Pole Vault
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CONCEPTS AND IDEAS
Key Factors to Consider

- Speed over the last 6 steps
- Pattern of acceleration
- Height of plant
- Contact time for last step
- Take off step distance
Speed over the last 6 strides

- What does speed over the last 6 strides tell us?
- Why is this useful
- How can we measure it?
Pattern of acceleration

What numbers to use

- I like to use distance, 20m>15m, 15m>10m, 10m>5m
  You can also use steps 8th>6th 6th>4th 4th>2nd from the box respectively

- Even if you can’t know the exact speed, it’s important to see the pattern.
  - HUDL Technique app has a time bar.
### Pattern of acceleration

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<tr>
<th>Velocity Data</th>
<th>20m-15m</th>
<th>15m-10m</th>
<th>10m-5m</th>
<th>Take-off</th>
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Pattern of acceleration
Pattern of acceleration
Height of the plant

- Why is this important
- How do we change how tall we are
- What roll does core strength play
- Does grip strength matter?
- Why does takeoff point matter?
Height of the plant - comparison

Sam Kendricks

Alysha Newman
Contact time on last step

- Why is this important?
  - Reducing contact time through application of force
  - Avoid the hot foot
- What can we do to improve it?
  - Reactive strength exercises
  - Plyometrics
  - Jump rope
Contact time on last step

**Ladies**

![Bar chart for ladies]

**Men**

![Bar chart for men]
Take-off distances

- What is an “on” takeoff?
- How does strength play into take-off?
- What will our brain allow us to do?
A comparison of take-off distances

**Men**

- Name: Duplaix, 12'9
- Name: Kendricks, 13
- Name: Wojciechowski, 13'4
- Name: Hazlitt, 13'8
- Name: Ueck, 13'9
- Name: Barber, 14'9
- Name: Levitienne, 15'0

**Ladies**

- Name: Noon-Devine, 10'6
- Name: Nageotte, 10'6
- Name: Stefanidi, 10'6
- Name: Bys, 11'2
- Name: Morris, 11'4
- Name: Newman, 11'8
- Name: Sidorenko, 12'3
Factors to Consider

Common Factors
- Speed on the runway
- Height of the plant
- Speed across the takeoff
- Body Posture

Factors that are variable
- Grip height
- Pole size
- Trail leg straightness
The Run and Plant

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.
The Run and Plant

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.
Alignment Posture

4-Step Jump

18-Step Jump
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)!
The Moving Triangle

At Plant
during take-off
The Moving Triangle

DURING THE SWING
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.
Swinging on the pole

Swing to the bottom
Swinging at the pit
Swinging on the pole
Pole vault success is a function of emotional balance, confidence and physical ability!

**Learn to Trust the Process**

- Work on the things you hate the most
- Failure in an opportunity to learn
- Be specific every day

- Weaknesses are a good thing
- Be creative in your training - Make workouts fun
- Keep it simple