The Pole Vault Basics

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The pole vault is a complex event that can take years and years of training to master. But don’t get discouraged as there are a handful of key technical aspects and drills to learn that will make your progression as a pole vaulter much more successful. The pole vault is thought of as a continuous chain where one technical element links to the next starting with the run leading to the plant into the takeoff, then comes the swing, clearance and the best part; enjoying the ride back down safely into the pit. When one “link” of the chain is broken the rest of the chain is no good. The run, plant and takeoff are some of the earliest parts of the chain, but the most important to a successful vault, so that is where we will spend a majority of our time.

To simplify the pole vault, our main goal is to move the pole from a mostly horizontal position at the end of the run, to a vertical position above the planting box. Meaning, as the bottom of the pole is making contact with the back of the planting box, our goal is to push the top of the pole up and forward to a vertical position towards the area of the crossbar. When this is accomplished it will allow us a safe opportunity for a successful vault. All we have to do from there is add more speed (# of steps) and convert the energy at takeoff better which will allow the vaulter to hold at higher grips and subsequently clear higher heights. The following will outline the most important technical points and some drills to work on them.

**The following will all be stated for a right-handed vaulter. Reverse the directions for left-handed.**

1) **The Grip**
   - The hands should be placed on the pole roughly shoulder width apart with the right hand facing palm up, and left hand palm down.
   - The best way to find the appropriate grip is to start a step or two ahead and look at the plant. Place the pole in the back of the box and grab the pole with your right hand and extend the arm completely above your head. To find the proper take off spot, the toe of your left foot should touch the ground directly below your right hand. Keeping the shoulders square, reach the left hand up until it comes in contact with the pole, both palms should be facing inward. This should provide you the appropriate takeoff position as well as a rough estimation of the appropriate grip.

2) **The Pole Carry**
   - From the takeoff position, take the right hand and bring it down to your hip and the left hand lowered to about the center of the chest. The pole tip should be up in the air but not completely vertical. It should also cross the body slightly.
   - The tip will start a little higher to make the carry a little easier. As the run progresses the pole will be lowered by moving the right hand upwards and pivoting around the left. The goal is for the tip to be at eye level before beginning the plant.

3) **The Approach Run**
   - The vaulter must remain in a tall, upright position with good posture. A slight forward lean can be used to start the run, but with the weight of the pole it will be lessened versus the approach runs of other jumping events.
   - The approach run is designed to develop rhythm and speed at the take-off. Ground contacts should be directly underneath the body and increasingly quicker as the run progresses.
You will count each take-off step during the run. For beginners 3-5 takeoff steps is more than enough. Eventually they can progress back to anywhere from 7-9 steps as a full approach run.

The key is to keep the pole balanced. You should not rock the pole forwards and backwards as you run. A slight up and down "bouncing" motion is preferred.

**Pole Runs**

Use long-run steps with checkmarks indicated below:

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declare box on track with tape or chalk

The object is to practice a good run and plant without having to take-off. It is very important to run at top speed and to plant early and high. This drill should be practiced on the track or other surface away from the box itself.

**4) The Plant**

This is probably the most important piece of executing a successful vault, as it is the start of transitioning the horizontal speed of the approach run and converting its energy into vertical lift.

- The #1 problem beginner vaulters have is to slow down and lengthen their strides during the plant phase when the opposite is needed.
- The plant takes place starting with the next to last takeoff stride and takes place over the last "left, right, left."
- As the next to last takeoff step touches down, the pole tip should have already been lowered to approximately eye level. At this step the hands start lifting the top of the pole, NOT reaching forward towards the back of the box.
- As the right foot touches down, or penultimate step; the pole should be completely parallel with the runway with the right hand beside the ear and the left arm still bent with the hand directly in front of the face.
- Finally, as the takeoff step touches down, the arms should be completely extended above the head. The key is the right hand should be directly above the forehead. If both hands are in front of the head the takeoff step will be too far out and not be able to convert a vertical takeoff. If the right hand is behind the head usually means the takeoff step is under and a braking action will waste energy at takeoff.
- The number #1 drill that needs to be done every day is the walking 3 step drill, or 1-2-3, or left, right, left shown below. Start by walking, then marching, then jogging in place and then start to try it on the move.

**Walking Plant Drill**

- **Great drill to learn elementary plant timing**
- **Very important drill**

**Walk several steps, carry pole high, feel for left foot**

**Lever pole gradually; anticipate left foot for plant**

**As left foot touches ground, push pole forward and up**

**Push bottom arm all the way forward; don't let pole get too far away from body**

**Pole extended 100% with both arms before take-off foot hits ground**

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**Notes:**
- Practice this drill every day; increase speed until proficient while sprinting
5) Take-Off and Drive-Swing
- The take-off is initiated the moment you leave the ground which should be timed up with the plant at the exact moment your arms are fully extended AND the pole tip hits the back of the box.
- If the plant is late energy is wasted by the pole “getting jammed” in the back of the box and the pole may not move to vertical. If the takeoff is too early and the pole has not contacted the box yet a clotheslining effect could take place, not putting the vaulter in a position to move the pole to vertical.
- As you continue to push through the left foot at takeoff and keep pressure with both hands on the pole, you will see the vaulter in a “reverse C” position with the takeoff leg extended behind the body, driving the chest up and forward, and the right hand now behind the head as the vaulter starts to move “in between the hands.”
- There should NEVER be a pulling motion with the hands. Continue to push and drive the pole to vertical. This is called the drive-swing.
- The best way to work on this is a 3-step takeoff drill or rock back drill as shown below. When first starting use short runs (3 steps) and low grips. As the vaulter becomes comfortable, gradually increase the grip height one handgrip at a time as long as the pole is still moving and the vaulter landing safely in the pit.

   ![Rock Back Drill Diagram]

6) The Swing-Up
- As the pole continues to move vertical and the vaulter completes the drive-swing they will use the takeoff leg from the “reverse C” position and create a whip to start the swing to inversion. The swing should look like a gymnast on a high bar.
- Notice the swing is created by the power of the approach and takeoff. The vaulter should not feel the need to pull their body upwards with the arms.
- When doing short approach straight pole drills the left arm will be forced to collapse and come in towards the chest, but it is not a pulling motion.
- As the legs and feet start to swing through and lift the hips, the shoulders and head drop underneath the pole to continue allowing the feet and hips to rise until the vaulter is completely upside down.
- This drill is shown above as the rock back drill and is always done in combination with the takeoff and drive-swing.

7) Extension – Pull – Turn
- Most high school vaulters have trouble completing the swing up and transitioning in the remainder of the vault. Most often it is caused by a loss of energy earlier in the chain and most likely at the plant and/or takeoff.
- When the vault is executed properly the swing up puts you in a position to receive the energy back from the pole as it starts to unbend and lift the vaulter. The turn is the most important as the swing to vertical will continue you up the pole and your hands will guide you through the pull at that point.
- To initiate the turn, take the right foot and start turning if over the left. Your body will roll around the pole as it also has a natural turn as it’s unbending.

8) The Fly-Away/Clearance
- The key here is to not do anything to mess up the hardest parts you’ve already accomplished.
- As you push off the top of the pole, the legs start to pike around the bar and the bottom hand releases from the pole first.
- As the hips pass the bar, the elbows stay out and thumbs pointed down to create a hollow chest and not knock the bar off.
- The final push off with the top hand releases the pole and enjoy the ride back down!

This is a basic overview of the key technical aspects of the pole vault and a few drills associated with each. Use this guide as a refresher for once you get back home to remind yourself of the drills and ideas that were talked about during the clinic.

This is by no means a complete and comprehensive breakdown of the pole vault, but should provide the basic necessities to have a SAFE and reliable model to work from when learning the pole vault.