

\*SPECIAL REPORT\*  
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# Outside

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**ULTIMATE  
GPS**

You CAN Get  
There from Here

**STONED ON  
ENDORPHINS**  
Myth or Reality?  
(see page 34)

EXCLUSIVE INTERVIEW

# LANCE ARMSTRONG

**THE SERENGETI  
OF SOUTH  
AMERICA**  
Jaguars, Piranhas  
— and You!

**KYRGYZSTAN  
KIDNAPPING  
CONTROVERSY**  
Greg Child Confronts  
Those Ugly Rumors

**ON GLORY,  
HEARTBREAK,  
AND THE HIGH  
PRICE OF  
GREATNESS**

LANCE ALONE:  
The four-time Tour  
champ faces his future.  
PHOTOGRAPHED BY  
ANTON CORBUN IN  
GIRONA, SPAIN



**HOW TO BECOME A MOUNTAIN CLIMBER**  
THE BEST GUIDES & GEAR // **LEARNING THE ROPES ON**  
AMERICA'S TOP TEN PEAKS PLUS: HIGH-ALTITUDE FITNESS

# BODYWORK



## Chalk It Up

Experience is the key to mountaineering prowess, but high-altitude fitness makes all the difference on summit day

BY CLYDE SOLES

**RAINGEAR? CHECK.** Topo map? Already highlighted. A Dagwood-style summit sandwich? Made it last night. Experience on high peaks and big walls? Plenty. If this sounds like your comprehensive pre-climb checklist, guess what . . . You've left out the most important element. "Any climber's number-one priority should be fitness," says mountaineer Dr. Frank Hubbell, executive director of Stonehearth Open Learning Opportunities, or SOLO, a New Hampshire-based wilderness-emergency medical school.

A super-tuned body is the vital common denominator that can be achieved by both beginners roping up for the first time and rock rats speed-climbing El Capitan. And if you think spending the summer scrambling around Yosemite's Camp 4 will cut it, you're wrong: Time on the rocks is just one component of a three-part equation for getting in summit-worthy shape. The other two? Cardiovascular stamina, for all-day staying power, and weight lifting,

**ALTITUDE CHECK:** You need a plan for peak performance.

PHOTOGRAPHS BY JOHN CLARK

ALSO THIS MONTH ... Shrimp-coated bandages >> The power of good vibrations >>>

for injury prevention and power. What follows is a plan that integrates all three—technical skills, endurance, and strength—in order to deliver you to base camp in top form.

Before you begin, however, you've got to match your regimen to the mountain. The granite tower of Washington State's Liberty Bell and the glaciated volcano of Mount Rainier present very different physiological challenges—and require that you assess your weaknesses in very different ways. If you can run a marathon but can't eke out a pull-up, scale back the mileage and start strengthening your upper body. Conversely, if you can crank through a powerful crux move but a five-mile approach leaves you winded, swap the climbing shoes for some trail runners. You'll need serious aerobic conditioning before you can tackle the likes of Rainier.

Once you're familiar with the physical demands of your objective, follow our path for at least four months leading up to your climb. By the time you head to the mountains, the weather—not your conditioning—will be your primary concern.

#### **UP AGAINST THE WALL**

IF YOUR CHOSEN route involves more moves than miles, spend a couple of hours a week in the climbing gym. While nailing your technique, you'll be complementing your strength training. "Climbing has its own level of coordination," observes Hubbell. "Get on the rock at a gym so that you're establishing strength as well as conditioning neurons." Although scaling prefab handholds bolted to plywood isn't the same as getting out of sticky situations on real granite, you can't beat the hours, proximity, lack of rain and bird poop, and year-round availability. A visit twice a week will adequately prepare you to take on long routes of moderate difficulty, like the Exum Route on Grand Teton (19 pitches, 5.7).

For multipitch endurance, start by climbing up and down the wall (no rappelling) for up to ten minutes. Rest for three and repeat until you're wasted. Then, to teach your muscles to function when your mind says they can't, try bouldering—a series of difficult maneuvers that last ten to 40 seconds over five to ten different holds. It may not seem like much time, but trust us: Your

quivering muscles will need at least four minutes to recover from each series.

With enough experience, you'll be able to tackle those natural walls outside without having to worry about losing your grip.

#### **ELEVATION GAINS**

NO MATTER what end of the climbing spectrum you prefer, you need to embrace some kind of consistent aerobic exercise. Otherwise, an ascent to 14,000 feet will feel like a slog up Everest, and your legs will Elvis uncontrollably in the middle of a 17-pitch vertical assault—the telltale sign of muscle fatigue.

You can bike, swim, or run your way to a stronger heart and lungs, but since climbing demands more than just cardio fitness, trail running works best for alpinists. "It's good mental training for climbing, since it forces you to focus on your balance and coordination for extended periods," says expedition climber Mark Synnott, who frequently runs in the White Mountains of New Hampshire, near his home.

Start building your aerobic base by exercising at a conversational pace for an hour, two days a week. On two other days, warm up for ten minutes, then complete a workout of five sprint intervals. Go as hard as you can for two minutes—your muscles should be in anaerobic agony—then slow down for two more. Each week, add 30 seconds to the intervals and recovery time, working up to eight minutes apiece. The goal is to raise your lactate threshold, the oxygen-deprived point at which your muscles turn from useful to painful. The intervals are about as pleasant as a root canal but serve a vital purpose: preparing you to endure hours at oxygen-thin elevations without burning out.



Over the weekend, take a long hike or spend a day climbing your favorite wall. Remember: This is supposed to be fun.

#### **GROW STRONGER, GO LONGER**

A COMPREHENSIVE weight-lifting routine will benefit you in three crucial ways: It will correct the strength imbalances that overdeveloped climbing muscles cause; replace fat with calorie-devouring muscle, making you leaner and, therefore, quicker; and, most important, strengthen your bones, tendons, and ligaments. "Tendinitis is the most common injury for climbers because they're often straining tendons before strengthening the surrounding muscles," says Hubbell.

Not only will our strength program (see "The Iron Mountain," opposite) target the Achilles' heels mentioned above; it will develop muscle endurance, ultimately allowing you to maintain control of your body's motor skills once fatigue has set in. ○

# THE IRON MOUNTAIN

**LIFTING WEIGHTS IS ESSENTIAL** if you want to make it above tree line. Besides improving overall strength, you'll buttress opposing muscle groups that don't see action when you're just climbing (think pushing versus pulling), thereby staying off potential trip-ending injuries.

If you follow our conditioning schedule (see "The Weekly Plan," bottom right), you'll head to the weight room twice a week for four months, ramping up for the big climb. On the first workout day of the week, you'll "lift heavy" to build power. Complete the entire circuit of exercises at right, but do only one set of six to ten reps, depending on the exercise, with heavy weight—just enough to completely exhaust you by the end of the set. For your second workout of the week, lighten the load by a third and complete three sets of ten to 14 reps per exercise—increasing reps increases muscle endurance. By alternating the weight-to-rep ratio of your workouts, you avoid the stagnation of the same old routine.

## 1 SQUAT (DAY 1: 1 x 6 REPS | DAY 2: 3 x 10 REPS)

The best lift for climbers. Squats train all the lower body's major muscle groups, work stabilizers and core muscles, improve joint stability by strengthening tendons in the knees, and increase bone density. Ease into your squat sets without weights—just till you get your form dialed—then move on to using dumbbells. Graduate to squatting with a barbell of manageable heft.

## 2 STATIC LUNGE

(DAY 1: 1 x 10 REPS/LEG | DAY 2: 3 x 14 REPS/LEG)

This move gives you strong legs for ascending and descending the steep, and its asymmetrical position fires the same stabilizer muscles used when negotiating tricky scree fields or making high steps. Start without weights, then move on to lifting a third of the total weight you squat.

## 3 CALF RAISE

(DAY 1: 1 x 10 REPS | DAY 2: 2 x 10 REPS)  
Front-pointing up endless snow slopes or carrying absurdly heavy loads can leave your calves screaming for mercy. Prepare them by doing straight-leg calf raises.

## 4 LAT PULLDOWN

(DAY 1: 1 x 6 REPS | DAY 2: 3 x 10 REPS)  
Even if climbing is already part of your regimen, lat pulls will make you stronger faster, since the major muscles are worked to fatigue much quicker than on a pitch. Vary your body angle (leaning back versus sitting upright) and hand position for each set to simulate the variety of body positions you'll use on a wall.

## 5 INCLINE PRESS

(DAY 1: 1 x 8 REPS | DAY 2: 2 x 12 REPS)  
Chest presses prevent the injury-inducing muscle imbalances that result from having an overdeveloped back. The incline press works the pectorals and deltoids; using dumbbells allows a full range of motion and develops the shoulder's rotator-cuff stabilizers.

## 6 SEATED ROW

(DAY 1: 1 x 8 REPS | DAY 2: 3 x 12 REPS)  
Strong biceps and back muscles are essential for cranking a route, and the seated row trains these muscles for the strong moves often needed to make high reaches on rock or ice.

## 7 CRUNCH

(DAY 1: 1 x 10 REPS | DAY 2: 3 x 14 REPS)  
Strong abdominals provide your whole body with greater control on everything from overhanging sport routes to classic alpine lines. Use a stability ball to work the entire stomach. As you get stronger, add resistance—not reps—by holding a small weight plate behind your head.

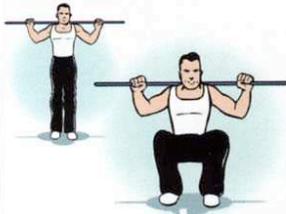
## 8 BACK EXTENSION (BOTH DAYS: 3 x 14 REPS)

Together with your abs, your spinal muscles help you flow up a climb. With improved strength, they'll prevent debilitating injuries. Lie on your stomach across a stability ball, legs spread and arms behind your waist, then arch your back. To take it up a notch, lace your hands behind your neck.

ILLUSTRATIONS BY MARK MATCHO

**CLYDE SOLES** is the author of *Climbing: Training for Peak Performance* (Mountaineers Books, 2002).

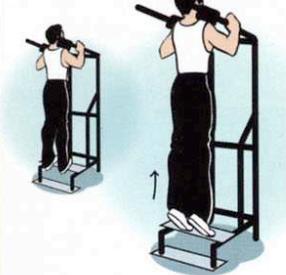
## 1 SQUAT



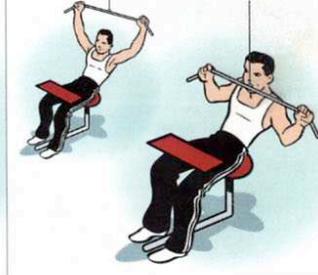
## 2 STATIC LUNGE



## 3 CALF RAISE



## 4 LAT PULLDOWN



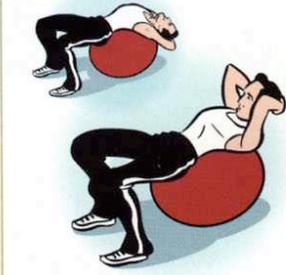
## 5 INCLINE PRESS



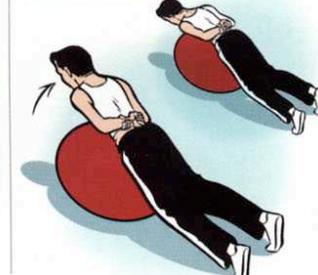
## 6 SEATED ROW



## 7 CRUNCH



## 8 BACK EXTENSION



### The Weekly Plan

	M	TUE	WED	THU	FRI	SAT	SUN
a.m.	OFF	cardio*	cardio	cardio*	weights	LONG HIKE OR CLIMB	cardio
p.m.	OFF	climb	weights	climb	OFF		OFF

\* = cardio intervals