

Preparation for High Elevation Hiking Treks

The recommendations in this document have been prepared for your convenience and should not be interpreted as exhaustive in nature. For comprehensive climb preparation training, participants should consult an experienced, professional personal fitness trainer. Additionally, it is absolutely vital to consult your physician to ensure that no health conditions exist that could interfere with the physically rigorous demands of a training program.

*It is a requisite that you also need to have a thorough exam and **consultation with your personal physician to determine if it is advisable for you to participate in very strenuous climbing and hiking over rough terrain at high altitudes in remote wilderness areas far from health care facilities.***

A physical exam / medical release form from your physician is a requisite for Wilderness Medicine CME trips. Please contact the Bio Bio office for a Medical Release Form.

If you've never climbed in high altitudes (above 8,000 feet), you will soon be introduced to a part of the world like no other. A great challenge comes along with the dramatic scenery and culture that our journeys to Everest Base Camp, Kilimanjaro, and the Inca Trail provide. Proper physical conditioning is absolutely essential to reaching your goals of the summit or highest pass—while enjoying every step.

Dedication is the key element in conditioning for your climb. Though we all have busy lives, you must find time to be committed to a daily personal training regimen. The goal is to create a workout program that gets you in top shape at the date of your respective climb. Your personal program will depend on many factors including your schedule, location, climate, and access to training equipment.

****The following is just a sample program.**

You should definitely consult your physician before beginning this or any fitness training. You should also consult with a certified, professional trainer.

In shaping your personal program focus on these four areas:

I. Boosting Your Aerobic Fitness

No surprise here, but the best way to prepare for trekking at altitude is to trek at altitude. If you have access to areas above 5,000 (and the higher the better) take advantage of this opportunity as much as possible. Those who don't have this access will need to work even harder to prepare for trekking at high altitudes. As any physical activity at high altitude is more challenging, you want to account for this by making your workouts more challenging in several possible ways:

- Hike steep hills. Going uphill should account for the bulk of your training! Besides outdoor trails, try a Stairmaster on a fast setting or long flights of stairs in a stadium.
- Hike with a loaded pack. Though you will not be carrying more than a daypack on your expedition, train with a loaded pack (20—50 lbs.). Try filling your pack with one-gallon water jugs, and emptying them out when you reach the top—this way you save your knees the stress of hiking downhill with a load.
- Hike at a faster pace than you are used to.
- Limit your rest breaks as much as possible.

Other aerobic activities such as biking, swimming, cross-country skiing and running are great complements to an uphill hiking based training routine.

2. Strength Training

Focus on building strength in your back, shoulders, arms, and abdominal muscles. Your leg muscles will get stronger through the aerobic training, but you can also include exercises that specifically work your legs if you feel up to it.

The following exercises can be done at home:

- Two sets of sit-ups (abdominal crunches)--as many as you can do.
- Three sets of pull-ups and/or chin-ups-- up to fifteen repetitions per set.
- Three sets of as many push-ups you can do--up to forty repetitions per set.

3. Staying Hydrated

Your body will require an increased fluid intake when during your climb at altitude. Running low on fluids diminishes your endurance, contributes to fatigue, and makes you more susceptible to getting altitude illness. Focus on staying well hydrated during your training. Your body will need it with your workouts, but it also needs to get used to hydrating. You will need to drink large amounts of liquids during your climb (three to four quarts per day minimum) and your body should now start getting used to taking in those copious amounts.

4. Focus on Optimizing Sleep

Strive to get at least eight hours of sleep a night during your training. People often have trouble sleeping at higher altitudes, and diminished sleep will make your expedition much more challenging. Staying hydrated will help you sleep better, and so will making sure you have the right equipment to be comfortable. Try out your sleeping set up for a few nights before your trip to get used to it and make sure you are comfortable. It is also a good idea to get used to sleeping with earplugs, as they are helpful on windy nights on the trail.

A POSSIBLE WEEKLY TRAINING SCHEDULE

ALWAYS CONSULT YOUR PHYSICIAN AND A CERTIFIED, PROFESSIONAL TRAINER FIRST.

Three Months Prior

Build a strong foundation of fitness for the mountains. Focus on dedication during this month. Make a personalized training schedule and stick to it.

Day 1: Hike uphill for at least 40 min; do push ups, sit ups, and pull ups

Day 2: Jog for at least 30 min

Day 3: Hike uphill for at least 40 min; do push ups, sit ups, and pull ups

Day 4: Jog for at least 30 min

Day 5: Hike uphill for at least 40 min; do push-ups, sit-ups, and pull-ups.

Day 6: Do something fun where you can get a workout (cross country ski, bike, paddle etc.)

Day 7: Rest

Notes: Stairmaster or stair-climbing may be substituted for uphill hike. Swimming or biking may be substituted for jogging. Biking, however, should be challenging - uphill or longer than 30 min.

Two Months Prior

Build endurance and strength. Keep workouts challenging and fun.

Day 1: Hike uphill for at least 40 min with a weighted pack; do push ups, sit ups, and pull ups

Day 2: Jog for at least 35 min

Day 3: Hike uphill for at least 40 min with a weighted pack; do push ups, sit ups, and pull ups

Day 4: Jog for at least 35 min

Day 5: Hike uphill for at least 40 min with a weighted pack; do push-ups, sit-ups, and pull-ups.

Day 6: Do something fun where you can get a good workout (cross country ski, bike, paddle etc.)

Day 7: Rest

Notes: Every other week, do a 10-15 mile hike that is a full day of 6-8 hours of hiking with short breaks.

One Month Prior

Step everything up in intensity. Hike and jog at a faster pace. Add more weight to your pack. Add another set of push-ups, sit-ups, and pull-ups. When you feel like quitting, go even further. Really challenge yourself this month to gain mental toughness. Be sure to test out your gear extensively this month. Try to consume at least three to four quarts of water per day.

- Day 1: Hike uphill for at least 45 min with a weighted pack; do push ups, sit ups, and pull ups
- Day 2: Jog for at least 35 min
- Day 3: Hike uphill for at least 45 min with a weighted pack; do push ups, sit ups, and pull ups
- Day 4: Jog for at least 35 min
- Day 5: Hike uphill for at least 45 min with a weighted pack; do push-ups, sit-ups, and pull-ups.
- Day 6: Hike at least six hours with a weighted pack.
- Day 7: Rest

Notes: Plan at least one overnight backpack trip where you can test out your sleeping gear.

What medications should I bring to help myself acclimatize?

Each person is responsible for bringing and planning their own medications and personal medical kit. Please consult with your physician and current literature for the most up to date advice. The following is only a general outline and should not in any way be substituted for the regimen advised by your own physician. For a general overview, see text Wilderness Medicine by Paul Auerbach M.D., chapter on High-Altitude Medicine. You would be well advised to inform yourself as well as possible on all aspects of prevention and treatment of altitude related medical problems.

Please also be aware that the Wilderness Medicine Faculty on these CME courses are contracted solely to provide continuing medical education lectures. The Wilderness Medicine faculty are not contracted for bringing medical supplies or rendering medical care to participants.

How well your individual body adapts to the thinner air depends a good deal on innate factors that you have no control over. That being said, people in top shape often acclimate better because they expend less energy hiking, leaving their bodies ready for the task of acclimatization. Proper hydration has also been proven to be essential in this task. There is no substitute for being in top shape and staying hydrated!

Many altitude physicians recommend bringing the following medications for prevention and or treatment of altitude related problems.

- Diamox- e.g. 125 mg, twice a day. Beginning 24 hours before ascent to a sleeping elevation of greater than 8,000 feet. Continue until achieve highest elevation.
- Decadon- 4 mg tablets.

You may also consider bringing the following:

- Nifedipine
- Viagra/ Cialis
- Albuteral or salmeterol inhaler
- Gingko Bilboa

*****SOME VERY KEY THINGS TO KEEP IN MIND---**

- 1) NO MATTER HOW MUCH YOU TRAIN AND HOW FIT YOU ARE, YOU STILL MIGHT DEVELOP LIFE-THREATENING ALTITUDE ILLNESS.
- 2) IF YOU DO NOT FEEL WELL AT ANY POINT ON THE TRIP – SUSPECT ALTITUDE ILLNESS. WHEN IN DOUBT- ALWAYS DESCEND IMMEDIATELY TO LOWER ELEVATION!!!

We hope you have a fantastic adventure!...and most of all, a safe one!