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Lecture Title

Discuss Throw

Script

The History of Discus Throwing
The sport of discus throwing dates back to ancient Greece, where the sport was prized for its display of an athlete's precision and coordination, combined with his physical strength. Discus Throw was one of the earliest games played in the Olympiad, along with other similar sports, such as the javelin. Still a widely practiced competitive sport today, discus throwing hasn't changed dramatically over the past few thousand years.
Origins
Discus throwing emerged in ancient Greece around 708 B.C., when the sport was added to the 18th Olympiad, says Olympia Greece. Discus was part of the pentathlon, which also included jumping, wrestling, running and javelin. Shaped like a flying saucer, the ancient Greeks made discuses from lead, bronze, iron or stone, (;) according to Perseus Digital Library at Tufts University. The discuses were made in varying weights, depending on whether the competition consisted of men or boys. The (A) typical discus weighed about 4 ½ to 13 lbs. or 2 to 6 kg and measured about 8¼ to 13¼ inches or approximately 21 to 34 cm, notes the International Association of Athletics Federations.
Development
By 632 B.C., the Olympic Games in ancient Greece were extended to one week, and the game of discus throwing was one of more than 50 events in the Olympics by 500 B.C., says Olympia Greece. Discus throwing was included in the modern Olympic Games in Athens in 1896, according to the International Association of Athletics Federations. Discus throwers stood on a pedestal that was about 24 inches by 27½ inches. The following year, the U.S. held a discus-throwing event that utilized a circle about 7 feet in diameter. In 1907, the discus itself was standardized in the competitive sport to about 4½ lbs. or 2 kg and 8 2/3 inches or 22 cm in diameter, and the discus-throwing circle increased to more than 8 feet across by 1908. The modern-day concrete throwing circle wasn't introduced until 1954.
Significance
Throughout the early 1900s, different styles of discus throwing evolved as the sport gained worldwide popularity, (;) according to the International Association of Athletics Federations. Single-hand and both-hand competitions were developed during this time, along with the Nordic swinging-throw style. In 1926, Clarence Houser introduced the modern-day style of skipping and turning before releasing the discus. American women joined the discus-throwing sport

competitively in 1914, using a discus weighing about 3 1/3 lbs. or 1 ½ kg. In 1928, the Olympic Games began using a 2 1/5-lb. or 1-kg standard discus for women.

Modern Day

Although the pedestals throwing circles and , in place of and discus sizes and weights have changed over) many centuries since the ancient Greeks first practiced discus throwing, (;) the sport hasn't changed substantially from its roots, according to Tufts University. Discus throwing still contains the same basic objective – to throw the discus farther than your opponents. Today, discus throwing is an official sport with competitions throughout the world, notes the International Association of Athletics Federations. But discus's origins and modern-day competitions in the Olympic Games will always be heavily associated with the sport.

The discus throw is a slinging throw. The implement has to be thrown from a circle of 2.5 m in diameter. By rotation inside the circle , the greatest possible acceleration is impart to the discus.

Measurement and Specification

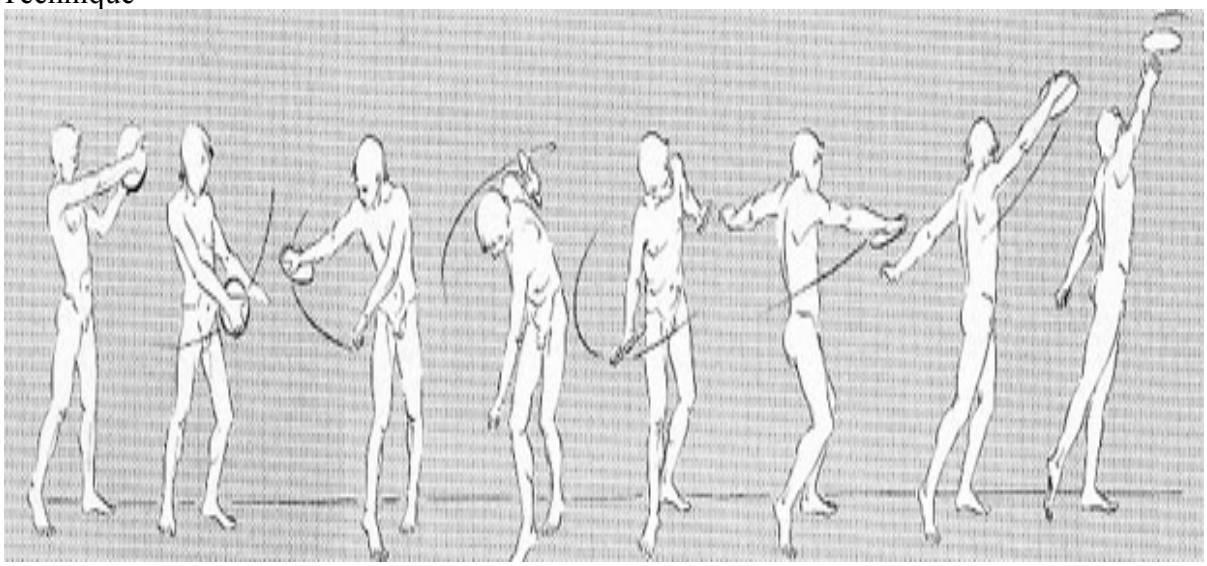
Below the body (The bottom of the body) of the discus should be made of wood or other suitable material, with a metal rim, the edge of which should be circular. Each side should be identical, without any indentations or projections. The minimum weight should be 2 kg ($2^{1/2}$lb) for men and 1kg ($4^{1/2}$lb) for women. The approved discus dimensions for men's and women's competition are shown in the diagram below.

In this event the athlete holds the discus (,) a platter-shaped implementagainst the palm of the throwing arm, with the finger ends around the edge. Facing away from the direction of the throw, he or she then rapidly makes one and half spines before propelling the discus into the air with a sidearm throw. For safety reasons, as in the hammer-throwing event, discuss trails should be made from an enclosure or cage. Most of the specifications for the discus circle are the same as those for the hammer circle and should be 2.5 m (8 ft). Competitors may have two practice trials only. They may not wear gloves, nor apply any substance on their shoes in the throwing circle. Adopting any position they choose, athletes should commence their throws from a stationary position within the circle. It is a foul if, having started to make the throw; a competitor touches the ground outside the circle or the top of the circle rim with any part of the body. A competitor should not leave the circle until the discus has touched the ground. The rules relating to leaving the circle, or beginning a fresh trail, are the same as for the hammer and shot outlined previously. For a throw to be valid the discus should land completely within the inner edges of lines marking a sector of 40 degrees. If the discus first strikes the cage before landing within the sector, the throw should not be considered invalid. If it breaks during a fair throw, it should not count as a trail.

Immediately after a fair throw, the distance should be measured from the nearest mark in the ground made by the discus to the inside of the circumference of the circle, along a line drawn to the centre of the circle.

Measurement should be recorded in even centimetre units to the nearest unit below the distance measured if that distance is not a whole even centimetre.

Technique



A rational technique in the discus throw has the following characteristics:

1. In the initial position the thrower has his back towards the direction of throw.
2. There follow a long, flat jump-turn with a flight phase.
3. The slinging movements, called the release, takes place with a springlike push-off by both feet.

Handhold

The hand is placed flat against the discus surface; the upper joints of the fingers grasp the rim of the discus. Its CG lies betweenthe index and the middle finger. Due to a slight bending at the wrist , the upper face of the discus touches the arm. This gives the required looseness of the muscles and prevents the discus from falling out of the hand in the subsequent movements.

The Initial Position

The thrower assumes a position at the rear edge of the circle, with the back facing in the direction of throwing. The feet are about shoulder width apart with the toes turned outwards. The athlete is in a relaxed "sitting-down" position. The body weight is evenly distributed over both feet. The right arm is hanging loosely by the right side, holding the discus.

The Preliminary Swing

The purpose of the preliminary swing is to create the longest possible acceleration path of the implement. The width of the preliminary swing, which is important for an optimum radius of the initial path of the discus, depends on the position of the legs and the athlete's flexibility at the hip and shoulder joints. The swinging movements are introduced by bringing the arm with the implement at hip or shoulder level across to the left side of the body. The body weight is thereby easily moved from the right to the left leg. Almost without any interruption, there follows the actual preliminary swing in which the discus is brought far back to the right behind the right shoulder. The body weight is now slightly transferred to the right. This swing is performed in any easy relaxed manner. The upper body with the left arm curled across the chest moves along in the direction of the swing, producing at this stage a good torque or "wind-up" between the hip and the shoulder axes. The left heel is slightly raised from the ground. The novice discus thrower should not turn the toes of the left foot into the swinging direction, since this would prevent the optimum wind-up and unnecessarily lengthen the part of the left foot at the beginning of the turn. The upper body is kept upright.

The Turn in The Circle

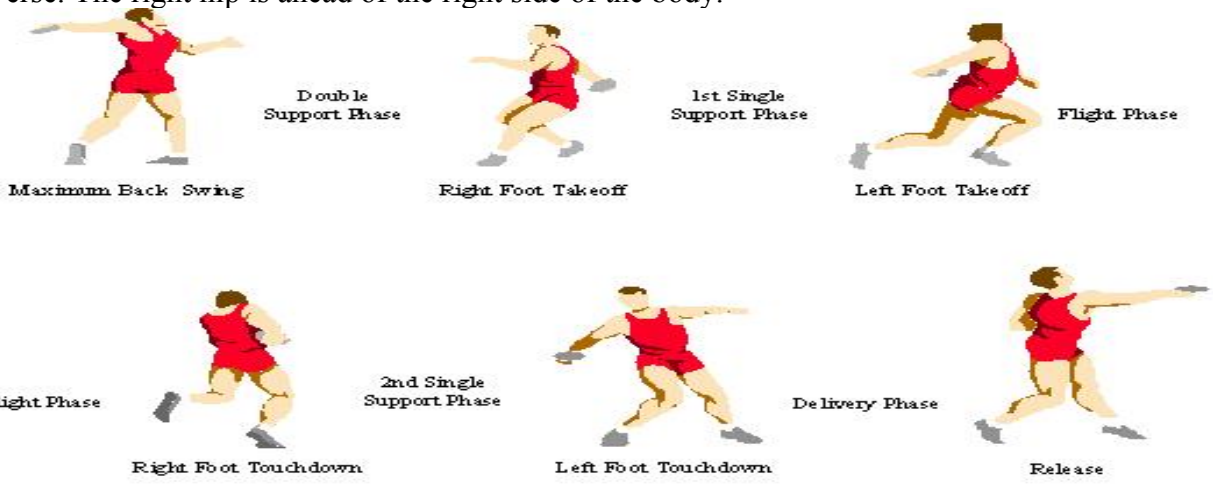
The purpose of the turn is to accelerate the discus continuously on the longest possible path. At the beginning of the drive across the circle, the thrower's body and the implement are accelerated simultaneously, but during the turn the legs are allowed to move ahead of the trunk and the arm with the discus, thus creating torque or "wind-up" between the hip and the shoulder axes as a result of the two different acceleration phases. The thrower leads the turn with his legs. The left leg begins to spin around on the ball of the foot in the throwing direction. During this turning inwards movement, the weight of the body is transferred and is supported by both legs. When the left leg has reached an angle of about 120 degrees to the throwing direction, the right foot pushes off from the ground. Through this push-off action, the weight is transferred to the left leg which swings in the throwing direction. The foot of the slightly bent right leg moves on an optimal radius towards the front edges of the circle. The relatively great distance thus brought about between the right foot and the throwing arm increase the wind-up during the turn. When the chest faces in the throwing direction, the left foot pushes off to the front, starting the extension at the ankle joints. This produces the flight phase in the turn. The thrower is propelled forward and performs at the same time a rotation movement, assisted by the inward turning of the right foot. During push-off,the left leg must not be extended at the knee, as this extension usually acts in a vertical direction and produces an excessive lifting of the body's centre of gravity, which should move, if possible, in a plane. When the bent right leg has landed over the ball of the foot near the centre of the circle, the left leg is brought forward on the shortest possible path and planted actively over the inner edge of the foot in front of the right foot and almost parallel to it. On landing the right knee assumes the same angular position it had at the beginning of the turn and

before the snatching movement of the thigh.“Giving” at the right knee joint must be avoided. Since this prevents the fluent transition from the throwing to the releasing action. During the turn the shoulder follows a line parallel to the ground. The back of the throwing hand is turned upwards throughout.

The Throwing Position

After the turn (,) the thrower must be in a well balanced position, permitting him to apply a full effective force to the discus. The body weight is well over a bent right leg. The right foot lands at the centre of the circle at an angle ranging between 100 and 150° to the direction of the throw. The left leg which is slightly flexed has been set on the ground over the inner edge of the foot. In the throwing position the feet should be about 70 to 80 cm apart. The left foot meets the ground about 10 cm from the ground edge of the circle and at about 10 to 15 cm left of the direction of throwing. The angle between the throwing direction and the left foot is about 90 degrees.

The arm holding the discus is still well back to the right to allow a maximum pull of the implement. In the throwing position (,) the implement still has an arc of about 270 degrees to traverse. The right hip is ahead of the right side of the body.



The trunk is erect and the left side of the body is in a fixed position, forming a straight line from the foot to the shoulder. The torque or “wind-up” of the right side of the body is 70 to 90° between the axis of the shoulder and the hip and with about 45 to 60° between the shoulder and the throwing arm. The torque thus obtained is started at the end of the preliminary swing and is maintained right action, when unwinding takes place during the release. If the torque is reduced while still in the throwing position, this is usually due to a delayed landing of the left foot.

The Release

The release is the most important phase in the entire movement of discus throwing. It determines the most significant angles: the angle of release and the angle of incidence of the airborne implements as well as the speed and height of release. This action is introduced by turning the right side of the body around (foot, knee, and hip). The left side of the body forms a lever which counteracts the pressure of the right leg. During this swiveling movement of the right side of the body, the body weight remains over the right leg. When the axis of the hip has reached an angle of about 125° to the direction of the throw, the unwinding of the right side of the body begins. At this juncture, the rotating motion goes over into a stretching movement, which is so powerful in its final phase that the feet come off the ground momentarily. The chest faces in the throwing direction. The right arm is still retracted well behind the right side of the body and describes a wide radius in coming forward. The release is accompanied by a spring push-off with both feet

from the ground. The discus is released at about shoulder height with the back of the hand turned upwards. A rotating movement is imparted to the implement in its clockwise spin by a strong tangential pull with the index finger. This will give it stability during flight. The swiveling or rotation axis in the release is not the diagonal of the left foot and right shoulder, but the left side of the body.

The Reverse

As the result of the powerful stretching of both legs, the feet lose contact with the ground for a split second in an upward and forward springing action. Immediately the discus has left the thrower's hand, he will reverse his feet to prevent himself from fouling at the front of the circle and to regain balance. He brings his right foot forward close to the edge of the circle and absorbs the body's impact by “giving” at the knee-joint.

Technical Training

The method of teaching the discus throw has been considerably changed during recent years. It is now generally accepted that the phase influencing the whole sequence of movements is the release. Therefore the strictly analytical producer has been abandoned to a great extent, so that when basic skills have been acquired, teaching of the overall movement is started relatively early. The KRUSTEV method frequently described in earlier publications is nowadays taught in a simplified form. A splitting up of the whole rotation movement into quarter turns has been discarded.

Special Preparatory Exercises

In the special preparatory exercise for the discus ,emphasis is given to the preparation for the slinging throw, combined with strengthening of the muscles involved in the throwing action. The slinging movement is the main phase in the discus throw and should therefore be thoroughly drilled. Additionally (,) various turn-jumps, throw from turn’s etc. serve to develop orientation in circular movements.

The following exercises are recommended:

1. Long throws on a competitive basis using a sling ball or a small rubber ring.
2. Various games involving the sling throw (using a sling ball or rubber ring).
3. Gymnastic routines for developing mobility.
4. Jumps with a turn over low obstacles or markings (the stress should be on space gaining movements).
5. A sequence of jumps with turns on a line.

Exercise for accustoming the thrower with the discus:

1. Forward and backward swinging of the throwing arm which hangs loosely at the side of the body (for handhold of the implement see section 5.3.1.). The purpose of this exercise is to develop the “feel” for and easy relaxed movement of the throwing arm and to get accustomed to holding the discus while moving.
2. Rolling the discus over the index finger. After forward swinging of the throwing arm , the discus is allowed to roll over the index finder along the ground, helped by a throwing movement of the hand. This rolling over the index finger (tangential finger flip) is an important condition for a stable spinning of the discus in flight.
   Game: Two teams are lined up with their backs turned to each other (distance between about 5m). Upon a given signal they all roll their discus forward as far as possible. Team 1 fetches the disci of team 2 and vice versa. The team wins which is first back to the line of the opposing team.

3. Figure of eight. The arm holding the discus swing in front of the body describing the path of an imaginary figure of eight; the back of the hand must be turned upwards throughout. Because of the centrifugal force the discus remains in the hand.

Duties of Officials

A minimum of 6 Judges are required to judge effectively. The function and position of each Judge is:

- Judge 1 (Leader): Call-up, rear and front of circle, warning horn, time lapse, measure.
- Judge 2 (Recorder): Rear of circle, checks measure, implements, and exit from circle. The Recorder records all decisions taken, or instructions given, by the Chief Judge. These notes must be accessible during and after the competition for reference.
- Judge 3: Front of circle, tape through circle, supervises warm-up, flags.
- Judge 4: Sector judge, spike, zero end of tape.
- Judge 5: Sector judge, spike.

Equipment for Chief Judge

- Broom to sweep sector
- Rag to clean sector and equipment
- Carpet for athletes to clean feet
- Performance board
- Record flags x 2
- Measuring tape x 100 m
- Skewer for measuring tape
- Stopwatch + batteries
- Order of draw list
- Programme/Events list
- Entry ticket into competition area
- Result cards
- Black ball point pen
- Clip board
- Flag (green/red)

Summary- While concluding, Discus throw **is a game** in athletics (track and field) in which a disk-shaped object, known as a discus, is thrown for distance. In modern competition the discus is thrown from a circle 2.5 metre (8.2 feet) in diameter and fall within a 40° sector marked on the ground from the centre of the circle.

The sport was known in the days of the Greek poet Homer, and it was one of five events included in the pentathlon in the ancient Olympic Games. Throwing the discus was introduced as an event in modern athletics when the Olympic Games were revived at Athens in 1896.

That's all with today's lecture. I hope this must have raised your concerns about this important concept. Have a nice time. Good Bye.