

Definition

Biathlon is an Olympic winter sport, which combines competitive, free-technique cross-country skiing and small-bore rifle marksmanship.

Several other competition forms of movement and shooting - such as ski archery, snowshoe Biathlon, running and shooting and mountain bike Biathlon - are also normally included in the general category of Biathlon. The word competition is used in Biathlon instead of race because it is not only a race but a combination of two different competitive activities.

The Challenge

The combination of two very contradictory disciplines, skiing and shooting, in the same competition confronts an athlete with a very demanding challenge. Cross-country racing requires intense, full out physical exertion over an extended period of time while shooting demands extremely fine control and stability. When athletes arrive at the shooting range, they have to shoot at a very small target, with a racing heartbeat and heaving chest because the clock is running even while they are shooting.

Governing Bodies

International Biathlon is governed by the International Biathlon Union (IBU), an International Federation with 65 member nations and an office in Salzburg, Austria. The IBU has jurisdiction for World Championships, World Cups, Continental Championships and Cups, and also provides technical supervision at various games such as the World University Games. Rules for Biathlon are published by the IBU and are used universally, including the Olympic Winter Games.

Biathlon Canada is the National Sport Organization and governing body for Biathlon in Canada, and has an office in Ottawa, Ontario. The Association has jurisdiction over the Canadian Championships, Eastern and Western Canadian Championships. All Canadian provinces and territories, Divisions of Biathlon Canada, have a Biathlon movement and many have a full time office and staff. Most Divisions have extensive programs including Division Championships and Cup circuits.

General Description of a Biathlon Competition

In a Biathlon competition the Biathlete skis distances varying from 7.5 to 20 km and stops at the shooting range to shoot two or four times, with both the distance and number of shooting bouts depending on the type of competition in question. The shooting distance is always 50 m and five rounds are fired in each bout at five targets, except in the Relay competition in which the competitor has three spare rounds for each bout. There are two shooting positions, prone and standing, which are done in a sequence depending on the competition..

Target diameters are 115 mm for standing and 45 mm for prone. During the entire competition, from start to finish, the clock is running for the competitor - there is no time-out for shooting.

Penalties for missed targets are imposed either as one minute of added time per target for the Individual competition or as a 150 m penalty loop - done immediately after each bout of shooting - for all other competitions.

In essence, the competitor starts at the start line, skis one trail loop (length depending on the competition), comes to the range and shoots, skis another loop, shoots, and so on, and then finishes with a ski loop to the finish line after the last bout of shooting. For the Individual and Sprint competitions, starts are done with one competitor at a time with a 30 second or one minute interval. In a Pursuit competition, starts are based on time intervals from the qualifying competition and for the Mass Start all competitors start together simultaneously. In the Relay competition, the first members of all teams start simultaneously in a mass start and after completing their part, tag the next member to start them on their way. For Team competitions, teams start with all members as a group, with one minute between teams.

In principle, throughout the competition, the Biathletes are responsible for their own actions, such as selecting a target in the Individual and Sprint competitions (assigned in the Relay), and for counting the number of missed plates on their targets and then skiing the correct number of penalty loops. However, they must always follow the stipulations of the competition rules.

Competition Equipment

In a competition, Biathletes wear an one-piece racing suit. Skis, poles and boots are standard competition type and are very light in weight. The rifle is designed for Biathlon with an action which is a variation of bolt or lever action, 22 inch in calibre, with a minimum weight of 3.5 kg. The magazines for the rifle may

only hold five rounds of ammunition and the maximum muzzle velocity for a bullet is 380 m/s. The rifle is carried on the back with a carrying harness, vertically - barrel up. Advertising on clothing and equipment is strictly controlled to prevent gross commercialism in the sport.

Safety

Because Biathlon includes shooting, stringent regulations govern all actions of the competitors with regard to shooting safety and rifle handling. Even the smallest violation of a safety regulation results in a disqualification. As a consequence of the very strictly enforced safety rules, Biathlon has an excellent safety record.

Facility Description

Biathlon competitions are conducted at a facility which has a central stadium area surrounded by a ski trail network. The stadium area consists of the shooting range normally with 27 to 30 targets, the start and finish areas including a mass start area, the 150 meter penalty loop, the technical building, ski test slope, team waxing huts, spectator areas and other necessary infrastructure. The shooting range is divided into lanes of 2.5 to 3 m in width with the targets placed at 50 m distance from the shooting ramp. The lanes and targets are numbered from right to left starting with number 1 on the extreme right, The range is divided into two parts for the Individual and Sprint competitions - prone shooting on the right and standing on the left,

Trail specifications are more or less demanding for the different types of competitions and are based on variations of height difference, maximum climb and total climb.

Targets are made of a white metal face plate with five holes in a horizontal row. Behind the holes in the face plate are the black hit plates which fall backward, or send an electronic pulse, when hit by a bullet and at the same time raising a white flap in front of the hole - thus causing a color change from black to white. When the target is scored, the black spots are counted to determine the number of penalties the competitor has. The targets may be mechanical or electronic in operation but in both cases the fallen plates can be reset from the firing point either by a rope or electronic impulse.

Classes of Competitors

In international events there are four classes of competitors: Men, Women, Junior Men and Junior Women. A Junior becomes a Man or a Woman on November 1 of the year of their 20th birthday and there is no minimum age for the Junior classes. Men and Women cannot compete in Junior events but Juniors may compete with the senior classes. Separate events are held for the senior and junior classes, including World Championships. National events normally include youth and masters classes and the Canadian events classes of competitors can be found in the Hosting Policy.

Types of Competitions

There are six international types of competitions: Individual, Sprint, Pursuit, Mass Start, Relay and Team of which four are in the program of the Olympic Winter Games - Team and Mass Start are not included in the Olympic Games.

The following table gives the specifications for each type of competition.

Class	Type of Competition	Start Type	Ski Loops	Shooting	Shot Penalty
Men	20 km Individual	Single, 30 sec, 45 sec, 1 min	5	P, S, P, S	1 min
	10 km Sprint	Single, 30 sec, 45 sec, 1 min	3	P, S	150 m
	12.5 km Pursuit	Pursuit	5	P, P, S, S	150 m
	15 km Mass Start	Mass	5	P, P, S, S	150 m
	4 x 7.5 km Relay	Mass & Tag	3	P, S (each + 3 rounds)	150 m
	2 x 7.5 km + 2 x 6 km Mixed Relay	Mass & Tag	3	P, S (each) + 3 rounds	150 m
Women	15 km Individual	Single, 30 sec, 45 sec, 1 min	5	P, S, P, S	1 min
	7.5 km Sprint	Single, 30 sec, 45 sec, 1 min	3	P, S	150 m
	10 km Pursuit	Single, 30 sec, 45 sec, 1 min	5	P, P, S, S	150 m
	12.5 km Mass Start	Mass	5	P, P, S, S	150 m
	4 x 7.5 km Relay	Mass & Tag	3	P, S (each) + 3 rounds	150 m
	2 x 7.5 km + 2 x 6 km Mixed Relay	Mass & Tag	3	P, S (each) + 3 rounds	150 m
Junior Men	15 km Individual	Single, 30 sec, 45 sec, 1 min	5	P, S, P, S	1 min
	10 km Sprint	Single, 30 sec, 45 sec, 1 min	3	P, S	150 m
	12.5 km Pursuit	Pursuit	5	P, P, S, S	150 m
	12.5 km Mass Start	Mass	5	P, P, S, S	150 m
	4 x 7.5 km Relay	Mass & Tag	3	P, S (each) + 3 rounds	150 m
Junior Women	12.5 km Individual	Single, 30 sec, 45 sec, 1 min	5	P, S, P, S	1 min
	7.5 km Sprint	Single, 30 sec, 45 sec, 1 min	3	P, S	150 m
	10 km Pursuit	Pursuit	5	P, P, S, S	150 m
	10 km Mass Start	Mass	5	P, P, S, S	150 m
	3 x 7.5 km Relay	Mass & Tag	3	+ 3 rounds	150 m
Youth Men	12.5 km Individual	Single, 30 sec, 45 sec, 1 min	5	P, S, P, S	1 min
	7.5 km Sprint	Single, 30 sec, 45 sec, 1 min	3	P, S	150 m
	10 km Pursuit	Pursuit	5	P, P, S, S	150 m
	10 km Mass Start	Mass	5	P, P, S, S	150 m
	4 x 6 km Relay	Mass & Tag	3	P, S (each) + 3 rounds	150 m
Youth Women	10 km Individual	Single, 30 sec, 45 sec, 1 min	5	P, S, P, S	1 min
	6 km Sprint	Single, 30 sec, 45 sec, 1 min	3	P, S	150 m
	7.5 km Pursuit	Pursuit	5	P, P, S, S	150 m
	7.5 km Mass Start	Mass	5	P, P, S, S	150 m
	3 x 6 km Relay	Mass & Tag	3	+ 3 rounds	150 m

The Canada Winter Games which is held every four years, odd numbered, is a junior games and includes the Biathlon Individual, Sprint, Pursuit and Relay competitions for both Junior Women and Junior Men.

Participation, Entries, Draws

Participation at IBU events is set by specific regulations for each type of event. For example, the number of competitors that a nation may enter into a World Cup competition is based on a quota which is the result of the nation's performance, while World Championships participation is based primarily on the right of every nation to enter four Men and four Women into both the Individual and Sprint competitions. The team leaders of each team will decide how many and who they will enter into each competition. Start numbers of competitors for Individual and Sprint competitions are done by random draw 24 to 15 hours before the competition. Team leaders place their competitors into one of four to two draw groups, normally one in each. This is done so that the team leaders have some tactical choice, based on weather conditions and the competitors capabilities, about in which part of the field their competitors will start. Assignment of start numbers for other competitions is subject to various conditions and is described under the specific competition.

Competition Concepts and Descriptions

The Individual Competition

This is the traditional Biathlon competition which was established before the invention of the mechanical target in which hits and misses can be seen from the firing point. Originally, paper targets were used and were scored after the last shooting was done. Each competitor was then given a penalty of added time for misses. Today the same principle applies but the misses can be seen on a shot-to-shot basis. Shooting is more important in the Individual competition, with its one minute penalty, than the other types which have a penalty loop of 150 m - which takes about 25 to 30 seconds to ski.

The Individual is the longest in skiing distance of all Biathlon competitions and has four bouts of shooting for all classes of competitors. The difficulty for a novice spectator is that there is no certainty of knowing who is leading at any given time although intermediate times provide some indication of placing at a given time. The Individual competition takes about one hour to complete for each competitor. Men will start by skiing 4 km and then shooting, continuing the sequence until they have shot four times, with a 4 km ski loop between bouts, and then completing the 20 km with the last 4 km loop to the finish. Women will do generally the same but with slightly shorter ski loops for the 15 km competition.

Participation in the Individual competition is based on the various quotas set for events.

The Sprint Competition

The Sprint is a speeded-up, shortened version of the Individual in which skiing speed is more important than shooting. Instead of the one minute penalty for missed targets, the competitor must ski a 150 m penalty loop immediately after shooting. With shorter distances and only two bouts of shooting for all classes, the skiing times are around 30 minutes. The Men will ski three loops of 3, 4 and 3 km interspersed with two bouts of shooting. Women will ski three 2.5 km loops in the same format.

Participation in the Sprint competition is set by the quotas for various events.

The Pursuit Competition

The eligibility to compete, and the start order and intervals, in a Pursuit competition are based on a qualifying competition which is normally held the previous day. Both the Sprint and the Individual competitions can be used as the qualifying competition but the Sprint is the norm. The total participation in World Championships and World Cup Pursuit competitions is 60.

The basic concept of the Pursuit is that the winner of the qualifying competition starts first and the remainder follow in the order and time that they finished behind the winner in the qualifying competition. The Pursuit is highly exciting because it can be seen at any time who is leading and because of the psychology of the competitors pursuing the athletes ahead of them. The first competitor to cross the finish line is the winner, subject to any penalties or time adjustments. If competitors are lapped in the competition, they must withdraw immediately.

The Mass Start Competition

With a simultaneous start by all of the competitors, the Mass Start offers the ultimate in excitement and suspense for spectators. The format of the Mass Start is similar to the Individual except the distances are shorter and shooting follows the sequence of prone, prone, standing, standing. Normal participation is

limited to 27, which is the minimum number of targets required for a World Cup event, because each competitor requires a target at approximately the same time due to the simultaneous start.

Participation in the Mass Start is based on the top rankings of the current World Cup total score, and in the case of the World Championships also on the three medallists of the Individual, Sprint and Pursuit competitions. If competitors are lapped in the competition, they must withdraw immediately.

The Relay Competition

Relay competitions for both Men and Women consists of four team members skiing 7.5 km with two bouts of shooting. The first starter of each team will start in a simultaneous mass start, ski 2.5 km, shoot prone, ski 2.5 km, shoot standing and then continue with the last 2.5 km to tag the next team member, or in the case of the last competitor - ski to the finish line. The first competitor to physically cross the finish line is the winner, subject to any penalties for rule violations or other time adjustments. The Relay is very exciting because spectators can see who is leading at any time. Additionally, each competitor in a Relay competition carries three spare rounds. If all five targets are not knocked down with the first five rounds, the spares may be used. The concept is that because of the intense pressure in the Relay, the competitor may wish to shoot extremely fast and of course then be able to get away quickly if all five targets are hit. However, if all five targets are not hit with the five rounds in the magazine the spare rounds must be loaded individually by hand, which takes much more time and is very difficult under pressure. In order to ensure that Relay competitions do not stretch too long in time, there are two methods to eliminate extremely slow teams as follows. First, after the last member of the fifth team has crossed the finish line all teams which have not yet reached the shooting range will be stopped at the entrance to the range - teams which are on the range at that time will be allowed to complete the competition. Secondly, any competitor who is lapped during the competition must immediately withdraw from the competition.

Participation in a Relay is set by event rules and start numbers are determined by random draw. The start number represents both the team's start track and shooting lane number, and are color coded: red - first leg; green - second; yellow - third; blue fourth.

The Mixed Relay Competition

A Mixed Relay team consists of 2 women and 2 men. The two female team members ski a distance of 6 km and the two male team members ski a distance of 7.5 km with 2 bouts of shooting at a distance of 2 and 4 kilometres respectively. Mixed Relay competitions start simultaneously with the first member of each team for the race. The following relay team members start in the handover zone where the arriving competitor has to touch the starting competitor. The race starting order in mixed relay is female, female, male, male.

The Competition Day

The following is an example of the general format of a competition day. Daily programs will vary considerably based on the type of competition. This example is based on a Biathlon World Cup Individual competition day with a 1000 hrs start time for Men and 1300 hrs start time for Women, and 100 competitors in both classes, and a 30 second start interval.

0900	Zeroing starts - Men
0945	Zeroing ends
1000:30	First start - Men
1050	Last start
1100	First finish (approximate)
1150	Last finish (approximate)
1155	Interim Results posted (approximate)
1210	Protest time ends, Final Results, Flower Ceremony, Press conference
1200	Zeroing starts - Women
1245	Zeroing ends
1300:30	First start - Women
1350	Last start
1350	First finish (approximate)
1440	Last finish (approximate)
1445	Interim Results posted (approximate)
1500	Protest time ends, Final Results, Flower Ceremony, Press conference

Rules

The technical rules which are used for all IBU Biathlon competitions are the IBU Event and Competition Rules 2014. In Canada, the IBU rules are used but some variations are regulated by the Biathlon Canada Hosting Policy.

Juries and Representative Appointments

Two types of Juries are set up for all IBU events: a Jury of Appeal and a Competition Jury separately for Men and Women.

The Jury of Appeal will deal with appeals made about decisions of the Competition Juries but has no powers to initiate actions on its own part. The Jury of Appeal is chaired by a member of the IBU Executive Board who is the official senior representative of IBU at the event, and will have as members any other Executive Board members who are present at the event, with the remainder of the five members being elected from among the team captains. In Canada, the same system is used with Biathlon Canada appointed people.

The Competition Juries will deal with all competition related matters and protests, and is the only body which can impose penalties. Both Competition Juries are chaired by the Technical Delegate appointed by IBU (Biathlon Canada in Canada) and will have as members the Competition Chief and three elected team captains.

There are five technical officials appointed by IBU to oversee the conduct of international Biathlon competitions: the Technical Delegate with overall responsibility and four International Referees to officiate at the Course, Range, Start/Finish and for Material Control. For the Olympic Winter Games, there are a Technical Delegate, Assistant Technical Delegate and eight International Referees.

For more information about the exciting and challenging sport of Biathlon, please contact the Biathlon Canada office or your provincial or territorial Biathlon association.