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Technique

Climb: Martin McKenna on Artemisia, Italy. **Photographer: James Rushforth**

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Introduction

This chapter introduces the most common foot, hand and body positions used in rock climbing.

How you grip handholds or stand on footholds depends on their shape, size and position. How you position your body depends on the location of these holds and the angle of the rock.

Practising in a climbing gym builds strength, endurance, flexibility and technique, but to climb well on real rock, you'll need to actually climb on real rock. Brightly coloured holds in a gym are obvious to find, but they are much more subtle on rock. Often a foothold is just a slightly lower angled dimple, or a series of tiny edges that require precise foot positioning.

Finding holds will get easier once you've learned to 'read' real rock. With practise, you'll be able to use all kinds of weird rock features quickly and efficiently.

Watching experienced climbers or hiring a climbing coach will help. But ultimately, improving your climbing movement requires plenty of real rock practise.

Footwork

Beginner climbers often concentrate on looking upwards for something to grab with their hands, forgetting to look down for footholds. Having good footwork takes an enormous strain off your arms, making the climb much easier. There are basically three ways of using footholds; smearing, edging and hooking. These are described on the following pages.

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Smearing

Smearing is a technique used to stand on poorly-defined, sloping features. The aim is to have as much surface contact between the sole of your shoe and the rock as possible, therefore maximising friction. Focus on pushing your foot against the rock with your weight concentrated over your big toe.

Over time you will develop the ability to find tiny irregularities on the rock. Smearing on a dimple which is just a couple of degrees lower in angle can make a big difference.

Keep a high heel if smearing on small scoops. This keeps the pressure on the front of your foot. Keep a low heel if smearing on a uniform slope. This gives more shoe-to-rock surface contact and therefore more friction. It also puts your calf muscles in a more relaxed position.

Edging

Edging means placing the very edge of your shoe on a pronounced edge of rock. Although any part of the shoe can be used to edge, you normally do so with the inside front part of the shoe, beneath the big toe.

With a good edge on vertical or overhanging terrain, you can pull in with your toe as well as push down. This moves your lower body closer to the wall and reduces the strain on your arms by keeping more weight on your feet.

For tiny pockets and edges, you can edge on the front point of the shoe. This positions you neutrally so you can turn your body in either direction for the next move. It also gives you a little extra reach if you stand up on your tiptoe.

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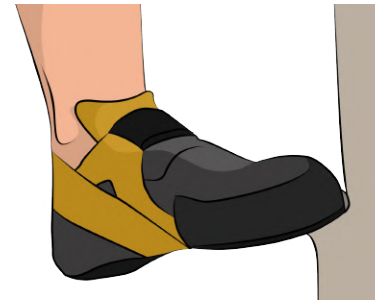
For techniques such as back-stepping, it is necessary to use the outside of the shoe (normally beneath the base of your little toe) to edge.

The outside edge is also useful when stepping past your other foot on a traverse.



Heel and Toe Hooking

Heel hooking is the technique of using the foot as a 'third hand'.

By hooking your heel over a flake or edge, you are able to pull with your leg. This allows you to move more fluidly and controlled through what would otherwise require a 'dyno'.

On overhanging terrain, a crafty heel hook often helps to pull you into the rock, stops you from swinging out and provides extra reach.

You can also employ a toe hook in a similar way to a heel hook.

A 'foot cam' can work in the same way too. Be aware that you may break your ankle if you fall with your foot in a really good heel-toe lock.

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Footwork Tips

* Push your feet in opposite directions (stemming) to keep the weight off your arms.

* With marginal smears or edges, it is important to keep your foot in the exact same position while your body moves up. Use your ankle as a hinge to absorb your movements. Any disruption to your foot position will probably cause you to slip off.

* To minimize strain on your upper body, use foot holds which are directly beneath your hands.

* When you've found the best hold, visualize how your foot will be positioned on it. Don't move your foot until you know exactly where it's going.

* When you step from the ground to the rock, make sure to wipe the dirt and gravel from the soles of your shoes.

* If you're not sure whether to edge or smear, remember that you can smear an edge, but you can't edge a smear.

Handholds

The weight on your arms increases as the rock gets steeper and the footholds get smaller. Beginners often over grip the rock and burn out their forearms too soon, making it impossible to hold onto anything.

The challenge, therefore, is to use the lightest possible grip to make each move. There are endless ways of gripping holds, but four basic types are described on the following pages.

The Crimp

Crimping works best when the thumb is held over the index finger. This closes the crimp and makes the position stronger. This is because your thumb is much stronger than your fingers in this position.

If the hold is too small to fit all your fingers, give priority to the middle finger (the strongest), followed by the ring finger, the index and finally the pinky. Be careful when crimping sharp edges. If you slip off suddenly, you'll probably slice your fingertips.

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The Open Grip

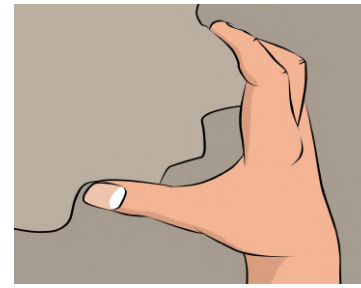
The open grip is mainly used to hold onto large or rounded features. Search for the best position on the hold and then pull.

If the hold isn't incut, you will rely on friction between your hands and the rock to hold on. For this reason, having more surface contact gives you more grip.

An open grip on sloping holds works in a similar way to your shoe when smearing. In the long term, the open grip puts less strain on the joints and tendons than crimping.

The Pinch

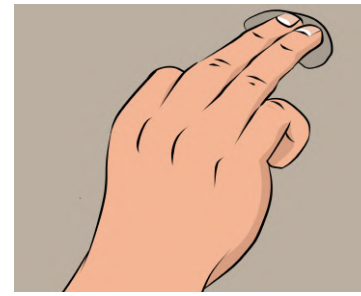
You pinch a hold in the same way as a crab pinches it's claws.



An effective use of the technique is to pinch a hold between your thumb and the side of your index finger.

Pockets

To hold onto a pocket, you essentially use an open hand or crimp but with less fingers.



If you can fit two fingers in the pocket, it's often better to use the middle and ring fingers, rather than a middle and index finger combo. This balances the load on your fingers much better.

If the pocket is only big enough for one finger, your middle finger will be strongest.

Be careful — the edges of pockets are often sharp. When you pull hard on a pocket, you are effectively grinding your finger tendons over that sharp edge. A common injury is to strain or break the delicate ligaments in the fingers due to excessive crimping and pocket pulling.

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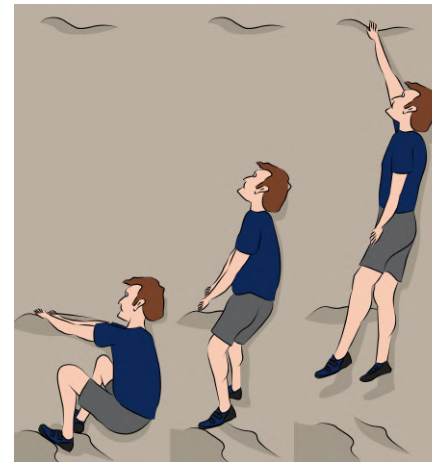
Other Common Moves

Dynamic Moves



'Dynos' are probably the most spectacular climbing move. It is a way of using momentum to reach between distant hand holds. It is almost always more efficient to move statically between holds, but if a hold is too far away, a dyno may be the only way.

Get your feet up high and focus your attention on the hold. In one fluid motion, push up with your legs, pull with your arms and move your hand quickly towards the hold. Grab onto the hold when your body reaches its apex.

A dyno is much easier if you can keep your feet on the footholds. This way, most of your weight is still on your feet when you grab the hold.

The disadvantage of dynoing is that you cannot be sure how good the hold is until you've committed to it. And committing is the most important part of the dyno. If you make a half-hearted attempt, you'll be unlikely to stick the hold.

Sidepull

It's impossible to pull straight down on a vertical crimp. Instead, these types of holds are used as sidepulls.

Lean from the sidepull and use your feet to oppose the force. This counter-pressure keeps you in balance while you use your legs for upward progress. Sidepulls often give you more reach than a horizontal hold.

You can sometimes turn a sidepull into a pinch if there is a catch for your thumb. This will create more inward pulling power if you need it.

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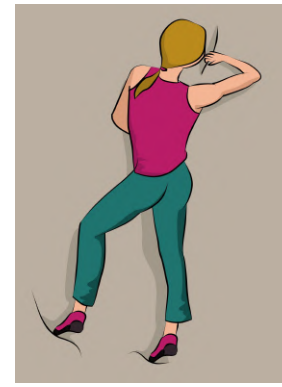
Gaston

A gaston is the opposite of a sidepull. It is a way of using a vertical crimp which is directly in front of your face or chest.

Push outwards on the hold with your elbow pointing away from your body.



Palming and Stemming

Palming is similar to an open grip but you use your palm instead of your fingers. You can push yourself into a corner by palming on both sides of it.

To stem, smear your feet on either side of the corner. The opposing pressure of pushing inwards with your hands and feet keeps you in balance. Stemming in the slightest corner can provide your arms with a great rest.

Underclings

Underclinging relies on the counter-pressure between your hand pulling out from a hold and your feet pressing onto the rock. This technique is often used to keep a climber in balance while searching for a better hold above.

On consecutive undercling moves, such as traversing under a flake, try to use footholds as much as possible and keep your arms straight. This takes the strain off your arms.

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Mantling

Mantling is the technique of surmounting a ledge when there are no holds above it to help with this (imagine getting out of a swimming pool without using the stairs). The following is a common mantling method, though many variations exist.

Step 1 — Step High

A high, well-placed foot is the foundation of the mantle. With your hands on the ledge, walk your feet up to the highest possible foothold. You may even be able to heel hook the ledge.

Step 2 — Pull and Press

Pull up and switch your hands to a palm down press. Search above the ledge for any hand holds. Leaning forward and pulling yourself in with one hand makes the next step easier.

Step 3 — Foot Up

If your foot isn't already on the ledge, you can probably put it there now. You may have to shuffle your hands to make space for your foot.

Step 4 — Rock Over

Shift the weight onto your high foot and stand up. Try to avoid using the knee, as this will make it more difficult to stand up.

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Slab Climbing

Climbing slabs (rock which is less than vertical) requires less strength and more balance than steeper angles of rock.

Your body should remain in the same upright position as when you're walking. With gravity forcing the weight onto your shoes, you have more friction on the rock. Essentially, you will hold onto features for balance while pushing up with your legs.

Friction slabs are generally devoid of any positive features to crimp or edge on. To climb a friction slab, you must rely on the surface contact beneath your palms and feet. Small steps are generally more efficient. High steps tend to disrupt the delicate balance needed to stop you from sliding off.

On sustained slab climbs, where most of your weight is on your feet, it's common to get 'calf pump' or 'disco leg'. Rest on any good footholds by standing with your heel on the hold and your leg straight, so that your center of gravity is over your heel.

Climb: Patrick Deacon on The Marmolada, Italy. **Photographer:** James Rushforth

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Vertical Rock

It is invariably more strenuous on the arms to climb a vertical rock than it is to climb a slab of the same grade.

It's much more efficient to keep the weight off your arms as much as you can. This is done by pushing your hips and chest close to the wall and by using the minimum amount of energy to complete each move as possible. Remember that your feet provide the upwards thrust, while your hands primarily pull you into the rock.

Keep your hips perpendicular to the rock by standing on the inside edge of one foot and the outside edge of the other. Known as back-stepping, this allows you to use footholds on either side of your body with either foot.

Take advantage of any rests. Opposing your feet against each other across a corner (stemming) allows you to keep the weight off your arms. If you can't get a two-hands rest, then alternately shake out your arms when you find a good handhold.

It's often better to do a series of small moves, instead of a long one. Being stretched out tends to disrupt your balance and often makes the next move more strenuous.

Climb: Lynne Hempton on Mondviole, Frea, Italy. **Photographer:** James Rushforth.

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Overhanging Routes

To climb efficiently on overhanging rock, you need to keep your hips close to the rock and your arms straight whenever possible. Bent arms will tire out much faster.

One way to do this is to use the dropknee. Place the outside edge of your shoe on a hold and twist your knee downward. Be careful though, dropknees put a lot of tension on the ligaments in your knee.

As with other angles of rock, it is more efficient to pull yourself into the rock with your arms and push yourself up with your legs. This is much more physically demanding on steep routes, but even the poorest footholds will help ease the strain on your arms and give you something to push from.

Core Strength

Your core is the area between your lower chest and your mid-thighs. Engaging the core while climbing keeps you in control. Without a tight core, you are likely to 'sag' beneath your arms, causing you to lean out from the rock, butt first.

Think of your core as something which dictates the movements of your arms, rather than something which you are simply dragging up the crag.

Climb: Tim Rankin on Moby Dick, The Fin, Scotland. **Photographer:** Fraser Harle

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Summary

Climbing is like a dance. The aim is to choreograph these different types of holds and moves into one fluid movement.

It is much more efficient and enjoyable to move up fluidly, methodically and in balance. Frantic, jerky movements are clumsy and will tire you out faster. Once this becomes second nature, you will soon begin to develop your own style and move on to more advanced techniques.

After climbing each route, review the techniques that you used. Ask yourself what worked, what didn't and what you could do to climb the route in better style. Practise makes perfect!

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