

## Handling Hamstrings & Shin Splints

## Why Did it Happen?

## Hamstring Injuries

### Finding the Cause of a Hamstring Injury?

- Common Causes
  - Biomechanical Misalignments
  - Poor Acceleration/Sprint Technique
- Common Misconceptions
  - (Bad) Luck was Involved
  - The Hamstring was "Weak"
  - Why Hamstring Strengthening Doesn't Work
    - Hamstring Function
    - Eccentrics and Concentrics
    - Tension Levels

### You Have a Hamstring Injury – Now What?

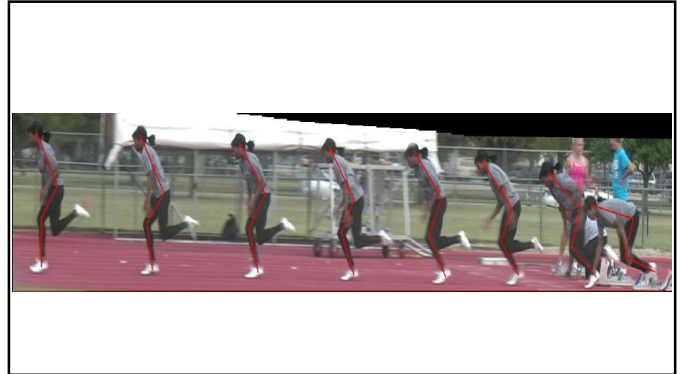
- Two Key Questions
  - What Caused the Injury?
  - What Will We do to Speed Healing and Assist in Recovery?

### Biomechanical Misalignments

- Anterior Pelvic Tilt
  - Anatomically - Seldom the Only Cause.. Technical Issue Produced
  - Sometimes a Contributor
  - Due to Tight Hip Flexors and Lumbar Spine
- Problems in the Lower Leg
  - Talus Misplacement
  - Misplaced Head of the Fibula
  - Tightness in the Thoracic Spine

## Solutions – Anterior Pelvic Tilt

- Dynamic Flexibility Training
- Diversity of Training
- Proper Weight Training Technique



## Solutions

- Testing
  - The Flip Test
  - Manipulating the Foot
- Solutions
  - Dynamic Flexibility Training
  - Diversity of Training
  - Soft Tissue Work
  - Chiropractic Adjustment

## Rehabilitation

## Acceleration / Sprint Mechanic Problems

- Anterior Pelvic Tilt
  - Implicated in 95% of Hamstring Injuries
  - Posture - A Skill, Not a Condition
- The Cause
  - Failure to Properly Progress Body Angles in Acceleration
  - Torso Angle Exceeding the Shin Angle

## Rehabilitation – General Guidelines

- Stay on the Program
- Many Things will be Unaffected - Possibilities
  - Vertical Plyometrics
  - Olympic Lifts from Hang Position
  - Circuit Training

## Do's and Don'ts

- Avoid
  - Stretching
  - Static Lifting Exercises
  - Manual Therapies Directed at the Injury Site
- Begin
  - Functional Exercise Rehab Program
- Allow
  - Manual Therapies Directed Away from Injury Site (Directed at Root Causes)
  - Any Pain Free Training Previously Done

## Shin Splints

## Functional Exercise Rehabilitation Program

- Understanding the Healing Process
  - The Blood Supply
  - Understanding Collagen Cycling
- The Buildup Run Program
  - Begin Immediately
  - Done Daily
  - 8-12 Runs of 30-50 Meters
  - Below Pain Threshold
  - Progressively Increase Intensity as Pain Threshold Rises

## Shin Splints - Mechanics and Causes

- Mechanics
- Causes – All Related to Foot Mobility and Function
  - Articular Restrictions in the Foot
  - Excessive Pronation Rates
  - Structural Abnormalities in the Foot
  - Force Transmissions to the Shin

## Special Cases

- The Twitching Hamstring
- The Adductor Magnus
- Tendonous Involvement
- Spinal Involvement

## Limiting Shin Splints – Modes of Attack

- Lower Leg Strengthening
- Lower Leg Mobility
- Manipulation
- Mechanical Help
- Proper Techniques
- Proper Training Loads
- Inflammation Management

## Shin Splints - Prevention

### Technical Issues

- Proper Jump Takeoffs
- Proper Running Mechanics
- Proper Stopping
- Arch Supports and Orthotics

## Shin Splints –Strengthening and Prevention Exercises

Simple LLC Exercises

## Shin Splints - Prevention

### Technical Issues

- Exercises
  - Special Walks/Exercises
  - Special Jumps
  - Barefoot Work
- Proper Periodization of Intensities
- Cyclical Training

## Shin Splints – Interventions

- Pain Management Tools
  - Reestablishing Freedom of Movement
  - Massage
  - Pros/Cons of Heat
  - Pros/Cons of Ice
- Managing Inflammation
  - Drugs
  - Supplements
    - Arnica (Montana)
    - Crystalline Ginger

## Shin Splints – Prevention & Strengthening Exercises



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