

LATTICE

COACHING & TRAINING

Lattice Board Assessment *Your report*

J.W

11/11/2019



Assessment Overview

Age: 27.9 years
Height: 165 cm
Mass: 60 kg

Date: 11/11/2019
Assessor(s): Ollie Torr
Assessed at: The Foundry, Sheffield

Current Reported Ability

	Prof Style	Onsight	Redpoint (3 sessions)	Redpoint (Unlimited)
Sport	Prefered	f7c	f8a+	f8a+
Boulder	2nd Preference	V7	V9	V9

Climbing and Training Goals

6 months - Improve strength and fitness over the winter months.

6-12 months - Aim to redpoint an 8b sport climb. I would prefer this to be UK based and have tried a few already which require a high level of power endurance.

Needs Assessment

Current ability: + indicates a weakness | ++++ indicates a particular strength.

Priority: low indicates that this is a lower priority | high indicates this should be a training priority.

Area of Profile	Current Ability	Priority	Comments
Movement	+++	high	Increase tension
Finger Strength	+++	med	90% BW training goal
Left / Right hand balance	++++	low	Big improvement
Aerobic Power (Max Moves)	++	high	Target more closer to spring
Climbing Efficiency	++	med	
Work Capacity (Aerobic Capacity)	++++	med	
Anaerobic Capacity (Fatigue Curve)	++++	low	
Functional Movement	+++	med	lower back and trunk strength

Summary of Report

An excellent well rounded profile that really highlights the work that you have put in over the past few years.

Your current physical profile is where we would expect given that you have just returned from a successful trip. However, now that we are coming into the winter there should be change in focus more toward aerobic capacity, finger strength and conditioning. We will look to re-introduce aerobic power work in the spring, closer to the start of the spring season.

Keep up the hard work!



Movement Performance

The series of movement and muscular function tests that you performed at the start of your assessment are designed to look for climbing specific muscular imbalances and weaknesses.

Lattice Sequence: Movement and Pacing

During your initial practice and max moves test on the Lattice Board, you showed good technical execution, while there were a small number of mistakes, in general movement was consistent, with good body position, load distribution and/or sequencing (score 4/5). Your pacing was largely consistent, with only small variation, unlikely to detrimentally affect performance (score 4/5).



Twisting movements

The exaggerated sequence of twisting movements you were asked to perform is designed to assess your ability to perform these movements and highlight any associated weaknesses. You were able to completed movement set with effort. A Reasonable level of coordination of lower to upper body (score 4/5).



Square on movements

The 'square on' movement sequence that you were asked to perform are designed to assess your ability to perform these powerful movements and highlight any associated weaknesses. You were able to complete the sequence with natural and efficient movement. Shoulders remained engaged throughout (score 5/5).



Assessor Comments

During the technique observation aspect of testing it was clear that you are an efficient climber who is able to utilise both square on and twisting techniques. Pacing was generally consistent between different wall angles and throughout the lattice assessment.

The area where I believe you could make the greatest gains are in body tension whilst on steeper angled climbs. Improving your ability to engage your glute muscles and drive through your feet will make a big difference to your ability to maintain contact with smaller footholds. This will also mean you will rely less on your excellent upper body strength as more weight will be distributed to your feet.



Finger Strength

This test aimed to establish your maximum finger strength on the standardised Lattice testing edge (20 mm depth, 10 mm radius). Your maximum finger strength score was calculated by adding or subtracting weight, using a pulley system and/or a harness, from your bodyweight. Finger strength (the ability to exert force through the fingertips) is important for all climbing disciplines.

Assessment Details

Hand Position: Half Crimp
Test Position: one-arm
Climber Weight: 60 kg

Total Assessed Load:

Two arm: 0.0 kg 100% bw
Left: -10.0 kg 83.3% bw
Right: -8.0 kg 86.7% bw

Left - Right Difference



Moderate Diff

You scored 83.3% bodyweight held on the left hand and 86.7% held on the right hand. The discrepancy between your arms is -2 kg, this difference is slightly higher than normal. Lattice data suggests a difference larger than 4kg should be addressed through training to avoid any detrimental effects on performance. Based on this we recommend you keep an eye on this imbalance.

Finger strength and climbing performance

Your current one-arm maximum finger strength is within the margin of error for your ability and is unlikely to limit your performance, based on your assessed finger strength score of 86.7% of your body mass.

Your assessed one-arm arm finger strength of 86.7% of body mass, is within the margin of error for your grade. You are currently performing at the same level that your finger strength would suggest and it is unlikely to be a limiting factor in your performance until you attempt climbs harder than V9 or f8a+.

87%

Assessor Comments

You were able to hang on the fingerboard with excellent form, the training you have done over recent years has really paid off.

The difference in assessed finger strength between your left and right arm has dropped significantly from when you last self-assessed and is an excellent sign that two arm finger board training is working well to help balance this out.

As you can see in the results your scores are balanced with your current top grades. Over the next 6-12 months you should aim to improve your finger strength further to gain a max score of ~90% body weight held. This is a realistic aim based upon your recent training history and will place you in a much better position to climb your goal of a UK based 8b sport climb.

Useful Numbers

100% Max	
Total:	Adjust:
52.0 kg	-8.0 kg

80% Max	
Total:	Adjust:
41.6 kg	-18.4 kg

60% Max	
Total:	Adjust:
31.2 kg	-28.8 kg

40% Max	
Total:	Adjust:
20.8 kg	-39.2 kg



Max Moves

Using the standard sequence of hand movements on the Lattice board (completed during the warm up) your maximum number of hand movements and time to exhaustion (TTE) were recorded.

Your performance will have been dictated by a combination of depletion of high energy substrates and accumulation of metabolites. The relative contribution of aerobic and anaerobic energy systems to performance will depend on your performance relative to the task and, thus, the TTE. A short TTE will involve a relatively greater anaerobic contribution, compared to a longer test, and vice versa.

Assessment Details

Lattice Board Angle: 27.5 degrees

Total Moves: 70

Pace: 0.56 Moves/s

Climbing Time: 126 seconds

Max Moves Performance

Your current aerobic fitness may be a limiting factor when attempting routes harder than f7c+, based on your max moves score of 70.

70
moves

Your assessed aerobic fitness of 70 moves (time duration of 126 seconds) on our 27.5 degree board, is below the Lattice average for your grade. Your aerobic fitness is likely to be a limitation when attempting climbs harder than f7c+. You are currently performing at a higher level than your aerobic fitness would suggest, which is likely to be supported by other stronger aspects of your profile, for example, your technique, your tactics, and your ability to perform on a variety of terrain.

Efficiency Score

Your current efficiency is unlikely to limit your performance, based on your good efficiency score.

good

When your max moves score is combined with your current level of finger strength (86.7%) and body weight (60 kg) it produces an efficiency score of 0.04, which Lattice classify as within the expected range for your body weight and finger strength.

Withing the expected
range

Assessor Comments

Your max moves score was expected based upon your current training practice. However, having got back from doing multiple 8a routes in Kalymnos I would say that your tactics and other areas of performance are currently compensating for a lack of all out PE. I would also guess that you perform better on routes with good rests and crux sequences rather than longer sustained sections.

In order to achieve your goal of a UK 8b sport climb, your training should be focussed on developing your base capacities and finger strength over the winter months and then specifically target aerobic power closer to the spring season. This period of training should become more and more specific with the route length and duration in mind.

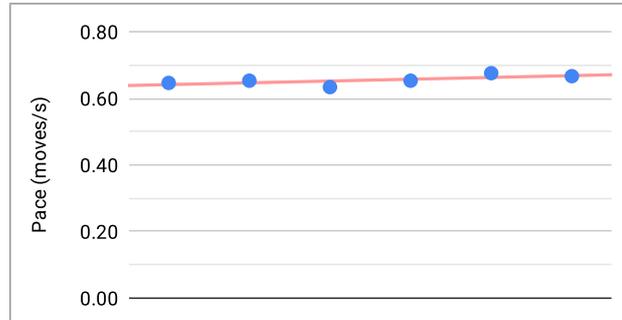


Fatigue Index

The fatigue index provides an indication of your ability to recover between successive bouts of exhaustive exercise. It is crucial to be able to recover effectively between attempts. Recovery performance is reliant on a large number of processes. Principally it depends on the capacity to tolerate, buffer and/or rapidly acidosis, disrupting the efficiency of muscular contractions, and restore the muscles stores of energy. The more complete the restorative processes, the greater your ability to maintain performance.

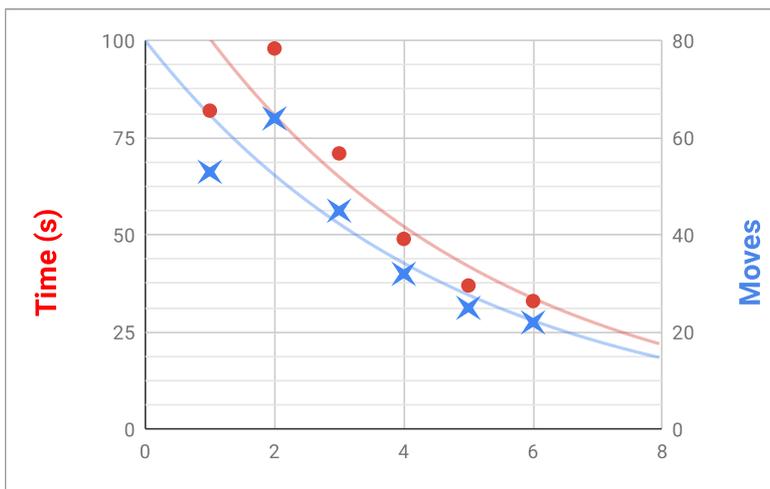
Pacing

Rep	Moves	Time	Pace
1	53	82	0.65
2	64	98	0.65
3	45	71	0.63
4	32	49	0.65
5	25	37	0.68
6	22	33	0.67



Your movement pacing over the multiple attempts was excellent, with only small amounts of variation between repetitions.

Fatigue Curve



Metabolic Conditioning Phase

**base
phase**

Your conditioning phase is our assessment of your ability to perform maximally and is presented relative to your current ability level of f8a+. The difference between your predicted and assessed max moves score (-15.6%) and between the first and second repetition (increase from 53 to 64 moves) on the fatigue curve suggests you are in a base metabolic conditioning phase. Base conditioning indicates that you are currently developing, and ongoing metabolic conditioning will allow for peak performance.

Work Capacity

high

Your average performance over each of the repetitions from the third to the end of your test, relative to your 75% score, provides an indication of your total work capacity. Your work capacity was assessed as high. Work capacity is the total amount of work you can perform, recover from and adapt to. Greater work capacity allows for increased training load and therefore mechanical and metabolic stimulus. A high score in the Lattice fatigue task suggests that your work capacity is excellent, and you have a good base on which to build on.

Fatigue Index [Anaerobic Capacity]

69%

The fatigue index is a measure of anaerobic capacity, calculated as the difference between the highest and lowest movement score. It is the rate at which total moves declines, signifying the rate at which you fatigue when climbing. Below 60% is excellent, 60% - 80% is good and greater than 80% is poor. Your fatigue index was 68.6%. The higher the fatigue index, the lower your ability to maintain performance over a series of efforts. Your fatigue index was assessed as acceptable and may be limiting your performance.

Potential



Based on the Lattice Board fatigue task and your self-reported ability we believe that, on sustained terrain such as when sport climbing, it is possible to consistently exceed your current self-reported performance on sustained terrain, with work.

Assessor Comments

Really great effort on the second rep of the curve. It shows that your ability to try hard is a major strength of yours.

Findings here further support the scores seen in the max moves test. Your anaerobic performance is excellent and your work capacity is also very high which means you have maintained a high base capacity throughout the Autumn months. Moving into winter, this will be developed more before peaking, with an increase in aerobic power (long power endurance).

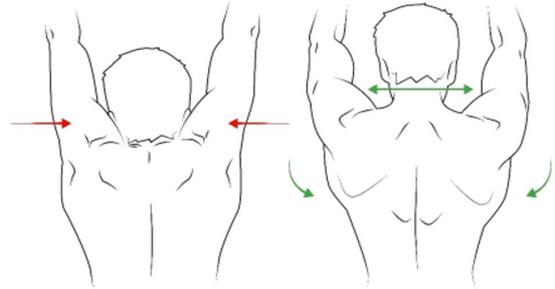


Muscular Function Tests

The series of muscular function tests that you performed at the end of your assessment are designed to look for climbing specific muscular imbalances and weaknesses.

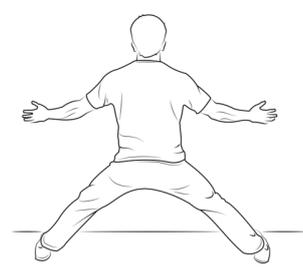
Shoulder Engagement

Being able to engage muscles around the shoulder joint shows that you are also likely to be able to stabilise this joint when climbing. This is not only important for the safety of the joint, but also allows for better movement and control. Your ability to engage your shoulders when hanging excellent, with shoulders engage creating a large gap between the shoulders and ears. Clear control in this position (scored 5/5).



Hip Flexibility

Hip flexibility is an important factor in the efficiency of your movement and positioning on the wall. Lower scores require a greater contribution of the upper limb and vice versa. When compared to the lattice data set, your hip flexibility score of 100% is above average.



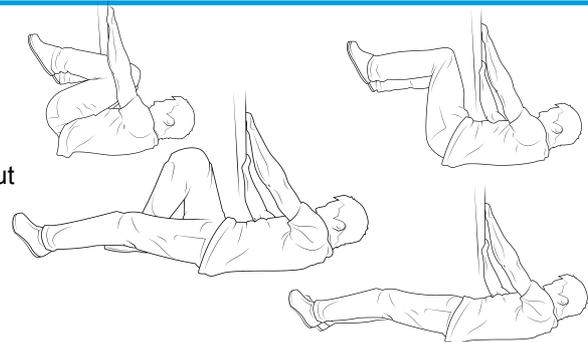
Trunk Stability

Trunk stability is important to transfer force from the lower body to the upper body and vice versa. Your trunk stabilising ability was OK, your push up was controlled but slight arching occurred in the lower back (scored 3/5).



Lever Lifts

Being able to raise your legs and rotate your body around the shoulder joint is particularly important on steep terrain. The series of lever lifts assess your ability to perform at various intensities. You were able to bring your knees to the bar, without the need to bend the arms for assistance (scored 4/5).



Assessor Comments

Your scores are all pretty good in both strength and mobility.

However, based on my observation I believe your lower back could be an area of weakness as seen in the trunk stability test and in conjunction with my movement observations when you were warming up. This can be improved through specific conditioning and use of weight lifting exercises.