

# Jeff Hartwig- Pole Vault Clinic Notes

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Coaching the Pole Vault

World Class Made Simple

## **Beginner Technique**

- Emphasis on run and plant
- Proper Balance and Alignment at takeoff
- Define the target of swing rotation
- Controlling the jump with the top hand.
- Each phase of the vault is dependent on the previous phase(s).

## **The Run and Plant**

- Control and tempo of the run starts from the first step.
- Don't outrun your technical ability.
  - PR 8' = 8 step run   PR12' = 12 step run
- Short Run start should be similar to long run.
- The run should be balanced, upright and fluid in movement.
- Pole carry should start high and be in rhythm with the run.
- Pole drop should be gradual and smooth as run accelerates.

## **Key Points of the Plant**

- The plant should occur over the last two steps of the run.
- Across the penultimate step the pole should move from the hip upward through a curling action of the arm.
- At the support phase of the penultimate step the pole should be at the side of the head. (Answer the telephone)
- Across the final step, the pole should continue to move upward even as the vaulter takes off.

## **Success or Failure of the plant**

- The plant does not stop at takeoff.
- The run does not stop at takeoff.
- Avoid the inclination to pull down with the arms.

## **Balance and Alignment**

- Proper Balance and Alignment is critical to preserve the energy created from the approach.
- Balance is the vertical position of the body as it leaves the ground.

- Alignment is the posture that allows the body to project forward beyond when the pole impacts the box.

## **Balance**

- When a vaulter hits the box keeping balance is essential to ensure a smooth transition into the air.
- Balance can be assessed by watching posture at take-off and where the vaulter lands.
  - Leaning forward or back
  - Lateral, left or right.
- Don't confuse loss of balance with misdirection.
- Alignment
- Proper alignment allows the body to move forward without compromising posture. This sets up the swing.
- Common Misconceptions
  - Tucking the elbow
  - Planting over the head.
  - Jamming the left arm forward to bend the pole.

## **Bottom Arm Pressure, What to do?**

### **Pressure through the bottom hand!**

- Bottom hand pressure in any direction should not compromise the position of the chest and torso.
- The torso must remain perpendicular to the runway to achieve maximum benefit of the swing.

- Pressure straight up is the most effective way to deliver energy of the run into the pole (pole speed) and maintain posture to finish the jump (swing/rotation)!

## **Defining the Target of Swing**

Swing rotation on the pole should occur starting at the hips and then through the shoulders.

- The target should be to swing up the pole, not at the crossbar.
- Horizontal movement through the air is determined by the runway velocity and take-off.
- Rotation on the pole should occur in anticipation of pole movement to vertical.

## **Controlling the Jump**

### **THE TOP HAND MUST CONTROL THE JUMP**

- At take-off the top hand drives the pole to vertical
- Through the swing the top hand keeps pressure on the pole.
- The top hand controls the turn.
- The top hand pushes off.

# **Each phase is dependent on the previous phase.**

The phases in the pole vault are sequential.

- Each phase does not start and stop independent of the others.
- There is a certain amount of overlap and follow-through for each phase.
- An athlete must anticipate this follow-through to successfully transition from one phase to the next.

## **Key Tips for Beginners!**

- Don't outrun your technical ability!
- Learning to run with the pole off the runway can be as beneficial as anything you do on the runway!
- Swinging on the pole is largely based on proper balance and alignment at take-off!
- Swing up the pole not at the crossbar!
- Control the jump with the top hand!

# Advanced Technique

## Continued improvement of run and plant

- Use of mid marks and speed marks can ensure improved consistency in the run.
- A good run and takeoff must have follow-through!
- Improve power and energy through proper alignment and balance.
- Shoulders and hands are a moving triangle.
- More attention to swing mechanics
  - Defining the “bottom” of the swing.
- Rotation through the hips translates to better rotation around the shoulders.
- Learning to swing with straight arms generates more power and is more consistent.

## The Advanced Run

- Speed marks are visual marks used by the vaulter to control the start of the run and lock into a consistent pattern of acceleration.

- I like 4<sup>th</sup> step or 6<sup>th</sup> step, depending on length of run.
- This develops consistency at the start of the run.
- Variations in stride length occur more at the beginning of a run than at the end.
- Speed marks are worthless if the vaulter doesn't use them.
- Mid-marks or Coaches marks give more accurate feedback as to the reliability of the run.
  - The mid-mark changes as fitness improves.
  - Adjusting to the mid-mark is more reliable than adjusting to the take-off.
  - Trial and error will lock in the best mid-mark.

## **Run through the take off, not to it!**

One of the first things that can cause a vaulter problems is not finishing the run into the air.

- Some common misconceptions are:
  - A vaulter should stop and jump up at take-off.
  - A vaulter “hangs” on the pole or drags his trail leg.
  - A vaulter should cock his leg back in order to swing stronger.
  - A vaulter must swing a straight trail leg!

## **Follow through is Key**

- The result of a good strong take-off is the follow through of the step into the air!
- This gives the effect of a hang or delay in the swing action of the leg but in reality, the swing



should be immediate and result in the change of direction of the leg without delay.

## **Power and Energy**

- As Power improves, transfer of Energy should improve.
- Without proper alignment and balance efficiency of transfer of energy is lost.
- Continued exposure to jumping ensures development of neural pathways as fitness improves.
- Fatigue will limit ability for vaulter to work on improvements.

## **The Moving Triangle**

- Thinking of your arms as a movable triangle will help vaulters visualize the correct torso posture at takeoff , into the air, and through the swing.

## **Where is Bottom?**

Many times we just think of swing as a means to turn upside down.

But what is the best way to maintain energy as we swing?

- Just like a gymnast doing giants, the swing has a bottom and a top.

- Swinging through the proper zone accomplishes several tasks.
- Maintains more energy in the jump
- Keeps pole bent longer, which gives vaulter more time to rotate.
- Maintains pole speed.
- The swing is almost elastic in that the rebound through the bottom follows through the top of the jump.

## Swing Rotation

To maximize efficiency of transfer of energy and maintain pole speed, swing must initiate through the hips and then transfer to the shoulders. This allows the vaulter to keep speed to the top of the jump.

Swinging with straight arms is a defining characteristic of World Class Vaulters.

- Every vaulter while learning has a strong tendency to pull down with the arms to initiate swing and assist rotation.
- Controlled strength and precise timing is required to allow vaulters to swing while keeping the arms extended.

- The most efficient way to apply consistent pressure to the pole is through fixed arm length. Its nearly impossible to apply even pressure with bent arms.
- Swinging with straight arms gives vaulters a stronger more powerful finish to the top of the jump.

## **Key Points for Advanced Vaulters**

- Continued refinement and improvement of the approach and take-off.
- Strength development takes on a greater roll in progress.
- Focus on more specific elements will lead to greater improvement.
  - Weak link effect.
- Constant challenge to find weakness.