

Training For Climbing

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"Failure teaches you what to work on and how to do it. Without failure it is harder to learn"

- Heather Reynolds Sagar.

Training Principles

An effective training schedule should begin with an understanding of one's weaknesses and strengths. The components of climbing can be broken down into three basic categories:

- Physical - Grip strength, flexibility, balance etc..
- Technical - Positions and movement patterns
- Mental - Memory, focus, motivation etc..

By breaking down the climbing experience into its component parts you can begin to focus on specific weaknesses and address those in your training. Keep in mind, however, that all the components of climbing interact and depend on one another. In other words, successfully executing a climbing sequence requires a synergy of body, mind and technique.

To identify your weaknesses analyze your failures and look for patterns. Begin by climbing routes at your limit and when you fall ask yourself: "Why did I fall?". Was it a physical failure such as the inability to lock off and move to the next hand hold? Did you have a mental failure and give up before your strength failed? Or was it a technique mistake that prevented you from finding the right body position to keep weight off of your arms? It may help to have your fellow climbers critique you for they may be able to observe your climbing more objectively. A video camera is an excellent tool for pin pointing errors in your climbing.

Push your limits on a variety of routes or boulder problems. Investigate your endurance limit by doing laps on a route well below your red-point limit. Test your mental abilities by trying to on-sight a new route or problem. Focus on power by doing short boulder problems at the very limit of your ability. Check out your flexibility on routes that force your body in to awkward positions.

Once you've identified some of your weaknesses, don't forget to remind yourself of your strengths. Maybe poor upper body strength is a weakness, but you've got great footwork and balance. Work out with the weights and on big juggy roofs, but then treat yourself to some slab routes to keep it fun.

Set specific goals that are measurable to gauge your progress. Steps to an effective training regime:

1. Identify strengths and weaknesses.
2. Set goals including both performance and progressive goals.
3. Work specific exercises to achieve your goals.
4. Measure progress to keep motivated.
5. Avoid over-training, injury and mental burnout.
6. Keep it fun!

Vocabulary

Power: Simultaneous muscle contraction to produce a short burst of strength.

Endurance: Ability to execute moves at or below your aerobic threshold over a period of time.

Stamina: Ability to execute moves beyond your aerobic threshold, recover and repeat.

On-Sight: Lead climb from top to bottom without falling and without previous knowledge of the route.

Red-Point: Lead climb from bottom to top without falling after rehearsing the moves.

Flash: On-sight with beta

Beta: Advice, verbal or written about the techniques or holds on a route.

Exercises To Improve Performance

A lot of folks hate exercise and training; but just think about how much quicker you'll improve if you focus on working specific weaknesses. Don't just train hard, train smart. Keep it fun and remember the sacrifices you make in the gym will pay off in spades at the crag.

Supplemental Strengthening

Got great footwork and body position, but you still poop out on steep routes or attempting to pull around roofs? Check out these upper body exercises:

Pull-ups

5 sets to failure w/ 2-3 min. rests. Min. of 8 max of 15 After 5 sets of 15 start adding weight Use spotter or chair to complete at least 8.

Frenchies

Lock off pull up w/chin above bar for 7 seconds

Lower, pull up lock off w/elbows at 90 degrees for 7 seconds

Lower, pull up, lock off w/elbows at 120 degrees for 7 seconds

Repeat

Work those abdominals for moves that require a lot of body tension. You'll notice an improvement in your ability to tackle steep routes and everyone else will notice your rippin' six pack.

Ab Crunches

3-5 sets to failure w/one minute rest between sets

Hanging leg raises

3 sets to failure w/ one minute rest between sets

Working on your pushing muscles in addition to pulling muscles will help even out imbalances that naturally develop in climbers. Muscle imbalances can lead to tendonitis and unstable shoulder joints.

Push-ups or light bench

1x or 2x per week, 3 sets to failure bench - 75% of body weight or less

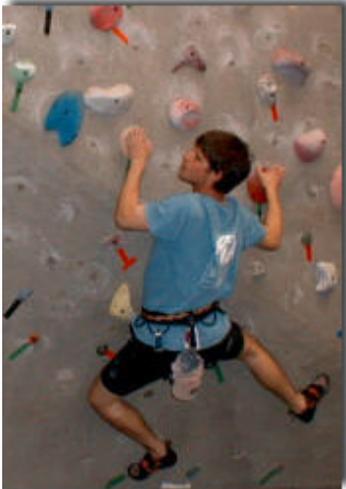
Light shoulder press

1x 2x per week, 3 sets of 20 reps 30-40% of body weight max.

Dips

1x or 2x per week, 3 sets to failure

Finger Strength Training



Performing specific exercises for finger and upper body strength can improve contact strength, grip strength, endurance, power, and neuromuscular coordination. Deadhanging, or statically hanging from straight or bent arms, can help build endurance and grip strength. On the other hand, dynamic movements like pull-ups and campusing are more effective at working contact strength (the ability to latch a hold at speed) and coordination.

According to Eric Horst, effective finger strength conditioning for climbing should meet four criteria:

1. The exercise must be high intensity throughout the set.
2. The exercise must produce muscle failure in less than one minute. (6-12 reps is considered ideal).
3. The exercise must be specific to climbing positions and movements.
4. The exercise must focus on a specific grip positions for an entire set.

Adding or decreasing the load may be necessary to produce muscle failure with the desired number of repetitions. You can increase the load by adding weight either strapping it to your harness or carrying it in a pack. To decrease the load use a spotter or elastic band for support. Four popular methods of finger strength conditioning are mentioned below. For more information visit the links on the Resources Page.

Campus Board

Campus board training is done on a slightly overhanging board set with thin wooden strips at regular intervals. The ladder is climbed upward or downward sans footholds. "Campusing" effectively builds contact strength, grip strength, upper body power and improves neuromuscular timing. However, campus training requires a significant base strength and thus is not appropriate for beginners. The other downside to campus training is that it is difficult to isolate a variety of grips.

FingerBoard

Fingerboards provide a relatively quick way to isolate a variety of grips and build grip strength through high intensity hangs on a single-grip position. Each rep should produce muscle failure in 6-8 seconds. Finger strength and upper body strength can be conditioned simultaneously through a variety of pull-up exercises.

Bouldering

Bouldering is by far the most interesting and fun way to work on finger strength and it also incorporates specific climbing movements that train technique in addition to strength. By customizing boulder problems to target specific technique or grip weaknesses you can simultaneously build motor engrams and strength. The disadvantage to bouldering is that grip positions are not as effectively isolated, "failure" may be due to technique failure or muscle failure and thus bouldering exercises are not as efficient or quantifiable as other more systematic approaches.

System Training

System training incorporates concepts from both bouldering and other methods of training. In system training, a series of moves are created that mimic climbing moves but isolate specific muscles groups. By completing reps to muscle failure, individual grips and muscles are conditioned within the context of technique specific movements.

Technique

Static Climbing - Body Position and Lock Off Strength

Climb without using any momentum to move between positions. To ensure that you aren't using momentum, hover your hands and feet for two seconds over the holds, before placing them. You'll be surprised at how much

you rely on momentum. Without it, you'll need to use your feet to get into more stable body positions and lock off longer as you reach for new holds.

Dynamic Climbing - Coordination and Contact Strength

Climbing dynamically improves the accuracy and timing of your movements as you use momentum to propel you to higher holds.

Practice climbing using both hands as one. In other words, match hands, then lunge for the next hold with both hands to another match. If your strength is up to the task, try climbing with just one arm.

Speed Climbing - Building Motor Engrams

Many beginning climbers climb slowly and tentatively; practice climbing quickly on a route that is well within your ability level and focus on performing the sequences rapidly without sacrificing technique. If you begin to climb with poor technique, slow it down a notch or pick an easier route. By speed climbing you'll drill movement patterns into your muscle memory and learn to move through tricky sections on harder routes faster, saving valuable energy.

Blind Folded Climbing - Proprioceptive Sense

Most of us rely on our eyes as the primary sense for information on the world around us, including our body position relative to the rock. By climbing blindfolded we can begin to tune our sense of "feel" for the rock by focusing more on touch, pressure, tension and balance. Try this exercise both with and without beta from your belayer.

Downclimbing - Footwork and Lock Off Strength

Downclimbing forces you to look at your feet and unlike climbing upwards it is difficult to rely on momentum to get you from one hold to the next, so lock off strength is a factor. True, you can use gravity to assist in dropping down to holds if you don't have the lock off strength to lower down, but you had better have precise footwork or you'll take a fall!

Lap Climbing - Endurance and Stamina

Short routes is the gym can often mean that your endurance and stamina don't get an adequate workout.

Endurance is the ability to do sequences below your aerobic threshold over a period of time. In other words, climbing long but easy routes without tiring. Stamina is similar but it refers to the ability to do hard moved beyond your aerobic threshold and then rest and recover enough to do it again. Bump up your endurance by doing aerobic exercise and multiple laps on a route. If you want to build stamina, choose route that you can just barely climb three times in a row, before you burn out and fall. Rest and repeat.

Straight Arms - Steep Route Technique

Pick a vertical or overhanging route that is well within your ability. Climb with your arms straight as if your elbows are locked. It will force you to backstep, roll your hips into the wall, and twist at the shoulders to reach higher hand holds. Learning to "twist lock" while supporting your weight on your skeletal structure rather than hanging on bent arms will dramatically improve your efficiency on steep terrain.

Hands Down - Footwork

If you use your arms to haul yourself up the wall even on slab routes, try this exercise. Climb an easy slab, but keep your hands below your shoulders at all times. This will force you to move your feet up before you reach and over extend yourself.

Thumb Climbing - Balance and Footwork

A lot of people don't realize that balance can be trained and improved just like strength. And just like strength, you've got to practice it to keep it honed. Pick a slab route with plenty of holds and climb with just your feet and thumbs. Yep, keep those fingers balled up in a fist and force yourself to balance on your feet.

Bouldering Games

Stick Game - The Stick Game, also known as Send Me can be used to train a variety of skills. One person climbs while the other chooses holds either by pointing to them (with a stick). It can be a fun way to train endurance, force a climber into new body positions, or simply a method of training on-sight skills.

Pick Five - Pick Five is a great way to create spontaneous boulder problem and practice on-sight skills. One person picks five hand holds and then attempts to link them. Thinking of challenging combinations is a good mental exercise and climbing with a group will allow you to analyze one another's technique.

Add Two - Another great bouldering game, Add Two is a bit like Simon Says. One person starts with two starting holds. The next person begins to build the problem by adding two moves and so forth until everyone has had a chance to add two moves to the sequence. This game is good for analyzing each other's technique and practicing re-point skills as you repeat moves, memorizing and making improvements each time.

Mental Aspects

Finding your mental weakness can be a bit tricky. Unlike physical weakness or technical mistakes, it can be hard for someone to help you by pointing out errors in your thinking. What do you think about when you are climbing? How does your mental attitude affect your performance? How do your expectations and fears affect your ability to differentiate between perceived risk and real risk?

Expectations that we bring to our climbing can come from within or they may be imposed by years of socialization or the offhand comment of a friend. The important thing is to realize how we form expectations, how they can impact our performance. As you begin a hard route or challenging crux do you expect to fail or succeed? Do you expect to fall and get hurt? WHY?

Negative thoughts and expectations of failure lead to unreasonable fears that can cause you to lose focus, have difficulty remembering sequences, torpedo your motivation and ultimately lead to a "self fulfilling prophecy." Such fears need to be identified and discarded before you can free your mind and realize your physical potential.

On the other hand, reasonable fears that come from an accurate assessment of the situation must be heeded. Over-confidence, denial, hubris and ignorance can blind you to real danger.

Think about how the following ideas are a part of your climbing (or your life): Focus, Memory, Arousal, Fear, Frustration, Failure, and Motivation. If your mental attitude is one of your "weak links", consider doing some research into the area of sport psychology and learn about techniques such as visualization and relaxation that have proven effective for beginners and experts alike.