

7

SHOOTING



Figure 7.1 Abhinav Bindra won the 2008 Olympics gold in the 10 m Air Rifle event.

HISTORY

Shooting is a group of competitive and recreational sporting activities involving accuracy, precision and speed in using various types of ranged weapons like portable guns (handguns, rifles, shotguns). People have engaged in competitive shooting since the invention of guns centuries ago. In 1860, the National Rifle Association of the United Kingdom (NRA) was founded. National Rifle Association of America was formed in 1871. World Shooting Championships were first held in 1897 in France. Women's World Championship started in the year 1958. Both championships are now held every four years.

The 2016 Olympics featured three shooting disciplines (rifle, pistol, and shotgun) where athletes competed in 9 men's and 6 women's events.

Internationally, the International Shooting Sport Federation (ISSF), which was founded in 1907, has oversight of all major shooting events worldwide, while National Governing Bodies (NGBs) administer the sport within each country. The National Rifle Association of India (NRAI) was established in 1951. Many Indian athletes have excelled in world shooting events.

GUNS USED IN SHOOTING EVENTS

- ❖ **Handguns:** These are handheld small arms designed to be shot off-hand without the need for a shoulder stock (part of a long gun that provides structural support). Two main types of handguns are pistols and revolvers. In shooting sports, revolvers and semi-automatic pistols are the most commonly used.
- ❖ **Rifles:** These are long guns with rifled barrels and require the use of both hands to hold and brace against the shoulder via a stock in order to shoot steadily. In shooting sports, bolt action or semi-automatic rifles are the most commonly used.



Figure 7.2 A rifle used in 50 m rifle shooting

- ❖ **Shotguns:** These are similar to rifles but often smoothbore and larger in calibre, and typically fire either a shell containing many smaller scattering

sub-projectiles called shots, or a single large projectile called a slug. In shooting sports, shotguns are more often over/under-type break action or semi-automatic shotguns, and the majority of shotgun events are included in clay pigeon shooting.

SHOOTING RANGES

- ❖ A shooting range is a specialised facility designed for firearm qualifications, training, practice or sports competitions. Shooting ranges can be outdoor or indoor and may specialise in certain types of firearms or certain shooting sports such as skeet shooting or 10 m air pistol/rifle.
- ❖ The basic components of most indoor shooting ranges consist of firing lines/lanes, targets and a bullet trap/backstop (a device to stop bullets).

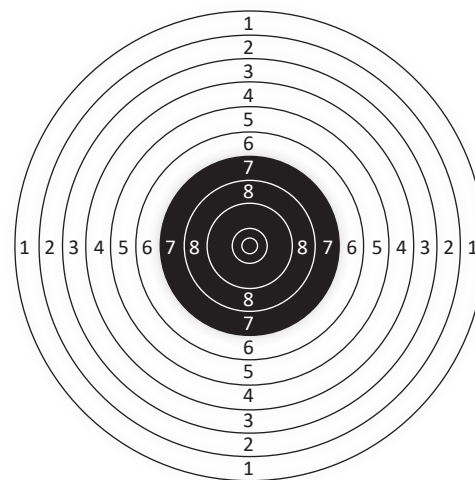


Figure 7.3 10 m air pistol target

- ❖ Outdoor ranges are used for longer-distance shooting and can offer shooting for anything from 10 m range to more than 1,200 yards (1,100 m).

Table 7.1 Shooting events and their descriptions

For Men	For Women
<p><i>Rifle events</i></p> <ul style="list-style-type: none"> ❖ 300 m Rifle 3 Positions: 3 × 40 shots prone, standing, kneeling ❖ 300 m Rifle Prone: 60 shots prone ❖ 300 m Standard Rifle: 3 × 20 shots prone, standing, kneeling ❖ 50 m Rifle 3 Positions: 3 × 40 shots prone, standing, kneeling; Number of shots: 3 × 40; Time to complete the course of fire: 2 hours 45 minutes; Calibre of rifle: 5.6 mm ❖ 50 m Rifle Prone: 60 shots prone; Time: 50 minutes; Calibre of rifle: 5.6 mm ❖ 10 m Air Rifle: 60 shots standing; Time: 75 minutes; weight of rifle: 5.5 kg maximum; Calibre of rifle: 4.5 mm 	<p><i>Rifle events</i></p> <ul style="list-style-type: none"> ❖ 300 m Rifle 3 Positions: 3 × 20 shots prone, standing, kneeling ❖ 300 m Rifle Prone: 60 shots prone ❖ 50 m Rifle 3 Positions: 3 × 20 shots prone, standing, kneeling; Number of shots: 3 × 20; Time to complete the course of fire: 1 hours 45 minutes; Calibre of rifle: 5.6 mm ❖ 50 m Rifle Prone: 60 shots prone; Time: 50 minutes; Calibre of rifle: 5.6 mm ❖ 10 m Air Rifle: 40 shots standing; Time: 50 minutes; weight of rifle: 5.5 kg maximum; Calibre of rifle: 4.5 mm
<p><i>Pistol events</i></p> <ul style="list-style-type: none"> ❖ 50 m Pistol: 60 shots, Time: 2 hours; Weight: No restriction; Calibre of pistol: 5.6 mm ❖ 25 m Rapid Fire Pistol: 2 × 30 shots ❖ 25 m Centre-Fire Pistol: 2 × 30 shots ❖ 25 m Standard Pistol: 3 × 20 shots ❖ 10 m Air Pistol: 60 shots; Time: 75 minutes; Weight of pistol: 1.5 kg maximum; Calibre of pistol: 4.5 mm 	<p><i>Pistol events</i></p> <ul style="list-style-type: none"> ❖ 25 m Pistol: 2 × 30 + 25 shots ❖ 10 m Air Pistol: 40 shots; Time: 50 minutes; Weight of pistol: 1.5 kg maximum; Calibre of pistol: 4.5 mm

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<p><i>Shotgun events</i></p> <ul style="list-style-type: none"> ❖ Skeet: 125 targets ❖ Trap: 125 targets ❖ Double Trap: 150 targets 	<p><i>Shotgun events</i></p> <ul style="list-style-type: none"> ❖ Skeet: 125 targets ❖ Trap: 125 targets ❖ Double Trap: 120 targets
<p><i>Running target events</i></p> <ul style="list-style-type: none"> ❖ 50 m Running Target: 2 × 30 shots ❖ 50 m Running Target Mixed: 2 × 20 shots ❖ 10 m Running Target: 2 × 30 shots ❖ 10 m Running Target Mixed: 2 × 20 shots 	<p><i>Running target events</i></p> <ul style="list-style-type: none"> ❖ 10 m Running Target: 2 × 20 shots ❖ 10 m Running Target Mixed: 2 × 20 shots

Rifle Rules

1. Only single shot rifles that must be manually loaded before each shot may be used, except that in the 300 m Standard Rifle event a rifle that is legal for use in International Military Sport Council (CISM) 300 m Rifle events may be used if it is checked by Equipment Control before the event.
2. Only one (1) rifle is allowed to be used in the Elimination, Qualification and Final Rounds of one (1) event. The action, barrel and stock may not be exchanged, except that a detachable buttstock may be exchanged. Accessories attached to the action, barrel or stock may be exchanged. A rifle that becomes disabled may be replaced if the Jury approves.
3. Any device, mechanism or system that actively reduces, slows or minimises rifle oscillations or movements before the shot is released is prohibited.
4. The pistol grip for the right hand must be constructed in such a way that it does not rest on the sling or on the left arm.

Pistol Rules

1. Neither the grip nor any part of the pistol may be extended or constructed in any way that would allow it to touch beyond the hand. The wrist must remain visibly free when the pistol is held in the normal firing position.
2. Adjustable grips are permitted providing that when they are adjusted for the athlete's hand they conform to these rules. Grip adjustments are subject to random equipment control checks to ensure that they conform with these rules.

3. Only open sights are allowed. Sights using fibre optic, light enhancing or reflecting colour surfaces are prohibited. Optical, mirror, telescope, laser-beam, electronically projected dot sights etc. are prohibited. Any aiming device programmed to activate the firing mechanism is prohibited. Corrective lenses or eyeglasses and/or filters or tinted lenses may be worn by the athlete.
4. Any device, mechanism or system that actively reduces, slows or minimises pistol oscillations or movements before the shot is released is prohibited.
5. All projectiles used must be made only of lead or similar soft material. Jacketed projectiles are not permitted.
6. Athletes may place pistol support stands or boxes on the bench or table to rest their pistols between shots. The total height of the bench or table with a support stand or box on it may not exceed 1 m.
7. **Firing position:** The athlete must stand free, without any artificial or other support, with both feet and/or shoes completely within the firing point. The pistol must be held and fired with one hand only. The wrist must be visibly free of support.
8. **Ready position:** In the READY position, the athlete's arm must point downward at an angle of not greater than 45 degrees from the vertical. The arm with the pistol must not be pointed at the ground within the forward edge of the firing point. After the series begins, the pistol may not rest on the bench or shooting table. The arm must remain in this position while waiting either for the appearance of the target or, when EST are used, for the green light(s) to come on.

Shotgun Rules

1. All shotguns must be kept unloaded except on the shooting station and only then after the command or signal 'START' has been given. Cartridges must not be loaded in the gun until the athlete is standing on the shooting station, facing the traps with the gun pointed towards the target flight area and after the Referee has given permission. No athlete may turn from the shooting station before his gun is open and empty. After the last shot and before leaving the range or placing the gun on a rack, armoury etc. the athlete must ascertain and the Referee must verify that there are no cartridges or empty cartridge cases in the chamber and/or magazine.
2. Aiming or shooting at another athlete's targets or deliberately aiming or shooting at live birds or other animals is prohibited. Aiming exercises are permitted only on designated shooting stations with the permission of the Referee, or in designated dry firing areas.
3. Shots may be fired only when it is the athlete's turn and the target has been thrown.
4. When the command or the signal 'STOP' is given, shooting must stop immediately and all athletes must unload their shotguns and make them safe.
5. All types of smoothbore shotguns, including semi-automatics, but excluding pump action shotguns, may be used, provided their calibre does not exceed 12 gauge. Shotguns smaller than 12 gauge may be used. Shotguns must not have a camouflage finish.
6. Guns with any type of 'release' trigger mechanisms are prohibited.
7. All devices fitted to the gun that have magnifying, light emitting, forward lead displacement properties, or that give visual enhancement of the target, are prohibited.
8. Shot charge must not exceed 24.0 g (+0.5 g tolerance). Pellets must be spherical in shape. Pellets must be made of lead, lead alloy or of any other ISSF approved material. Pellets must not exceed 2.6 mm in diameter. Pellets may be plated; Only transparent or translucent wads with no colour may be used. Black powder, tracer, incendiary, or other special types of cartridges are prohibited.
9. **Ready position:** At the moment the athlete calls and until the target (s) appears, the athlete must stand in the READY position with: Both feet entirely within the shooting station boundaries; holding

the gun with both hands; the gun stock in contact with body; and the toe of the stock on or below the ISSF official marker tape and clearly visible to the Referee standing in the correct position.

Running Target Rules

1. The weight of the rifle and sight together must not exceed 5.5 kg.
2. Any types of sights are permitted for 50 m rifles. For 10 m rifles, any type of sights is permitted except that optical sights must be non-variable with a maximum of four power (4X) magnification (tolerance = +0.4 x).
3. The same rifle, including the sight, weights and trigger system, must be used for slow and fast runs in any event.
4. Only calibre 5.6 mm (.22") Long Rifle ammunition is permitted.
5. Until the moment that any part of the target becomes visible in the opening, the athlete must remain in the READY position, holding the rifle with both hands in such a way that the lower tip (toe) of the butt-plate is equal to or below the mark on the shooting jacket. The mark must be visible to a Jury Member or Range Officer while the athlete is in the READY position.
6. The Shooting Position is standing without support. The rifle butt-plate must be held against the shoulder (upper right chest) and supported only with both hands. The left arm (right arm for left handed athlete) must not rest on the hip or the chest. The athlete must take a position in relation to the bench, table, or wall in such a way that it is clearly visible that they do not give him any support whatsoever. The use of a sling is not permitted.
7. The Run is the time when the target is visible in the opening. The timing of the run must start when the leading edge of the target appears and stop when the leading edge of the target reaches the opposite wall.
8. When the athlete has finished his preparation on the range, he must call 'READY' before each sighting shot and also before the first shot of the series.
9. The Range Officer must start the target immediately. If the target does not appear in four (4) seconds after the order to start is given or after completion of the indication of the score, the Range Officer must stop the shooting and make sure that the range

equipment and the athlete are ready, after which he will start the target again; If the target is started before the athlete has called 'READY,' he should refrain from shooting. However, if he shoots, the result must be scored.

FUNDAMENTAL SKILLS OF SHOOTING

- ❖ **Stance:** A balanced and stable stance or foot position for the body to perform the movement necessary to bring the gun smoothly to the target in a timely fashion and perform a successful shot.
- ❖ **Grip:** Using muscular and skeletal alignment to hold the gun comfortably to be able to quickly fire multiple well-aimed shots and manage the recoil of the gun.
- ❖ **Draw/Presentation:** Getting the gun into the plane of vision between the eyes and the target as quickly and efficiently as possible.
- ❖ **Sight Alignment/Sight Picture:** The process of lining up rear and front sights.
- ❖ **Trigger Management/Control:** Applying steady pressure directly rearward in such a fashion so as to not disturb the sight alignment before the round fires.
- ❖ **Breathing:** Deep, slow, diaphragmatic breathing, which induces calming effects and improves concentration. It allows the shooter to hold breath without any difficulty for at least 20 seconds, permitting a shot 8–10 seconds after assuming the appropriate position and aiming the sights on the target without getting breathless.
- ❖ **Follow Through:** Maintaining all of the fundamentals through the break of the round; staying with the sights and following them into recoil. It is easiest when the platform is solid, grip is good and sight alignment is proper.
- ❖ **Recovery:** Breathing, scanning the environment and returning the gun to the safety position after the shooting is over.

TERMINOLOGY

Bib Number: Every athlete entered in championships is issued a unique Bib or Start Number. These numbers are used to identify and track competitors and must be worn on the athletes' backs during training and competition.

Bore: Internal diameter of a rifle

Breech: It is the end of the barrel of a rifle where bullet cartridge is located

Course of Fire: Description of the stages, type of firing, time limits, number of shots in each series in a competitive rifle shooting event

Cartridges: Casing containing a charge and a bullet for small arms

Dry Firing: The release of the cocked trigger mechanism of an unloaded cartridge gun or the release of the trigger mechanism of an air or gas gun fitted with a device which enables the trigger to be operated without releasing the propelling charge (air or gas)

EST: Electronic Scoring Target

Elevation: Adjustment or alignment of sight

Field of Play (FOP): FOP is a restricted area behind the firing line. Competitors and officials are not allowed to access this area

Hang Fire: A delayed firing after trigger has been pulled

Match Shots: Scoring or record shots that will be counted in a competitor's score

Muzzle: The end of a barrel of a rifle

PET: Pre-Event Training

Prone: Shooting position where the athlete is lying down

RTS: Results, Timing and Scoring. The RTS process is a part of competition operations that involves the preparation of start lists, target scoring, resolving scoring issues and the preparation and distribution of results lists.

Range: Place where shooting is practiced or performed

Series: Sequence of shots fired within a stage or course of fire. Most rifle shooting events have 10 shot series

Sighting Shots: Warm-up shots fired before an actual shooting event begins

Squadding: The assignment of athletes entered in an event to relays and firing points in Rifle-Pistol events or the assignment of athletes to specific squads in Shotgun events.

Stage: A phase or part of course of fire. For example, 50 m Rifle 3 Positions has three stages for the three positions – prone, standing, kneeling

Start Time: Time when the command for the first shot is made

IMPORTANT TOURNAMENTS, PERSONALITIES AND AWARDS

Important Tournaments

Olympic Games, ISSF World Shooting Championships, ISSF World Cup, Commonwealth Games, National Shooting Championships (India), All India G V Mavlankar Shooting Championship, Sardar Sajjan Singh Sethi Memorial Masters Shooting Championship

International Personalities

Lyubov Galkina (Russia), Morris Fisher (USA), Guo Wenjun (China), Maria Grozdeva (Bulgaria), Ole Lilloe-Oslen (Norway), Jin Jong-Oh (South Korea), Olena Kostevych (Ukraine), Alfred Lane (USA), Kimberley Rhode (USA), Willis Augustus Lee (USA), Carl Osburn (USA)

Arjuna Award Winners

- 1961 — Karni Singh
- 1968 — Rajyashree Kumari
- 1969 — Bhuvaneshwari Kumari
- 1971 — Bhim Singh
- 1972 — Udyan Chinubhai
- 1978-79 — Randhir Singh
- 1981 — Shaarad P Chauhan
- 1983 — Mohinder Lal, Soma Dutta
- 1985 — Ashok J Pandit
- 1986 — Bhagirath Samai
- 1993 — Mansher Singh
- 1994 — Jaspal Rana
- 1996 — Moraad Ali Khan
- 1997 — Satendra Kumar, Shilpi Singh,
Naresh Kumar Sharma (para athlete)
- 1998 — Manavjit Singh Sandhu,
Roopa Unnikrishnan
- 1999 — Vivek Singh

- 2000 — Abhinav Bindra,
Anjali Vedpathak Bhagwat, Gurbir Singh
- 2001 — Samaresh Jung
- 2002 — Anwer Sultan, Suma S Shirur
- 2003 — Rajyavardhan Singh Rathore
- 2004 — Deepali A Deshpande
- 2005 — Gagan Narang
- 2006 — Vijay Kumar
- 2008 — Avneet Kaur Sidhu
- 2009 — Ronjan Sodhi
- 2010 — Sanjeev Rajput
- 2011 — Tejaswini Sawant
- 2012 — Joydeep Karmakar,
Annu Raj Singh, Omkar Singh
- 2013 — Rajjkumari Rathore
- 2014 — Heena Sidhu
- 2015 — Jitu Rai
- 2016 — Apurvi Chandela, Gurpreet Singh
- 2017 — P N Prakash
- 2018 — Rani Sarnobat, Ankur Mittal,
Shreyasi Singh

Dronacharya Award Winners

- 2011 — Sunny Thomas
- 2017 — Sanjoy Chakraverty

Rajiv Gandhi Khel Ratna Winners

- 2001 — Abhinav Bindra
- 2002 — Anjali V Bhagwat
- 2004 — Rajyavardhan Singh Rathore
- 2006 — Manavjit Singh Sandhu
- 2011 — Gagan Narang
- 2012 — Vijay Kumar
- 2013 — Ronjan Sodhi
- 2016 — Jitu Rai



SUMMARY

1. Shooting is a competitive sport that tests proficiency in accuracy, precision and speed in using guns.
2. The guns commonly used in shooting competitions are rifles, handguns (pistols and revolvers) and shotguns.
3. Some of the events in shooting are 300 m Rifle 3 Positions, 50 m Rifle 3 Positions, 10m Air Rifle, 50 m Pistol, 10 m Air Pistol, Skeet, Trap, Double Trap and 50 m Running Target.
4. World Shooting Championships were first held in 1897 in France. For women, it started in the year 1958.
5. The fundamentals skills of shooting are stance, grip, draw, sight alignment, trigger management, breathing, follow through and recovery.



QUESTIONS AND ANSWERS FOR VIVA

1. **What is competitive shooting? When and where did its championship begin?**
 Ans. Competitive shooting is a category of sports that tests proficiency in accuracy, precision and speed in using guns. World Shooting Championships were first held in 1897 in France. For women, it started in the year 1958.
2. **What is the international governing body of shooting and when was it founded?**
 Ans. The international governing body of shooting is International Shooting Sport Federation (ISSF). It was founded in 1907.
3. **What is the governing body of competitive shooting in India? When was it formed?**
 Ans. The National Rifle Association of India (NRAI), established in 1951, is the governing body of shooting in India.
4. **Describe the basic rules for a 50 m Rifle 3 Positions rifle shooting event.**
 Ans. The basic rules for a 50 m Rifle 3 Positions rifle shooting event are: Positions: Prone, Standing, Kneeling Number of shots: 3 × 40 (men); 3 × 20 (women) Time to complete the course of fire: 2 hours 45 minutes (men); 1 hour 45 minutes (women) Weight of rifle: 8 kg (men); 6.5 kg (women) Calibre of rifle: 5.6 mm
5. **Explain Course of Fire, Field of Play, and Match Shots.**
 Ans. **Course of Fire:** Description of the stages, type of firing, time limits, number of shots in each series in a competitive shooting event.
Field of Play (FOP): FOP is a restricted area behind the firing line. Competitors and officials are not allowed to access this area
6. **Match Shots:** Scoring or record shots that will be counted in a competitor's score.
6. **What is 'hang fire' in a shooting event?**
 Ans. Hang Fire in a shooting event is delayed firing after trigger has been pulled.
7. **Name any three important shooting competitions.**
 Ans. ISSF World Championships, Olympic Games, Commonwealth Games
8. **Name any three important shooting athletes along with the countries they are from.**
 Ans. Lyubov Galkina (Russia), Abhinav Bindra (India), Jin Jong-Oh (South Korea)
9. **Name any three Arjuna Award winning shooting athletes.**
 Ans. Jitu Rai, Tejaswini Sawant and Rajyavardhan Singh Rathore
10. **What is the calibre of rifle used in the 10 m air rifle event?**
 Ans. 4.5 mm calibre
11. **How many shots are fired in each position of 50 m rifle 3 positions for men?**
 Ans. 20 shots in kneeling, 20 shots in standing and 20 shots in prone
12. **What is the maximum time allotted to each shooter in the 50 m Pistol event?**
 Ans. Two hours
13. **Name any four shooting events organised by the ISSF for women.**
 Ans. 50 m Rifle Prone, 10 m Air Pistol, Trap, 10 m Running Target
14. **What are the types of guns used in Olympic shooting events?**
 Ans. Rifles, pistols and shotguns