

# Javelin

## Overview

The goal for the javelin throw is propel the javelin as far as possible, having land in a legal position relative to the ground so it can be measured.

## Training Points

ALL THROWS-best results come from

- having two feet on the ground at the moment of release.
- putting force on the implement for the longest amount distance.
- sequence of muscle initiation is important. Begin moving implement with big muscles(legs)sequencing through medium muscles(torso) into small muscles(hand).
- accelerating implement through the throw so it is travelling fastest at moment of release.
- creating the correct angle of release for the implement for best flight path.

## JAVELIN

-implement is aerodynamic meaning that like an aircraft wing, when released at the correct angle, it will create lift helping cover more distance.

-when flighted with correct release angle, javelin will naturally land in a legal position, tip hitting ground first. Javelin does not have to stick in ground to be legal. Tip(usually designated by different colour or material) must touch ground before body of javelin.

-grip, there are 3 or 4 different ways to grip the javelin. One way is called the Finnish grip(3 fingers on handle, 1 on shaft) and another is called the American grip (4 fingers on handle). These are the two we will work with.

-once the grip is established, let's work on the stance for a simple standing throw. Athlete stands perpendicular to the throw area. Throwing hand is stretched back at shoulder level and held in place. There should be a slight angle to the elbow joint. If the arm is straight or even hyper flexed, the muscles won't fire as quickly, reducing the speed of the pull. Weight is on the back foot more than the front foot. The front arm is curled around the front of the body in what's called a "wrapped" position. The front arm is also around shoulder height. Throw is initiated by rotating rear hip forward and HORIZONTALLY, thus "leading the body into the throw. The hand position should be held as far back as possible. This is done by allowing the elbow to drive forward creating a roughly 90 degree angle between upper and lower arm. Another 90 degree angle is formed between the upper arm and throwing arm side of the chest. This position can be called the "C" or "Reverse C". I will demonstrate.

Sounding complicated? It is but this will make sense when demonstrated. Javelin is one of the most technical events to learn along with pole vault.

As the above movements are happening, the weight is moved forward over a strong straight front leg. The chest is best held in a slight angle back from the hips. The hand now reaches forward and up, passing between shoulder and elbow. And extends as far as it can palm facing up. The front leg, called the block leg, stays strong, keeping the body from bending or piking at the waist. The hand should trace as straight a path as possible toward the throw target. The less sideways movement the better. The front or "wrapped" arm moves sideways and slightly downward but is held in a line parallel with the hips. It is important that the block side is solid to create a whip from the other side.

The above position is the position throwers will be aiming to "hit" whether they throw from 1 step or a full run up.

The angle of release for the javelin is in the 35-40 degree range. The concept here is that the tip of the javelin creates a hypothetical hole in the air as it is released. The rest of the javelin should follow through that hole not touching the sides. I can demonstrate this concept.

Next is adding a step. The last steps before releasing the javelin are called "cross" steps and are designed to start gathering the forces built up in the run up into a useable force that can be transferred through to the arms. One concept to keep in mind is that the athletes throw with their bodies (bigger muscles) while using their arm and hand as a guide. A lot of the force in the arm is a reaction to what has just been done with the legs, hips, chest, shoulder.

So, a one cross throw begins in a similar position as described above. The athlete is on the balls of their feet, weight on back leg. The rear leg lifts off the ground slightly and steps forward passing the front leg. At this point the front leg can begin moving slightly off the ground and forward. This creates a dynamic horizontal jump almost with both feet in the air. As the rear leg lands the aim is for the body to pass quickly over it so the front leg can land. The back knee is bent and should thrust forward allowing this quick body movement to occur. The front leg straightens, ready to "block" or hold everything in place so resultant forces can travel through the body to the hand.

Once the legs are in this position the rear hip rotates toward the throw sector and forward horizontally. Then the chest assumes its slight backward angle. the torso should be tall, and the throw is then completed as above.

Simple right!

Once the athlete gets the hang of the cross step, it's time to use 2-4 now to deliver the javelin. It's important that athlete complete the cross steps perpendicular to the throw target. Legs should be bent but torso tall.

The rhythm is cross, cross, cross, block, throw. The cross steps should not sound like running with an even footfall. they should sound like boom, boom-----boom, boom,---boom, boom.

The crosses should not slow down, in fact the last one should be fastest to focus the speed from the runup and previous crosses.

The run up is added to create forward momentum in the javelin. This (and the crosses) is how we get the big leg muscles to contribute to the throw. A too long run up will result in a deceleration pattern toward the end of the throw which is the enemy of all throws. The transition from run up to crosses is called the withdraw. I will give a demonstration but won't go too much into it at this point. At early jd level, using a solid 3-4 cross method to throw will create a better environment for re enforcing all the technical points from above and gaining confidence. Run ups can be added as the athlete matures through the event.

#### DRILLS.

Because the javelin is long and can be a bit unwieldy for smaller athletes, ball drills can be a good way to learn the technical positions described above. You can use baseballs, or if available, order weighted or "jav" balls in weights that represent your athletes age division. The balls can be thrown to each other or if available against a solid wall. This is a good way to get a lot of repetitions in a short amount of time.

For a simple strength drill and to help re inforce body and arm positions, a slightly heavier ball will help. It is important that when using over weight ball the emphasis is on using the body to throw and letting the arm come through as a result of those movements. Older athletes can start to move the overweight balls with their arms as they will be stronger.

A 2kg medicine ball is good. The athletes can replicate one or two crosses and use most of the movements described above. the release is obviously 2 handed and again is a simple strength exercise as well as learning to co ordinate the correct muscle sequence.

#### JAV WARMUP CHECKLIST

2-3 25m forward runs. Javelin is right by head with tip pointing slightly down.

2-3 25m carioca runs. Jav is held shoulder height, arm stretched back, tip of javelin is by head. Cariocas are performed sideways and the goal is to create the boom,boom pattern.

2-3 25m continuous cross runs. Again, crosses are performed sideways with the upper body in the same position as above and an emphasis on creating the cross sound, not a running sound.

if wanting to play a bit the athletes could combine a 10m forward run, into a withdraw then 2-5 crosses just to begin feeling what it's like to perform the exercises together.

After each run, the athletes walk back perform stretches, using the javelin to help. Rolling arms, paddling, trunk curls etc. this helps with mobility and reduces chances of injury. I will demonstrate the stretches.

Picks or jabs. Athletes form a line and one by one throw short 5 metre throws. Aim is for the athlete to create acceleration and flight the javelin correctly. Short jabs are usually lower angle ,more "line drive".

As the jabs increase in length so does the angle of release. Up to 10 jabs should be sufficient for the athletes to begin feeling the throw.

Now the athletes move into the standing throws and progress through their workout.