POLE VAULT: THINKING HORIZONTAL TO GET VERTICAL

Nic Petersen
Texas Christian University
Laws of Physics Control everything we do.
Training and Technique must center around this fact.
In Order to Defy Gravity must learn to make the pole rotate first. The pole must rotate from its initial position to a vertical position.

How do we make the Pole Rotate?
- Create Energy on the Runway - The Approach
- Convert Energy - Plant and Take-Off
- Control Energy - The Swing and Invert through Clearance. The Pole must never stop Rotating
Create Horizontal Energy and Momentum

Rhythmic and Consistent Approach

Strong Driving

Transition into Tall Max Velocity Mechanics

Learn to Sprint with a Pole (POSTURE)

Allow the Vaulter to be Aggressive THRU Take-Off

Proper position to Plant and Take-Off
THE APPROACH
THE PLANT

- Convert the Horizontal Momentum Developed in the Approach
- Move the Pole into the highest Initial Position Possible
- Tall, Chest up, BIG Arms,
- Get the pole to the highest possible position to allow the pole to rotate
Jump up thru the Pole and Transfer Energy into the Vault. All Energy is Directed up and over the bar

Penultimate Step

Take Off Position
- Full Extension
- Knee Drive

Path of Center of Mass

Cannot Separate the Plant and Take-Off Must Happen Simultaneously

MAKE THE POLE ROTATE FAST!!
PLANT AND TAKE OFF
THE SWING

- Follow Thru, Chest moves forward and arms up and back. Create a stretch thru the whole body, keeping the take-off leg back
- Swing happens around the Shoulder, much like a gymnast in a giant.
- Vaulter must be doing work as long as he or she is on the pole
  - Keep the Pole Moving.
  - Vaulter can add energy to the system here.
Long Swing, Long and Fast aggressive leg swing. (Add Energy to the System) Continue to make the pole rotate

Swing the legs and hips Back over the top hands and head.

Cover a Bent Pole
Drive the hips Vertically as you drive the shoulders down
Add Energy to the system
Summate the Forces
Keep Pressure on the pole with Top Hand
Turn as your inverting, Swing to the turn
Push off and clear the bar
INVERT THRU CLEARANCE
PUTTING IT ALL TOGETHER!

- Phases must blend together smoothly
- Single System Vaulter/Pole Always working together in sync
- Create! Convert! Conserve! Create Energy on the Runway. Convert Energy during Plant and Take off. Add Energy During the Swing, be in a position to accept all the energy and MAKE THE BAR!
- KEEP IT SIMPLE!
PUTTING IT ALL TOGETHER
AND AGAIN...
Learn on the Horizontal! Teach Pole Speed from Day 1!

- Stalls → Over the Tip Drills → Sand Drills
- Connection Drill → 2step, 4step, 6step...
  - Jump over the pole
  - Run, Take off, Swing speed must all blend!
  - Adjust grip to match pole speed.
  - Challenge Grip on a stiff pole, Make the pole move fast with a higher grip
  - Gradually move up till the pole starts flexing
  - Continually EMPHASIZE Pole Speed
SAND JUMPS
CONNECTION DRILL
TEACHING PROGRESSION

- Approaches off Runway.
  - Tape Box → Towel → Sliding Box
  - Be Detail Oriented, Teach HERE! Take Off Plant Take off Spot. Use this to teach good Habits away from the pit.
  - Practice your full Approach Early on even if you're not jumping from it yet.

- Progress short jumps with your training plan.
  - 6 Steps, 8 Steps, 10 Steps, 12 Steps, etc...
  - Always have a go to short run to fix technical issues
Long Slow Last Step, Decelerating Into Take-Off
- Large Bend, small penetration, slow pole rotation

Low Plant, Pulling on Pole at Take off, Leaning Back at Take Off, Taking off Under
- Large Bend, Top of Pole Sinking, little penetration, slow pole rotation

Pulling during the swing, Tucking the leg and shortening swing.
- Pole Rotation Stops during swing, Pole never gets to vertical, athlete fails to get inline with pole.