

HIKING PREPARATION

Why pre-hike exercises are a must!

Never dismiss the importance of pre-hike exercises. Pre-hike exercises are not only for novice hikers but for regular hikers as well. Embarking on a long hike without any pre-hike training will surely result in post-hike muscle pain and soreness. But be thankful if you only get these temporary discomforts. Another research disclosed that low fitness, increasing altitude and intensity enhance the probability of cardiovascular problems among hikers. The study, likewise, recommended high degree of fitness based on regular training for hikers.

Hiking doesn't only involve LEG muscles but ALL the muscle groups. Equally important is a strong CARDIOVASCULAR and LUNG capacity to sustain the muscular stamina. As a baseline advice for hikers, novice or experienced, design your own fitness program based on these three things: age, physical condition, and flexibility.

For day-hikers, backpackers and trail runners, after-care for pain is a very real part of the sport. Injuries and LACTIC ACID build-up can keep a hiker sidelined for days and make the simple act of going down stairs excruciating. You can also increase your LACTIC ACID THRESHOLD and level of fatigue (thereby lowering the occurrence of sore muscles) by increasing your activity level and training at 85%-90% of your maximum heart rate for at least 20 minutes daily. Hiking down a steep descent places additional stress on knees and muscles that have not been conditioned for downhill activity. Joints and tendons become painfully inflamed. Pushing past ones level of ability and lactic acid threshold and distance, increases the production of lactic acid, resulting in a burning feeling in leg muscles.

Pre-hiking suggestions to minimize pain:

Building Aerobic Endurance (Working the Heart and Lungs)

Prime Your Heart To get the proper aerobic conditioning for a 5-mile hike, walk 30 to 45 minutes, 3 days a week, varying the incline. On a fourth day, do a longer walk, preferably outside on hilly terrain. Each week, increase the long walk until you're doing at least two-thirds of the distance of your first hike (about 3 1/2 miles if you'll be hiking 5 miles). Intensity of the work-out must range from moderate to vigorous. The 30 minutes need not be continuous, it can be accumulated. The exercises may be done 15 minutes in the morning and 15 minutes in the afternoon, or in 3 sessions of 10 minutes each. Be sure to work your heart at 50-80 percent of its maximum rate. i.e. calculating the training zone for a 70 year old man--- $220-70=150 \times 80\%=120$ /high end & 75/low end of training zone)

Cardiovascular endurance will keep the blood flowing throughout your body on long hauls and should be the biggest chunk of your pre-trip routine. Don't be afraid to spice it up: go on a long bike ride (or stationary bike), swim, (or go up and down a step with back pack)

Even if you've been walking regularly, the demands of hiking (hills and rough terrain) require MORE from your cardiovascular system, your muscles, and even your balance. (POSSIBLE GOAL: 1 mile in 17 minutes: Robson Circle in 43 to 47 minutes—under 50 minutes)

Additionally, you can throw in some more high-intensity movements to get your heart and lungs in primo condition:

Going downhill may be easy on your lungs, but your legs are working harder to prevent you from falling forward. Even if you walk 4 to 5 miles a day, allow at least 3 to 4 weeks to train for a 5- mile hike (If you're new to exercise, you'll need 6 to 8 weeks).

Intervals (SEE: PERCEIVED EXERTION CHART--http://www.nifc.gov/FireFit/documents/Perceived_Exertion.pdf)

Interval training intersperses bursts of higher-intensity exercise followed by periods of low intensity, and does wonders as a supplement for "steady state" aerobic exercise. Various types of intervals utilize walking/ jogging/running. Try walking/jogging/running at a "perceived exertion" rate of about "5 to 8" (depending on level of fitness) for 40 yards or so (in PebbleCreek use light posts or mailboxes as your guide), then walk the next distance at a rate of approximately "2" or "3" (heart monitors are not necessary) Follow this format for the length of your walk/jog/run. Interval timer (i.e. Gymboss about \$20—1 'faster pace than 1 'slower pace —gradually increase faster pace)

Interval training in Sweden, where some say it originated, is known as "fartlek" training (Swedish for "speed play"). The protocol for interval training is to push your body past the aerobic threshold for a few moments and then return to your aerobic conditioning level with the objective of improving your performance (speed, strength, and endurance). The aerobic threshold is the intensity where your body switches

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from burning a greater percentage of fat to a greater percentage of carbohydrate and is generally 80 to 85% of your maximum heart rate and then down to around 50 to 65% (called the "recovery period," or sometimes "active rest.")

Exercises to build Anaerobic Endurance for Hikers

Anaerobic Endurance is a short term endurance capacity to sustain an activity in the absence of oxygen. Anaerobic means "without oxygen". When the body is at work, especially if the body is working very hard reaching its maximum activity level, the body's demand for oxygen is more than the supply. During this period, the muscles take energy from the reserved body fuels (glycogen) to the point of exhaustion. This point is called ANAEROBIC THRESHOLD. How well you withstand this period measures your anaerobic endurance.

A good way to develop anaerobic endurance is doing a repetitive high intensity exercise with limited recovery. Anaerobic exercise builds muscle mass and enhances power to deliver a high intensity performance for a short period of time usually 1-3 minutes.

Most common forms of anaerobic exercises are strength exercises, weight and resistance exercises using hand held (free) weights (dumbbells/barbells/kettlebells), bands, tubing, body bar, etc.

Concerns:

- Pre-condition legs weeks before a strenuous hike by doing short hill hikes and strengthening exercises (squats, lunges, step-ups and step-downs). Use stretching exercises for problem areas such as hamstring, IT band, etc. to increase flexibility.
- Learn the technique of heel-to-toe walking so as to make full contact with heel to the ground.
- Try to control uphill and downhill progression so as not to bound, go too fast, or "pound" the trail. Slightly bend knees when descending. Make a conscious effort to keep weight centered with the knee tracking directly over the toe (no twisting in or out). An automatic response to descending a hill is to lean backwards, rather than stay centered. This can result in injury, such as IT Band Friction Syndrome.

Important Leg Exercises for Hikers

Step-Ups/Step-Downs (or with dumbbells) Targets front and back of thighs, butt, and calves. Heading downhill has an even MORE fatiguing effect on leg muscles. "Recent studies have shown that you spend three times as much energy walking downhill as walking up. Place your left foot on an 8 to 12" high aerobic step, then step up with your right foot. Next, step down in front of the step with your left and then your right foot. Turn to face the step and repeat, beginning with your right foot. If this is too easy, you can hold dumbbells at your sides (If you don't have an aerobic step, slowly walk up and down stairs). – See Eccentric Exercises Below

Heel Touches Stand with both feet on the step, facing "downhill." Keep your arms at your sides. Balancing on your left foot, bend your left knee and lower yourself until your right heel touches the floor, then push back up. Alternate sides, doing 3 sets of 15 reps per side.

Dorsiflexion The eccentric heel drop places the emphasis of the movement on the downward phase so that the calf muscles must contract as they lengthen to control dorsiflexion. This exercise is the gold standard for treating achilles tendinopathy. This is an excellent hiking stretch to prevent ankle & knee injuries.

Post-hiking suggestions for dealing with pain:

- Walking or light exercise will keep blood flowing and increase recovery.
- Gentle stretches will help stiff, tight muscles.
- Massage painful muscles with foam roller, tiger tail, massage stick, etc...a myofascial release...eliminates knots called trigger points.

Tiger Tail:

http://www.youtube.com/watch?v=eHk1_3E7PNM

Foam Roller:

<http://www.bing.com/videos/search?q=%22foam+roller%22+exercises+for+hikers&qvvt=%22foam+roller%22+exercises+for+hikers&FORM=VDRE>

Try these Unilateral Lower Body Exercises recommended by bodyresults.com⁴:

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1. Hip Hikes. For this exercise you need a step, a box, or bench at least 4" high. It is also ideal to face a mirror so you can see your waist line. Now here's what you should do: On your right leg, stand sideways on a step, box or bench. Keep your left foot free of the bench. Keep your right leg straight. Without bending your right knee, raise your left hip directly upward then drop your left leg down. Repeat the action. Make sure that your beltline alternately tilts up and down. Repeat on the other side. You may add ankle weights or hold dumbbells to add to the intensity of this exercise. Video: <http://www.youtube.com/watch?v=EySzETVShlk>

2. 1-Leg Deadlifts. You need a dumbbell for this exercise. Stand on one foot while holding a dumbbell in each hand. Keep your balance. Bend over to touch the floor. Exhale as you lift back up to stand. Repeat on the other side.

3. 1-leg Hover Step Ups. You need a step or box 6-10 inches high. On one foot, stand sideways on the box. Let your other foot dangle in the air. Bend your knee and lower your body until your free foot is just above the floor. Pause for a second. Press back to a standing position. Repeat on the other side.

4. 1-leg Calf Raise. You need a step or board for this exercise. Place the step/board on the floor. Make sure the ball of your foot is on the edge of the board. Drop your heel until it touches the floor. Exhale and stand on your toes as high as possible, then inhale as you lower down. Repeat 6-8 times for 1-2 sets, then progress to 2-3 sets of 12-15 reps. For added challenge, hold a dumbbell in each hand or a loaded backpack.

5. Forward Straight Leg Raise. Lie on the floor on one side. Bend your bottom leg, the one on the floor. Extend your top leg in front of your body at a right angle to the torso. Slightly bend your top knee with hips stacked. Lift your leg up without shifting your body backward. Keep the heel higher than the toe. For variation and greater challenge, put ankle weights or use ski boots while performing this exercise. Do the same sets and reps on the other leg. You may extend your arm on the floor and rest your head on it for support and comfort.

6. 1-Leg Squat for Balance. You need a step or a bench and dumbbells. This exercise may be done on a porch, curb or boulder. Instead of dumbbells, you may use a backpack. Now here's what you have to do: Hold dumbbells in each hand. Place one foot on a step, bench or stair. Lower your torso making sure your knees are approximately in right angles. Gradually lower your back knee down toward the floor. Exhale as you press back up. Do 2-3 sets.

8. Lunge Variations. Walking lunge. Keep your hands at your side. Step forward lowering your body until your rear knee nearly touches the floor. Repeat until 6-12 strides on a straight line.

9. Tap Downs--Works all stabilizing muscles of the hip, knee, and ankle.

Stand on a low step/platform (2-6 inches in height).

Place your hands on your hip bones with your abs in and chest open.

Slowly lower your right heel towards the ground, but focus on keeping your hips parallel and knee stable; Don't let your left knee wobble or cave in as you perform the exercise.

It's best to look at your knee and hips in a mirror.

Rise back up straightening your left leg.

Repeat for 8-15 reps; 1-3 sets.

Bilateral Lower Body & Core Exercises for Hikers

- 1. Snow Shoveler.** You need a dumbbell, a backpack, a weight vest, a suitcase or other object with comparable weight. Instructions: Stand with feet slightly more than a shoulder-width apart, knees aligned with your toes. With both hands, hold a dumbbell. Squat down to the ground keeping your back straight. Position dumbbell below your chin as you lift back up to stand. While keeping your feet squarely planted on the ground, rotate to one side moving like you were to throw the snow behind you. Repeat on the other side. Do this alternately until you finish your desired reps..
- 2. Plank Variations.** The basics of plank exercise: Lie flat on the mat. Position your forearms on the mat with your shoulders and elbows aligned. Clasp your hand in front of you. Straighten your legs behind you. Rest on your toes. Tighten your abdominal muscle. Hold as long as you can. Release and repeat..
- 3. Oblique Twists.** Seated and holding a dumbbell, twist left, center, and right repeatedly. (Great for the obliques)
- 4. Back Extensions.** Lie flat face down. Keep your legs and arms by your side. Lift up your upper body while your lower body is on the floor. Contract your abdominal muscles for 5-60 second or for as long as you can. Release and slowly lower your body. For added intensity, add a dumbbell or weight plate across your chest.

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5. **Backwards Walking.** Find a flat area in the park or along the road clear of traffic. Simply walk backward for 20-30 yards. For a start do this 5-6 times. After which you may try a slightly elevated surface, then progress to do this up the hill.
6. **Stiff-leg Deadlifts.** You need dumbbells or a barbell for this exercise. Choose a light weight barbell for a start. In doing the lift, keep your back flat, bend your knees about 15-20 degrees, press your chest forward, keep head and neck neutral, and exhale on the way up. You may do 3-4 sets of 6-8 reps.

Exercises for Beginning Hikers

Obviously, less experienced hikers and especially beginning hikers need specific training and exercises. Compared to seasoned hikers, novice hikers have to consider some precautions. A foremost tip for beginning hikers is to cover distances gradually. Don't embark on a mile-hike on your first venture. Build the distance you cover. Start with a short walk, adding considerable distance the next, making your hike longer and longer. Same with pre-hike exercises, beginning hikers should start out with MODERATE exercises, increasing the intensity with each session.

Here are some simple types of exercises for beginning hikers as recommended by hikers.com:

<ul style="list-style-type: none"> • Warm up exercises (synergy dynamic) • Gentle stretching • Jog in place • Torso stretch • Hamstring and calves pull 	<ul style="list-style-type: none"> • Simple squats • Sit ups (curl ups) • Lunges/'lat' exercises (bent over row) • Moderate weight lifting • Rowing with free weights or a machine exercise
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ECCENTRIC EXERCISE- Each descending step requires a so-called eccentric contraction, meaning you're actually lengthening your quad muscles as you contract them. (STEP DOWNS)

Hiking downhill is eccentric, or muscle lengthening. This action results in your muscles working against the pull of gravity. Your muscles are helping you **decelerate** instead of accelerate, thus your body is already in motion and your muscles are trying to slow you down or stop you. This deceleration is why hiking downhill can be so strenuous for our muscles and why we tend to feel pain never felt before - i.e in the hamstrings and the muscles around your knees and hips. We don't use these muscles as often, so we need to be sure they are ready for your descent.

It is important to prepare yourself for those downhill hikes.

Here's expert advice from Prevention's fitness advisor Wayne L. Westcott, PhD, and conditioning exercises to prepare:

Exercises to Strengthen the Upper Body

TRICEPS DIP for arms and shoulders. You may use a STEP, a bench or if you are out in the woods, you may use a log. Begin this exercise by sitting on the step, bench or log. Place your hands by your side, with your palms facing down touch the step, bench or log. Pushing with your hands, inch your hips off the step, bench or log. As much as possible, keep your rear close to the step, bench or log. Slightly bend your legs. Lower yourself. Don't go beyond 90 degrees at the elbow. Push back to start.

PUSH UPS (perform on knees for beginners) for the chest, arms, shoulders and abs. You may perform this exercise on a flat ground, a boulder or a log. Lie chest down. Place your palms flat on the floor, your hands at shoulder level and more than shoulder-width apart. Keep your feet straight and parallel to each other. Look forward not down at the floor. Push your body up the floor. Don't arch your back. Exhale as you straighten your arms. Hold for a moment. Gradually lower your body down until your chest touches the floor. Push back up again.

Exercises to Develop FLEXIBILITY for Hikers

Stretching exercises develop flexibility or range of motion. The importance of flexibility for hikers and sports enthusiasts was underscored by Dr. Frank C. McCue III, internationally recognized orthopedic surgeon and sports-medicine pioneer and the director of the Sports Medicine Division, University of Virginia Health Sciences Center. He was quoted saying that "Muscles or joints that lack adequate flexibility are more susceptible to injury. Good flexibility can prevent injury and enhance performance."

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Take time at the end of your hiking workouts to stretch. This goes for throughout the training process as well as on the trail. Loose muscles and flexibility will help you recover after a long day and will help prevent injury. Your hamstrings, hips, and quads in particular take a serious beating when hiking.

When you stretch, don't make jerky, quick, or bouncing movements. Instead, ease into your stretches in a smooth, relaxed way and hold the position for 10 to 30 seconds. If you feel any pain, stop. Stretching that causes pain can lead to serious injury if muscle tissues lose elasticity and tear. "No pain, no gain" should be understood metaphorically, not literally, where stretching is concerned. Breathe consciously while stretching; NEVER HOLD YOUR BREATH.....THAT COULD SPIKE YOUR BLOOD PRESSURE!!!

Below is a list of recommended warm-up and cool down stretching exercises to increase flexibility from the book The Complete Idiot's Guide to Camping and Hiking.

<ul style="list-style-type: none"> • Neck Stretch (SCALED muscles) • Side Stretch • Tricep Stretch • Shoulder Stretch 	<ul style="list-style-type: none"> • Calf Stretch • Chest Stretch • Bent-Over Shoulder Stretch 	<ul style="list-style-type: none"> • Side Groin Stretch • Back Stretch • Seated Hamstring Stretch 	<ul style="list-style-type: none"> • Groin Stretch • Pelvic Tilt • Figure-4 Stretch
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Hiking Warm-up

<http://www.youtube.com/watch?v=l8ntcKK1Dn4> <http://vimeo.com/41099785>

Pre-Hike Training

<http://getgoingcanada.hubpages.com/hub/fitness-for-hiking> -short video

Hikers: What You Need to Know

http://www.backpacker.com/may_2007_gear_do_this_workout_to_hike_further_hike_stronger/skills/12143

Designed for Back Packers

<http://mountainsurvival.com/workout/hikingworkout.html>

Hip Exercises for Hikers

Strength training is important for hikers to have a strong and balanced muscular system to withstand the stress and impact of hiking or backpacking. Aside from hip exercises, hikers should also focus on strength training exercises for other parts of the body, such as the quadriceps, hamstrings, biceps, triceps, lower back and abdominals. Many hikers carry packs on their backs, which makes it important to strengthen upper body muscles as well as leg muscles. For some basic strengthening hip exercises, hikers can try hip ABDUCTION, hip ADDUCTION and hip FLEXION.

Hip Abduction

Hip abduction and hip adduction single-joint strength exercises target muscles used in hiking, according to Wayne L. Westcott, a fitness research director in Quincy, Massachusetts. Hip abduction is a movement that draws your leg AWAY from your body. The standing hip abduction with resistance tubing is a good exercise for your hip muscles. To do this exercise, loop the tubing around your right ankle and step on the tubing with your left foot. Next, tighten your abdominal muscles and move your right leg OUTWARD slowly while maintaining proper posture and balance. Switch legs and do sets of 12 to 15 repetitions each. This promotes strength and stability for walking, running and hiking.

Hip Adduction

Hip adduction is a movement that brings your leg CLOSER to your body; it is the opposite of hip abduction. To do a hip adduction exercise, lie on your side with your leg to be exercised on the bottom. Rest your upper leg in front of the bottom leg and secure weights (if any) around the instep of the leg to be exercised. Slowly raise your bottom leg 4 inches while keeping it straight. Return to the start position. Switch legs and do sets of 12 to 15 repetitions each. This will strengthen your hip adductor muscle group and prepare it for the stress placed on your thighs during hiking.

Hip Flexion

Hip flexion is another exercise that strengthens the hip muscles. This helps the hip joint by supporting and protecting it from the stress and impact of activities such as hiking. To perform a hip flexion exercise, stand up straight and lift your leg off the ground. Bend your leg to create a 90-degree angle from your hip, hold it for five seconds then slowly lower it to the ground. Switch legs and repeat five to 10 times each. Video: <http://www.youtube.com/watch?v=4lR3xzX5asc>

Building leg strength and muscular endurance is a must for hiking and backpacking. Not only will it make your adventures much more enjoyable, but it will help keep you injury free.

Exercise that targets thighs, hips, and core.

- Stand tall in a staggered stance.
- Your front foot is flat and your back heel is raised ; weight evenly distributed between your front and back foot.
- Slowly lower straight down keeping weight evenly balanced between both legs.
- Don't let your front knee go past your toes; keep weight on your front heel.
- Raise back up to starting position and repeat 15-25 reps.
- Repeat sequence on the opposite leg.
- Perform 1-3 sets alternating sides.

World's Classic Hiking Trails

If you are done with your pre-hike exercises and training, consider these top 11 trails which made the cut to the world's classic hike featured by the National Geographic in May 2005 issue. Pack your bags, keep fit and get ready for the great adventure ahead! Like we have the means to travel to all these parts...thought some may find interesting however!!

• The Colorado Trail	• Buckskin Gulch, Utah	• John Muir Trail, California
• Kalalau Trail, Kaua'i, Hawai'i	• McGonagall Pass, Denali National Park and Preserve, Alaska	• Fito Roy Grand Tour, Patagonia, Argentina
• Kungsleden, Sweden	• Mount Everest Base Camp Trek, Nepal	• Mount Kilimanjaro, Tanzania
• Routeburn Track, New Zealand	• Shackleton Crossing, South Georgia Island	•

REMEMBER: There Are Two Types of EXERCISERS: (The Big "Cs as I call it)

1. Those that exercise when CONVENIENT (fail to PRIORITIZE!) 2. Those that make a COMMITMENT (settle for RESULTS ONLY!)

Disclaimer: The above information on exercise for hikers is information ONLY and is not meant to be construed as medical advice or any kind of advice. Consult a healthcare professional before starting any kind of exercise, nutrition, conditioning program, or hike.

MY BLOG: www.WallyChute.com (many health/wellness related issues)

Improve Your Hiking Form and Performance Using these 3 Kettlebell Drills

The following website is authored by Helder Gomes (September 5, 2013) a fitness professional and avid outdoorsman. A former United States Marine with diverse health and fitness knowledge.

<http://kettlebellfundamentals.com/2013/09/05/improve-your-hiking-form-and-performance-using-these-3-kettlebell-drills/>

Other websites recognizing the growing popularity of kettlebells among the hiking community!

<http://www.justroughinit.com/blog/2010/01>

<http://socalhikes.com/2009/01/kettlebell-training-part-i/>

If you have any questions don't hesitate to ask: my email address: twochutez@gmail.com

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