Self-awareness and Proprioception Exercises for Climbing

Being more aware of what's going on with your body and its position relative to your surroundings will enable you to use more and waste less of the strength and abilities that you already have. And in doing so, improve your climbing performance. Here are some exercises that will help.

Proprioception - noun, Physiology. Perception governed by proprioceptors, as awareness of the position of one's body.

Over the years I have done a lot of reading around the area of improving climbing ability across the board, this combined with 20 years of martial arts study, I wanted to see if there were any exercises that would transfer from Ninjutsu training and be beneficial to climbing. What follows is a combination of exercises and ideas taken from modern climbing texts and traditional Ninjutsu training.

What's the purpose of all this?
To increase the quantity and quality of feedback from your body during climbing and especially from the feet (this being a very common area requiring improvement) so that we can learn how small movements and tension changes can affect the use of holds and our movement between them. Also to be able to do a quick 'self-scan' to ensure you're not holding tension unnecessarily.

The following exercises range from the very simple to the more complex with the levels of concentration and base ability required, relative to the difficulty of the task. Knowledge is power, the more we know about what's going on with our bodies (and their relation to the rock and the task of climbing) the better able we are to adopt the best strategy, the most effective technique, or the correct amount of force. Think; engine/traction management systems on a car that can moderate power, in order to avoid skidding and loss of control.

Exercise 1 - Fingertip Tracing
NB. This exercise requires a small amount of fingertip to fingertip contact - if this is inappropriate then an item like a pen or karabiner can be used to make the contact.

Stand facing a partner about arm's length apart. Nominate one as the guide and one as the follower. The guide and follower need to make contact with each other’s fingertips, the fewer the tips the harder the exercise (the fingers should just touch not interlock). The follower then closes their eyes or is blindfolded (whichever is appropriate) the guide now moves their hand(s) slowly and the follower must keep contact. Start with simple up and down movements, then progress on to back and forth, figure of eights, circles, squares and so on. The exercise can be done either statically with fixed feet, or dynamically by allowing foot movements and thus a larger range of shapes to be followed.

The aim is to stay in contact with the guide with the minimum amount of force between the fingers. This exercise is very simple but draws the mind's focus to the smallest area on the fingers whilst allowing the subconscious to take care of the bodies need to follow behind. To increase difficulty, both guide and follower can be blindfolded; one can be static with the other one able to move around the static

person.

Exercise 2 - Singing Slings
Required: At least three people, 2 x 120cm slings, 4 karabiners with fig eights (or something that will rattle when touched).

Two people stand opposite each other about arm's length apart, holding the slings just above ground level about shoulder width apart with two karabiners/fig eights on each sling. The third person must crawl or climb blindfolded through the slings without making a sound. They will have to do this by feeling for the slings and moving through them carefully. The key element is the need to remember where the slings are when it comes to bringing the lower half of your body through. Difficulty can be increased by the addition of slings and rattley bits! This is very good for proprioception, balance and getting warmed up. Obviously the sling holders need to make sure that the third person will not strangle themselves on the slings if they slip.

By now we should have woken up our awareness of our bodies and their relation to external objects. So let's step it up.

Exercise 3 - Self-awareness/analysis
- This exercise can be done with someone to ask the questions but ultimately you should look to be able to run through these questions yourself without the distraction of another's voice. Get comfy by either sitting or lying down. What does it mean to be comfortable? Comfy can mean having as few distractions, niggles, irritations as possible and is quite relative to both person and situation. Being or getting comfy might also mean increasing pleasurable stimulus like warmth or softness (eg. grab a duvet jacket to keep warm). Once comfy, the eyes should remain closed. The series of questions will explore how different parts of the body feel; starting with just one part like the hands then moving on to other areas.

Hands: What temperature are they? What are they touching? Are they touching each other or anything else? Are they dry or moist? Can you feel any cuts, aches, dryness or tightness of skin?

The rest of the body: Ask about clothing - where does it make contact with your skin? How do you know it's in contact with your skin? Is it a temperature difference? Texture? Compression or tightness? Weight?

Feet: What temperature are they? Is one shoe tighter than the other? Is one sock higher than the other?

The feet are furthest from the brain and so tend to be the most wayward! Hence they are so often an area that requires work in climbers.

These questions are just a starting point; you can come up with many more to cover the rest of the body. Once you've gone through the exercise once then run through it again this time after a quick shuffle/re-position in order to provide a new set of feedback stimuli. This exercise can be used on its own or you can move on to the next phase.

- Once the awareness exercise has been done in a seated or lying position, run through it in a standing position. This time the focus should be on asking questions relating to balance.

Questions: Can you feel your feet and toes making micro adjustments in order to keep you in balance? Are your lower legs involved? What happens if you keep them still? What happens to your leg and foot muscles when you lean to one side? Shift your weight on to one leg and feel which muscles are working in order to facilitate this. What happens if you tense or relax your core muscles? What happens if you hold your breath? What effect does moving your head backwards have on your balance? How does your body compensate? What if you move your head forward?

All this should by now have us tuned into what happens with our bodies during small movements/adjustments.

- Let's step it up again! Now it's time to apply our new level of awareness to the vertical. Get on an easy angle wall to start - begin with analysing how your hands are making use of the hand holds by asking the following questions;

What's the shape of the hold? Is it smooth or rough? Is the texture constant across the hold? How much skin to hold surface contact is there? Can you increase it? By spragging or bringing your thumb on top of your fingers? Could you use less force and still stay on?
What's the friction like? Is the hold just for balance or can you move up on it?

- Change grip type: Does it feel more or less secure? If you shift your body weight does the grip become easier or harder to use? What happens if you move your body higher or lower? Do straight or bent arms make a difference? What happens if you tighten or loosen your core? What's the optimum hand position on the hold? Can you take your hand off the hold and place it back on in exactly the right position? In what direction are you applying force onto the hold? Can you change the direction and still stay on it or do you need to maintain a constant angle to stay on the hold as you move? How would you describe the friction of the hold? Does this influence your direction of force? What's the best part of the hold to use in order to move up? Down? Left? Right? Is the hold clean or dusty? Are your hands warm or cold? Dry or moist? How's this affecting your grip? How long can you stay on the hold for?

- Now change hold type and repeat the process.

Then move on to the feet. On an easy section of wall step onto a couple of holds then begin the questioning;

How much of your foot is on the hold? Can you get more on or manage with less? What part of the foot are you using? If you use a different part of the foot does that make it easier or harder to use? Can you smear it? Hook it? Edge it? Point it? How long can you stand on it? Are your heels high or low? Does it improve the hold by being one or the other? Is the hold just for balance or can you move up on it? How much tension is in your foot? What happens if you increase or decrease the tension? How tense are your calf muscles? Thighs? Buttocks? Core? Are your rock boots allowing you to get feedback/feel from the holds or are they cumbersome,

uncomfortable, sloppy? In what direction are you applying force onto the hold? Can you change the direction and still stay on it or do you need to maintain a constant angle to stay on the hold as you move? (Important to consider when climbing in big boots) Can you use the hold to pull your lower body in and to hold position? How does this affect the rest of your body? How would you describe the friction of the hold? Does this influence your direction of force? What's the best part of the hold to use in order to move up? Down? Left? Right?

- Select two different holds and repeat.

Now onto the next phase. These exercises can also be done by yourself. Find a climb or boulder problem that is well within your limit - you should be able to climb it five or six times without getting pumped. The aim is to climb the problem or route whilst purely focusing on your fingers and hand holds.

Which is the best part of the hold to use? How much tension do you need in your fingers? Hand? Body? Does it change as you move up? Down? Along? Does your body position have an effect on your use of the hold?

Aim to focus on feedback from hand holds alone and let your body position, balance and foot work take care of itself. If your focus strays then bring it back to your hands as soon as you become aware of it straying (this also helps train concentration). If you can complete the boulder problem/route with full focus then reverse it whilst maintaining focus - this will be hard since you'll want to think about your feet. If this is still too easy then choose a harder or longer route. With routes it's best to top rope rather than lead.

Keep focusing on gaining quality feedback by asking questions as used previously: What's the texture of the hold? Is the texture constant across it? What kind of hold is it? How much contact do you have with it or need with it? How little effort is required to hold it?

Now repeat this part of the exercise but shift focus to feedback from feet and footholds. The important thing is the quality of the feedback, try and be as detailed as possible when describing your results to yourself. If the quality starts to drop off then stop and take a rest from all climbing activities for 20 minutes or so. This part of the exercise can be repeated with the focus shifting on to other physical factors involved in climbing: breathing, balance, speed, body tension, twist locks, straight arms and weight shifts/rock-overs.

Come up with questions that will aid the quality of your feedback. What muscles do I use to perform this twist lock? Am I using any others that aren't necessary? How few muscles do I need to use in order to stay in balance through this move or to hold this position? What happens if I climb faster or slower?

The preceding exercises are not easy but have many benefits in particular improvements in proprioception, specific climbing skills, concentration/focus ability. If you've managed this far okay, then move onto the final part - it's the trickiest part and what everything the previous exercises have been building up to.

Climb the boulder problem/route again but this time focus in on each element that is the most important at the time: left foot, right hand, weight shift, lock off, left hand, push up with legs, breathing.

Try to focus on each element with as much intent and detail as previously done in isolation. This is the ultimate goal - to be able to switch focus onto whichever element of a movement is the most important at any one time, switching between elements as the demands of the climb dictate. With enhanced quality and quantity of feedback you will be better able to apply the right amount of power/tension/poise/weight shift that will allow the most efficient execution of a particular movement or technique.

Closing your eyes during the exercise (when safe to do so) will enhance your sense of touch and thus 'feel' feedback. Not only does this help with proprioception and enhancing climbing skill but is also good for minimising tunnel vision during stressful situations. The ability to switch focus yet not become fixated is not an easy one to achieve - I've found the following eastern teaching useful in my own attempts to achieve this:

Where to set your mind? If you set your mind on your opponents' sword, your mind will be taken up by your opponents' sword. If you set your mind on your opponents' feet, your mind will be taken up by your opponents' feet. If you set your mind on your opponents' eyes, your mind will be taken up by your opponents' eyes.

So where to set your mind? Everywhere yet nowhere. In order to get this state of mind it's necessary to start by becoming aware of all the component parts in isolation, then on two elements, then three, then four and so on. The more you practice, the more this awareness moves from being a cognitive process (setting your mind on one, two or more particular things) to a subconscious and hopefully unconscious process. At this point you are aware of everything and yet distracted or hung up on nothing (cue the lotus position linking of thumb and fore finger and mutterings of ommmm!).

Exercise 4 - Tension Scan
Get comfy in a lying or seated position. Work through your entire body starting at your toes and try to relax every muscle in turn - tensing the particular muscle first can help you identify/isolate particular muscles before you then relax them. The aim is to remove as much tension as is possible by working systematically through your body. Pay particular attention to your neck, shoulders and face as these tend to hold the most tension.

- If you can do this effectively then repeat it - only this time stood up, relaxing any muscles that aren't required to keep you vertical! The aim is to become aware of any unnecessary tension and then get rid of it.

- Now get yourself established on a relatively easy part of a climbing wall, scan your body for unnecessary tension and work to minimise it. Repeat a few more times whilst holding progressively more physically strenuous positions.

With practice you should be able to 'self-scan' in just a moment, allowing you to

conserve energy and also reduce stress levels mid route. Every muscle you can relax is one less drain on your energy. It could equate to an extra couple of seconds allowing you to reach the belay or the next rest. It will certainly aid blood flow and delay the onset or severity of 'the pump'.

A technique used by many top athletes to manage anxiety and stay relaxed is as follows: Take a deep breath in and as you breathe out relax your shoulders (and as much of the rest of your body and your situation allows) and smile - with your mouth and your eyes (mimic it even if you really don't feel like it!). With practice this becomes a really powerful tool that can be used pre or mid route. You may look daft practicing it but it's worth it, trust me!

Does all this work?
Between November 2009 and June 2011 I led nothing harder than a Severe. Throw in a torn knee cartilage (no climbing for two and a half months) and some weight gain and Severe might be all I'd be capable of leading again! During that time I had been doing a lot of reading and research - of which this represents just a part of it, but a very important part.

A lot of proprioception, awareness and visualisation training can be done anywhere, at almost any time and that's what I did. Then after three afternoons seconding five routes (and applying what I'd learnt to the rock) I decided to get back on the sharp end. First up an HVS 5a - nice and straight forward with only one heart pumping moment which called for concentrated tension management afterwards! Then straight on to an E2 5b (a route that I had seconded two weeks earlier) and if I'm honest it went easier than the HVS (gotta love those HVS's) and represents the hardest thing I've ever climbed. Previously I've always been steady on VS but struggled to break into the Extremes. So what was different this time?

I firmly believe that it's down to my mental and emotional state and moreover my ability to keep a handle on them. I felt a lot more in control because I was getting far more back from my body and the rock. This allowed me to make clearer decisions, more efficient movements and use less energy both physically and mentally. There were other contributing factors but these were the main ones. I wonder what I could get up if I was physically in condition as well as mentally.

Resources

Nine out of Ten Climbers Make the Same Mistakes, Dave MacLeod, 2010
Maximum Climbing - Mental Training for Peak Performance and Optimal Experience, Eric J Horst, 2010
How to Climb Three Grades Harder, Mick Ward, 2004
Performance Climbing, Goddard and Neumann, 1993
Rock Warriors Way and Espresso Lessons, Arno Ilgner 2006/2009