

GUIDELINES – BEST PRACTICES for DISABILITY TRACK AND FIELD

Seated Throws – Shot Put

(Provided by USOC-Paralympic Track & Field)

Throwing Chairs

Throwing chairs come in a multitude of designs developed by athletes for their particular needs. So how do I decide if I need a throwing chair and what should that chair look like? The International Paralympic Committee (IPC) does have some basic rules pertaining to the construction of chairs.

- Chair cushion top may not be higher than 75 cm. 75 cm was chosen as that is the typical height of the hips of a thrower.
- The chair may not have any moving parts or articulating joints.
- The seat of the chair has to be square or rectangular with a minimum of 30 cm (12 inches) in length and width.
- The seat must be flat or sloped backwards. The chair may have a back or sides, but they must be on non-elastic material or have cushioning more than 5 cm thick. Note that the height of either back or side is not prescribed.
- All parts of the chair must be behind the inside edge of the ring. The inside edge is considered perpendicular plane. (The revised Rule 35.1 (2014) is at the end of this document).

Some considerations regarding throwing chairs:

1. Can the athlete stand with good balance? Can the athlete shift his/her weight from the back leg to the front leg and stay balanced?
 - If so, a chair may or may not be needed and the athlete can compete in the ambulatory division.
2. Does the athlete have use of his/her legs?
 - If yes, the chair will need a place for the athlete to place his/her feet (either a footplate or a strap to secure the legs to the chair frame or both). This may be advisable even if the athlete cannot use his/her legs to provide a base of support for the throw.
3. Does the athlete have use of his/her abdominal muscles?
 - If yes, a holding bar is not needed.
 - If yes, a leg bar may be needed (a bar that goes over the leg in the seated position) to provide stability.
 - If no, the athlete will need support to prevent him/her from falling out of the throwing chair (a back or holding bar may be needed). The holding bar will allow an athlete to pull himself/herself into position for the release of the implement.
4. Is the athlete a “high” leg amputee?
 - If yes, the athlete may need to be seated.

5. How the athlete will sit to throw—facing forward, sideways or split seat—will help determine if the seat required is a rectangle or square.



Figure A



Figure B



Figure C



Figure D

Figure A – Facing Forward athlete with a holding bar and strapping

Figure B – Sideways athlete with a short holding bar and a sloped seat

Figure C – Split seat athlete (leg on both edges) with a holding bar

Figure D – Power chair thrower

Not shown – Athlete in any of the positions without a holding bar.

MAJOR IPC RULE CHANGES IN 2014

The athlete has until 12/31/14 to determine if he/she will be a standing athlete or a seated athlete. After that date, the classifiers will determine whether the athlete can be an ambulatory (standing) or seated thrower. For school athletes, the student shall adhere to any state association requirements as to the deadline for determining class of standing or seated thrower.

Athlete must sit so that both legs are in contact with the seat surface from the back of the knee to the back of the buttock (Ischial Tuberosity).

- Sitting position must be maintained throughout the throwing action until throw marked.
- Strapping of the legs and hips is encouraged.
- The rule changes are being made to minimize the contribution of the legs.
- The athlete starts his/her trial from stationary seated position.
- The athlete cannot touch the straps outside the throwing ring.
- The throw is considered a failure if the athlete moves from the seated position from the time the athlete takes the implement into the starting position of trial until the throw has been marked.
- The feet may not be on the ground.

1. Holding the shot



Figure 1

The shot is really not held. The shot rests on the base of the fingers with the thumb and the little finger providing the lateral support and the other three fingers spread out over the surface of the shot or together depending on the size of the shot in relationship to the size of the hand or the capability of the hand. Cerebral Palsy athletes and those who have limited use of their fingers (F52) may actually rest the shot in the palm and on their curled up fingers.

2. Shot against the neck

In the photograph (Figure 2), you can see that the shot is nestled up against the neck with the thumb down. This is a key teaching point—thumb is down and touches the collarbone. The shot is pressed firmly against the neck just under the jaw. The wrist is “cocked.” As the coach, you will see this position from the front.



Figure 2



3. It's a put, not a throw

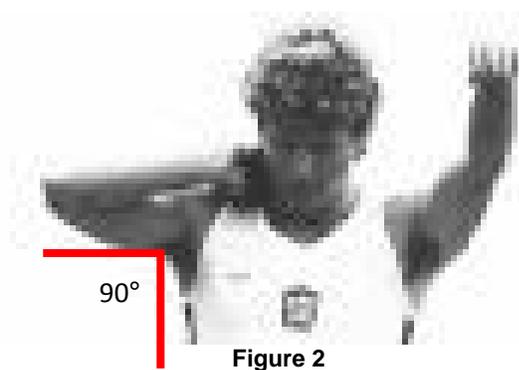


Figure 2

Again, looking at Figure 2, you notice that the elbow is up and that you see a 90 degree angle between the throwing arm and the body. If the elbow drops down, the athlete has a tendency to throw the shot, much like a baseball. A beginning thrower may get some distance doing this, but the possibility for injury is high, plus it is against the rules. The thumb remains down throughout the course of the throw.

4. Flexibility and torque



Figure 3



The athlete is facing backwards from the direction of the throw. The objective is to use speed and torque (twisting action) along with the transference of weight from back to front to apply force to the shot.

This position is limited by a number of issues for the seated thrower. The rules require contact with the seat from the back of the buttocks to the back of the knee throughout the throw until the official marks the distance.

Athletes that have abdominals will be able to get the shoulder rotation as in Figure 3, but must remain in contact with the seat. Flexibility in either case is very important for the seated thrower.

Athletes without abdominals may not be able to get as much shoulder rotation and may look more like the photos. The arm that is in the “read the watch” position (left arm) may actually have to be holding on to the bar, but as you read this, start thinking about the height of the holding bar and how to design the chair so that the bar does not interfere with the action of the non-putting arm (left arm in the figures above). This requires a great deal of trunk flexibility and strength to get into the proper position.

5. Lead with the elbow

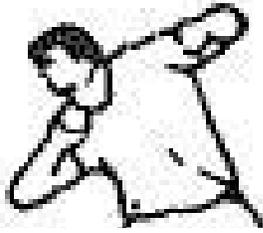


Figure 4



Ideally, you want the shot to stay back as long as possible. In this sequence, you are opening up your chest and starting the throw. The left arm is now leading upwards with the elbow.

Notice that it is almost a straight line from the tip of the left arm to the shot. The body is now facing sideways to the direction of the throw. The shot is still close to the neck. The athlete should be thinking about lifting the shot straight up.

6. Start the block



Figure 5

The left arm started the upper body moving up and now is going to be used to help turn the chest toward the front of the ring. The athlete should feel a real “stretch” of the chest in this position. The right shoulder and the shot are now starting to move—sequence is led with the elbow of the blocking arm (left side), once elbow is at its highest position, the shot follows. In the seated throws, the speed of this action is one of the most critical factors for success.

7. Block

This action is like slamming a door shut. The speed of the left arm builds as you drive the left elbow down and close to the chest. Then, like a door jamb, it stops the left side and the right side accelerates with the shot.



Figure 6



Another description: The left arm moves fast and is held in tight to increase the speed and then we want to transfer that speed to the right side of the body and the shot, so we stop the left side. The athlete can think about driving his/her chest to the left arm or keeping his/her chest up—pointing toward the sky. The throw has begun with the shot coming away from the neck. Notice that the throwing arm is still at a 90 degree position to the body.

8. Strike



Figure 7

The body is now facing the direction of the throw, the throw is up and it is a very, very explosive action. This is a quick punch with the shot. The thumb is still in a down position and the little finger is up. The throwing arm wrist is leading the shot. The chest remains up.

9. Finger Flick

The last action applied to the shot is a finger flick. The wrist is leading the shot until the last minute when the fingers push the shot up and forward with a forceful flick of the fingers.



10. Shot Diameters

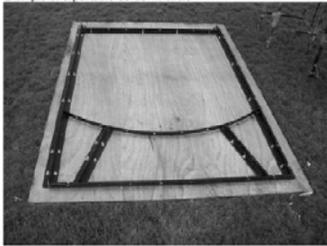
Shots come in a variety of sizes, in both weight and diameter. Paralympic Sport classes use different size weights. The track and field rules at all levels allow for a variation in the diameter in each weight. The larger diameter is a good starting point for most athletes. The larger diameter enables the athlete to apply force over a larger surface and it reduces the tendency for the shot to “roll” in the hand. Those shots can be found in track and field specialty catalogs. If the athlete is a high school athlete, check the high school equipment requirements before purchasing. The chart below illustrates the IPC requirements.

Class	Weight	Diameter
Female- 33,34,53,54,55,56,57	3k	85mm-110mm
Male-52	2k	85mm-100mm
Male-33,53	3k	85mm-100mm
Male-34,54,55,56,57	4k	95mm-110mm

Equipment Needed

The throwing chair is tied down to the ground to provide stability for the thrower. Without tie-downs, the chair can move out from under the thrower as he/she applies a large amount of force on the chair. Tie-downs are ratchet straps and metal stakes should be used at a minimum on all four corners. Concrete stakes put into the ground at an angle work well, if the ratchet strap has a circle just ahead of the hook. It is not advisable to use aluminum stakes, as a very sharp edge will form on the top. Use a sledge hammer to hammer stakes into the ground at a 60 degree angle and angled away from the athlete. The ground should be level. An **alternative** is a portable ring made of angle irons with holes that the ratchet strap hooks will fit into to secure the chair.

Example of a portable tie-down circle



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