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TRAINING FOR A CLIMB

Good physical conditioning is one of the keys and can make the difference between enjoying an outing and merely enduring it. More importantly, the safety of the whole party may hinge on the strength – or weakness- of one member.

The energy required for muscular contractions is derived from three energy producing systems (each of which produces adenosine triphosphate, the final common source of chemical energy for the muscle).

The primary source of energy for sustained or repeated muscular contraction requires oxygen and is referred to as the aerobic system. The other two systems do not utilize oxygen and are referred to as anaerobic.

Cardiovascular Fitness

In general, 3 aerobic workouts a week including 30-45 minutes of vigorous walking, jogging, skipping, hill or stair climbing, cycling, rowing, swimming, or other suitable aerobic exercise that works the muscles in the legs will help establish a good cardio fitness.

If you have access to a treadmill, try adjusting the incline angle so that your body gets used to steadily going uphill. Even better, find a steep hill near your home or a walking route that has several good hills and walk up and down them for anywhere between 20-45 minutes. Several flights of stair steps are also great for training for steeper hikes.



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Strength

Adequate strengthening of muscle groups in the lower body will make the climb feel much easier and hence a lot more enjoyable. Important muscles used for hiking are known to be particularly weak. These include muscles of the hips, such as the glutes, abductors and adductors; the lower back; the large muscles around the knees including the hamstrings and quadriceps, and the smaller muscles in the feet, ankles and calves.

You don't need to worry about the upper body strength.

Step Down



Stand on one leg, the other leg bent from the knee, sole pointing backwards. Do a half squat (go down about 6-9 inches) and come back slowly. Start with doing about 50 for each leg and build it up to 200. You could balance yourself with your hands placed on the wall / pillar. Don't use them for support though ! Excellent exercise to strengthen the muscles around the knees.



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1-leg Squat



The 1-leg squat is an advanced version of the stationary lunge (what I call a “dip”), and it helps you: 1) stretch your hip flexors and quads; 2) strengthen the entire leg, from hips, to quads and hamstrings, to ankles; 3) train each limb evenly, since one leg is doing more of the work at any given time; 4) develop balance and muscle control in your legs, especially if you perform the exercise slowly and with precision. If you are at all concerned about your knees, try a dip without your rear foot elevated, first, to see how they feel. To complete the 1-leg squat, place your rear foot up on a low box, stair or bench, and hold dumbbells in each hand. If you are outside, or do not have access to gym equipment, you can do this with your foot on a porch, curb, or boulder, with a backpack on for added resistance. As you lower your torso, make sure that you will have your knees at approximately right angles (a little forward of the shoelaces, shown below, won't do any harm; if you have any discomfort in the front knee, then try to keep the forward knee behind the shoelaces). On a dip, avoid jamming your rear kneecap into the ground. Keep your torso as upright as comfortable, abs tight, and shoulders and hips squared forward. Inhale as you lower, and exhale as you press back up. Drive the forward heel into the floor to activate the large glute (buttocks) muscles. Complete the desired number of repetitions, rest, then repeat with the other leg. (Model pictured: Lee Murray, photo by Courtenay Schurman)



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1-leg Deadlift

This exercise enhances balance as well as strengthens the glutes, quads, ankles, and hips. Stand on one leg, with the other foot hovering just above the floor behind you for balance. Hold a dumbbell, dictionary, or gallon jug in each hand, and then squat down as low as you can toward the floor without rounding through the back (as shown) before lifting back up to vertical standing position. If you find your balance is off, check your feet; are you gripping tightly with your toes? Try relaxing the foot and you will probably find that your balance improves significantly. Once you've completed your repetitions, shake out the leg, switch to the other, and repeat. For variation, try doing this with a weight in only one hand, and switch the weight to the other hand half way through the set. For added difficulty, pause at the bottom, increase the weight, add repetitions, or drive yourself upward as though you were going to hop off the floor.

Side Low Lunges



To stretch your hips and strengthen the quadriceps for vertical wall climbing, perform the side-to-side low lunge, pictured below. Keep your torso vertical, toes turned out, and for added effect, do this standing face in to a wall while avoiding touching your knees to the wall. An option is to reach up as though you were going



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for your next hold and use primarily the bent leg to lift you up -- a super quad-blaster. To increase difficulty, add a pack on your back, books or dictionaries in each hand, or hold the pause longer in bent knee position. The lower you go, the more stretch you'll feel in your hips.

Remember that anytime you perform a new exercise, you may experience a bit of soreness 24-48 hours afterwards. With repetition, your body will adapt to the exercises and the new stresses put on your body, and the soreness will decrease. However, if you experience discomfort beyond the usual muscle soreness post-workout, and the affected body part is really painful, then you may have overdone it. Try any new exercises with light or no weight first and gradually add intensity as you master form on each exercise and your strength and endurance increase.

Flexibility

Lower Body Stretch

Stretching is an important part of any workout routine. It helps increase your flexibility and reduce your chances of injury. It's best to stretch the muscles you've used after your cool down although, if you have any chronically tight muscles, you may want to stretch those after your warm up as well. Below are some common stretches for your lower body including your quads, hamstrings, glutes, calves and hips. Do each stretch at least once and hold for at least 15 seconds (more if you have time). Each stretch should feel good. If you feel any pain, ease up and go slower.

Instructions	Example
<p>Hip/Glute Stretch Cross left foot over right knee. Clasp hands behind right thigh and gently pull the leg in towards you, keeping upper body relaxed. Switch Legs</p>	
<p>Hamstring Stretch Lie on floor with knees bent. Straighten one leg and slowly pull it towards you, clasp the thigh, calf or ankle. Keep knee slightly bent. Switch legs.</p>	
<p>Inner Thigh Stretch Sit on floor with feet pressed together. Keeping abs in, lean forward until you feel a gentle stretch in your inner thighs.</p>	
<p>Lunge Stretch In lunge position, rest back knee on the floor, with front knee at 90 degree angle, abs in. Gently press forward until you feel a stretch in the front of the leg/hip. Switch legs.</p>	
<p>Kneeling Hamstring Stretch From above lunge position, slowly move backward until leg is slightly bent. Bend forward at the hip, keeping back flat until</p>	

you feel gentle pull in the back of the leg.
Switch legs.

Piriformis Stretch

Begin on the hands and knees and bring the left knee in, resting it on the floor between your hands (you should be on the outside of the knee). Straighten the right leg out behind you and, if you can, bend forward and rest the forearms on the floor.



Knees to Chest

Lying on the floor, pull your knees into your chest and clasp your hands under your knees. Gently press your hips to the floor.



Knee to Chest

From above position, straighten one leg and pull the other knee into your chest until you feel a stretch in your hip.
Switch legs.



Calf Stretch

On hands and knees, straighten your legs, but keep them slightly bent. Gently press one or both feet towards the floor, keeping back flat and abs in.



Kneeling Calf Stretch

On hands and knees, bring the left foot in between the hands and gently press the knee forward while pressing the heel towards the floor.



Spine Twist

Lying on the floor, place right foot on the left knee. Using your left hand, gently pull your right knee towards the floor, twisting your spine and keeping left arm straight out, hips and shoulders on the floor. Switch sides.



Quad Stretch

Lie down on your side using elbow for balance. Using other arm, slowly pull your foot towards your glutes, keeping both knees together and bent knee pointing down. Switch legs.

