

Injury Prevention in Soccer Officiating

Justen Lopez, MS, ATC, LAT
Grade 4 National Official

Background

- Hometown:
 - Ballston Spa '07
- Bachelors:
 - Marist College '11
 - Athletic Training
- Masters:
 - University of Florida '13
 - Applied Physiology & Kinesiology
- NATABOC:
 - Certified and NYS Licensed Athletic Trainer
- USSF:
 - Entry Level Grade 8: April, 2005
 - Grade 4 National: February, 2015

Objectives

- Mobilization techniques
- Proper warm-up
- Improve neuromuscular control
 - Hip
 - Knee
 - Ankle
- Core stability

Disclaimers*

- Not intended to treat injury or substitute formal medical care
- For questions regarding an injury, consult your primary care physician
- This presentation and exercise progression are the property of Justen Lopez. Any duplication or distribution without the expressed consent of Justen Lopez is prohibited.

Fitness Training

- Train regularly, incorporating recovery days
- Warm up/cool down before/after each training session and game
- Improve on core and joint stability to maximize efficiency
- Enables you to be where you need to be on the field to see what you need to see
- The players are training
- Mental fatigue
- Required fitness test for Premier League matches



Fitness Demands On Referees

Professional Referee's Demands

- Cover between 5.6 and 8.1 miles per game
- High intensity running comprises about 18% of time on field
(High intensity running for refs has doubled since 2003)
- Achieve 85% - 90% of max heart rate (same as a player)
- 45 sprints per match (same as a player)
- Change in movement type or speed every 4 to 6sec

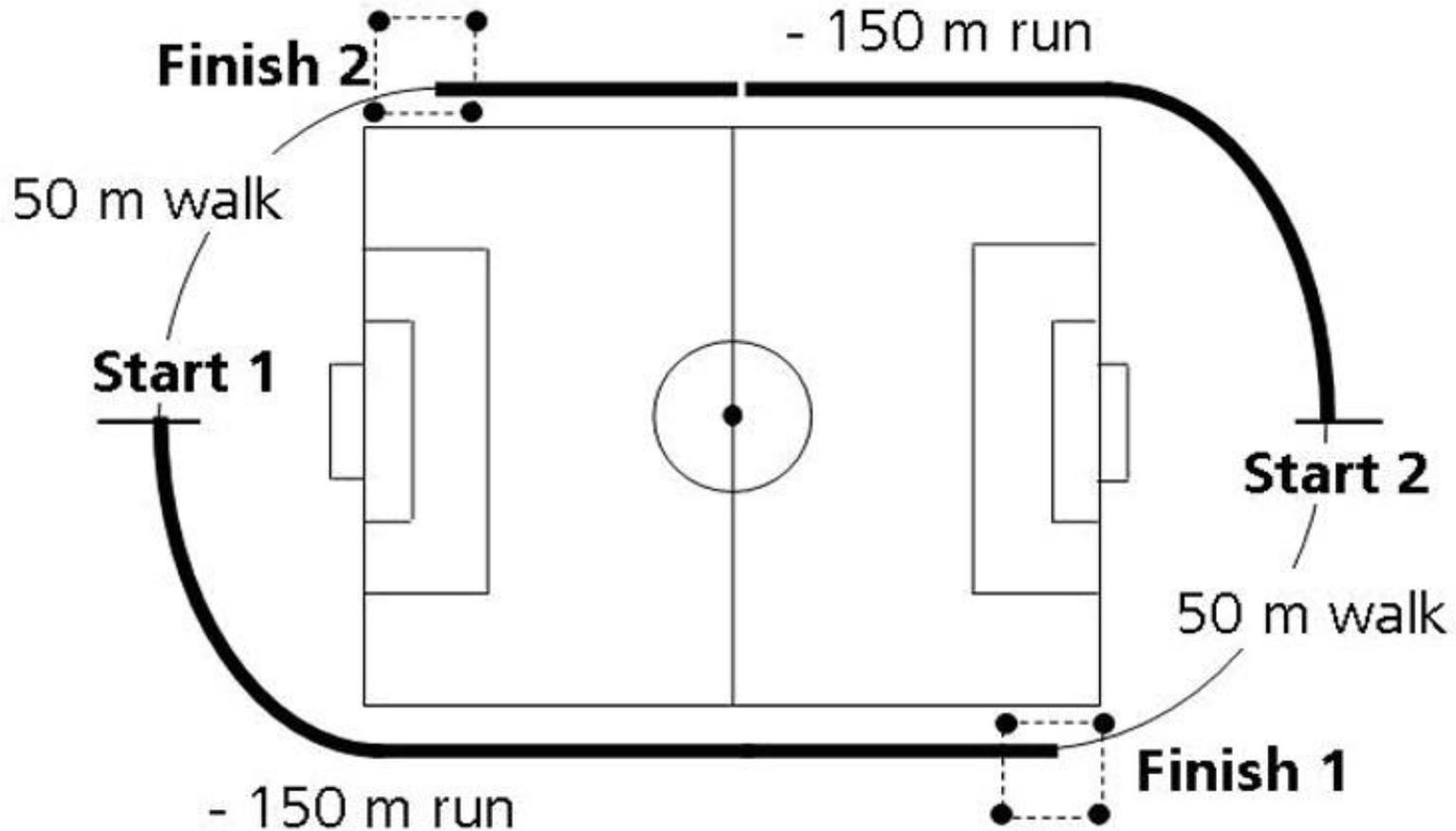
ARE YOU PREPARED?

Premier League Fitness Requirements: FIFA Interval Test

- 40m sprint
 - 10 seconds
 - 6 times
- 10-15 minutes rest
- Intervals
 - 150m (45sec), 50m (45sec)
 - 20 intervals/10 laps
- Warnings



Fitness Test





Fitness Test Standards

Class	Sprint	Interval	Recovery	Laps
Male Referee	6.2 sec	30 sec	35 sec	10
Male Assistant	6.0 sec	30 sec	40 sec	10
Female Referee	6.6 sec	35 sec	40 sec	10
Female Assistant	6.4 sec	35 sec	45 sec	10



FITT

Frequency

4 to 6 workout sessions per week

•Intensity

Although intensity levels will vary throughout workouts athletes should maintain a heart rate about 65% HRmax

•Time

30 to 45min within your target HR Zone per session
180+ total min per week

•Type

Speed endurance, interval, endurance, cross training, etc.



INTENSITY



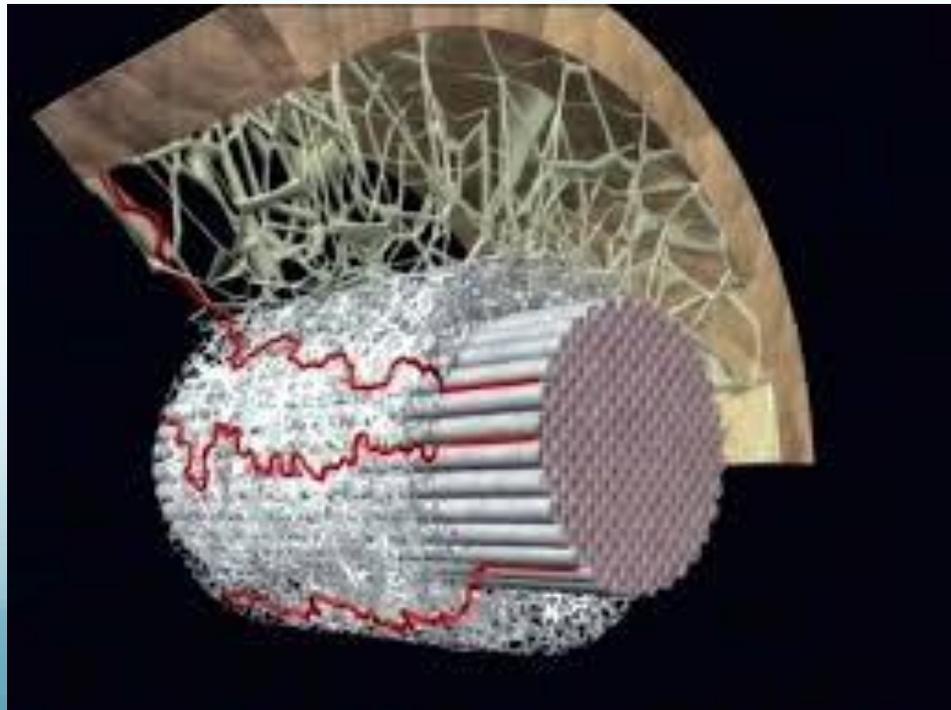
Create a workout plan incorporates many different movement intensities but focus on field specific speed-endurance and interval workouts.

Creating a more stable foundation

- Efficient transfer of energy along the kinetic chain
- Freeing up motion
- Core stabilization

Myofascial Adhesions

- Muscle covering
- Connects everything in the body
- Adhesions restrict muscle movement



Mobilization Techniques

- Foam roller
 - Loosens up muscles
 - Breaks up myofascial adhesions
 - Aids removal of lactic acid (post-workout)
 - 30-60 seconds per area
- Tennis/Lacrosse ball
 - Trigger point
 - 30-90 seconds on each knot
- Stretching
 - Dynamic stretching performed after muscles are warmed up
 - Static stretching
 - 2-3 x 30 seconds per muscle group
 - More effective during cool down

Warm-Up

- 5-10 minutes light jogging
- Form Running
 - 10 yards, down and back
- Mobilization
 - Foam Roller: 30-60 seconds per area
- Total time: 15-20 minutes

Warm-Up: Before Match Considerations

- Arrive early to be able to perform pre-match duties:
 - Pre-game
 - Check the field
 - Check in the teams
 - Warm up
 - Coin toss

Cool Down and Recovery

- Active Stretching
 - Easy moving and stretching
 - Until heart rate recovers
 - No Ballistic Stretching
- Static Stretching
 - Passive Stretching All Areas
 - Hold for 2-3 x 30sec
- Foam Roller
 - Remove lactic acid
 - Release trigger points

Static Stretch: Hamstring



Static Stretch: IT Band



Static Stretch: Adductors



Static Stretch: Piriformis



Static Stretch: Piriformis



Static Stretch: Quadriceps/Hip Flexor



Static Stretch: Gastrocnemius



Static Stretch: Soleus



Prevention Exercises

- Goals:
 - Stabilize hip, knee, and ankle joints
 - Improve neuromuscular control and biomechanics
 - Improve core stabilization
- Progression up to a “maintenance” level over the course of 3 weeks, M/W/F sessions
- 5 minutes of light cardio and foam roller prior to each session to increase body temperature and blood circulation

Preventing Knee/Hip Injuries

- Common injuries:
 - Iliotibial (IT) Band Friction Syndrome
 - Snapping Hip Syndrome
 - Patellofemoral Pain Syndrome (PFPS)
 - Patellar Tendinopathy
- Muscle Groups Targeted:
 - Hip flexors, abductors, extensors, external rotators
 - Knee extensors, flexors

Exercises: Hip and Knee

- Clamshells
- Abductor Wall Press
- Monster Walks (Forward, Side)
- Star Core
- Body Squat
- Wall Sit
- Step Up
- Lunge

Hip and Knee Exercise: Clamshells

- Muscle groups: hip abductors, external rotators
- Materials needed: exercise bands/loops

Hip and Knee Exercise: Abductor Wall Press

- Muscle groups: hip abductors, flexors
- Materials needed: wall
- Lean towards the wall
- Do not let opposite of wall shift away from wall

Hip and Knee Exercise: Monster Walks (Forward, Side)

- Muscle groups: hip abductors, external rotators, extensors
- Materials needed: exercise band/loops
- Begin in a slightly squatted position
- Do not let knees collapse inward
- Control trailing leg back to lead leg

Hip and Knee Exercise: Star Core

- Muscle groups: hip abductors, trunk stabilizers
- Materials needed: none
- Try to keep body as straight as possible

Hip and Knee Exercise: Body Squat

- Muscle groups: hip flexors, quadriceps, hamstrings
- Materials needed: none
- Keep your knees at or behind toes, not in front
- Keep knees from collapsing inward
- Keep back straight
- May use crutch-like object for balance for single leg

Hip and Knee Exercise: Wall Sit

- Muscle group: quadriceps, hamstrings, trunk stabilizers
- Materials needed: wall
- Knees and hips about 90*
- Keep low back pressed against wall
- Let arms rest to sides

Hip and Knee Exercise: Step Up

- Muscle group: hip flexors, extensors, abductors, quadriceps
- Materials needed: stool/box (about 18 inches)
- Keep knee over toes
- Do not let knee collapse inward
- Focus on straightening your knee, not your back

Hip and Knee Exercise: Lunge

- Muscle group: hip flexors, quadriceps, hamstrings
- Materials needed: none
- Keep knees in line
- Keep upper body upright
- Hips and knees about 90*

Preventing Ankle Injuries

- Common injuries:
 - Lateral ankle sprain (ATF, CF)
 - Achilles tendinopathy
 - Plantar fasciitis
 - Medial Tibular Stress Syndrome (MTSS/"Shin Splints")
- Muscle groups targeted:
 - Dorsiflexors, plantar flexors, inverters, everters

Exercises: Ankle

- 4-Way Ankle
- Heel Raises
- Single Leg Balance
- Dot Drill

Ankle Exercise: 4-Way Ankle

- Muscle groups: all 4
- Materials needed: exercise bands
- Movement should be at the ankle, not the knee/leg
- Control foot back to starting position

Ankle Exercise: Heel Raises

- Muscle group: plantar flexors
- Materials needed: stairs
- May use banister or a crutch-like object for balance
- For heel raises on stairs, allow heels to drop below the toes
- Controlled, slow on the way down

Ankle Exercise: Single Leg Balance

- Muscle groups: full body stability exercise
- Materials needed: towel

Ankle Exercise: Dot Drill

- Muscle group: plantar flexors
- Materials needed: tape
- Go as quickly as you can while still under control

Core Stability

- Essential for all athletic activities
- Allows for efficient transfer of energy and stabilization
- 6 exercises prescribed, 2 for each day in addition to hip/knee/ankle exercises
- Exercises:
 - Alternate Arm/Leg
 - Supine Flutter Kicks
 - Rotation Plank
 - Dying Bug
 - Superman
 - Bridges
- Yoga mat or soft surface may be beneficial to make exercises more comfortable

Alternate Arm/Leg

- Try to keep low back as straight as possible

Supine Flutter Kicks

- Keep low back pressed against the ground
- Bring legs higher, if needed. Progress to lower

Rotation Plank

- Try to keep body as straight as possible

Dying Bug

- Focus on contracting abs to rotate your pelvis back to keep low back pressed against the ground

Superman

Superman

- Activate glutes as you lift your leg

Bridge

- Focus on contracting abs to rotate your pelvis back to keep low back pressed against the ground

Managing Exercise Sessions

- Monday, Wednesday, Friday sessions
- Progression varies between sessions
 - Allows for getting accustomed to exercise, then advancing
 - Will be challenging at times
- Should take approximately 20-30 minutes
- Mobilization should be done prior to session, after session encouraged

Materials

- Resistance Bands
 - Sports Authority or online
 - Look for set of 3
- Resistance Loops
 - Sports Authority or online
 - Look for set of 3
- Foam Roller
 - Online less expensive
 - High density foam



Questions or Concerns

- Please direct to:
 - Justen Lopez
 - Referee.lopez@gmail.com

Best of Luck!

