80
H4 men	80
H5 men	80
T1 men	30
T2 men	40
C1 men	75
C2 men	75
C3 men	100
C4 men	100
C5 men	100
BVI men	120
H1 women	50
H2 women	50
H3 women	60
H4 women	60
H5 women	80
T1 women	30
T2 women	30
C1 women	60
C2 women	60
C3 women	75
C4 women	75
C5 women	75
BVI women	100



## Individual Road Time Trial

Every classification has a road time trial option. The individual time trial is perhaps the most 'pure' form of cycling. Athletes start individually, usually at 1 minute intervals, and the cyclist who completes the course fastest is the winner. This is often referred to as 'the race of truth' as there is no hiding! Time trials are influenced less by race tactics (apart from pacing strategies) and more by an athlete's pure strength, speed and fitness.

Occasionally, when field sizes are small, or there is a restriction on medal allocations per sport (as is the case at the Paralympic Games) and therefore two or more classifications are combined and a 'factor' is applied to the rider with the lower classification's time (the more physically impaired cyclist) in order to create an even playing field and determine the most deserving winner. An example of this was at the



*Phillipa Gray and Laura Thompson (pilot) win Silver in the Tandem Women's Road Time Trial at the London 2012 Paralympic Games. Photo: Getty Images.*

London Paralympic Games where the C1, C2 and C3 fields were combined for the time trial. While the C3 riders received 100% of their finishing time, the C2 riders only received 95.35% of their finishing time and the C1 riders only received 91.64% of their time, to account for the increased level of impairment in the C2 and C1 athletes.

Factoring can also occur between males and females, for example T2 men and T2 women are occasionally combined, with T2 women only receiving 86.66% of their finishing time in order to account for the known performance differences between genders. PNZ puts a high emphasis on time trialling performance, as the results are more controllable, and more influenced by training, compared to the results of road races, which are more of a lottery and are more heavily influenced by tactics and race dynamics. The following maximum race distances are applied to time trials:

### Individual Road Time Trial Maximum Race Distances

CLASSIFICATION	MAXIMUM RACE DISTANCE (kms)
H1 men	20
H2 men	20
H3 men	30
H4 men	30
H5 men	30
T1 men	15
T2 men	20



C1 men	25
C2 men	25
C3 men	30
C4 men	30
C5 men	30
BVI men	35
H1 women	20
H2 women	20
H3 women	20
H4 women	20
H5 women	30
T1 women	15
T2 women	15
C1 women	20
C2 women	20
C3 women	25
C4 women	25
C5 women	25
BVI women	30



*Sue Reid pictured competing in the H3 Women's Road Time Trial at the London 2012 Paralympic Games. Photo: Getty Images*

## Hand-Cycling Relay

The hand-cycling relay is a mixed event for male and female riders in classes H1-H4. The first wave of athletes will start together and compete like a regular road race. As soon as an athlete from a team completes their lap and passes in front of their teammates, the next athlete will start their lap. Each team is made up of three athletes, which must consist of a maximum of 6 points, and must include an athlete with a scoring value of one point. The following points apply to riders of each gender and classification:

*Tiffiney Perry competing in the Women's Hand-Cycling Relay at the 2011 UCI Para-Cycling Road World Cup in Sydney. Photo: PNZ*



## Hand-Cycling Relay Classification Points Guide

CLASSIFICATION	POINTS
H5 men and H4 men	3
H3 men, H5 women and H4 women	2
H1-H2 men and H1-H3 women	1

## Track Tandem Sprint (men only)

The tandem sprint is an exciting event for male tandem riders only. The race begins with a qualifying round; where each tandem records their fastest possible time over 200 metres. This gives each team a ranking and from there the top 8 teams go into a best-of-three knockout competition. The event then becomes 'match sprinting' with two tandems at a time on the track, racing over 6 laps, where the losing team is eliminated after each round and the winning teams of the quarter finals advance to the semi-finals, then finals.

Match sprinting is extremely tactical, it requires exceptional race craft and bike handling skills, and riders often use the full width of the track or come to almost a complete standstill in order to change positions of the lead rider. Athletes that tend to make good sprinters are usually big, powerful, explosive riders.

## Track Team Sprint

The track team sprint is a mixed event for male and female 'C' class riders. The event starts with a qualifying round, where the fastest two teams advance to the finals (usually the evening session on the same day) to race for the gold and silver medals and the third and fourth fastest qualifiers race for the bronze medal.

This event is contested by teams of three riders, whereby all three riders start side by side from a standing start. The lead rider completes the first lap as quickly as possible, and then moves up the track to allow the second rider to come through and complete their lap on the front, before the third rider comes through to complete the last lap. Each team must comprise a maximum total of 10 points. The following points apply to riders of various classifications and genders:



*Fiona Southorn, Nathan Smith and Chris Ross competing in the C1 – 5 Mixed Track Team Sprint at the London 2012 Paralympic Games. Photo: Getty Images*

### Track Team Sprint Classification Points Guide

CLASSIFICATION	POINTS
Men C5 and Men C4	4
Men C3	3
Men C2	2
Men C1	1
Women C5 and women C4	3
Women C3	2
Women C2 and Women C1	1

## Track Time Trial

The track time trial is a straightforward race. Athletes take to the track alone and the rider who records the fastest time is the winner. There are track time trials for all C class and tandem riders. C class women race over 500m, whereas C class men and both male and female tandem riders race over 1km.

## Track Individual Pursuit

In the pursuit event, two opposing riders start on either side of the track. The winner is the rider who either catches the other, or records the fastest time over the full distance. The pursuit starts with a qualifying round, where every rider records a time regardless of whether they are caught by their opponent. At the end of the qualification phase, the two riders with the fastest times will race for the gold and silver medals, and the riders with the third and fourth fastest times will race for the bronze medal. C class and tandem riders compete in the pursuit over the following distances:

*Nathan Smith competes in the C3 Men's Pursuit at the London 2012 Paralympic Game. Photo: Getty Images*



### Track Individual Pursuit Race Distances

CLASSIFICATION	RACE DISTANCE (metres)
Tandem men	4000
Tandem women	3000
C4 and C5 men	4000
C1; C2 and C3 men	3000
C1; C2; C3; C4 and C5 women	3000

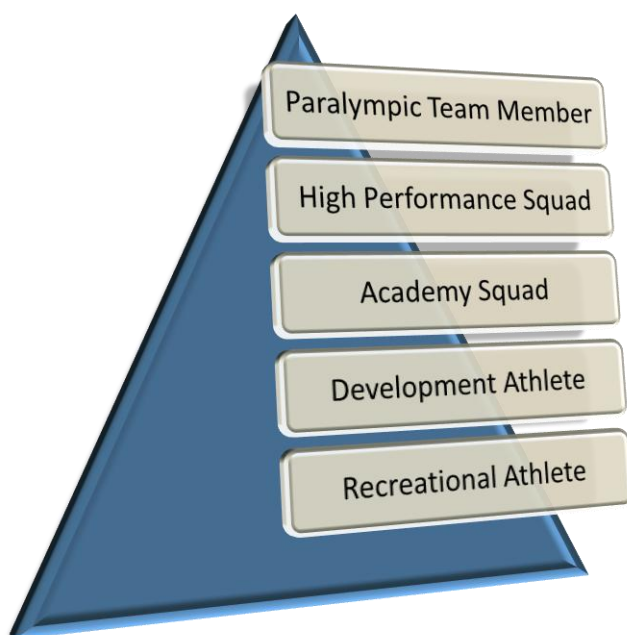
## Athlete Pathway

---

PNZ has documented the pathway from a new athlete, through the development stages and on to the High Performance and Paralympic squads. The purpose of documenting this pathway is so athletes can see the process they need to follow and the requirements they need to fulfil in order to obtain selection to various squads and climb the 'performance ladder'. A full version of the PNZ selection criteria can be found here at the following link: <http://www.paralympics.org.nz/documents/cycling/Paralympics%20NZ%20Bike%20Selection%20Policy.pdf>.

PNZ puts a high emphasis on time trial and track events, as these events are controllable as they are easier to; track changes in athlete's performance, compare athletes to the competition and make accurate predictions about likely results at international events. For an athlete to gain selection based on road race events only, they would need to complete a self-funded campaign to a P1 event, the Oceania games or a World Cup, racing as an independent athlete, to prove their status as capable of achieving at least a top 10 result on the world stage.

### *PNZ Athlete Pathway Guide*



### **Recreational Athlete**

---

A recreational athlete is a person exercising and participating in the sport of cycling purely for fitness and enjoyment. The athlete possibly has no attachments to any club, organisation or events. This person may also be new to their disability and be in a stage of rehabilitation.

## Development Athlete

---

A development athlete is an athlete who is either still physically developing, new to the sport or who has committed to personally improve with the goal to make a performance shift. This athlete is likely to be attending events or joining a club. For this athlete to progress he or she needs to be competing regularly to show the Lead Development Coach their progress. A selection can be made at any stage of the year for that athlete to progress into the Academy Squad.

## Academy Squad

---

An academy squad member is an athlete who has some experience, is showing early signs of talent, or has been selected by the Lead Development Coach because they are showing signs of talent from youth and may have the potential to develop within a 4 year cycle to make a Paralympic Games selection. This squad may partake in some international P1 events such as the Oceania Games or a Regional World Cup if deemed ready. To progress from this squad to the High Performance Squad the athlete needs to consistently show they are meeting a PNZ 'C Standard'.

## High Performance Squad

---

A High Performance (HP) squad member is an athlete that has qualified by consistently meeting a PNZ 'C Standard' gained at a national, P1 or World Cup event. This athlete must show that they are competitive on the world stage. Being in this squad does not guarantee full funding and some athletes may have to self-fund portions of their campaigns. Also being in this squad doesn't guarantee selection to the Paralympic Games.

HP athletes will attend regular training camps and international races. If a top 10 result is achieved at a World Championship (Road or Track) the athlete will be considered for HPSNZ carding. This carding will allow athletes to gain access to High Performance Sport New Zealand (HPSNZ) services and providers. If an athlete has achieved a top 6 result at a World Championship (Road or Track) they will be considered for a Performance Enhancement Grant (PEG). Consideration will also be given to providing financial and logistical assistance with their annual campaign. The HP Squad travels with full staff to most events to support you, your equipment and travel logistics.

## Paralympic Squad

---

An athlete who is world ranked and has shown they have the ability to strike podium at a Paralympic Games. Even with these Palmeres, the athlete's final selection will depend on the number of slots available to the nation. This squad is named only months prior to the Paralympic Games and the athlete must have shown to have met the PNZ selection criteria.



*London 2012 Paralympic Games Bike Team (Left to Right) Chris Ross, Jayne Parsons, Kylie Young, Nathan Smith, Laura Thomson, Fiona Southorn, Phillipa Gray and Sue Reid (front). Photo: Getty Images*



## Qualifying standards

---

The PNZ Bike program has developed a set of standards mirrored off historical, but recent, world results. This document gets updated twice a year after every World Championships and because the international standards are shifting quickly, the removal of older results from 2006, 2007 and 2008 is now happening to make these standards as pure and current as possible.

The 'A' standard represents an average of the top three times (for track events) or speeds (for road events) from recent World Championships and Paralympic Games. The A standard is therefore reflective of the level of performance required to achieve a podium result at a world level.

The 'B' standard is an average of 4<sup>th</sup> – 6<sup>th</sup> placing and is representative of the level of performance of someone who is 'almost there', i.e. close to achieving podium results, but still requires a performance shift to reach the podium.

The 'C' standard is an average of 7<sup>th</sup>-10<sup>th</sup> place and reflects the level of performance required for a top 10 finish at world level. In some classifications where field sizes are small, it is not possible to calculate a C standard. In these situations, a 'virtual' C standard has been created, based off the average percentage difference between the B and C standards in other classifications. This percentage difference has then been applied to



the B standard to create the virtual C standard.

*Fiona Southorn competes in the C4-5 Women's Road Race at the London 2012 Paralympic Games. Photo: Getty Images*

This document was developed as a tool primarily for squad formations and also for development or academy athletes and coaches to gauge their progress and be placed in the pecking order of world standards.

At most national events many classifications don't have the depth for competition so a set of standards needed to be developed as 'competition' for the athletes. The PNZ program has also used this tool in the past in-lieu of no racing being available for squad formations etc. The Current PNZ standards can be found on the PNZ website:

<http://www.paralympics.org.nz/cycling.htm>



## Women Road Time Trial Standards

(Standard is an average speed)

Class	A Standard	B Standard	C Standard
C1	29.3198		
C2	34.13312	31.24338	28.20693
C3	33.12935		
C4	35.95691	31.60645	29.51659
C5	39.85712	36.7977	32.6582
H1	20.17877		
H2	27.96321	25.79014	23.72466
H3	29.10416	24.62124	23.73488
H4	32.67209	28.78769	*26.25
T1	20.4309		
T2	26.39843	23.58599	*21.36
Visually Impaired	40.81053	39.65212	38.30068

\* indicates 'virtual' standard

## Men Road Time Trial Standards

(Standard is an average speed)

Class	A	B	C
C1	37.70229	35.50511	32.68506
C2	39.54144	38.16575	37.03953
C3	40.70733	39.35089	38.99891
C4	43.24471	41.64509	39.88378
C5	43.72378	42.73609	41.84538
H1	27.26567	24.72527	19.73162
H2	35.86347	34.52071	33.33454
H3	35.31032	34.81444	32.95606
H4	37.38242	35.85105	34.14255
T1	25.70302	23.19446	*21.87
T2	33.13789	30.84975	29.45045
Visually Impaired	46.77038	45.97831	45.28989

\* indicates 'virtual' standard

### Men Track Standards

(Standard is time to complete distance)

Class	A	B	C
<b>C1 kilo</b>	01:20.53	01:25.50	01:28.791
<b>C2 kilo</b>	01:18.20	01:20.76	01:23.612
<b>C3 kilo</b>	01:12.320	01:15.48	01:17.244
<b>C4 kilo</b>	01:08.392	01:11.176	01:13.305
<b>C5 kilo</b>	01:08.53	01:10.55	01:11.609
<b>BVI kilo</b>	01:03.370	01:05.046	01:06.953
<b>C1 pursuit</b>	04:08.440	04:20.661	04:32.049
<b>C2 pursuit</b>	03:54.751	4:01.930	04:09.505
<b>C3 pursuit</b>	03:44.376	03:51.022	03:55.582
<b>C4 pursuit</b>	04:45.900	04:57.613	05:07.930
<b>C5 pursuit</b>	04:40.789	04:50.344	04:57.489
<b>BVI pursuit</b>	04:24.184	04:30.318	04:38.745

### Women Track Standards

(Standard is time to complete distance)

Class	A	B	C
<b>C1 500m</b>	45.34	-	-
<b>C2 500m</b>	44.55	47.68	51.04
<b>C3 500m</b>	43.89	-	-
<b>C4 500m</b>	41.78	44.59	*46.84
<b>C5 500m</b>	38.45	41.67	44.48
<b>BVI kilo</b>	01:10.62	01:13.53	01:14.995
<b>C1 pursuit</b>	04:46.27	-	-
<b>C2 pursuit</b>	04:28.271	04:37.686	04:54.059
<b>C3 pursuit</b>	04:24.020	-	-

<b>C4 pursuit</b>	04:17.327	04:34.566	*04:48.425
<b>C5 pursuit</b>	03:50.097	04:04.026	04:17.585
<b>BVI pursuit</b>	03:38.506	03:45.297	03:52.144

\* indicates 'virtual' standard

## Carding and Performance Enhancement Grants (PEG's)

Carded athletes gain access to HPSNZ services that are identified as contributors to performance improvements for the athlete. The carding level of an athlete will determine the level of servicing available to that athlete. Carding is only achievable through results from a World Championship event and not through the PNZ standards.

HPSNZ allocates resources and performance support based on a top down model, whereby investment will be made into those sports, individuals and teams that have the greatest chance of winning gold medals at the next Paralympic Games and beyond (multiple Paralympic gold medals will be the priority). Investment will be made based on demonstrated need where it is clear that it will improve performance of the targeted sports and athletes.

Performance support available to Carded Athletes can include injury and illness support, strength and conditioning, nutrition, psychology, athlete life advisory, performance and technique analysis, physiology and performance planning. Each athlete has different combinations of support available based on the needs of the individual and their sport. The level of support is determined by the sport and/or individual plan, taking into consideration best practice and the availability of HPSNZ resources.

PNZ will invest in targeted 'results-capable' athletes and teams to help them reach their performance potential. Support will only be offered to athletes who have a Performance Plan (IPP) that has been agreed to by the PNZ Bike Head Performance Coach. The PNZ Bike Head Performance Coach will present the approved IPP to the PNZ High Performance Director for final Carding sign off. Support will also only be provided to athletes that are engaged in regular international competition in the event which the athlete was awarded the carding for. All investment decisions including carding will



be made on the basis of need and the demonstration of a

*Phillipa Gray and Laura Thomson (pilot) win Gold and set a new World Record in the Tandem Women's Pursuit at the London 2012 Paralympic Games. Photo: Getty Images*

genuine need for support. The Carding levels used by set by PNZ and HPSNZ are as below.

### *Carding Level Guide*

<b>Level 1</b>	Elite	An athlete targeted by PNZ tracking toward a gold medal finish at the Rio 2016 Paralympic Games.
<b>Level 2</b>	High Performance & Performance	An athlete targeted by PNZ tracking toward a podium finish at the Rio 2016 Paralympic Games, and ideally tracking towards a gold medal finish at the 2020 Paralympic Games.
<b>Level 3</b>	*Talent Development	An athlete targeted by PNZ tracking toward a 4-6 placing in the Rio 2016 Paralympic Games, and ideally tracking towards a podium finish at the 2020 Paralympic Games.  An athlete targeted by PNZ with special cases that have the potential to positively impact on Rio 2016 Paralympic Games performances.

\*PNZ will only card Talent Development athletes who clearly demonstrate through consistent performance and commitment to the programme that they are genuine Podium potential athletes for the Rio 2016 Paralympic Games.

Carding levels will be reviewed in January, May and September for bike athletes. These reviews will take into consideration the following:

- Athletes performances at Qualification and Pinnacle Events and their alignment with the PNZ Carding Criteria;
- Athletes continued commitment to the PNZ High Performance Sport programme;
- Athlete event status taking into consideration any classification changes and the Rio 2016 Paralympic Games programme.

Carding reviews will be completed by the PNZ High Performance Director, Head Performance Coach and an HPSNZ Performance Consultant.

Athletes may be removed from the Carding list (De-Carded) by PNZ if they no longer meet the Athlete Carding criteria.

## Joining a Club / the Licencing System

---

BikeNZ is the national sports organisation responsible for cycling in New Zealand. Any rider who wishes to race at a national level or higher must join a club and apply for a BikeNZ racing licence. Membership applications are completed through the membership section of the BikeNZ website at <http://www.bikenz.org.nz/Join>.

Any rider who wishes to race at regional, centre and national championship level events must apply for a 'Race Senior' licence. During this application process, you will be required to select the club of your choice that you would like to become affiliated with. It is entirely up to you which club you join, although it is recommended that you join a local club from your region. At national championship events it is compulsory to wear your club racing jersey, and



*Sue Reid competing in the H3 Women's Road Race at the 2010 New Zealand Road Cycling Championships. Photo: PNZ*

either plain black or club shorts. It is up to each athlete to contact the club they decide to join and enquire about either purchasing or borrowing a club jersey for national championship competitions.

If you are selected for international level competition, you will be required to upgrade to an international licence. As part of the new BikeNZ membership structure, a 'Race Elite' licence also serves as a UCI international licence. If you already hold a race elite membership and wish to upgrade to an international licence, you will need to complete the UCI international licence form which is available online at <https://12241-console.memberconnex.com/BikeNZDocuments/2013%20UCI%20International%20Licence%20Application%20Form.pdf>. You will also be required to provide a passport style photograph to BikeNZ via email to: [membership@bikenz.org.nz](mailto:membership@bikenz.org.nz). There is no extra cost to pay to upgrade to an international licence, although you must meet the UCI insurance requirements, as stated online [http://www.bikenz.org.nz/Category?Action=View&Category\\_id=223](http://www.bikenz.org.nz/Category?Action=View&Category_id=223)).

The most common option is to purchase insurance through BikeNZ. If you currently hold a 'Race Senior' membership, you will need to pay the difference to upgrade to a 'Race Elite' membership and then follow the same process outlined above. For more information on the membership system, consult the membership section of the BikeNZ website as follows: [http://www.bikenz.org.nz/Category?Action=View&Category\\_id=181](http://www.bikenz.org.nz/Category?Action=View&Category_id=181)

## Drug Free Sport New Zealand (DFSNZ)

---

Every athlete that starts competing in racing, in any form, within New Zealand needs to be aware of Drug Free Sport New Zealand's (DFSNZ) prohibited list and ensure that all medications that he or she is taking is not on this list. This is your responsibility as an athlete, however DFSNZ has ensured that finding out any information on medication you may require is as quick and easy as possible through their many written and interactive guidelines and seminars. These will all assist you in making sure you're playing within the rules!

DFSNZ's website (<http://www.drugfreesport.org.nz/>) provides ample information to answer all of your questions and includes an App available for your smart phones with the prohibited lists loaded so you can check all medications while on the run or overseas if needed.

If you have the potential to place in the top 4 at the Paralympic Games or in any sport have "High risk factors" such as world ranking, history of availability for testing and unusual increases in performance you MAY be added to DFSNZ's Regional Testing Pool. All athletes, RTP/NTP or not may be tested out of competition. This could be anywhere from them visiting you at home to them coming to a training camp or in competition which is straight after your competition on that day OR for the entirety of an event/tournament such as Paralympics. If you are on the Regional Testing Pool you will be required to complete and update your "whereabouts" information on a daily basis. Again – all made quite easy and can be done on your mobile phone or via DFSNZ website. PNZ will send you relevant information and registration forms if you are required to be added.

As you may know you are limited to what medications you can take as an athlete. All your medications need to be checked to ensure you're in line with the international regulations. This can be self-checked on DFSNZ's website (<http://www.drugfreesport.org.nz/>) by simply typing in your medications on their self-check page, by texting the name or active ingredient of your medication to 4365 (Text cost 20c) or by looking up their banned list of substances. If you have a special medical condition and/or a medication may be deemed essential for you, you will need to apply for a Therapeutic Use Exemption (TUE) through the PNZ High Performance Programme Coordinator. If this granted, you will be required to carry this TUE certificate with you to ALL competitions.

Tandem Pilots may also be required to perform a drug test if the stoker is nominated at an event.

PNZ will try to get information packs out to everyone however it is the responsibility of each athlete to manage their own medication and check ALL medications that they may need to take. Always remember to tell your GP that you are an athlete subject to testing as this will help them to prescribe you an appropriate medication however don't just take your local GP's or Pharmacists advice on medications as the World Anti Doping Association (WADA) Prohibited List is being updated and modified constantly so check everything before taking it. Ensure you check any supplement or herbal remedy you are taking and if you are unsure of its origins and contents to do not take it! PNZ requires all Development and High Performance athletes to attend an annual DFSNZ seminar and will notify you of when these are scheduled.

## PNZ Staff Contact Details

---

**Brendon Cameron:** Head Performance Coach – Para-Cycling

[brendon@endurancefocus.co.nz](mailto:brendon@endurancefocus.co.nz)

**Jono Hailstone:** Assistant Performance Coach – Para-Cycling

[jhailstone@paralympics.org.nz](mailto:jhailstone@paralympics.org.nz)

**Dale Macdonald:** National Development Co-ordinator – Para-Cycling

[dmacdonald@paralympics.org.nz](mailto:dmacdonald@paralympics.org.nz)

**Hadleigh Pierson:** Athlete Development Manager

[hpierson@paralympics.org.nz](mailto:hpierson@paralympics.org.nz)

## Useful Website Links

---

**UCI Website:**

<http://www.uci.ch/Templates/UCI/UCI5/layout.asp?MenuID=MTYxNw&LangId=1>

**UCI Para-Cycling Regulations:**

<http://www.uci.ch/Modules/BULTIN/getObject.asp?MenuId=&ObjTypeCode=FILE&type=FILE&id=MzQwMzY&LangId=1>

**Paralympics New Zealand:**

<http://www.paralympics.org.nz/>

**Cycling New Zealand:**

[www.bikenz.org.nz](http://www.bikenz.org.nz)



## **Appendix 1 – Guideline to Classification**

---

The following provides a guideline as to the likely classification of athletes with various impairments:

### **Hand-Cycle Class H1**

#### **H 1.1 Tetraplegia C6 or above and severe athetosis / ataxia / dystonia**

- Tetraplegic with impairments corresponding to a complete cervical lesion at C6 or above
- Complete loss of trunk stability and lower limb function
- Limited extension of the elbow with a muscle score of 6 (total of both triceps)
- Limited handgrip
- Non-spinal cord injury, but functional ability profile equivalent to class H 1.1
- Impaired sympathetic nervous system
- Recumbent position in handbike mandatory (AP-bikes)
- Severe athetosis / ataxia / dystonia and elbow extension limitation
- Asymmetric or symmetric quadriplegia with at least grade 3 spasticity in upper limbs and lower limbs.

#### **H 1.2 Tetraplegia C7/C8 and severe athetosis / ataxia / dystonia**

- Tetraplegic with impairments corresponding to a complete cervical lesion at C7/C8 or above
- Complete loss of trunk stability and lower limb function
- Non-spinal cord injury, but functional ability profile equivalent to class H 1.2
- Impaired sympathetic nervous system
- Recumbent position in handbike mandatory (AP-bikes)
- Severe athetosis / ataxia / dystonia and no elbow extension limitation
- Asymmetric or symmetric quadriplegia spasticity with at least grade 2 spasticity in upper limb and lower limbs.

### **Hand-Cycle Class H2**

#### **H 2.1**

- Paraplegic with impairments corresponding to a complete lesion from Th1 to Th3
- Very limited trunk stability
- Impaired sympathetic nervous system
- Non-spinal cord injury, but functional ability profile equivalent to class H 2.1
- Recumbent position in handbike mandatory (AP-bikes)

#### **H 2.2**

- Paraplegic with impairments corresponding to a complete lesion from Th4 to Th10
- Limited trunk stability
- Non-spinal cord injury, functional ability profile equivalent to class H 2.2
- Recumbent position in handbike mandatory (AP-bikes)
- Moderate quadriplegia with/without athetosis/ataxia.
- Severe hemiplegia (non-ambulant)
- Severe diplegia (non-ambulant) and athetosis/ataxia

- Neurological impairments with at least grade 1 spasticity in upper limb

### Hand-Cycle Class H3

- Paraplegic with impairments corresponding to a complete lesion from Th11 or below
- No lower limb function or limited function
- Normal or almost normal trunk stability
- Non-spinal cord injury, functional ability profile equivalent to class H3
- Incomplete loss of lower limb function, functional ability profile equivalent to class H3 or H4, with other disabilities, which prevent the safe use of a conventional bicycle, tricycle or the kneeling position in a handbike
- Recumbent position in handbike (AP or ATP bike)
- Diplegia and athetosis/ataxia/dystonia (almost normal UE)
- Hemiplegic with spasticity a minimum of Grade 3, lower limb more involved

### Hand-Cycle Class H4

An athlete who can use the kneeling position must use it and therefore will be classified accordingly;

- Paraplegic with impairments corresponding to a complete lesion from Th11 or below
- Double below or Double through knee amputee
- Single leg amputation (AK), minimal disability below knee amputation (BK)
- Incomplete loss of lower limb function, with other disabilities, which prevent the safe use of a conventional bicycle or tricycle
- Kneeling Position (HK-bike), in case of mobility reduction if prevents kneeling, the athlete can use a recumbent bike in H3
- Hemiplegic with spasticity Grade 2, lower limb more involved
- Diplegic, lower spasticity Grade 2 in both legs
- Mild to moderate athetosis or ataxia

### Tricycle Class T1

Neurological:

- Hemiplegia / double / quadriplegic / hemiplegic, spasticity grade 3 in lower and upper limb
- Triplegia lower spasticity grade 3 in both legs
- Severe athetosis or ataxia or dystonia
- Severe locomotor dysfunction, can be mixed pattern (athetosis, spasticity or ataxia)
- Insufficient balance for cycling and a tricycles is required
- Pedalling / cadence is restricted
- Polio, peripheral neurological lesions, incomplete Spinal Cord Lesion, not able to ride a bicycle

Comparable disabilities:

- multiple impairments (e.g. amputation with neurological impairment)
- Comparable multiple impaired with a tested point score of 210 points or higher.
- No amputees

### Tricycle Class T2

Neurological:

- Hemiplegia / double / quadriplegic, spasticity grade 2 , lower limb more involved
- Diplegic, lower spasticity Grade 3 in both legs
- Moderate to severe athetosis / ataxia / dystonia
- Decrease in muscle strength
- Between 160 and 209 Points (Polio, peripheral neurological lesions, incomplete Spinal Cord Lesion, not able to ride a bicycle)

Comparable disabilities:

- Multiple impaired (e.g. amputation with neurological impairment), but fluently movement and control of the bike
- No amputees

### Cycling Class C1

Neurological:

- Hemiplegia, spasticity grade 3 in lower and upper limb
- Diplegia, lower spasticity grade 3 in both legs
- Athetosis or ataxia / dystonia
- Locomotor dysfunction, can be mixed pattern (athetosis, spasticity or ataxia)
- Poor functional strength in trunk, and / or in all extremities

Amputation:

- Single amputation of leg, AK, and arm, AE or BE, on same side or diagonal, with or without the use of a prosthesis
- Double TK amputation with the use of prostheses
- Double amputation BE + Single amputation AK, no prosthesis
- Comparable incomplete spinal cord injury or comparable multiple impaired with a tested point score more than 210 points.

### Cycling Class C2

Neurological:

- Hemiplegic, spasticity grade 2 lower limb more involved
- Diplegic, lower spasticity grade 2 in both legs
- Moderate to severe athetosis or ataxia
- Decrease in muscle strength
- Between 160 and 209 Points (Polio, peripheral neurological lesions, incomplete Spinal Cord Lesion, HMSN, MS)

Amputation:

- Single AE amputation with or without use of prosthesis + Single TK amputation with the use of prostheses
- Double amputation BE +Single amputation TK with the use of a lower prosthesis
- Double BK amputation with the use of prostheses + Single AE amputation without the use of upper limb prosthesis
- Single amputation AK, no prosthesis, may have a stump support

Comparable impairments:

- Multiple impairments (e.g. amputation with neurological impairments), but fluently movement and control of the bike.
- Limited ROM of the hip or knee or muscle weakness such that a functional full revolution of the crank is not possible. In this case, the radius of crank must be limited to 0 cm.

### Cycling Class C3

Neurological:

- Hemiplegic with spasticity grade 2, lower limb more involved grade 1 in upper limb
- Diplegic, lower spasticity grade 2 in both legs
- Moderate athetosis or ataxia / dystonia
- Limited ROM of the hip or knee such that a normal functional full revolution of the crank is not possible. In this case, it is the cyclist's option to shorten the crank to the optimal size.

Amputation:

- Single AE amputation, no prosthesis +Single BK amputation with the use of a prosthesis
- Single TK amputation with the use of a prosthesis + Single BE amputation
- Single amputation TK, with the use of prosthesis
- Double amputation BK, with the use of prostheses
- Comparable multiple impairments with a tested point score between 110 and 159 points.

### Cycling Class C4

Neurological:

- Hemiplegic with spasticity grade 1, lower limb more involved
- Diplegic, lower spasticity grade 1 in both legs
- Mild to moderate athetosis or ataxia /dystonia
- Limited ROM of the hip or knee such that a normal functional full revolution of thecrank is not possible. In this case, it is the cyclist's option to shorten the crank to the optimal size.

Amputation:

- Single amputation BK with the use of prosthesis + Single BE amputation with or without the use of prosthesis
- Single amputation BK, with the use of prosthesis

- Double amputation BE with or without the use of a prosthesis that allows as much functional contact as possible to the handlebar
- Comparable multiple impairments with a tested point score between 60 and 109 points

### Cycling Class C5

This is the class for athletes with minimum impairments.

Neurological:

- Monoplegia spasticity grade 1 or more in the affected arm
- Positive unilateral or bilateral Hoffman
- Noticeably brisk reflexes or clear differences in reflexes left vs. right

Amputation:

- Single amputation AE, with or without prosthesis, no functional grip
- Single amputation BE with the use of a prosthesis

Minimal disability: Amputation of all fingers and thumb (through MCP) or amputation of more than half foot (forefoot). In the case of a single AE-, BE- amputation or a single upper limb dysmelia, the minimal impairment is met if all fingers and the thumb of one hand is missing through the MCP joint or other impairments who are equivalents, without a functional grip. As a proof of the loss of functional grip, the affected athlete will not be able to operate handle- bar mounted gear and brake levers with the affected or impaired limb.

- Comparable multiple impairments with a tested point score between 20 and 59 points.

### Tandem Class Blind or Visually Impaired (BVI)

Visual impairment ranging from no light perception in either eye up to visual acuity of 6/60 and/or visual field of less than 20 degrees. Classification assessed in the best eye with the best correction (i.e. all athletes who use contact or corrective lenses must wear them for classification, whether they intend to wear them in competition or not). Classification will be provided by a UCI accredited classifier.