

The Long Jump A Basic Technical Analysis

Rock Light

Texas Tech University

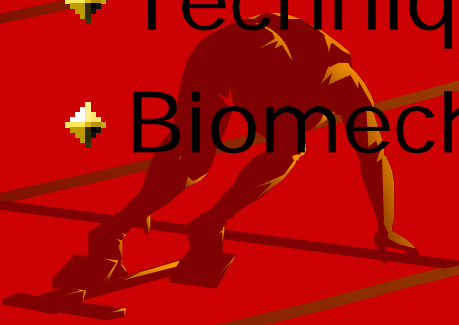
Texas High School Clinic

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Introduction

- ✦ Opening remarks
- ✦ Brief historical overview of the Long Jump
- ✦ Technique and Style
- ✦ Biomechanical Efficiency



Biomechanics of the Start

✦ The Set Position

Stance

Leg Positions

Hip/Shoulder/Head Alignment

✦ Mechanics of the Start

Rear Leg / Front Leg / Arms

Clearance

Pushoff Angles



The Acceleration Process

- ◆ Initial Acceleration
- ◆ Changes During the Acceleration Process
 - Center of Mass / Base of Support
 - Body Angle Changes
 - Extension Mechanics
 - Pushoff Angle Changes
 - Upper Body Contributions
- ◆ Unique Distributions / Frequencies



The Approach

- ◆ Length of Approach

- ◆ 3 Phases

 - Drive Phase

 - Continuation Phase

 - Transition Phase

- ◆ Checkmarks

- ◆ Visual Tracking



Preparation for Takeoff

◆ The Penultimate Step

Grounded under center of mass

Ground preparation (pre-recruitment)

Heel leads; full foot contact; rolling action

Ankle bridge

Lowering of center of mass

Continued horizontal movement
(displacement)



The Takeoff

- ◆ Takeoff leg grounded under or slightly in front of the center of mass
- ◆ Ground preparation (prerecruitment)
- ◆ Heel leads; full foot contact; rolling action
- ◆ Ankle bridge
- ◆ Free leg movements
- ◆ Arm movements
- ◆ Continued horizontal movement (displacement)



Flight

- ◆ Forward rotation during flight

- ◆ Control of forward rotation

 - Arm actions

 - Initial action of free leg at takeoff

 - Leg actions

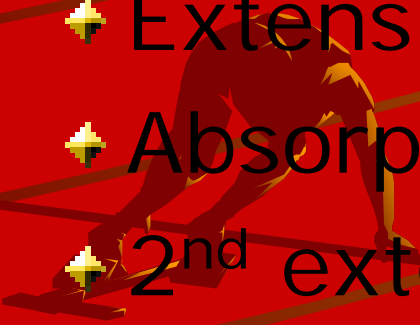
 - Posture of the entire body

 - Styles of flight



Landing

- ◆ Early preparation
- ◆ Posture
- ◆ Arm sweep
- ◆ Extension of legs
- ◆ Absorption
- ◆ 2nd extension of legs



Closing

- ◆ Summary
- ◆ Questions
- ◆ Future thoughts



◆ Thank you