# Running Injury Prevention





Simple exercises to prevent common injuries

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### Introduction

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Georgia State University, Atlanta, 2007 Joint Ventures Physical Therapy, Boston, 2010

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## Running Injury Incidence

20 million regular runners

Injury incidence: up to 79% 16 million Americans/year

Alarmingly:
46% injury *recurrence*7.4 million Americans/year



# Most common running injuries

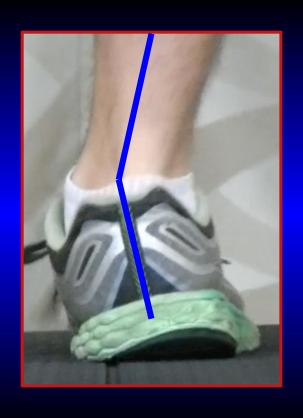
#### Knee

Patellofemoral pain syndrome Iliotibial Band syndrome

**Foot** 

Plantar fasciitis

# Common Malalignments







Over pronation

Hip Drop

Knee Valgus

### **Kinetic Chain**

#### **Correct Alignment**

Pelvis level

Knee directly under hip, in line with 2<sup>nd</sup> toe. Does not cross midline of body.

Foot directly under knee and pointed forward. Ankle does not collapse inward



### Core

\*\*Alignment starts with a stable foundation\*\*

**Planks** 

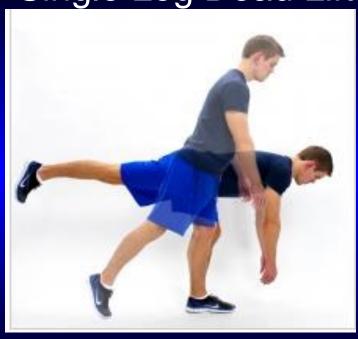




While lying face down, lift your body up on your elbows and toes. Maintain a straight spine. Do not allow your hips or pelvis on to drop on either side.

10 reps, 10-30 sec hold

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While standing on one leg, bend forward towards touching the ground as you extend your leg behind you. Then return to starting position. Keep your legs and spine straight and maintain your balance the entire time. 10 reps, 2 sets

# Hip and Knee

#### Bilateral Squats



Start with feet shoulder width apart and hands at chest level. Lower hips to until thighs are parallel with floor and pause for 3 seconds. Do not let your knees pass your toes. Keep your back straight. Keep knees pointed straight ahead. 10 reps, 2 sets

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#### Hip Hikes



While standing up on a step, lower one leg downward towards the floor by tilting your pelvis to the side.

Then return the pelvis/leg back to a level position. You may hold on to something for balance.

10 reps, 2 sets

## Foot and Ankle



#### Single leg calf raises

While standing on one leg and holding wall for balance, raise up on your toes as high as possible. 10 reps each, 2 sets



#### Toe Yoga (seated or standing)

- 1) Lift your big toe without lifting the other 4 or rolling your ankle outward. 10 reps, 2 sets
- 2) Lift your 4 small toes without lifting your big toe or rolling your ankle inward. 10 reps, 2 sets

### Foot and Ankle



#### **Doming**

While standing, press toes into ground and imagine drawing the long bones of foot back toward heel. You should feel your arch tense. Do not curl toes. 10 reps, 2 sets

# Put it all together

#### Heel Taps

Stand on 1 leg with good alignment. Hold other leg out in front of you with heel a few inches off ground. Slowly squat and lower entire body toward floor until heel taps floor. Keep pelvis level, do not let knee or ankle collapse inward. 10 reps, 2 sets



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# Put it all together

#### Runner's Balance

Stand and balance on one leg. Move in slow motion: lean forward as you bring your other leg back behind you to tap the floor. Bring the same side arm forward as shown during the movement. Return to starting position and repeat. 10 reps, 2 sets



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## **Tips**

Use a mirror at first

Feel where your joints are in space

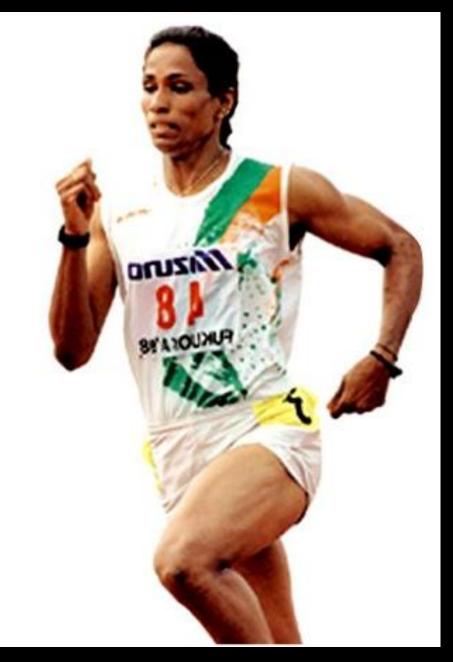
Do exercises before running

Think of your alignment as you run---OCASIONALLY









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