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# WALK TO RUN PROGRESSION

SPINE AND ORTHOPEDIC INSTITUTE

## EXERCISES

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Guidelines:

1. Do every other day only (i.e. do not run daily)
2. Use running shoes - not court shoes or cross trainers
3. Begin at an easy pace on level surfaces - no hills
4. Stop if you experience increased pain, swelling, or stiffness
5. Try each Phase at least twice and progress if no increased pain, swelling, or stiffness
6. After Phase VIII gradually increase your running without the walking

**PHASE I:** WALK 2 MILES AT YOUR OWN PACE

**PHASE II:** PROGRESS TO WALKING TWO MILE IN 35 MINUTES

**PHASE III:** WALK RUN WALK RUN  
(miles) 1/4 1/4 1/4 1/4

**PHASE IV:** WALK RUN WALK RUN WALK RUN WALK RUN  
(miles) 1/4 1/4 1/4 1/4 1/4 1/4 1/4 1/4

**PHASE V:** WALK RUN WALK RUN WALK RUN  
(miles) 1/4 1/2 1/4 1/2 1/4 1/2

**PHASE VI:** WALK RUN WALK RUN  
(miles) 1/4 3/4 1/4 3/4

**PHASE VII:** WALK RUN WALK RUN  
(miles) 1/4 1 1/4 1

**PHASE VIII:** WALK RUN WALK RUN WALK RUN  
(miles) 1/4 1 1/4 1 1/4 1

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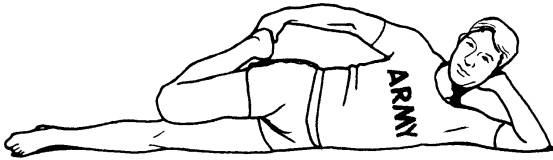
# KNEE STRETCHING EXERCISES

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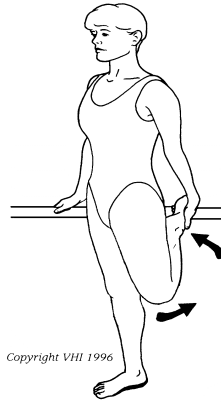
HOLD 20-30 SECONDS, DO 3-6 REPETITIONS, \_\_\_\_\_ TIMES PER DAY.

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## SIDE LYING QUAD STRETCH



Lying on your side, slowly pull the top leg back from the ankle, bring the knee back behind your hip and the heel toward your buttocks until you feel a stretch in the front of the thigh.



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## STANDING QUAD STRETCH

Stabilize yourself holding a wall, chair, etc. for balance. Pull the knee back behind the hip and the foot up to the buttocks. If you can't reach the ankle use a towel or belt looped around the ankle.

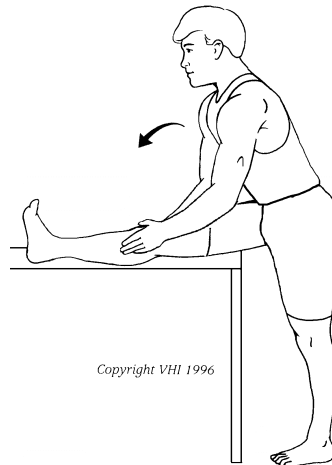
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## HURLER'S HAMSTRING STRETCH



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Bend the opposite leg in. Keep the back straight and lean forward until a stretch is felt at the back of the knee and hamstring muscle group.



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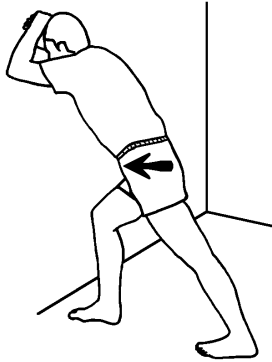
## STANDING HAMSTRING STRETCH

Support the ankle on a stool, chair, table, etc. Keep the back straight and lean forward gently pushing the knee straight and a stretch is felt at the hamstring muscle group.

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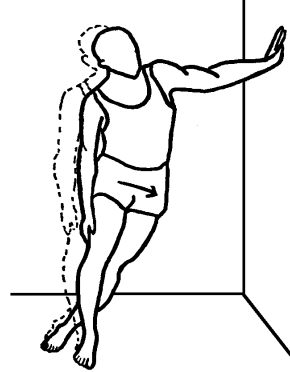
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**STANDING CALF STRETCHES**



Use a wall, tree, etc. to lean against. The stretching leg is back, with the knee straight and the foot and heel flat on the floor. Slowly move your hips forward until you feel a stretch at the calf muscle.

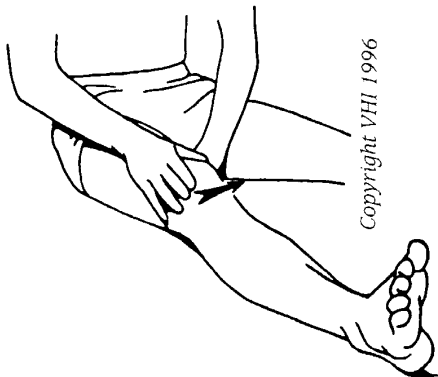
**ITB STRETCH**



Support yourself on a wall or steady object. Cross the far leg over the stretching leg. Move the hips toward the wall and lean into the knee. The stretch should be felt from the outside hip to the knee.

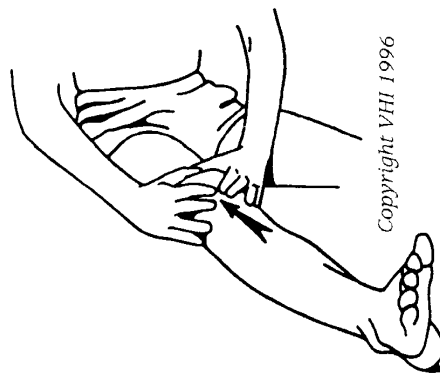
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**MEDIAL KNEECAP STRETCH**

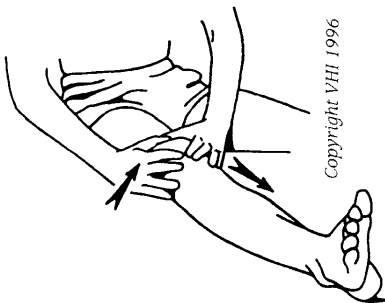


This stretch can be done with the hamstring stretch. Use the heel of your hand to gently slide the kneecap, (patella), toward your other knee, (medial). Try to pull and stretch the skin on the outside of the kneecap. Don't push down on the kneecap.

**SUPERIOR KNEECAP STRETCH**



This is similar to the medial kneecap stretch. Use one or both hands to hold the bottom border of the kneecap and gently pull the kneecap up toward your hip. The object is to stretch the skin and patellar tendon under the kneecap.



**MEDIAL TILT KNEECAP STRETCH**

Using the palm of the hand on the opposite side gently hold the inside border of your kneecap down (pressure toward the floor). With the thumb of the hand on the opposite side, push the outside border of the kneecap up (toward the ceiling). Like the medial kneecap stretch, you should feel the stretch at the outside border of the kneecap.

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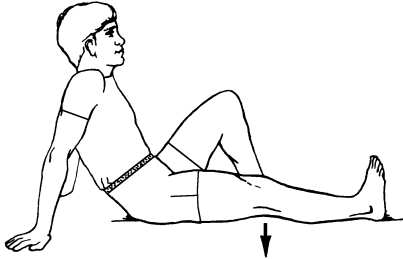
# PHASE I KNEE STRENGTHENING EXERCISES

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HOLD 2-3 SECONDS, \_\_\_\_\_ REPETITIONS, \_\_\_\_\_ SETS, \_\_\_\_\_ DAYS/WK.

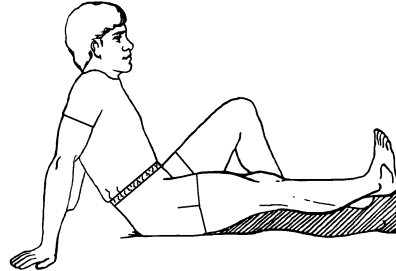
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**QUAD SETS**



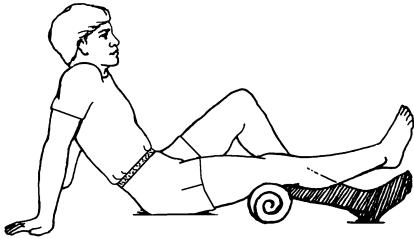
With the leg straight, tighten the thigh (quad) muscle. Concentrate on a firm thigh contraction and pressing the back of the knee down against the floor.

**STRAIGHT LEG RAISES**



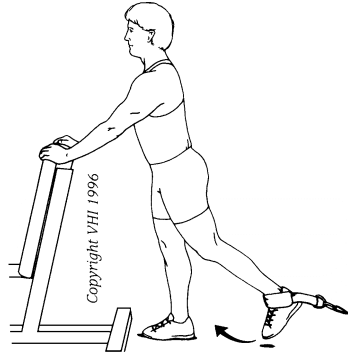
With the leg straight, tighten the thigh muscles and lift the ankle 6 to 12 inches keeping the knee straight. Resistance can be added with ankle weights or tubing.

**SHORT ARC QUADS**



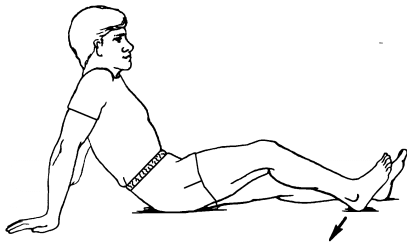
Can be done on a flat surface with a pillow rolled under the knee or from a chair. Limit the arc to 30 degrees. Tighten the thigh muscle and lift the heel. Resistance can be added with ankle weights or tubing.

**STANDING HIP FLEXION**



Standing and supported for balance, tighten the thigh muscle and slowly flex the leg forward. Resistance can be added using rubber tubing, a cable machine or ankle weights.

**HAMSTRING SETS**



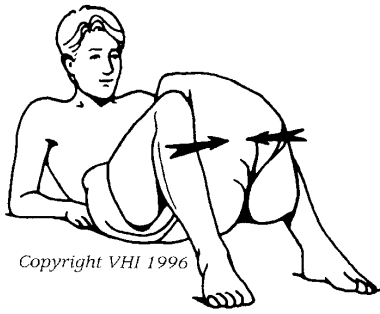
Slightly bend the knee, and dig the heel down and back into the floor without moving the heel. These can be done lying on the floor (as shown) or sitting in a chair.

**HAMSTRING CURLS**



Lay on stomach. Tighten the hamstring muscles and pull the foot up bending the knee. Resistance can be added with ankle weights or tubing.

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**▣ PILLOW SQUEEZES**

With knees bent, feet flat and a pillow between the knees, squeeze the knees together tightening the inner thighs.



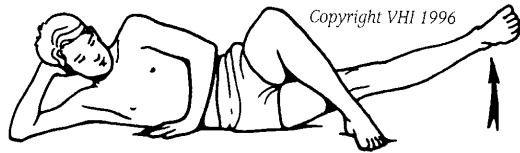
**▣ STANDING HAMSTRING CURLS**

Standing and supported for balance, slowly flex the leg backward. Resistance can be added using a ankle weights (as shown) or rubber tubing attached at the ankle.

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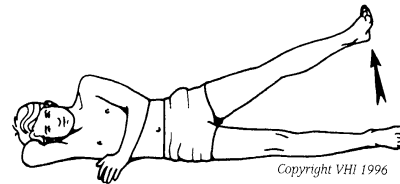
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**□ HIP ADDUCTION**

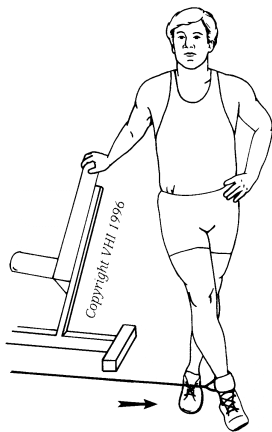


Bend the top leg with the foot flat on the floor. Tighten the bottom leg and lift the foot 6 to 8 inches. Resistance can be added using ankle weights attached at the ankle.

**□ HIP ABDUCTION**

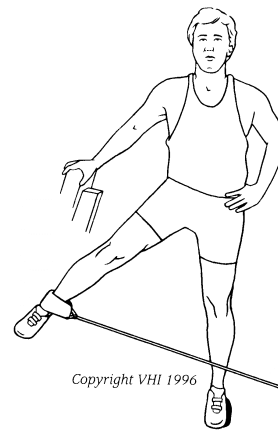


Laying on side, tighten the top leg and lift the foot 10-12 inches. Resistance can be added using rubber tubing or ankle weights attached at the ankle (or above the knee if ankle resistance causes pain).



**□ STANDING HIP ADDUCTION**

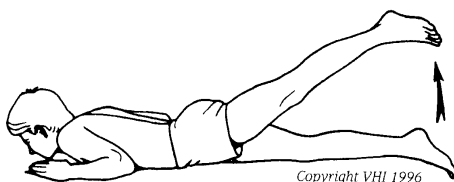
Standing and supported for balance, tighten the thigh muscles and pull the leg to the inside. Resistance can be added using rubber tubing (as shown), a cable machine or ankle weights.



**□ STANDING HIP ABDUCTION**

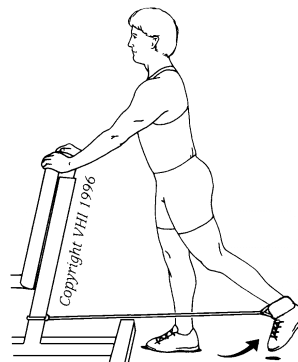
Standing and supported for balance, tighten the thigh muscles and lift the leg to the outside. Resistance can be added using rubber tubing (as shown), a cable machine or ankle weights attached at the ankle.

**□ HIP EXTENSION**



**□ STANDING HIP EXTENSION**

Standing and supported for balance, tighten the leg muscles and lift the leg to the rear. Resistance can be added using rubber tubing (as shown) a cable machine or ankle weights

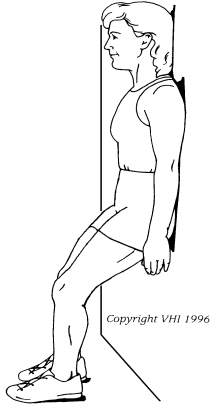


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Laying on the stomach, tighten one leg and lift the foot to the rear about 10-12 inches. Resistance can be added using rubber tubing or ankle weights attached at the ankle.

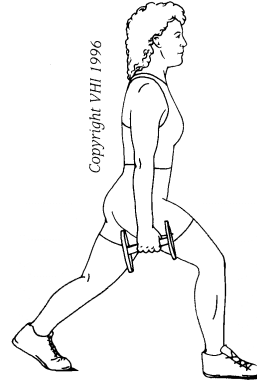
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attached at the ankle.



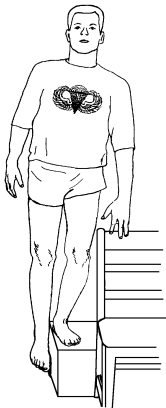
#### WALL SQUATS

Start with the back against a wall and heels about twelve inches from the wall, slowly squat, pause and return. Stop when the knee is centered over the ankle, or before any pain (Don't go past 90 degrees).



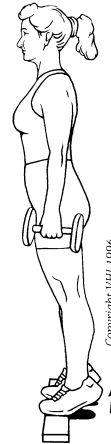
#### LUNGES

Alternate stepping out with one foot, slowly squat, stopping when the knee is centered over the ankle, pause and return. Don't go past 90 degrees or into a painful range. Resistance can be added by holding dumbbells in each hand.



#### STEP UPS

On a 8-12 inch box or step, slowly raise up and lower the body. Keep the knee over or behind the ankle. Concentrate on a smooth controlled motion.



#### HEEL RAISES

Standing with the front of the foot on a board, book or step, slowly raise up on your toes, pause and return. Pause and stretch the calves at the bottom and repeat.

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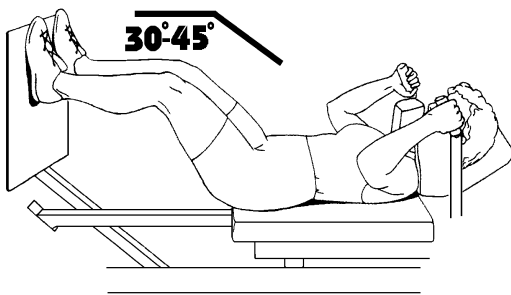
## PHASE II KNEE STRENGTHENING EXERCISES



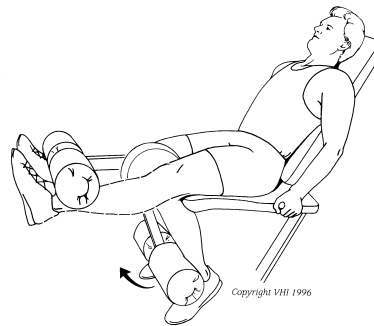
HOLD 2-3 SECONDS, DO \_\_\_\_\_ REPETITIONS, \_\_\_\_\_ SETS, \_\_\_\_\_ DAYS  
PER WEEK.

Use smooth controlled movements pausing at each end. Raise the weight to the count of 2 and down to the count of 4. You should experience mild muscle fatigue without joint pain.

Always stretch the muscle group that is being exercised, before, during and after the sets.



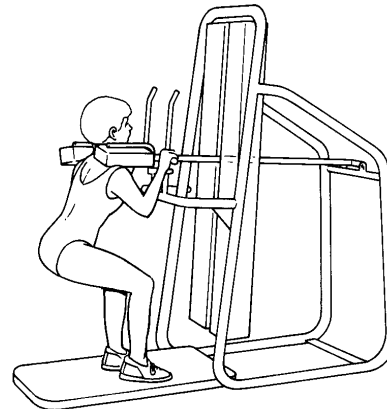
**LEG PRESSES** - Keep the knee over or behind the ankle joint by placing the feet high on the footplate. Slowly bend the knees, don't exceed 90 degrees. Pause and straighten the knees without hyper-extending.



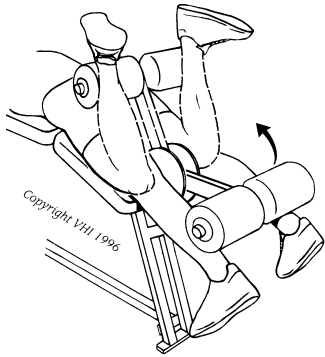
**KNEE EXTENSIONS** - Limit the arc of motion to comfort. Past 30-45 degrees there is increased stress on the kneecap, so if this hurts, limit the arc or decrease the weight.



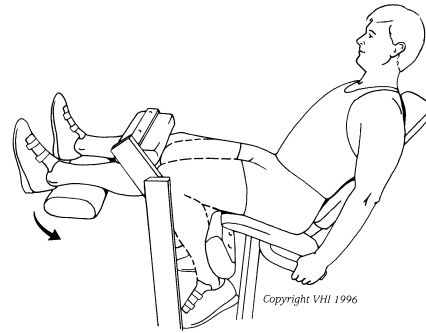
**LUNGES** - Alternate stepping out with one foot, slowly squat, stopping when the knee is centered over the ankle, pause and return. Don't go past 90 degrees or into a painful joint range. Resistance can be added by holding dumbbells in each hand.



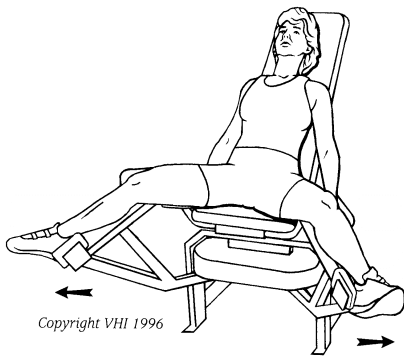
**SQUAT MACHINE** - Keep the back straight and the knees centered over or behind the ankles. Don't go past 90 degree knee bends or into an uncomfortable joint range. Pause, don't bounce at the bottom.



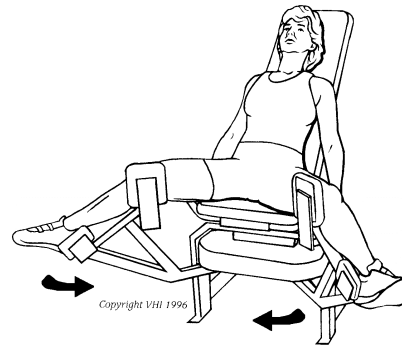
**PRONE HAMSTRING CURLS** Stretch well and use slow, controlled motion. If joint pain is experienced within the arc, limit the exercise to the pain free arc. Keep your hips down.



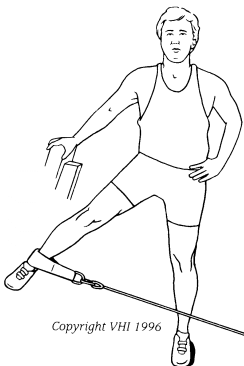
**SEATED HAMSTRING CURLS** Stretch well and use slow, controlled motion. If joint pain is experienced within the arc, limit the exercise to the pain free arc.



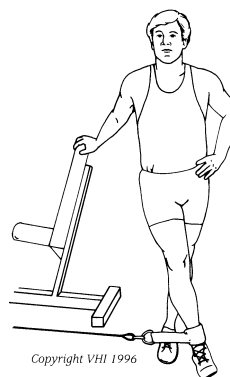
**HIP ABDUCTION MACHINE** Stretch well and use slow, controlled motion. Pre-contraction your thigh and slowly push the knees apart, pause and return slowly.



**HIP ADDUCTION MACHINE** Stretch well and use slow, controlled motion. Be careful getting into this machine. Pre-contraction your inside thigh and VMO, slowly squeeze the knees together, pause and return slowly.



**HIP ABDUCTION CABLES**



**HIP ADDUCTION CABLES**

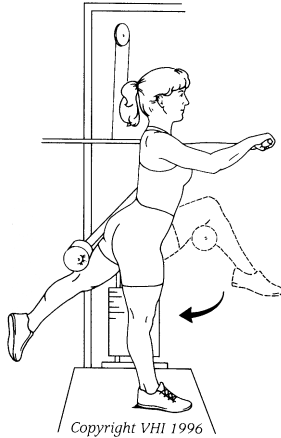
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Stabilize by holding something steady. Using a cable (or tube) and ankle cuff, slowly raise the leg to the side, and tighten the lateral thigh and buttocks. If this causes knee pain put the cuff above the knee.

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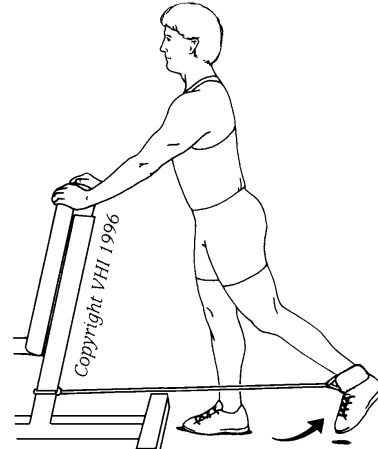
Stabilize by holding something steady. Using a cable (or tube) and ankle cuff, slowly pull the leg to the inside, tighten the inner thigh. If this causes knee pain put the cuff above the knee.

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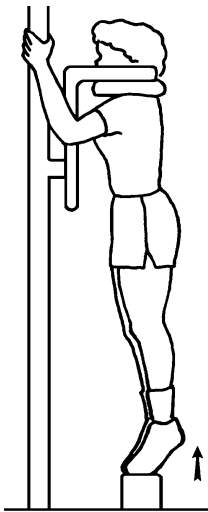
**HIP EXTENSION MACHINE**

Use smooth controlled movements, through the hip without trunk rotation or bending. Push back tightening the buttocks and hamstrings.



**HIP EXTENSION CABLES**

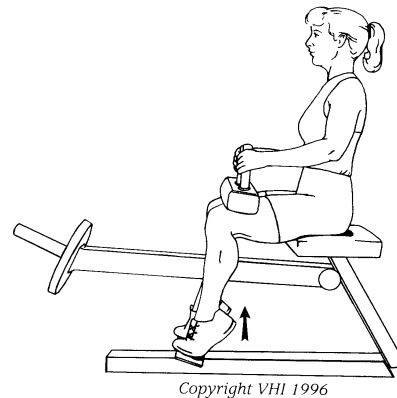
Stabilize by holding something steady. Using a cable (or tube) and ankle cuff, slowly pull the leg to the rear, and tighten the buttocks and hamstrings.



**STANDING CALF MACHINE**

Keep the knees straight but not locked back. Slowly lower the heels, pausing and stretching at the bottom, then slowly press up and pause at the top. The feet should be straight for one set, but to isolate the outer calf do a set with the heels out and a set with the heels in,

**SEATED CALF MACHINE**



Adjust the machine for your leg height. With the forefoot on the step, place the padded crossbar on the thighs. Slowly raise and lower the heels.

This exercise can also be done with a padded barbell across the thighs and the forefoot on a board or stool.

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to emphasize the inner calf.

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