

The Javelin Throw

Edited by Kevin McGill, November, 2016

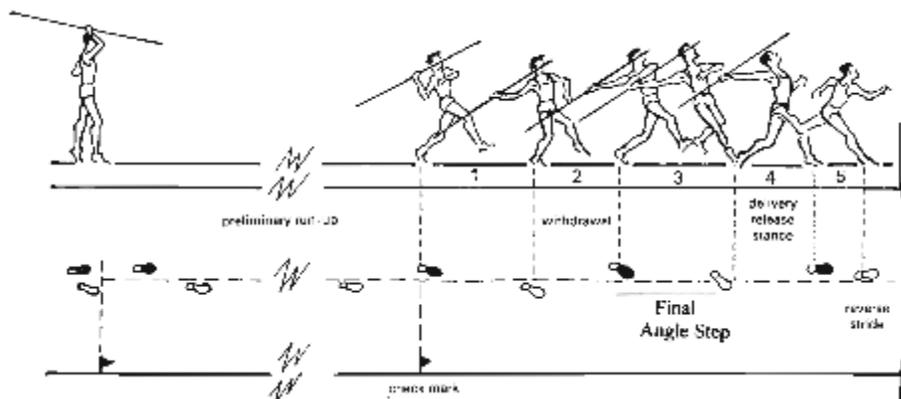
This section examines the mechanics and technique of the Javelin throw in chronological order.

- **The Starting Position**

- The Grip. There are three accepted grips that may be used in the javelin throw.
 - The Finnish Grip involves placing the javelin diagonally across the palm, then closing the hand so that the index finger is partially extended along and curled about the shaft, the middle finger encircles the javelin just behind but touching the grip, and the other fingers are loosely closed around the grip.
 - The American Grip involves placing the javelin diagonally across the palm, then closing the hand so that the index finger encircles the javelin just behind but touching the grip, and the other fingers are loosely closed around the grip.
 - The Fork Grip involves placing the javelin diagonally across the palm, then closing the hand so that the javelin lies between the fork formed by the index finger and middle finger, which are flexed so that they contact the javelin and rear of the grip on each side. The other fingers are loosely closed around the grip.
- Preliminary Positioning of the Javelin. The javelin should be positioned prior to the approach so that the hand is near the forehead and the javelin level.

- **Preliminary Movements**

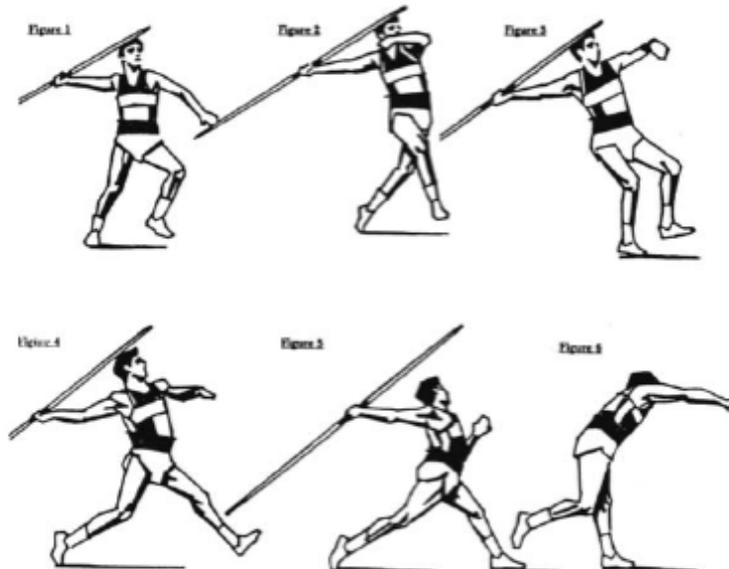
- The Approach. In most cases, the thrower begins with a run, withdraws the javelin, and then performs a number of angle steps. Prior to this publication, it had been normal to call them “crossovers”. This term is misleading, and causes athletes to slow down. As you see in the drawing below, the left foot uses a “mild angle” and the right foot reaches a “medium angle”. The final angle steps bring the athlete in position to throw. These running and angle steps will vary, with more advanced throwers able to handle longer approaches. The following will examine the running portion of the approach, the withdrawal, and the angle steps in order. It is NOT recommended that beginning throwers start in the withdrawn position, and start immediately with angle steps, usually 5-7 in number. It is recommended that the thrower work on the approach steps early on, to develop an idea of the event.



- The Run. The run portion of the approach should be a controlled acceleration, building momentum so that the angle steps can be performed easily. It is a common error for the thrower to run too fast, only to slow during the angle steps. The run should be begun at some predetermined

checkmark. The javelin should be carried above the shoulder with the palm up. The javelin is usually held level, although this may vary slightly.

- The Withdrawal. The withdrawal should be initiated as the athlete pushes off from the left foot, as the right leg moves forward. This should occur as the left foot reaches some predetermined second checkmark. The javelin should be withdrawn by turning the shoulders to a position 90 degrees from the direction of the throw, and extending the throwing arm back so that the tip of the javelin is near the forehead and the javelin is level. The palm should be up and the wrist held straight in the withdrawn position. The head should face the direction of the throw. Hip axis orientations vary, but the hips should be positioned so that they face approximately 45 degrees from the direction of the throw. Prior to this publication, the number was 90 degrees. This is an error, and is no longer part of modern javelin technique.
- The Angle Steps. The angle steps are not “sideways running”. These steps should consist of rhythmic steps, with no slowing down from the run. It is more an issue of rhythm, than it is bounding. The shoulder axis should be aligned approximately 90 degrees from the direction of the throw. This means 0 degrees would occur when both shoulders face the throwing direction. The hips should not go much beyond 45 degrees. Throughout the angle steps, the head should face the direction of the throw, good posture should be observed, and the javelin should be maintained in the withdrawn position. Having the javelin creep forward, turning the body toward the direction of the throw, and leaning backwards are common errors seen during the angle steps.
- The Final Angle Step. The final angle step should serve to bring the body into the power position. The final angle step begins with a strong push off of the left leg, driving the body forward. A sweeping movement of the right leg should accompany this push. The sweep should be performed with the leg turned outward, so that the inner thigh and inner knee lead the movement. Hip movement during this strong push, combined with passiveness of the upper body, should serve to increase separation as the body leaves the ground.
- Flight. The primary difference between the final angle step and the previous ones is that after the push off the left leg and during flight, the left leg is recovered more rapidly than in the other angle steps. It is pulled forward and extended in front of the body so that it touches down as quickly as possible after the right foot contacts the ground. Throughout, the javelin should be maintained in its withdrawn



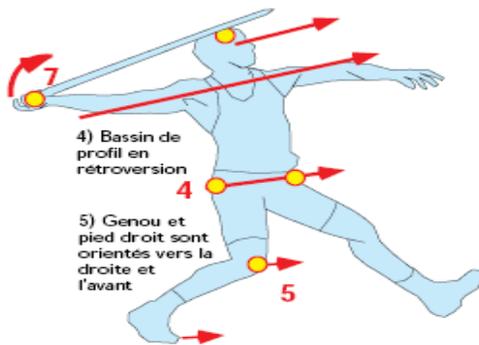
position.

- **The Power Position.** The thrower should land in a good power position, ready to deliver the implement effectively. The right foot should touchdown directed 45 degrees from the direction of the throw. It should not land too far in front of the hips, as excessive stopping would result. The COG will pass quickly in front of the right, **enabling a very active push from the right to get the hips forward**, almost to facing the throwing direction. The shoulders remain in position with the javelin. The left foot should land quickly after the right, heel first and slightly flexed. Body weight should be located over the bent right leg, and the long axis of the body should be tilted backwards slightly. The shoulders are directed approximately 90 degrees from the direction of the throw, with the hips ahead of the shoulders. The javelin should be maintained in its withdrawn position.
- **Controlled Elasticity.** As you watch the elite throwers, you get the sense the movement is completely under control, and quite elastic. Just before the arm strike, there is an amazing stretch across the upper chest, with the arm delay. Thorkildsen is one who comes to mind. He was indeed a fantastic javelin thrower, with his almost effortless looking delivery...and the javelin sailed over 90 m.ave

- **The Delivery**

- Initiating the Throw. Once the right foot grounds, the throw is initiated in the lower body, as hips turn and the bodyweight transfers from the back foot to the front foot. Also upon landing the right leg should flex slightly to allow the center of mass to move forward, and then the active right leg comes into play. This precedes the firm planting of the left foot. Sequentially, the left arm and upper body turn and move forward as well, with the left arm blocking this rotation by pulling down and in close to the side. Head alignment should be preserved as turning occurs. It is common error for the head to turn before the upper body.

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- The Strike
 - Sequentially, the strike should begin after the lower and upper body movements are nearly complete.
 - The strike should feature a sequential, overhand throwing movement, using the shoulder, elbow, and wrist sequentially. The strike is initiated by a forward and upward movement of the shoulder, accompanied by a slight inward rotation of the forearm and slight flexion of the elbow. This places the elbow in a high position to set up the overhand throw.
 - The strike continues as the hand applies force along the shaft of the javelin, finishing well in front of the body with a pronation of the hand and the thumb pointed downward. The strike, combined with the blocking action of the left side, supply lift to the javelin.
 - It is a flailing action, involving the throwing shoulder, the elbow and the wrist.
 - The humerus is accelerated by the shoulder, creating a true whip/flail in the throwing arm.

- Delivering the javelin with the elbow lower than the shoulder is a common error and places the arm at great risk for injury.
- The Follow-Through. The thrower should vigorously strike through the javelin. A vigorous release will bring the arm across the chest to a position near the left hip at the completion of the throw.
- **The Reverse.** To reverse properly, after the javelin is released, a long step should be taken with the right foot to completely stop forward movement. The javelin thrower should be taught to throw from a point approximately five feet behind the scratch line. This permits the thrower to move forward aggressively during the final crossover and the throw, and also allows room for the reverse.

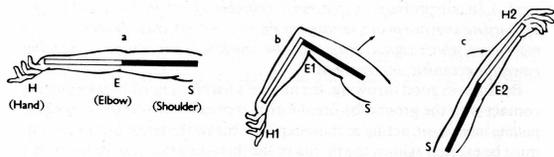


Figure 196