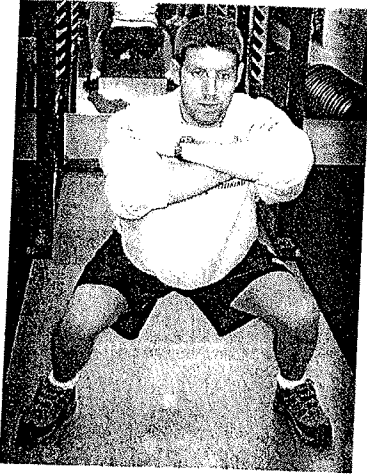


# **Flexibility of Hip & Upper Leg Musculature**

Flexible hips allow an athlete to lower their center of gravity, which makes them more efficient at accelerating, decelerating and changing directions. Also, flexible hips allow an athlete to be in balanced positions with the least amount of internal resistance which gives them the best chance they have to Make plays!

## Flexibility of the Hips

### Typical Squat Stance



Absence of vertical torso  
Adduction of upper legs



Shoulders forward, hips back position places undue stress on lumbar vertebra and knees, which can lead to injury.



Knees adducted, typical of poor hip flexibility. Can lead to improper patella tracking. Which can lead to tendon and meniscus damage.

### Ideal Genie Squat Stance



-Flexibility is tested at the bottom of the genie Squat position.

Heels must remain stationary and feet angled outward.



Shoulders hips and ankles must remain in a vertical plane



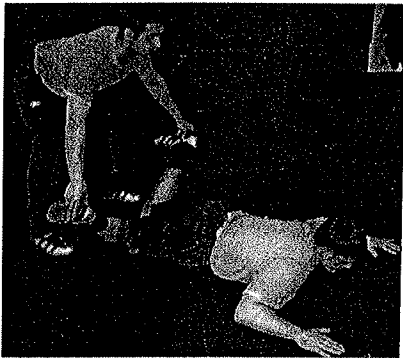
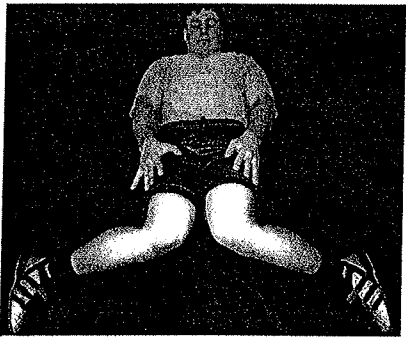
Knees must remain open and tracking over the feet. Notice lack of adduction of upper legs.

## Flexibility of the Hips

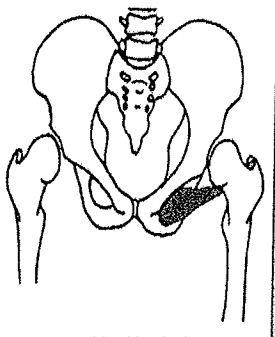
### Internal Rotation Stretch:

Begin with knees and feet at 90°.

Rotate knees medially bringing thighs together. Assist rotation with hands on outside of thighs.



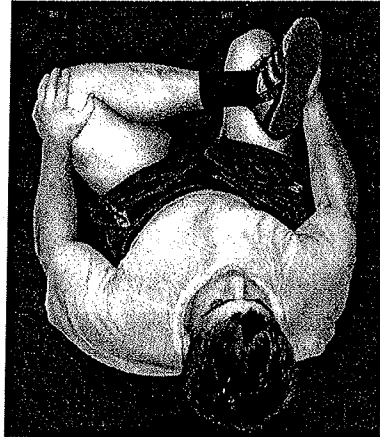
### **Obturator Externus**



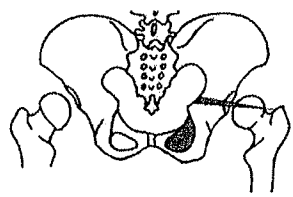
Action: laterally rotates hip

### Figure 4: External Rotation

Bend one leg at 90° and cross it over the opposite knee. Rotate knee and gently press with hand on inside of knee and gently pull in at ankle. The stretch should be felt on the outside of the hip.



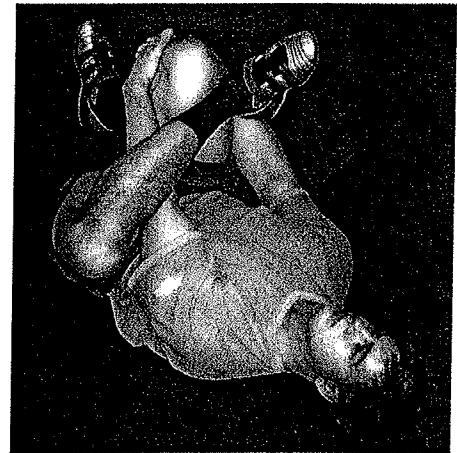
### **Obturator Internus**



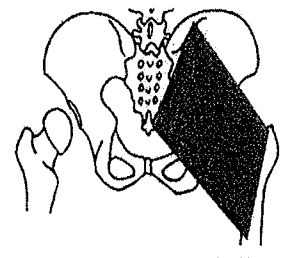
Action: laterally rotates hip  
Builds strength & conditioning  
stabilizes hip

### Figure 4: Gluteus Stretch

Bend one leg at 90 degree's and cross it over the opposite knee. Reach through the crossed leg and clasp hands around distal tibia. Pull shin toward torso while keeping shoulders on the ground. The stretch should be felt in the gluteus area of crossed leg.



### **Gluteus Maximus**



### Action:

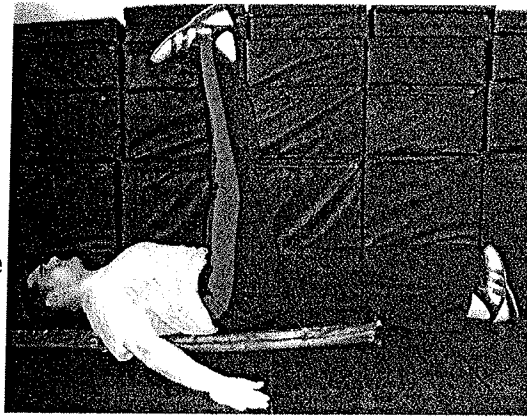
Extends and laterally rotates hip. Maintains knee extended via iliotibial tract

## Flexibility of the Upper Leg

### Dorsi-Flexion

#### Hamstring Stretch:

Dorsiflex foot towards chest and contract quadriceps muscle while extending opposite heel. Stretch should be felt behind the knee



### **Biceps Femoris**

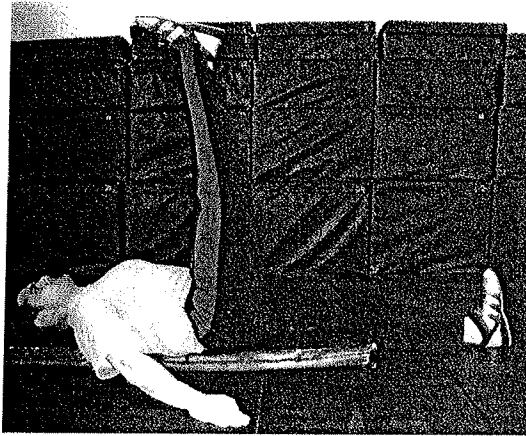
Action: Flexes and laterally rotates knee. Long head extends hip



### Plantar-Flexion

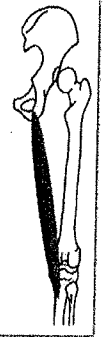
#### Hamstring Stretch:

Plantarflex and pull with quadriceps muscle while punching out with opposite heel. Stretch should be felt in the belly of the hamstring.



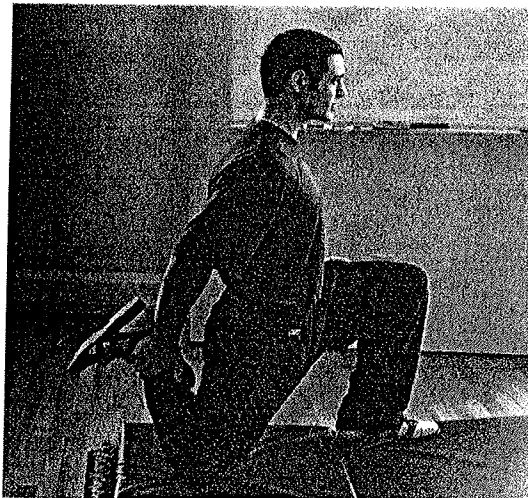
### **Semimembranosus**

Action: Flexes and medially rotates knee. Extends hip



### Quadriceps stretch:

From a knee, maintain a vertical position with shoulders and hips, contract rear glute and pull heel to butt.



w/ Partner



### **Vastus Lateralis**

Action:  
Extends knee



### **Vastus Intermedialis**

Action:  
Extends knee



### **Vastus medialis**

Action:  
Extends knee. Stabilizes patella



### **Rectus Femoris**

Action:  
Extends knee

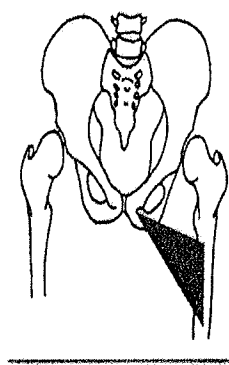
Boston College Strength & Conditioning

## Flexibility of the Hips

### Short Adductor Stretch:

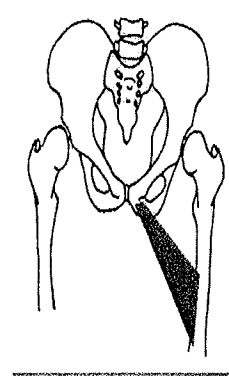
Position knees slightly above hips. Bend knees to 90 degrees with feet dorsi-flexed. Abduct knees – gently assist on inner thigh.

### **Adductor Brevis**



Action:  
adducts  
hips

### **Adductor Longus**



Action:  
Adducts  
and  
medially  
rotates hip

### Long Adductor Stretch:

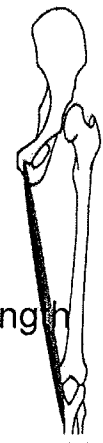
Start with legs at 90 degrees, feet dorsi-flexed, quads flexed. Abduct legs and assist at gastroc. Visualize pulling feet to floor.

### **Adductor Magnus**



Action: adducts and  
medially rotates hip

### **Gracilis**

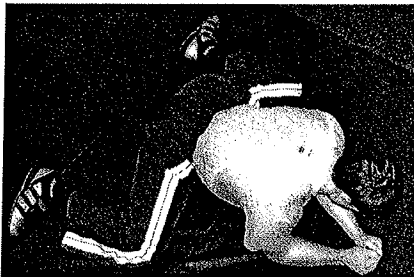


Action: adducts hip  
Flexes knee and  
medially rotates  
flexed knee

## Flexibility of the Hips

### Lateral-External Rotation Stretch:

From all fours, push backwards trying to place glutes on floor with back neutral and parallel to ground



### Lunge Stretch:

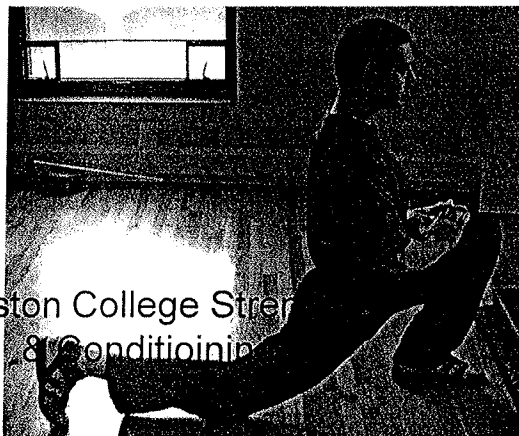
Maintain vertical upper body position with shoulders and hips aligned. Avoid any arching of low back by contracting abdominals. Contract gluteus of rear leg and press knee back. Press hips forward and down toward front foot. Keep front foot flat and balanced on the ground with knee over front half of foot.



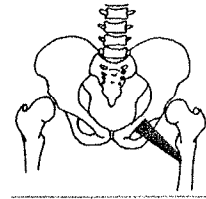
### Lunge Stretch

#### from a Knee:

Remain in same vertical position as above. Avoid any arching of low back. With rear knee on ground press rear thigh as close to the ground as possible. To increase stretch lift back foot by contracting hamstring group.

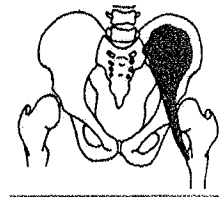


### **Pectineus**



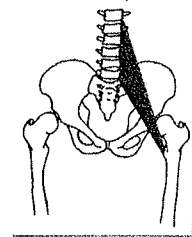
Action: Flexes, adducts and medially rotates hip

### **Illiacus**



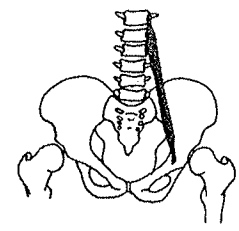
Action: Flexes and medially rotates hip

### **Psoas Major**



Action: Flexes and medially rotates hip

### **Psoas Minor**

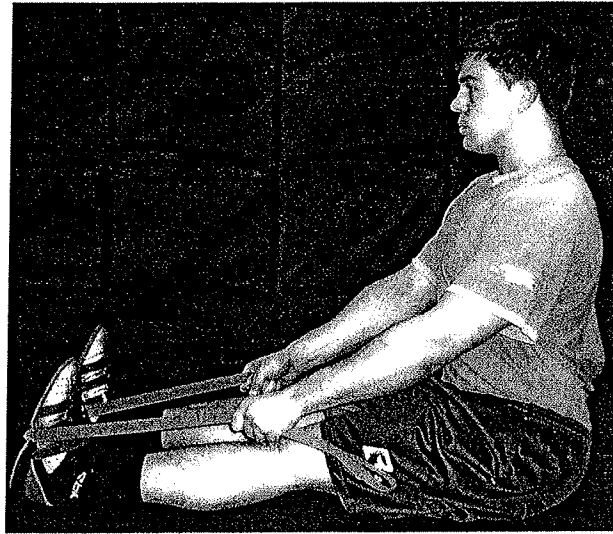
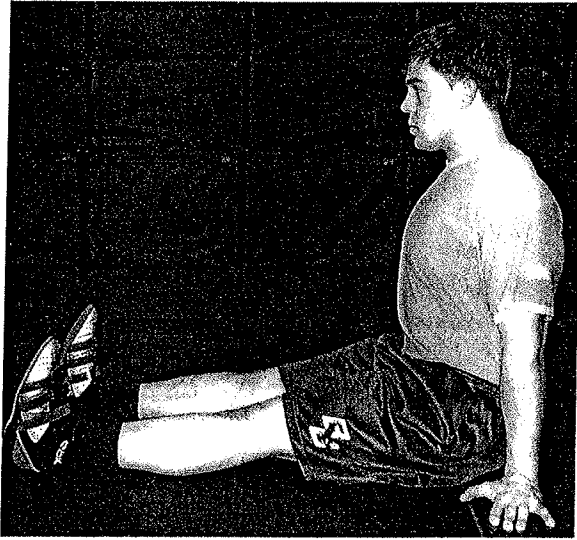


Action: Weak flexor of trunk

## Flexibility of the Lower Leg

### Gastrocnemius Stretch:

Contract quadriceps; with straight legs dorsiflex Foot and assist.



w/ Partner

### **Gastrocnemius**

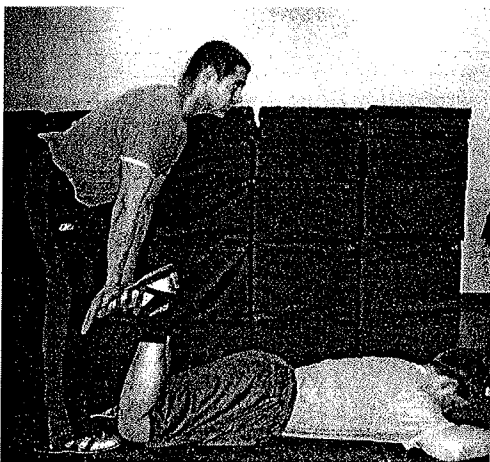
Action:  
Plantar flex  
foot, knee  
flexor.



### Soleus Stretch (w/ Partner):

Bend legs to 90°  
and dorsiflex feet,  
partner assist

Soleus Stretch:  
Bend leg at 90°  
dorsiflex foot,  
And pull knee into  
chest While sitting  
up vertical.



### **Soleus**

Action:  
Plantar flex  
foot.

