

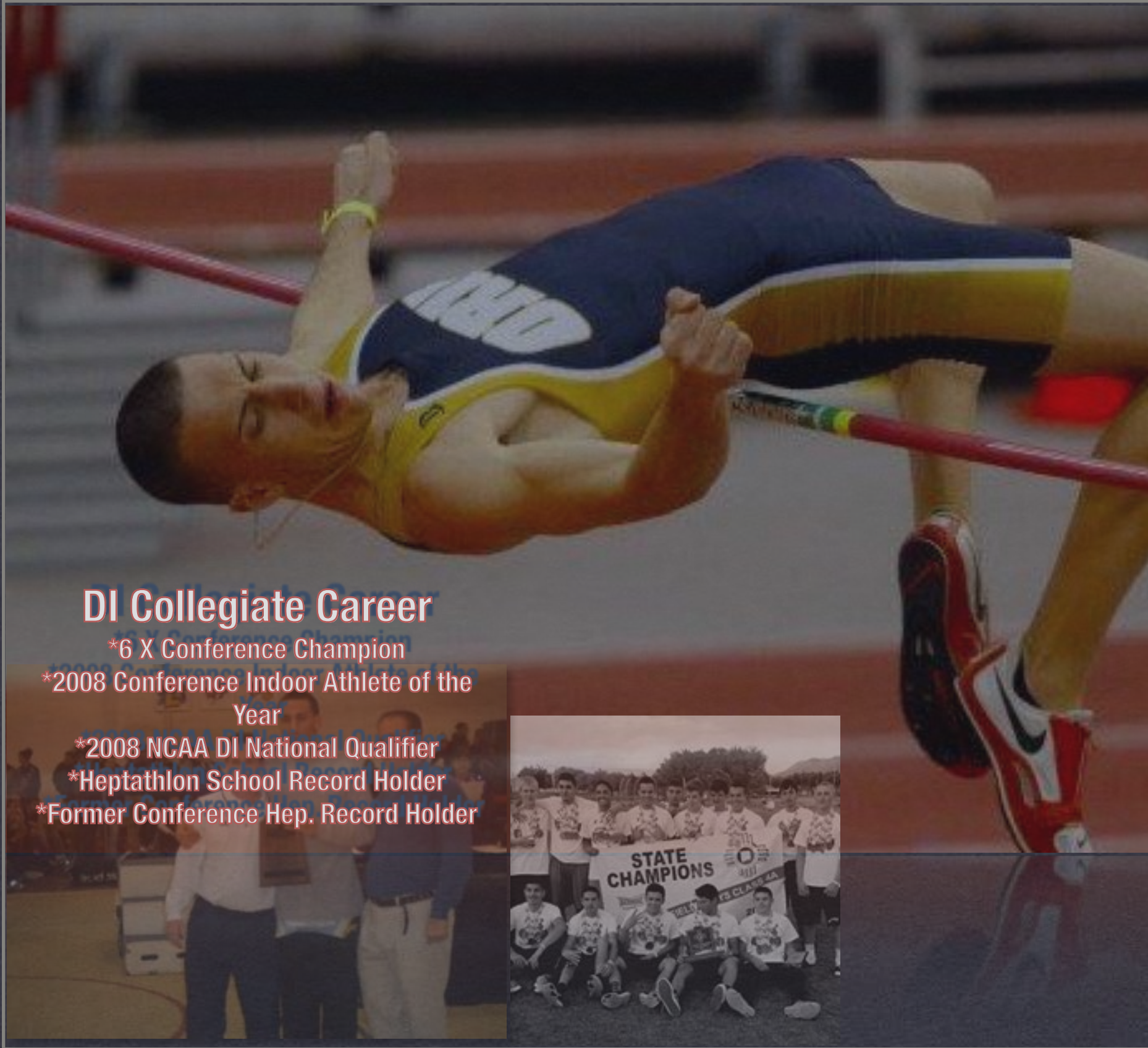


# TRIPLE JUMP

**PLYOMETRICS AND THEIR IMPACT ON  
ALL PHASES OF THE TRIPLE JUMP**







## Taos High School

- \*8 State Team Titles  
(Boys and Girls)
- \*5 Individual TJ Titles
- \*Multiple Sepulveda TJ  
Champions
- \*Boys and Girls School Records

## DI Collegiate Career

- \*6 X Conference Champion
- \*2008 Conference Indoor Athlete of the  
Year
- \*2008 NCAA DI National Qualifier
- \*Heptathlon School Record Holder
- \*Former Conference Hep. Record Holder



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# Physical Requirements for a Successful Triple Jumper

- ✱ **Sprint Mechanics:** Speed is paramount, emphasis on good sprint/ frontside mechanics. SPRINTER FIRST!
- ✱ **Strength:** Explosive, raw power with the ability to exert force quickly, convert horizontal momentum into vertical lift
- ✱ **Dynamic Movement:** Coordination, body awareness, “snappy”
- ✱ **Flexibility:** Ability to perform necessary movements specific to LJ (hips, back, ankles, etc), Injury prevention!
- ✱ **Endurance:** Handle the rigors of practice, strength endurance, jump endurance (ability to execute multiple attempts at peak form)

~~DISCLAIMER!!~~

Major in Biomechanics?

# PHYSICAL DEVELOPMENT:

Plyometrics

## Overview

- **SSC** (Stretch Shortening Cycle)  
Spring like mechanism  
3 phases (eccentric, coupling, concentric)
- **Goal: Exert MAXIMUM amount of force, in SHORTEST amount of time**
- **Fundamentally reduce ground contact time**
- **Oversimplification of the year...Leg stiffness + Force production = increased performance!**
- **Direct relation to Speed development, proper sprint mechanics!**



# PHYSICAL DEVELOPMENT:

## Plyometrics

**Start small**

Easy ———> Hard

Deep ———> Shallow

Bilateral ———> Unilateral

Lower intensity ———> Higher intensity

**Varies by athlete, ability, proficiency, periodization, etc**

**Relevant to athlete!**

Dependent on task

What are you working on??

**Not mindless drills, but rather VERY complex movements**

Fatigue is biggest factor in correct execution

Have a plan

Do less, BETTER

# Session structure

How much is too much?  
Which movements are right for my group?  
When time of year should they be done?

## \* Volume

1. Contact counts, pitfalls of generic numbers
2. Contact Factors
3. Inversely related to intensity

## \* Timing

1. In-line with program periodization
2. Sessions align with athlete's proficiency/fitness/

## \* Quality

1. Knowledgeable supervision
2. Emphasis on mechanics, not volume
3. Cease exercise when technique breakdown

## \* Appropriateness

1. Progressive
2. Event/task specific
3. What is the purpose of this?



# PLYOMETRICS:

## Multi-Jump Circuits

### Ladder/Advancing Circuit

\*Double Leg Hops (forward and backwards)  
Double Leg L & R  
Double Leg Zig Zag  
Single Leg Hops (forward and backwards)  
Single Leg Hops (lateral and medial)  
Single Leg Alternates  
Single Leg Icky Shuffle  
LLRR's  
Ankling

**Vertical Emphasis**

**Neutral hips**

**Stiff Leg + Bouncy**

**Dorsiflexion**

**Short ground contact**

**\*\*Low to moderate intensity**

### Stationary Circuit

Double Leg Back and Forth  
Single Leg Back and Forth  
Single Leg small 360's (medial and lateral)  
Jump Split Squats  
Line Hops (single and double leg)  
Ohno's (Speed Skaters)  
Tuck Jumps  
Goblet Squat Jumps  
Butt Kickers)  
Wall Touches (squat, half squat, stiff leg)

## VARIATION!!!

### Hurdle Hops

Banana Hurdle (Catch)  
Banana Hurdle Hop (rebound)  
Single Leg Banana Hurdle (rebound)  
Double Leg Hurdle Hop (walk-in, catch)  
Double Leg Hurdle Hop (catch)  
Single Leg Bounds for Height  
Banana Hurdle Side to Sides (rebound)  
Hurdle Side to Sides (rebound)  
Tuck Jump + 180's

**Vertical Emphasis**

**Neutral hips**

**Stiff leg progression**

**Dorsiflexion**

**Short ground contact (advanced)**

**\*\*Moderate to High intensity**

**15, 30, 45 contacts?**

**Sloppy = Stoppy**



# PLYOMETRICS:

## Box Work

### Step-Up Circuit

Toe Taps  
Top Switch  
Single Leg Drop Down (back and sides)  
Double Leg Hop Ups (step down)  
Double Leg Up-Downs (rebounds)  
Single Leg Hop Ups (step down)  
Single Leg Up-Downs (rebound)  
Double Leg Drop Down (rebound)



**Good posture**  
**Stiff Leg + Bouncy**  
**Dorsiflexion**  
**Shorten ground contact**  
**Form/stability over speed**  
**\*\*Moderate to High intensity**

### Depth Drops

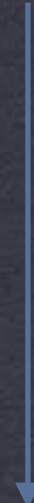
Double Leg Drop (catch)  
Double Leg Drop (rebound)  
Single Leg Drop (catch)  
Single Leg Drop (rebound)  
Double Leg Down (to short box)  
Single Leg Down (to short box)  
Double Leg Down (to high box)  
Single Leg Down (to high box)  
\*\*\*Progression to hurdles



**Stiff leg progression**  
**Minimal Flexion**  
**Dorsiflexion**  
**Tall Posture/neutral hips**  
**Shorten ground contact (advanced)**  
**\*\*\*High intensity**

### Box Circuit

Double Leg UDUD  
Single Leg UDUD  
Double Leg DUDU  
Single Leg DUDU  
Top Contact (emphasis)  
Bottom Contact (emphasis)  
Ascending Rebound Hops



**Stiff leg progression**  
**Minimal Flexion**  
**Dorsiflexion**  
**Tall Posture/neutral hips**  
**Shorten ground contact (advanced)**  
**CAN WORK TJ ARMS! Yay!**  
**\*\*\*High intensity**



## Bounding Progression

Short Series

Moderate Series

Full Series

# PLYOMETRICS:

**Bounding**

**Alternate Leg** (LRLR)

**Single Leg** (LLL or RRR)

**Combo** (RRL, LLR, RRLl, LLRR, etc.)

**Box and Cone Drills**

## THE CONCEPTS ONCE AGAIN...START SMALL

### \* Posture

- Upright
- Hips in a linear/neutral position

### \* Foot Contact

- DO NOT REACH!!! (Excessive front side extension kills horizontal velocity!!)
- Dorsiflexion, Heel-lead rolling contact

### \* Free-Leg

- Long Swing
- Close to the ground/extended at transfer

### \* Arm action

- Walking arm drill
- Hurdle drill



# INITIAL SET-UP:

Will vary with athlete, ability, speed, strength, time of year, and also between girls and boys



- \* Take off leg choice and rationale (RRL, LLR)
- \* Approach length (6,7,8,9 strides?)
- \* Mark and mid-mark location

## 5 Phases of the TJ

Drive Phase

Transition Phase

Hop Phase

Step Phase

Jump Phase



# DRIVE PHASE:

## The Skinny

- \* **CONSISTENCY, CONSISTENCY, CONSISTENCY!!**
- \* Drive phase acceleration is identical to proper sprint acceleration
- \* 1st 4-6 steps are POWERFUL, not necessarily quick (displacement vs frequency)
- \* Big, long arms will force lower limbs to mimic
- \* Roll in? Step in? Skip in?

# TRANSITION:

## The Skinny

- \* Build off well developed drive phase
- \* Drive phase acceleration posture transition (gradually rise)
- \* Execution of proper sprint mechanics (proper foot contact, location in respect to hips, vertical force being applied, ETC)
- \* Goal to achieve MAXIMUM VELOCITY (that can be maintained through takeoff)



# The Take-Off

Different from LJ

Conserve speed!

No penultimate Set-UP

Take off step = Flat with heel lead

Push hips beyond the board!



# HOP PHASE:

Lowest take-off angle

## Take-off Leg Cycle

- Emphasis on proper take off leg EXTENSION
- Foot will remain as hips pass through
- Reflexive cycling > Active cycling
- “Pull” through cuing problem.....



## Free Leg Cycle

- Swings, drives & blocks at take-off
- Begins to EXTEND and move backwards to balance opposing movement
- Extension & long levers slow down process
- Lack of extension problems

No drive

Donkey Kick

Leg over-flexing

Jump higher



# Hop phase foot contact

Conserve speed!

Avoid excessive frontside foot contact

Good swing mechanics

Neutral hip position

# STEP PHASE:

**Slightly larger take off angle**

## Ugliest Phase? Scapegoat?

Too short

Falling over

Collapsing leg

Sloppy

## Trace problems back

99.9% of problems here result from previous errors

Hop Phase too high

Setting up too much at the board

LJ style penultimate

Not pushing hips through at Take-off

Excessive front side foot contact at Take-off, Hop Phase foot contact



# Final ground contact

Swing mechanics end

Convert horizontal velocity up

Proper blocking technique

Avoid excessive frontside foot contact

# JUMP PHASE:

LARGEST TAKE OFF ANGLE

## KEY CONCEPTS

- \* Posture is primary!! (Where is your torso? Eyes? Chest?)
- \* Appropriate arm action
- \* Cueing knees to chest vs chest to knees
- \* Advancing feet = Extension
- \* Arm sweep w/conservation of posture (sweep vs REACH)
- \* Full-extension\*heels to pit\*hips to heels\*feet out the back
- \* Off center approach
- \* Errors: results of deficiencies in the earlier phases





# BEING A TECHNICIAN

**\*\*NOT ONLY YOUR KNOWLEDGE, BUT KNOWING WHEN/HOW TO DELIVER IT\*\***



- \* **REGURGITATION OF INFORMATION**
- \* **EXCESSIVE TALKING POINTS/KEYWORDS**
- \* **MEET OR PRACTICE = SPECIFIC TASK IDENTIFICATION**
- \* **BUILDING AS THE YEAR PROGRESSES**
- \* **AROUSAL MANAGEMENT**
- \* **PREPARE YOUR ATHLETE!**



# MENTAL COMPONENT

## Balanced Coaching

- \* ATHLETE, TIME, SITUATION APPROPRIATE COACHING
- \* ATHLETES HAVE EXCESSIVE ACCESS TO THE COMPLETE SCOPE OF THEIR EVENT
- \* INCORRECT MEET/PRACTICE STRUCTURE CAN BE EXTREMELY DETRIMENTAL

- **Mental Blocks**

Psyched out/lack of confidence

Fear of regression

Confusion

Scratches - Way behind the board

- **Plateaus**

Training does not promote growth

Lack of physical/technical gains

Portrayal that athlete is at their “limit”

- **Complacency**

Known outcome/lack of motivation

Meets feel like practices, championship meets feel like early season meets

- **Injury and Overuse**

Overtraining certain muscle groups

Fixation on personal bests/qualifying, resulting in overexertion

Emphasis on wrong concepts

