International
Paralympic
Committee

Explanatory guide to Paralympic Classification

Paralympic winter sports

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1 What is classification?

Classification provides a structure for competition. Athletes competing in para-sports have an impairment that leads to a competitive disadvantage. Classification determines who is eligible to compete in a para-sport and groups the eligible athletes into sport classes according to the impact of impairment on specific sport activities. The Classification system minimises the impact of impairments on sport performance and ensures the success of an athlete is determined by skill, fitness, power, endurance, tactical ability and mental focus.

Please see the glossary in section 8 for an explanation of impairment terms and health conditions used in this document.

2 Ten eligible impairments

The Paralympic Movement offers sport opportunities for athletes with physical, visual and/or intellectual impairments that have at least one of the following 10 eligible impairments:

Impairment	Explanation
Impaired muscle power	Reduced force generated by muscles or muscle groups, may occur in one limb or the lower half of the body, as caused, for example, by spinal cord injuries, spina bifida or poliomyelitis.
Impaired passive range of movement	Range of movement in one or more joints is reduced permanently. Joints that can move beyond the average range of motion, joint instability, and acute conditions, such as arthritis, are not considered eligible impairments.
Limb deficiency	Total or partial absence of bones or joints, from birth or as a consequence of trauma (for example, car accident or amputation) or illness (for example, bone cancer).
Leg length difference	Bone shortening in one leg from birth or trauma.
Short stature	Reduced standing height due to abnormal dimensions of bones of upper and lower limbs or trunk, for example, due to achondroplasia or growth hormone dysfunction.
Hypertonia	Abnormal increase in muscle tension and a reduced ability of a muscle to stretch, which can result from injury, illness or a health condition such as cerebral palsy, brain injury or multiple sclerosis.

Ataxia	Lack of co-ordination of muscle movements due to a health condition, such as cerebral palsy, brain injury or multiple sclerosis.
Athetosis	Generally characterised by unbalanced, uncontrolled movements and a difficulty in maintaining a symmetrical posture, due to health conditions such as cerebral palsy, brain injury or multiple sclerosis.
Visual impairment	Vision is impacted by either an impairment of the eye structure, optical nerve/pathways or the part of the brain controlling vision (visual cortex).
Intellectual Impairment	A limitation in intellectual functioning and adaptive behaviour as expressed in conceptual, social and practical adaptive skills, which originates before the age of 18.

The presence of an eligible impairment must be proven by means of medical diagnostic information that must be presented no later than at the time of athlete evaluation.

3 Classification systems

Classification systems differ by sport and are developed by the International Federations (IF) governing them. The IF is also responsible for reviewing the system from time to time. IFs decide which eligible impairments their sport will cater to.

For an athlete to be eligible the impairment must be severe enough to impact his or her sport performance. IFs will decide the minimum impairment criteria, which is the minimum amount of impairment an athlete must have to be eligible to compete in their sport. Minimum impairment criteria are only a ruling on the eligibility of the athlete to compete in that sport.

Since different sports require different activities, each sport logically requires its own classification system. For example, amputation at the ankle affects performance in sitting ice sledge hockey players to a lesser extent than it affects performance in standing Nordic skiers.

Classification for athletes with a visual impairment is the only exception to sport-specific classification systems. This is still a medical system and the sport classes are the same across all sports (although the naming of the classes may differ).

4 Visual impairment

The general structure used for the classification of athletes with a visual impairment consists of three sport classes:

B1: Athletes with a B1 sport class have a very low visual acuity and/or no light perception.

B2: Athletes with a B2 sport class have a higher visual acuity than athletes competing in the B1 sport class and/or a visual field of less than five degrees radius.

B3: Athletes with a B3 (or equivalent) sport class have the least severe visual impairment eligible for para-sport. They have the highest visual acuity and/or a visual field of less than 20 degrees radius.

Although these are the three standardised sport classes for athletes with a visual impairment the naming of the sport classes will differ by sport.

5 Sport Classes

A sport class is a category in which athletes are grouped depending on how much their impairment impacts performance in that sport. Therefore, a sport class is not necessarily comprised of one impairment type alone, but may include athletes with different impairments. These different impairments will affect sport performance to a similar extent. For example, in IPC Nordic skiing, athletes with some loss of muscle power in one arm compete with athletes with an amputation below the elbow in one arm in the same sport class. The impairments of these athletes have a comparable effect on racing performance.

As there are not enough athletes in IPC alpine skiing and IPC Nordic skiing, for each sport class to create a competitive event, athletes in different sport classes compete together for one medal. In these cases, the race times of athletes in the different sport classes are multiplied by specifically allocated factors. This method takes different levels of activity limitation into account.

Some Paralympic sports only have one sport class, such as wheelchair curling and ice sledge hockey. To compete in these sports, the athletes must meet only the minimum impairment criteria.

6 How is a sport class allocated to an athlete?

A sport class is allocated through athlete evaluation by a group of classifiers. Each IF trains and certifies classifiers to conduct athlete evaluation in its sport(s).

Classifiers assessing athletes with the various physical impairments either are medical professionals or technical experts in their sport. Classifiers for athletes with a visual impairment are vision professionals, specifically ophthalmology or optometry. Psychologists and sport experts are responsible for the classification of athletes with an intellectual impairment.

Athlete Evaluation takes place before competitions. Therefore, athletes who need to be evaluated arrive a few days before the competition begins. Depending on the type and presentation of the impairment an athlete might undergo athlete evaluation several times throughout his or her career. Some impairments change over time, for example, visual acuity might decrease or hypertonia may increase. Also, junior athletes may not yet have reached skeletal maturity by the time of their first athlete evaluation. In these cases, classifiers may decide that the athlete must be reviewed again at the next competition or at set timeframes (for example, in two years).

Athletes have the right to challenge a classification decision through a protest and/or appeal process. The IPC Classification Code defines protest and appeal opportunities, which must be adhered to by each sport.

7 Classification systems – Paralympic winter sports

This section provides a general overview of the classification systems. The information and descriptions provided include examples and not the sole profile of the sport class. Each sport classification system uses a label consisting of a number and/or letter. These give name to the sport classes in which the athletes are grouped. For further detail on the specifics of a particular sport classification system please consult the relevant sport classification rules.

Alpine skiing

Eligible impairments:

Impaired muscle power	✓	Athetosis	✓
Impaired range of motion	✓	Hypertonia	✓
Limb deficiency	✓	Ataxia	✓
Leg length difference	✓	Visual impairment	✓
Intellectual impairment		Short stature	

Sport Classes:

Standing skiers

Skiers with leg impairments

It is possible for skiers in sport classes LW1-4 to also compete as sit-skiers in sport class LW12. These athletes choose if they want to compete sitting or standing at the beginning of their career.

LW1

This sport class is allocated to athletes with an impairment that strongly affects both legs. Athletes may have a double above knee amputation or significant muscle weakness in both legs. These skiers use two skis and two poles/outriggers; they may have their skis tied together.

LW2:

This sport class is allocated to athletes who have a significant impairment in one leg. These skiers use only one ski.

LW3:

This sport class is for athletes who have a moderate impairment in both legs. They will use two skis, two poles/outriggers and prosthesis if they have amputations. Some skiers in the LW3 sport class have mild co-ordination problems or muscle weakness in both legs; others may have a below-knee amputation in both legs.

LW4:

This sport class is for athletes who have an impairment in one leg, similar to the LW2 sport class, but with less activity limitation. A typical example of the LW4 sport class is an athlete with a single leg below-knee amputation. Athletes in this sport class will use two skis during the race.

Skiers with arm impairments:

LW5/7

Athletes in this sport class have an impairment in both arms. Some athletes have amputations and others have limited muscle power or co-ordination problems. They will race down the slopes without ski poles.

LW6/8

Athletes in this sport class have an impairment in one arm. Skiers will compete with only one ski pole.

Skiers with combined arm and leg impairments:

LW9

Athletes in this sport class have an impairment that affects their arms and legs. Some skiers in this class have co-ordination problems, such as spasticity or some loss of control over one side of their body. Depending on their abilities, they will use one or two skis with one or two poles or outriggers.

Sit-skiers

All sit-skiers have an impairment affecting their legs. They are allocated different sport classes based on impairment in their trunk. Trunk control is very important for acceleration and balance during racing.

LW10

Athletes in this sport class have no or minimal trunk stability, for example, due to spinal cord injury or spina bifida. Skiers in this sport class rely mainly on their arms to manoeuvre the sit-ski.

LW11

Athletes in this sport class have good stability in their upper trunk, but very limited control in their lower trunk and hips. The LW11 sport class includes those skiers with lower level spinal cord injuries.

LW12

Athletes in this sport class have no trunk impairment or slightly decreased trunk and leg impairments. Skiers with leg impairments in sport classes LW1-4 may also fit this sport class. Skiers are eligible to compete in standing or sitting and must choose to compete in which to compete at the beginning of their career.

Skiers with a visual impairment

Athletes with visual impairment competing in IPC alpine skiing all have varying degrees of visual impairment, ranging from the B1-B3 sport classes as described in Section 4.

Athletes in B1 sport class are required to use eye shades.

In IPC alpine skiing, all athletes with a visual impairment (B1, B2 and B3) ski with a sighted guide. The guide skis in front of the athlete and gives verbal directions to the athlete.

Ice sledge hockey

Eligible impairments:

Impaired muscle power	✓	Athetosis	✓
Impaired range of motion	✓	Hypertonia	✓
Limb deficiency	✓	Ataxia	✓
Leg length difference	✓	Visual impairment	
Intellectual impairment		Short stature	

Sport Classes:

In IPC ice sledge hockey there is only one sport class. Athletes must have impairment in the lower part of their body that would prevent them from competing in able-bodied ice hockey. Players, for example, have amputations affecting their legs, impaired passive range of motion with stiffness of the ankle or knee joint, or a leg length difference of at least 7cm. Some players also have muscle weakness in their legs, for example, paraplegia due to spinal cord injury.

All players of a team must meet the minimum impairment criteria to compete in IPC ice sledge hockey, so that the impact of the impairment on the competition outcome is minimised.

Nordic skiing

Eligible impairments:

Impaired muscle power	✓	Athetosis	✓
Impaired range of motion	✓	Hypertonia	✓
Limb deficiency	✓	Ataxia	✓
Leg length difference	✓	Visual impairment	✓
Intellectual impairment		Short stature	

Sport Classes:

IPC Nordic skiing includes the disciplines of cross-country skiing and biathlon. Skiers of both disciplines compete in several different sport classes, depending on the impact of the impairment on the sport specific activities of the discipline.

Standing skiers

Skiers with leg impairments

LW2

Athletes in this sport class have an impairment affecting one leg, for example, an amputation above the knee. Skiers will use a prosthesis and two skis or an orthosis if they have loss of muscle power.

LW3

Athletes in this sport class have an impairment in both legs, which may be the result of muscle weakness. Skiers will use two skies and two ski poles.

LW4

Athletes in this sport class include those with impairments in the lower parts of one leg, but with less impact on skiing compared to the LW2 sport class. Typical examples are amputations above the ankle or loss of muscle control in one leg. Skiers will use a prosthesis and two skis or an orthosis if they have loss of muscle power.

Skiers with arm impairments:

LW5/7

Athletes in this sport class have impairments in both arms preventing the use of ski poles, for example, athletes with no hands, or athletes who cannot grip firmly. Skiers in this sport class ski without poles.

LW6

Athletes in this sport class have a significant impairment in one arm, for example arm amputation or limb deficiency above the elbow. The impaired arm is fixed to the body and may not be used during the races. The skier uses a ski pole in the other hand.

LW8

Athletes in this sport class have moderate impairments affecting one arm. For example, skiers in this sport class cannot flex their elbow or fingers on one side, or they have a below elbow amputation. Skiers will use only one ski pole.

Skiers with combined impairments in arms and legs:

LW9

Athletes in this sport class have an impairment in their arms and legs. There are also skiers in the LW9 sport class who have mild co-ordination problems in all extremities. Other skiers have amputations affecting at least one arm and one leg. Depending on the severity of their impairments and the impact on skiing activities, they will ski with one or two ski poles.

Sit-skiers

All sit-skiers have an impairment affecting their legs. They are allocated different sport classes based on impairment in the trunk, trunk control is very important for acceleration and balancing during racing.

LW10

Athletes in this sport class have an impairment that impacts their legs and trunk, for example, a high level of paraplegia. Skiers in this sport class are unable to sit without using their arms for support.

LW10.5

Athletes in this sport class also have impaired trunk control. However, skiers in this sport class can generally keep their sitting balance, except when moving sideways.

LW11

Athletes in this sport class have leg impairment and less impairment in trunk than sport class 10.5 skiers. Skiers in this sport class have less impaired trunk control, which enables them to keep their balance even when moving sideways.

LW11.5

Athletes in this sport class have less impairment and nearly complete trunk control.

LW12

Athletes with leg impairments in sport classes LW2-4 may also fit this sport class. Skiers are eligible to compete in standing or sitting and must choose how they will compete at the beginning of their career.

Skiers with a visual impairment

These athletes competing in IPC Nordic skiing all have varying degrees of visual impairment ranging from the B1-B3 sport classes as described in Section 4. For skiers in the B1 sport class a guide is obligatory, skiers in the B2 and B3 sport classes may choose whether or not to ski with a guide. The guide skis immediately ahead of the athlete and verbally informs them of course specifics such as corners, inclines and declines. In biathlon, athletes with a visual impairment follow sound signals to shoot the target.

Snowboard

Eligible impairments:

Impaired muscle power	✓	Athetosis	✓
Impaired range of motion	✓	Hypertonia	✓
Limb deficiency	✓	Ataxia	✓
Leg length difference	✓	Visual impairment	
Intellectual impairment		Short stature	

Sport Classes:

IPC snowboard currently includes three sport classes, two for athletes with leg and one for athletes with arm impairments. This new sport continues to develop and the classification system will be refined to meet the needs of further growth in the sport.

SB-LL1

Snowboarders in the sport class SB-LL1 have a significant impairment in one leg, for example, an above knee amputation; or a significant combined impairment in two legs, for example significant muscle weakness or spasticity in both legs. These impairments will affect their ability to balance, control the snowboard and absorb the terrain. Athletes with amputations will use a prosthesis during the races.

SB-LL2

Snowboarders in the sport class SB-LL2 have an impairment in one or two legs with less activity limitation. A typical example is an athlete with below knee amputation or mild spasticity.

SBUL

Snowboarders in the SBUL class have impairments in one or two arms, which impacts on their ability to balance when racing down the slopes. A typical example is an athlete with an amputated hand.

Wheelchair curling

Eligible impairments:

Impaired muscle power	✓	Athetosis	✓
Impaired range of motion	✓	Hypertonia	✓
Limb deficiency	✓	Ataxia	✓
Leg length difference		Visual impairment	
Intellectual impairment		Short stature	

Sport Classes:

In wheelchair curling, there is only one sport class. Athletes must have an impairment affecting their legs. However, some wheelchair curlers may also have impairment in their arms. For example, some athletes have muscle weakness in their legs due to spinal cord injury and others have impaired coordination due to cerebral palsy.

All athletes must use a wheelchair in competition, though not all athletes use a wheelchair in daily life. All wheelchair curlers must meet the minimum impairment criteria to compete.

8 Glossary

Achondroplasia- A common form of short stature, which is an eligible impairment in Para-sport.

Ataxia- A coordination impairment characterised by uncoordinated movements due to a health condition affecting the central nervous system, such as cerebral palsy, brain injury or multiple sclerosis. Ataxia is one of the eligible coordination impairments in Para-sport.

Athetosis- A coordination impairment generally characterised by continual slow involuntary movements, due to health conditions affecting the central nervous system, such as cerebral palsy, brain injury, and multiple sclerosis. An eligible impairment in the Paralympic movement, athetosis is one of the eligible coordination impairments in Para-sport.

Cerebral palsy- A health condition which may lead to one of the following eligible coordination impairments: ataxia, athetosis or hypertonia.

Hypertonia- A coordination impairment characterised by an abnormal increase in muscle tension and a reduced ability of a muscle to stretch, due to health conditions such as cerebral palsy, traumatic brain injury or stroke. Hypertonia is an eligible coordination impairment in Para-sport.

Multiple sclerosis- A health condition affecting the central nervous system that causes impaired transmission of nerve signals between the brain, spinal cord and the body. This health condition may lead to hypertonia or impaired muscle power, both of which are considered an eligible impairment in Para-sport.

Poliomyelitis- A health condition which may lead to impaired muscle power, which is an eligible impairment in Para-sport.

Spasticity- A term used to describe an abnormal increase in muscle tension and a reduced ability of a muscle to stretch, used interchangeably with hypertonia, an eligible impairment in Para-sport.

Spina bifida- A health condition commonly affecting the spinal cord and leading to impaired muscle power, an eligible impairment in Para-sport.

Visual cortex- The part of the brain controlling the perception of visual information. A health condition or traumatic injury affecting this area of the brain may lead to an eligible visual impairment in Para-sport.

9 Want to learn more?

If you would like to learn more about classification, the following documents will provide more information.

IPC Classification Code

The 2007IPC Classification Code is the guiding document governing classification in Para-sport. The IPC Classification Code provides a clear purpose for classification and a framework of policies and procedures that will uphold confidence in Classification systems across the Paralympic Movement. The Code was first published in 2007 and revised in 2015. The IPC Athlete Classification Code (2007 and 2015 versions are found in the IPC Handbook under section 2 chapter 1.3).

IPC Position Statement on Background and Scientific Rationale for Classification in Paralympic Sport

This position statement, which was written by Sean Tweedy and Yves Vanlandewijck (leading researchers in classification), explains what evidence-based classification means and how classification systems can be based on scientific evidence. The IPC officially committed to evidence-based classification, when this position statement was approved by the Governing Board in 2009.

This document is available at:
http://www.paralympic.org/sites/default/files/document/141113170628158_2014_10_13+sec+ii+chapter+4_4_pos+stat+scientific+rationale+classification+paralympic+sport.pdf

Introduction to the Paralympic Movement

If you want to learn more about the history of the Paralympic Movement and classification, from the beginnings in Stoke Mandeville to the London 2012 Paralympic Games, then the article "Introduction to the Paralympic Movement" by Sean Tweedy and P. David Howe will be interesting for you.

The article is available in the following book:

Y.C. Vanlandewijck & W.R. Thompson (Eds.): The Paralympic Athlete. Wiley-Blackwell: IOC Handbook of Sports Medicine and Science.

IPC Website

For news and videos about the Paralympic Movement, information about the IPC structure and classification, please visit the IPC website: www.paralympic.org.

You may also find the classification section on the website interesting: http://www.paralympic.org/classification

The website also provides links to the Paralympic sports' websites (http://www.paralympic.org/sports), where you can learn more about classification for the different sports.