The Basics
**WARNING:** Climbing is a dangerous sport. The information contained in this guide should be used to supplement proper instruction from a certified guide or instructor. There are no warranties, either expressed or implied that this guide contains accurate and reliable information. Your use of this guide indicates your assumption of the risk of death or serious injury as a result of climbing’s inherent risk and is an acknowledgement of your own sole responsibility for your climbing safety.
# Table of Contents

Keys to Starting a Climbing Training Program ........................................... 3
Who is this guide for? .................................................................................. 3
Introduction .................................................................................................. 5
Stamina ......................................................................................................... 6
Shoes ........................................................................................................... 7
Technique ..................................................................................................... 10
General Fitness ............................................................................................. 12
  Weight Management .................................................................................. 12
  Flexibility ................................................................................................. 13
  Overall Conditioning ............................................................................... 13
Climbing Specific Strength Training ........................................................... 14
  Sample exercise: ..................................................................................... 15
Sample Climbing Routine ........................................................................... 16
  15 minute warm up .................................................................................. 16
  15 minute technique focus ..................................................................... 17
  75 minute climb time ............................................................................. 17
  10 minute strength training ................................................................... 18
  5 minute stretching ............................................................................... 19
Glossary ........................................................................................................ 21
  Hold Types ............................................................................................... 21
    Hangboard (aka Training board) .......................................................... 21
    Jugs ........................................................................................................ 21
    Edges .................................................................................................... 23
    Slopers ................................................................................................. 24
    Pinches .................................................................................................. 25
    Pockets ................................................................................................. 26
  Grip Types ................................................................................................. 28
    Open Hand ........................................................................................... 28
    Half Crimp ............................................................................................ 28
    Full Crimp ............................................................................................. 28
    Slopers ................................................................................................. 29
  Stretches ................................................................................................... 29
    Hands, Wrists and Forearms ............................................................... 29
    Arms and Shoulders ............................................................................. 30
Keys to Starting a Climbing Training Program

This booklet is a rock climbing training guide to help climbers of all abilities climb smarter and more efficiently. In this guide learn how stamina, technique and strength can take you to a new level of climbing fitness and ability.

Does this sound familiar: you tire easily, your hands give out, and your forearms feel blasted; maybe you climb a handful of problems only to find yourself incapable of fathoming progress to the next level? Or you’ve found yourself climbing the same grade for too long but harder grades simply shut you down? This is a common occurrence that happens to everyone, but is more pronounced with beginners. Don’t despair. There are some tips for breaking through these barriers and sustaining longer and more productive climbing sessions.

Who is this guide for?

This guide assumes some basic knowledge about rock climbing. It is not meant for the first time rock climber but rather for the rock climber who has been climbing for some length of time and has a basic understanding of climbing principles such as belaying, tying the figure 8 knot, climbing commands, route climbing versus bouldering, etc. This guide may delve into concepts in these areas only if they provide further insight for improving one’s current
climbing ability but is not intended to teach logistics for ‘how to rock climb’.
I fell in love with rock climbing in 1992 and have been climbing ever since. I was a recreational climber doing hard 5.11s until one day I decided to climb my full potential. To do this, I explored training for rock climbing as well as making the decision to stop top roping. Since then, I’ve climbing v9 and 5.14a. I also studied training techniques and concepts and started teaching climbing training. I’ve even been a US National Team competitor, competing in the World Cup for bouldering and roped climbing both in the States and Abroad. I’ve climbed a variety of rock types and styles all around the world while maintaining a demanding corporate full-time job.

The transformation from recreational to professional climber didn’t happen until after I had set my mind to lead my ability and explore my true potential. Since that time, I have pushed my ability beyond anything I thought I would have been capable to do all those years ago. Now, I want to help others transform their climbing. Writing guides, doing clinics and providing private training are just some of the ways I am giving back and creating opportunities for you to help make your climbing transformation possible.

Happy Training!
Stamina

Stamina is the physical or moral strength to resist or withstand something. It is interchangeable with the word *endurance*. I use stamina and not endurance to place the focus on one's overall *Constitution*. Your Constitution is the physical character of your body. It represents your current state of health, fitness and strength. These factors play a key role in increasing your stamina, which will lead to an increase in endurance, which will lead to an increase in your overall climbing performance.

† Climb, a lot. Sounds obvious, but this basic concept is easily overlooked. Afterall, you get tired and achieving more climbs in any one session can appear impossible. Therefore, it is good to keep a mental log, or an actual log (depending on how disciplined and driven for improvement you are). The idea here is to identify your current base performance.

You can track this a few different ways: by total time spent at the gym, # of climbs attempted or estimated % time spent climbing. The obvious first step to improvement is to gradually increase these numbers. For instance, if you find your climbing time maxes at 20 minutes, then in your next session, aim for 30. Likewise, if you consistently find yourself tired and quitting after 5 climbs, start aiming for 6, even if you perceive your chances of
success on this climb to be minimal. To help you achieve these new goals, reduce the difficulty of the climbs.

▷ Another way to increase the amount of time you spend climbing is to take up traversing. Traversing is the act of climbing along a wall without any upward progression. For example, you can traverse a wall back and forth many times or attempt to traverse from one end of the gym to another. There is a gold mine of learning that can occur by this simple routine. Use it as a warm up, cool down, or better, as both!

▷ Do this progressively, and readjust after consistently achieving the new volume.

▷ If you climb only once a week, start with increasing the number of times in the gym until you can climb consistently at least 2-3 days a week. If you climb at least 3 days a week (either indoor or outdoors), apply these tips to 1 of the climbing sessions.

▷ Don’t be tempted to be overly aggressive with your goals. Climbing is a highly intensive, weight bearing activity for the fingers, forearms, shoulders and respective tendons and joints. Going too hard, too soon, will promote injury. Start conservatively, and progress only after proven results.

Shoes

As a beginner, you are probably overwhelmed with the number of shoe choices available to you. Ask any shoe representative or
salesperson and they will give you a full list of pros and cons for which shoe is right for you. But really, why have so much variety in shoes? The reason is because there are many different kinds of feet and types of climbs to consider. Does that mean any shoe will work for you? Not necessarily.

Whether you are investigating a new shoe or already have a pair, there are some general characteristics to shoes that you should understand. These characteristics separate the types of shoes and can help you identify why you would want to pursue one type over another. Understanding your shoe will also help you to learn how to maximize your use of it.

The general rule of thumb for new climbers is a shoe that is snug but not tight. The shoe must feel comfortable on the foot but the foot should not slide around inside the boot. The toes should be comfortably snug in the toe box such that walking in the shoes is possible. The more comfortable the shoe, the longer you can stand in them without having to take them off. This type of shoe is great for long outdoor routes. The tradeoff is that you will lose some performance in the shoe, but as a beginner, this is not a bad thing.

Symmetrical shoes tend to fit the general population best. Asymmetrical shoes, shoes that taper at the front of the toe box, depend on the shape of a climber’s foot for comfort. Avoid the most aggressive and technical shoes. Until your climbing technique improves, there is no point in spending all of that money on a high-performance shoe.

Makes and models of shoes offer some variety. There are very similar shoe designs out there, but the type of rubber, the lacing
or velcro system, and the symmetry of the shoe can set them apart. Rubber has a unique friction grade associated with it that becomes more important the longer you stay in the sport. For now, try on a variety of shoes, to find the one most comfortable for you.

To help you in the process, here are some questions to ask the salesperson

- Is the shoe good for a beginner and for the type of climbing you anticipate doing?
- Will the rubber stretch over time and if so, how much?
- Is the rubber soft, will it wear quickly as compared to other beginner shoes?
- Can this shoe be re-soled without losing much of the original performance?
- Where is the sweet spot on the toe box of the shoe? Identify this place for back and forward stepping because you will need to know this for the technique section that follows.

Footwork is the #1 overlooked skill, especially for new climbers. It is easy to forget about your feet because you are focused on making the next move on a climb. Not feeling strong and lacking confidence due to inexperience makes it challenging to think about anything else. Therefore, the most effective way to work on technique is to focus on it.

The first thing you need to do to work on footwork is to know the sweet spot on the shoe. This is an area generally located at the front of the shoe around the tip of the toe box on either side. The best way to know if you have found the sweet spot is to see if you can place your foot on a hold, weight it and try to rotate around the toe box. If your shoe cams against the wall and is unable to rotate 180 degrees, then you are using too much of the shoe on the hold.

Take time at the start of your climbing, after you are warmed up but before you log any serious climbs, and work on your footwork. Once you have identified the sweet spot on your shoe try putting that spot (and only that spot) on a foothold. Next weight the hold, followed by moving off the foot placement--all the while, never re-adjusting the foot. Don’t rush the process. To start, take 3 – 5 seconds to place each foot and make each move. Do this for a stretch of traversing or up one of the warm up climbs.
ги Quiet feet. Do not let your feet slap the holds or make any noise as you climb.

ги For small holds, think about smearing the wall as your boot connects with the hold. Smearing is when the boot slides down the surface of a wall just above a hold to gain the best purchase, especially when holds are very small.

ги Practice this regularly. Gradually the technique will start to become natural and become incorporated into your everyday climbing. Have a little patience because techniques are not absorbed overnight, but improvement should be observed even with only a few practices.

ги Learning to weight your feet is critical to taking weight off your hands and ultimately for lasting longer on climbs. To do this effectively, do not take your eyes off of your feet until they are weighted, then reach for the next hand hold.

ги Pick one technique to focus on and stick with it for at least a few weeks. I recommend switching things up after a month, if this technique work is completely new to you. If you have done work on an area before, you might need only to brush up on it, which can be done at your discretion. If you are the type of person who gets bored easily with the same thing, I would recommend swapping between techniques to keep it interesting, but would caution on throwing away routines prematurely.
General Fitness

Starting out training for climbing, I hesitate to recommend worrying about general fitness until 1) you have decided climbing is what you want to do more often or 2) you already love climbing and want to see yourself improve.

Fitness training is an excellent way to get into or keep in shape for climbing. There are several areas to focus: Weight management, flexibility, overall conditioning and climbing specific strength training.

Don’t be alarmed. You won’t need to quit your day job just to get into or improve your current climbing shape. As a beginner it is most important to be observant of your lifestyle and how it impacts your climbing. Doing some basic strength training will help but it’s up to you how far you want to take it. For the purposes of this guide, I am taking the recreational climber approach and will address each Fitness aspect in that light.

Weight Management

If this appears to you as the dreaded ‘weight’ discussion, than fear no more. I am happy to report that I have seen less than optimally thin people scale rocks with the best of them. From middle aged well fed men to stocky youth, people with mass on them have different advantages than those without, and vice versa. While it has been proven that the higher the strength to weight ratio, the easier it is to move that mass up a rock wall, it is not the end all, be all goal of weight management. There are serious health risks to climbing at an unreasonably low weight.

Healthier eating is just good for the soul, not just for climbing. Whether you are overweight with too much muscle mass or
overweight with just too much fat mass, both types of people can benefit from a better diet. If you love climbing and love food, the best alternative to trimming down or transforming that mass into lean muscle, is to take up some sort of aerobic activity like running.

**Flexibility**
Moving up a rock face may not seem to require a lot of flexibility, but the more you climb the more varied the types of climbs you encounter will become. And, you may discover that flexibility limits your ability to perform certain movements. Aside from the potential limiting factor of not being flexible, flexibility helps with muscle elasticity and health. Like any sport, stretching is necessary not just for muscle performance but for injury prevention as well. Muscles that are tight restrict blood flow, can bind to other nearby tissue restricting the full use of the muscle and can put unnecessary pressure on joints that could lead to impingements and pain. Perform a few key stretches after warming up and after climbing or strength training.

**Overall Conditioning**
To balance out climbing specific training or the new increased climbing mileage, it is good to work the muscles that are not directly involved with climbing. The more you climb, the more the pulling muscles of your arms and back get used. But, if you were to ignore the opposing or antagonistic muscles, then you would eventually have the climber’s hunch and probably be in a world of hurt because of it. Therefore, it is important to work these opposing muscle groups.
Climbing Specific Strength Training

Climbers inevitably believe that more strength will improve their climbing and this is true to an extent. However, initially, increasing the climbing mileage in a systematic way will develop those climbing muscles without having to seek specific training. Because tendons take longer to develop than muscles, taking on strength training too soon will only increase injury potential. That said, building strength is one way to build up climbing confidence. The more confident you are, the better you will climb.

❖ Increase climbing mileage before seeking specific strength training regiments.

❖ If you are climbing at least 3 days a week, it is a good sign that you might be ready to take on some specific strength training.

❖ Hands, forearms and contact strength are the first areas to focus developing. Contact strength is your ability to hold onto any hold. You can improve hand, forearm and contact strength on any climb without needing extra or specialized equipment. However, with the invention of hangboards or training boards, the process for this type of strength training has become simpler. If you don’t have
access to a hangboard, simply find holds that are difficult or challenging to hold amongst the many holds on a climbing wall in a climbing facility. Do your hangs from those holds. Supplement a positive hold for one hand if hanging from the difficult hold or from two difficult holds is either impossible or means coming off after 3 seconds. Use the positive hold for one hand, and the difficult hold for the other. Hang for at least 30 seconds. Rest for 30 seconds and find an equally difficult hold for the other hand and a similarly positive hold for the other.

Identify 5 different types of holds: jugs, edges, slopers, pinches and pockets. Vary the type of hold and the angle of the wall the holds are on. Start on a vertical or slightly off vertical (not slab) wall. Aim to hold each hold as a dead hang for up to 30 seconds. If or when successful, increase the difficulty of the hold or angle of the wall for that same type of hold. Rest 30 seconds in between hangs, or to complete one minute, before attempting the next hang, see example, below.

Sample exercise:
Angle of Wall: Vertical (hangboard)

<table>
<thead>
<tr>
<th>Hold Type</th>
<th>Hand Position</th>
<th>Goal</th>
<th>Achieved</th>
</tr>
</thead>
<tbody>
<tr>
<td>Large edge</td>
<td>Open hand</td>
<td>30 second hang</td>
<td>15 second hang</td>
</tr>
<tr>
<td></td>
<td></td>
<td>30 second rest</td>
<td>45 second rest</td>
</tr>
<tr>
<td>Large edge</td>
<td>Full crimp</td>
<td>30 second hang</td>
<td>10 second hang</td>
</tr>
<tr>
<td></td>
<td></td>
<td>30 second rest</td>
<td>50 second rest</td>
</tr>
<tr>
<td>Round sloper</td>
<td>Open hand</td>
<td>30 second hang</td>
<td>30 second hang</td>
</tr>
<tr>
<td></td>
<td></td>
<td>30 second rest</td>
<td>30 second rest</td>
</tr>
<tr>
<td>Deep</td>
<td>Open hand</td>
<td>30 second hang</td>
<td>15 second</td>
</tr>
<tr>
<td>Pocket</td>
<td>(3 fingers (index, middle and ring))</td>
<td>30 second rest</td>
<td>Hang 45 second hang</td>
</tr>
<tr>
<td>--------</td>
<td>------------------------------------</td>
<td>----------------</td>
<td>-------------------</td>
</tr>
<tr>
<td>Narrow pinch</td>
<td>Thumb engaged</td>
<td>30 second hang</td>
<td>30 second rest</td>
</tr>
<tr>
<td></td>
<td></td>
<td>30 second rest</td>
<td>30 second rest</td>
</tr>
</tbody>
</table>

⚠️ This is best achieved at an indoor climbing facility or on a hangboard.

### Sample Climbing Routine

This routine is designed for the common person with 2 hours to spare in a typical climbing facility. A typical climbing facility will consist of a climbing wall and a hangboard.

#### 15 minute warm up

⚠️ Do something that gets your heart rate up for at least 5 minutes. Stationary bike works.

⚠️ Stretch for 5 minutes

⚠️ Traverse the gym for 5 minutes, try to stay on the wall until you feel yourself starting to fatigue. Do Not push the fatigue. Step off the wall as soon as you start to think the clock is ticking (that you will come off any second from fatigue). Rest for a minute. During this rest, stretch the arms, forearms, fingers, etc. Get back on the wall after the rest and repeat until 5 minutes has been achieved. Use the biggest hand and foot holds.
15 minute technique focus
Pick the technique you want to focus on as part of your overall training, e.g. Quiet Feet. Remember quiet feet means not letting your feet slap the holds or make any noise as you climb. Climb two or three routes or boulder problems on terrain that is easy for you and will not push you to failure on the climb.

◊ It’s ok to do this on slab, but I would avoid steep or overhanging terrain.

◊ A good rule of thumb for grade is to find something at least a full number grade or more below your maximum ability. Therefore, if your maximum grade achieved is a 5.9, you would do this work on a 5.8. Similarly, if your maximum grade achieved is V3, try to work Quiet Feet on a V0/V1.

75 minute climb time
After you are warmed up and have logged some technique mileage, it’s time to forget about the foot work drill and have some fun climbing. I recommend setting aside whatever you learned from focusing on Quiet Feet, for example, until the next time you practice it. You will find that magically, over time, your body naturally starts to adopt the quiet feet. Adaptation to new movement takes time and may not show up in your climbing immediately. But, you should start to notice improvements with only a few sessions. If you focus on technique too much in your climbing session, you will burn out or get frustrated before you can really see any results. This is why it’s important to set aside the drill work you completed after your warm up and just have fun climbing.
10 minute strength training
After you are done climbing, leave 15 minutes for strength and stretching. By now you will have identified the types of holds you want to train. Substitute your holds for the ones in this sample program, but follow the same format.

Note that general conditioning is addressed during the rest times; do each exercise in succession with no rest. Rest only where indicated and for the time specified.

<table>
<thead>
<tr>
<th>Hold Type</th>
<th>Hand Position</th>
<th>Goal</th>
<th>Actual</th>
</tr>
</thead>
<tbody>
<tr>
<td>Large edge</td>
<td>Open hand</td>
<td>30 second hang</td>
<td></td>
</tr>
<tr>
<td>Pullups</td>
<td>Hangboard jugs or pullup bar</td>
<td>8-12</td>
<td></td>
</tr>
<tr>
<td>Rest</td>
<td></td>
<td>1 minute</td>
<td></td>
</tr>
<tr>
<td>Large edge</td>
<td>Full crimp</td>
<td>30 second hang</td>
<td></td>
</tr>
<tr>
<td>Pushups</td>
<td>Palms, knuckles, knees or feet</td>
<td>8-12</td>
<td></td>
</tr>
<tr>
<td>Rest</td>
<td></td>
<td>1 minute</td>
<td></td>
</tr>
<tr>
<td>Round sloper</td>
<td>Open hand</td>
<td>30 second hang</td>
<td></td>
</tr>
<tr>
<td>Dips</td>
<td>Chair, dip machine</td>
<td>8-12</td>
<td></td>
</tr>
<tr>
<td>Rest</td>
<td></td>
<td>1 minute</td>
<td></td>
</tr>
<tr>
<td>Deep pocket</td>
<td>Open hand (3 fingers (index, middle &amp; ring))</td>
<td>30 second hang</td>
<td></td>
</tr>
<tr>
<td>Abs</td>
<td>Crunches</td>
<td>30 crunches</td>
<td></td>
</tr>
<tr>
<td>Rest</td>
<td></td>
<td>1 minute</td>
<td></td>
</tr>
<tr>
<td>Narrow pinch</td>
<td>Thumb engaged</td>
<td>30 second hang</td>
<td></td>
</tr>
<tr>
<td>Reverse wrist</td>
<td></td>
<td>12-15 each wrist</td>
<td></td>
</tr>
</tbody>
</table>
Go online and check out a more advanced hangboard exercise following the same format outlined above. [http://www.youtube.com/watch?v=ewnx7dKoxHI](http://www.youtube.com/watch?v=ewnx7dKoxHI)

5 minute stretching
After the strength portion has been completed, you can close out your climbing day with 5 minutes of stretching.

Hydrate well, rest well and eat a balanced diet for the best recovery. Do this routine twice a week. If you climb more than twice a week, free climb without this program on those other days. This will help keep your training feeling fresh and give your body time to adapt.

Do not do this program on back to back days. Leave at least 1 day of rest in between.

You may see a decrease in your climbing stamina after the first few workouts. This is normal. Your body is acclimating and changing and therefore is challenging you to perform differently. Don’t push through this phase or you will get hurt. Back down on the difficulty for a few sessions and be sure to get enough rest after one of these strength days. Slowly start increasing the difficulty until you are performing back at your optimal level. This may take up to a few weeks.

Once you are doing this training and are climbing back at your optimal level, progressively begin to increase the difficulty until you are attempting climbs slightly above your current maximum and feeling that these climbs are now becoming approachable.
Climbs at this new level should seem achievable with relatively similar numbers of attempts as your previous maximum level.
Glossary

Hold Types

*Hangboard (aka Training board)*

A training device for developing contact strength. It contains a variety of hold types with different levels of difficulty, indicated by the depth or width of each hold. The deeper the hold, the more surface area of your hand you can get on the hold, thereby making the hold easier to hang from than one which takes less surface area. Beginners can use a hangboard to improve their hand strength or if a hangboard is not available, holds in the gym which simulate the grips you are trying to improve, will be sufficient.

*Jugs*

Holds that are considered ‘jugs’ are holds with a lot of useable surface. Typically, the holds can accommodate large surface areas of your hands or fingers. Climbers distinguish difficulty of holds by associating the amount of surface area used to hold onto a hold. For instance, if you can wrap your hand around a hold it is
considered a jug. If the hold only accommodates 1 pad of your fingers and only the first 3 fingers can fit the hold, it is no longer considered a jug and is described as a 3 finger, 1-pad hold. Seasoned climbers may call 1-pad holds ‘jugs,’ therefore, it is not unreasonable to ask what the usable surface of a hold is like. The response will give you a more accurate sense for the difficulty of the hold, for you. It will also help you identify the types of holds you should start to train.

In this example, you see a hold identified as a jug on a hangboard. Generally, jugs called out for training are the biggest, most useable holds on the device, or in the gym. This hang board has two jugs on either side of the board. To hold, you would wrap your hands over the tops of both jugs.
Edges

Holds with a flat surface are called edges. These holds are best held with the pads of your fingers. If you can wrap your hand around the hold, it’s a jug, not an edge. Edges are generally only a pad or two deep.

Edges are not all positive. Sometimes they can slope making them challenging to hold. Edges that are positive or that have a lip to them are considered to be incut holds. Incut holds are easier to grip than sloping ones.

In this example, there are several edges. For small hands, the outer pockets can act as edges. For training purposes, you are looking for edges that will accommodate all 4 fingers. Larger edges are good for starting out.

Note, hangboard holds do not provide lips to edges because it would be counter productive to training contact strength.
Slopers

Holds with a useable surface that may be rounded or flat but for the angle appears to slant. Holds that slope, often require the use of the entire hand, palms flat. The best friction one can achieve on a sloper is when the maximum surface of the hand is being used with a force in the direction 90° to its center. Therefore, if a sloping hold is at a horizontal angle, the best direction of force is directly downward. This means your center of gravity and the force you are applying to the hold will generate maximum friction if you are completely underneath the hold. Similarly, if a sloping hold is off horizontal, you must find the angle that brings your center of gravity and the direction of force underneath the hold relative to its position.

In this example, the sloper exists on top and in the middle of the hang board. When starting out training, it is helpful to find slopers with a positive usable surface, on a horizontal plane, with a vertical angle, where maximum friction can be applied by hanging directly underneath the hold. Position your hands cover as much of the hold as possible. Make sure the palms of your hands connect with the hold. Palm slopers, without bending wrists, for best results.
Pinches

Pinches are holds where in addition to using your fingers and possibly palms, the thumbs are actively engaged. There are a number of types of pinches: narrow, wide, shallow, deep, sloping and incut. To maximize the use of a pinch, your thumbs must have contact with some part of the hold with an opposite and opposing direction from the fingers.

In this example, a pinch hold has been created by using a wide pocket on a horizontal plane where the fingers will hang and the bottom of the hangboard where the thumb will engage. Not all pinches are horizontal, therefore, experiment with various combinations on the hangboard to create pinches on different planes.
Pockets

Pockets are like holes in the rock. Fingers can be crammed in them to fit all 4, but sometimes, it’s better to use only 2 or 3 of them. Using only 1 finger is considered monoking a pocket and is best avoided when starting out.

Training less than 4 fingers in a pocket is crucial if a route you are trying to send has pockets where you can only fit 2 or 3 fingers in them. To train tendon strength with less than 4 fingers in a pocket, you need to isolate fingers and train them in the context of their intended use. If your route has a 2 finger pocket in it, or many such pockets, then training 2 finger pockets will get you stronger for those types of holds.

There is a finger combination that will be strongest and one that will be weakest. For instance, ring finger/pinky combinations will be weaker than index/middle finger combinations. The strongest finger combinations include the middle finger. Experiment with which ones are strongest/weakest for you. If pockets aren’t limiting you (due to size of the pocket relative to your finger size), then always opt for the stronger finger combination.

Another strong finger combination for pockets is called stacking. This is done to reinforce the fingers in the pocket, especially if the pocket is shallow or narrow. Stacking is the act of placing one finger on top of another or a set of others. For example, if you could only fit your index finger on the surface area of the pocket but there was room for another finger, you might stack your middle finger on top of the index finger to create more force and stability thereby rendering the hold more useable.
In this example, there are many pockets of varying sizes.

Isolate the fingers you want to train and use the appropriate pocket to hang from. Start with larger pockets that take 4 fingers. If all 4 fingers lie flat in the pocket, then it’s really an edge. The fingers should feel rounded or crammed and there might be slight stacking.
Grip Types

Open Hand
Notice how the thumbs are inactive and all 4 fingers are on the hold as flat as possible.

Half Crimp
Notice how the thumb presses against the index finger. Meanwhile, all 4 fingers are on the hold as flat as possible.

Full Crimp
Notice how the thumb wraps the index finger and all 4 fingers are on the hold with a little bend to accommodate the thumb.
Slopers

Notice the amount of surface area on the sloper. All 4 fingers are on the hold, the thumb is not engaged and the fingers are not bent.

Stretches

(Robert A. Anderson, 1997)

Hands, Wrists and Forearms
Arms and Shoulders

**Opposition/Antagonistic Exercises**

**Reverse Wrist Curl**

(ExRx.net)

Sit and grip a dumbbell with an overhand grip. Rest forearm on thigh with wrist just beyond knee. Raise dumbbell by pointing knuckles upward as high as possible. Return until knuckles are pointing downward as far as possible. Repeat.

Targets wrist extensors.

**Dips**

(ABC-of-Fitness)

Place your feet hip-width apart. Keep your back close to the bench.

Lower yourself until your arms are bent at 90°, then push back up until your arms are straight, but not locked.

Targets triceps.
Pushup

(ABC-of-Fitness)
Assume a prone position on the floor.

Maintaining a straight back, bend your elbows to lower your shoulders and upper body until your forehead and nose are almost touching the floor. Straighten your elbows to raise yourself.

Targets chest and triceps.

Crunches

(BodyBuilding.com, 2011)
1. Lie flat on your back with your feet flat on the ground, or resting on a bench with your knees bent at a 90 degree angle. If you are resting your feet on a bench, place them three to four inches apart and point your toes inward so they touch.
2. Now place your hands lightly on either side of your head keeping your elbows in.

⚠️ Don't lock your fingers behind your head.

3. While pushing the small of your back down in the floor to better isolate your abdominal muscles, begin to roll your shoulders off the floor.
4. Continue to push down as hard as you can with your lower back as you contract your abdominals and exhale. Your
shoulders should come up off the floor only about four inches, and your lower back should remain on the floor. At the top of the movement, contract your abdominals hard and keep the contraction for a second.

✔ Focus on slow, controlled movement - don't cheat yourself by using momentum.

5. After the one second contraction, begin to come down slowly again to the starting position as you inhale.

6. Repeat for the recommended amount of repetitions.

Targets abdominals.

Grades

**Bouldering Rating Systems**

<table>
<thead>
<tr>
<th>Hueco (USA)</th>
<th>B</th>
<th>Font. (French)</th>
</tr>
</thead>
<tbody>
<tr>
<td>V0</td>
<td>B1</td>
<td>4</td>
</tr>
<tr>
<td>V0+</td>
<td>B2</td>
<td>4+</td>
</tr>
<tr>
<td>V1</td>
<td>B3</td>
<td>5</td>
</tr>
<tr>
<td>V2</td>
<td>B4</td>
<td>5+</td>
</tr>
<tr>
<td>V3</td>
<td>B5</td>
<td>6a/6a+</td>
</tr>
<tr>
<td>V4</td>
<td>B6</td>
<td>6b/6b+</td>
</tr>
<tr>
<td>V5</td>
<td></td>
<td>6c/6c+</td>
</tr>
<tr>
<td>V6</td>
<td>B7</td>
<td>6c+/7a</td>
</tr>
<tr>
<td>V7</td>
<td>B8</td>
<td>7a+</td>
</tr>
<tr>
<td>V8</td>
<td></td>
<td>7b/7b+</td>
</tr>
<tr>
<td>V9</td>
<td>B9</td>
<td>7b+/7c</td>
</tr>
<tr>
<td>V10</td>
<td>B10</td>
<td>7c+</td>
</tr>
<tr>
<td>V11</td>
<td>B11</td>
<td>8a</td>
</tr>
<tr>
<td>V12</td>
<td>B12</td>
<td>8a+</td>
</tr>
<tr>
<td>V13</td>
<td>B13</td>
<td>8b</td>
</tr>
<tr>
<td>V14</td>
<td>B14</td>
<td>8b+</td>
</tr>
</tbody>
</table>
### Free Climbing Grading Systems

<table>
<thead>
<tr>
<th>YDS (USA)</th>
<th>British</th>
<th>French</th>
<th>UIAA</th>
<th>Saxon (Austria, NZ &amp; South Africa)</th>
<th>Finnish</th>
<th>Norwegian</th>
<th>Brazilian</th>
</tr>
</thead>
<tbody>
<tr>
<td>2nd class</td>
<td>1</td>
<td>I</td>
<td>I</td>
<td>Isup</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3rd class</td>
<td>2</td>
<td>II</td>
<td>II</td>
<td>II</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4th class</td>
<td>3</td>
<td>III</td>
<td>III</td>
<td>12</td>
<td>3</td>
<td>IIsup</td>
<td></td>
</tr>
<tr>
<td>5.0-5.4</td>
<td>4a</td>
<td>VD</td>
<td>4a</td>
<td>IV</td>
<td>IV</td>
<td>12</td>
<td>4</td>
</tr>
<tr>
<td>5.5</td>
<td>S</td>
<td>4b</td>
<td>IV+</td>
<td>V</td>
<td>13</td>
<td>5−</td>
<td>5−</td>
</tr>
<tr>
<td>5.6</td>
<td>4b</td>
<td>HS</td>
<td>4c</td>
<td>V</td>
<td>VI</td>
<td>14</td>
<td>5</td>
</tr>
<tr>
<td>5.7</td>
<td>4c</td>
<td>VS</td>
<td>5a</td>
<td>V+</td>
<td>15</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5.8</td>
<td>HVS</td>
<td>5b</td>
<td>VI−</td>
<td>VIIa</td>
<td>16</td>
<td>5+</td>
<td>5+</td>
</tr>
<tr>
<td>5.9</td>
<td>5a</td>
<td>E1</td>
<td>5c</td>
<td>VI</td>
<td>VIIb</td>
<td>17</td>
<td>V</td>
</tr>
<tr>
<td>5.10a</td>
<td>6a</td>
<td>E2</td>
<td>6a+</td>
<td>VIIc</td>
<td>19</td>
<td>6</td>
<td>VI/VI+</td>
</tr>
<tr>
<td>5.10c</td>
<td>6b</td>
<td>VII</td>
<td>VIIa</td>
<td>20</td>
<td>6</td>
<td>6+</td>
<td>V1sup/V1+</td>
</tr>
<tr>
<td>5.10d</td>
<td>5c</td>
<td>E3</td>
<td>6b+</td>
<td>VII+</td>
<td>VIIb</td>
<td>21</td>
<td>7−</td>
</tr>
<tr>
<td>5.11a</td>
<td>6c</td>
<td></td>
<td>VIIc</td>
<td>22</td>
<td>6+</td>
<td>7</td>
<td>7a</td>
</tr>
<tr>
<td>5.11b</td>
<td>6c/c+</td>
<td>VIII−</td>
<td></td>
<td>23</td>
<td></td>
<td>7b</td>
<td></td>
</tr>
<tr>
<td>5.11c</td>
<td>6a</td>
<td>E4</td>
<td>6c+</td>
<td>IXa</td>
<td>24</td>
<td>7−</td>
<td>7+</td>
</tr>
<tr>
<td>5.11d</td>
<td>7a</td>
<td>VIII</td>
<td>IXb</td>
<td>IXc</td>
<td>25</td>
<td>7+</td>
<td>7+/8−</td>
</tr>
<tr>
<td>5.12a</td>
<td>E5</td>
<td>7a+</td>
<td>VIII+</td>
<td>IXc</td>
<td>26</td>
<td>8−</td>
<td>8−</td>
</tr>
<tr>
<td>5.12b</td>
<td>7b</td>
<td></td>
<td></td>
<td>IX−</td>
<td>Xa</td>
<td>27</td>
<td>8</td>
</tr>
<tr>
<td>5.12c</td>
<td>6b</td>
<td>E6</td>
<td>7b+</td>
<td>IX−</td>
<td>Xa</td>
<td>28</td>
<td>8+</td>
</tr>
<tr>
<td>5.12d</td>
<td>7c</td>
<td>IX</td>
<td>Xb</td>
<td>IX+</td>
<td>Xc</td>
<td>29</td>
<td>9−</td>
</tr>
<tr>
<td>5.13a</td>
<td>E7</td>
<td>7c+</td>
<td>IX+</td>
<td>Xc</td>
<td>30</td>
<td>9+</td>
<td>9−/9</td>
</tr>
<tr>
<td>5.13b</td>
<td>6c</td>
<td></td>
<td></td>
<td>IX−</td>
<td>31</td>
<td>10−</td>
<td>9</td>
</tr>
<tr>
<td>5.13c</td>
<td>E8</td>
<td>8a+</td>
<td>X−</td>
<td>32</td>
<td>10</td>
<td>9+</td>
<td>9+/10</td>
</tr>
<tr>
<td>5.13d</td>
<td>E9</td>
<td>8b</td>
<td>X</td>
<td>33</td>
<td>11</td>
<td>10b</td>
<td></td>
</tr>
<tr>
<td>5.14a</td>
<td>7a</td>
<td>E10</td>
<td>8b+</td>
<td>XI−</td>
<td>34</td>
<td>11−</td>
<td></td>
</tr>
<tr>
<td>5.14b</td>
<td>E11</td>
<td>8c</td>
<td></td>
<td>XI+</td>
<td>35</td>
<td>11</td>
<td></td>
</tr>
<tr>
<td>5.14c</td>
<td>7b</td>
<td>E12</td>
<td>8c+</td>
<td>XI−</td>
<td>36</td>
<td>11</td>
<td></td>
</tr>
<tr>
<td>5.14d</td>
<td>9a</td>
<td>XI</td>
<td></td>
<td>37</td>
<td>11c</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5.15a</td>
<td>9a+</td>
<td>XI+</td>
<td></td>
<td>38</td>
<td>12a</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Works Cited


# Index

**Conditioning. *Fitness***
- Dead hang, 16
- Edges, 23
- Incut, 23

**Fitness, 13**
- Climbing Specific Strength Training. *Strength*
- Flexibility, 13
- General Conditioning, 13
- Weight Management, 13

**Flexibility, 14**
- Full Crimp. Grip Types

**Grades, 32**
- Grip Types, 28
  - Full Crimp, 28
  - Half Crimp, 28
  - Open Hand, 28
- Slopers, 29

**Half Crimp. Grip Types**
- Hangboard, 22
  - Contact Strength, 22

**Holds, 16**
- Edges, 23
- Jugs, 22
- Pinches, 25
- Pockets, 26
- Slopers, 24
- Jugs, 22

**Open Hand. Grip Types**
- Overall Conditioning, 14
- Pinches, 25
- Pockets, 26
- Shoes, 8
  - Beginner Shoe Review, 10
  - Sweet Spot, 11
  - Symmetry, 9
- Slopers, 24, Grip Types
- Smearing, 12
- Stacking, 26
- Stamina, 7
- Strength, 15
  - Contact Strength, 15
  - Dead Hang, 16
  - Sample Exercise, 16
- Stretching, 29
- Technique, 11
  - Footwork, 11
  - Quiet Feet, 12, 18
  - Smearing, 12
  - Weighting Feet, 12
- Training board, 22,
  - Hangboard
- Traversing, 8
- Weight management, 13
- Weight Management, 13