

Knee Injury Prevention for Runners



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Common Knee Injuries

Overuse injury: Results from microscopic tears in muscles and tendons over time

- Includes muscle strain, tendinitis, bursitis

Knee Osteoarthritis: Involves degeneration of cartilage, typically in older runners

Patellofemoral pain/ Anterior Knee Pain: Felt behind the kneecap; typically worse after running or prolonged sitting

Dislocating Kneecap: can lead to chronic knee pain

Plica Syndrome: results from an irritation of the lining of the knee joint, which causes inflammation and pain

- All of the above can be treated at IMGPT. Please call 610-944-8140 to set up an evaluation.

How can you help prevent these injuries?

Listen to your body- if you have knee pain, your body is warning you something is wrong: consider changing the exercise you are doing or seeking a doctor or therapist's help

STRETCH!- Stretch 10-15 minutes before and after running

- Focus on quads, hamstrings, IT band, and gluteal muscles
- Hold all stretches for 30 seconds and repeat 3 times

Progress slowly- increase mileage slowly

- Incorporate rest days into your schedule
- Check out Couch to 5k: C25k.com for a mapped out running plan

Find the right shoe- shoes can accommodate for different arches, heel types, & foot widths

- Find a local running shop for an assessment
- A Running Start: 705 Penn Ave. West Reading, PA 19611; (610)-320-9097

Strengthen!

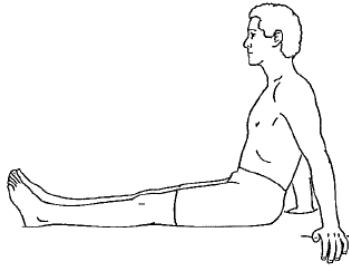
- Increasing muscles strength in the lower extremities provides support for the joint and helps prevent injuries

COUCH to 5k!

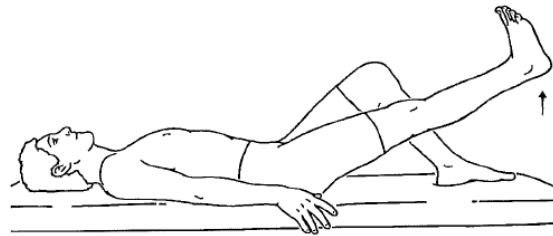
COPIED FROM C25K.com

Week	Workout 1	Workout 2	Workout 3
1	Brisk five-minute warmup walk. Then alternate 60 seconds of jogging and 90 seconds of walking for a total of 20 minutes.	Brisk five-minute warmup walk. Then alternate 60 seconds of jogging and 90 seconds of walking for a total of 20 minutes.	Brisk five-minute warmup walk. Then alternate 60 seconds of jogging and 90 seconds of walking for a total of 20 minutes.
2	Brisk five-minute warmup walk. Then alternate 90 seconds of jogging and two minutes of walking for a total of 20 minutes.	Brisk five-minute warmup walk. Then alternate 90 seconds of jogging and two minutes of walking for a total of 20 minutes.	Brisk five-minute warmup walk. Then alternate 90 seconds of jogging and two minutes of walking for a total of 20 minutes.
3	Brisk five-minute warmup walk, then do two repetitions of the following: <ul style="list-style-type: none"> Jog 200 yards (or 90 seconds) Walk 200 yards (or 90 seconds) Jog 400 yards (or 3 minutes) Walk 400 yards (or three minutes) 	Brisk five-minute warmup walk, then do two repetitions of the following: <ul style="list-style-type: none"> Jog 200 yards (or 90 seconds) Walk 200 yards (or 90 seconds) Jog 400 yards (or 3 minutes) Walk 400 yards (or three minutes) 	Brisk five-minute warmup walk, then do two repetitions of the following: <ul style="list-style-type: none"> Jog 200 yards (or 90 seconds) Walk 200 yards (or 90 seconds) Jog 400 yards (or 3 minutes) Walk 400 yards (or three minutes)
4	Brisk five-minute warmup walk, then: <ul style="list-style-type: none"> Jog 1/4 mile (or 3 minutes) Walk 1/8 mile (or 90 seconds) Jog 1/2 mile (or 5 minutes) Walk 1/4 mile (or 2-1/2 minutes) Jog 1/4 mile (or 3 minutes) Walk 1/8 mile (or 90 seconds) Jog 1/2 mile (or 5 minutes) 	Brisk five-minute warmup walk, then: <ul style="list-style-type: none"> Jog 1/4 mile (or 3 minutes) Walk 1/8 mile (or 90 seconds) Jog 1/2 mile (or 5 minutes) Walk 1/4 mile (or 2-1/2 minutes) Jog 1/4 mile (or 3 minutes) Walk 1/8 mile (or 90 seconds) Jog 1/2 mile (or 5 minutes) 	Brisk five-minute warmup walk, then: <ul style="list-style-type: none"> Jog 1/4 mile (or 3 minutes) Walk 1/8 mile (or 90 seconds) Jog 1/2 mile (or 5 minutes) Walk 1/4 mile (or 2-1/2 minutes) Jog 1/4 mile (or 3 minutes) Walk 1/8 mile (or 90 seconds) Jog 1/2 mile (or 5 minutes)
5	Brisk five-minute warmup walk, then: <ul style="list-style-type: none"> Jog 1/2 mile (or 5 minutes) Walk 1/4 mile (or 3 minutes) Jog 1/2 mile (or 5 minutes) Walk 1/4 mile (or 3 minutes) Jog 1/2 mile (or 5 minutes) 	Brisk five-minute warmup walk, then: <ul style="list-style-type: none"> Jog 3/4 mile (or 8 minutes) Walk 1/2 mile (or 5 minutes) Jog 3/4 mile (or 8 minutes) 	Brisk five-minute warmup walk, then jog two miles (or 20 minutes) with no walking.
6	Brisk five-minute warmup walk, then: <ul style="list-style-type: none"> Jog 1/2 mile (or 5 minutes) Walk 1/4 mile (or 3 minutes) Jog 3/4 mile (or 8 minutes) Walk 1/4 mile (or 3 minutes) Jog 1/2 mile (or 5 minutes) 	Brisk five-minute warmup walk, then: <ul style="list-style-type: none"> Jog 1 mile (or 10 minutes) Walk 1/4 mile (or 3 minutes) Jog 1 mile (or 10 minutes) 	Brisk five-minute warmup walk, then jog 2-1/4 miles (or 25 minutes) with no walking.
7	Brisk five-minute warmup walk, then jog 2.5 miles (or 25 minutes).	Brisk five-minute warmup walk, then jog 2.5 miles (or 25 minutes).	Brisk five-minute warmup walk, then jog 2.5 miles (or 25 minutes).
8	Brisk five-minute warmup walk, then jog 2.75 miles (or 28 minutes).	Brisk five-minute warmup walk, then jog 2.75 miles (or 28 minutes).	Brisk five-minute warmup walk, then jog 2.75 miles (or 28 minutes).
9	Brisk five-minute warmup walk, then jog 3 miles (or 30 minutes).	Brisk five-minute warmup walk, then jog 3 miles (or 30 minutes).	The final workout! Congratulations! Brisk five-minute warmup walk, then jog 3 miles (or 30 minutes).

Exercises for Strength



HIP / KNEE - 17 Strengthening: Straight Leg Raise (Phase 1)



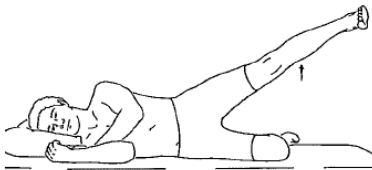
Tighten muscles on top of thighs by pushing knees down into surface. Hold 10 seconds.

Repeat 10 times per set. Do 1 sets per session. Do 2 sessions per day.

Tighten muscles on front of injured thigh, then lift leg to equal the height of bent un-injured leg, keeping knee locked.

Repeat 15 times per set. Do 2 sets per session. Do 1 sessions per day.

HIP / KNEE - 21 Strengthening: Hip Abduction (Side-Lying)



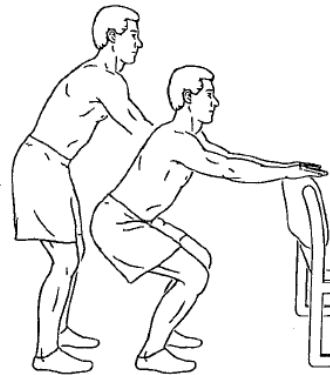
Tighten muscles on front of injured thigh, then lift leg 12 inches from surface, keeping knee locked.

ROSEWALL SLIDES--- Lay on side with whole body flat against wall, keeping the knee locked. Lift leg as high as able.

Repeat 15 times per set. Do 2 sets per session. Do 1 sessions per day.

HIP / KNEE - 78 Functional Quadriceps: Chair Squat

Keeping feet flat on floor, shoulder width apart, squat as low as is comfortable. Use support as necessary. Avoid letting your knee go over your toes. Pretend you are sitting in a chair.



Repeat 15 times per set. Do 2 sets per session. Do 1 sessions per day.

ANKLE / FOOT - 22 Toe Raise (Standing)

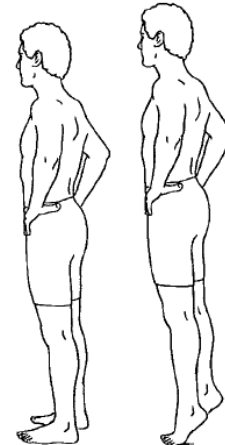
Rock back on heels. Do not stick butt out!!!



Repeat 15 times per set. Do 2 sets per session. Do 1 sessions per day.

ANKLE / FOOT - 20 Heel Raise: Bilateral (Standing)

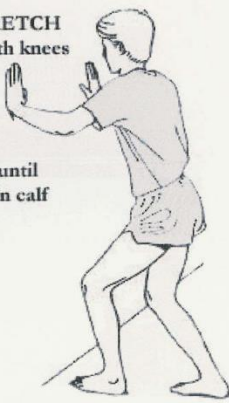
Rise on balls of feet.



Repeat 15 times per set. Do 2 sets per session. Do 1 sessions per day.

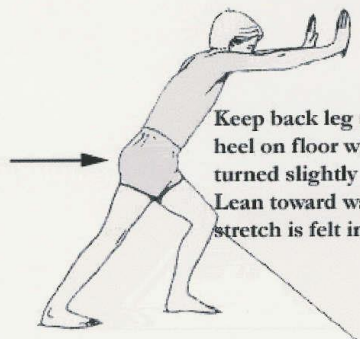
Stretching Exercises

SOLEUS STRETCH
 Stand with both knees bent, and involved foot back. Gently lean into wall until stretch is felt in calf



Hold for 30 secs.
 Repeat 3-5 times
 1-2 times per day

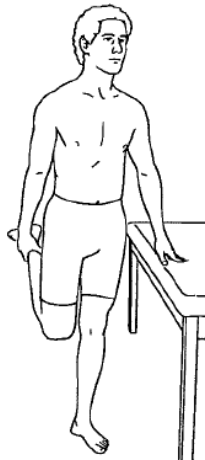
GASTROC STRETCH



Keep back leg straight, heel on floor with foot turned slightly outward. Lean toward wall until stretch is felt in calf.

HIP / KNEE - 37 Stretching: Quadriceps (Standing)

Pull injured heel toward buttock until stretch is felt in front of thigh. Hold 30 seconds.



Repeat 3-5 times per set.
 Do 1 sets per session.
 Do 1-2 sessions per day.

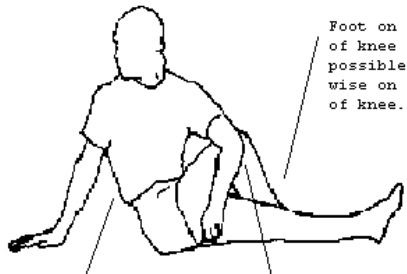
ILIOTIBIAL BAND STRETCH

While standing, cross left leg in front of right. Bend to the left at waist. Repeat sequence with opposite leg.



Hold for 30 seconds
 Repeat 5 times
 Do 1-2 sessions per day

Gluteal stretch and back twist

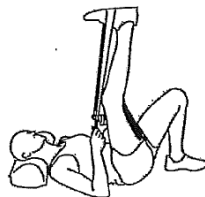


Foot on outside of knee if possible, other wise on inside of knee.

Rib cage should be lifting away from waist. Torso should be as upright as possible.

Gentle pressure with elbow on knee. Stretch should be felt in the same buttock as bent knee and gentle twist should be felt in spine and lower back.

Supine Hamstring Stretch



Lie on back holding leg with towel as shown and pull until a stretch is felt.

Keep the opposite leg BENT. Hold for 30 seconds. Repeat 3 times. Do once per day