



# HOW **fat** DO YOU NEED TO BE?

HIGH PERFORMANCE DIETICIAN **REBECCA DENT** EXAMINES THE COMPLEX ROLE OF BODY FAT IN CLIMBING PERFORMANCE

There is no doubt that climbing is a weight sensitive sport: how much you weigh and your body composition of muscle versus fat can clearly influence your climbing ability. When pulling against gravity, a lighter and leaner physique, and therefore creating a greater strength-to-mass ratio [also called 'power-to-weight ratio'] will help you reach your true climbing potential. Because of this, weight loss is a common practice amongst climbers. Climbers want to be as light as possible. If you ask many climbers about their weight, most can tell you what body weight they think would help them climb better. Or some would say they want to feel lighter, or that they feel heavy.

It's not just about the number you read from the scales, but more so optimising your physique. Sufficient but not excessive muscle mass is ideal to develop functional strength, and lower body fat reduces the 'dead weight' an athlete has to carry. As a high performance dietitian, it's my job to help athletes reach an optimal body composition whilst maintaining health and well-being of both body and mind.

Body fat and dietary fat have, until recently, often been demonised by athletes, but it's time to put fat back on the menu. Having a low body fat and eating a low fat diet is not necessarily better for an athlete, as too little body fat will lead to detrimental effects to performance, and most certainly impair health.

Here's why: body fat consists of essential fat and storage fat. Essential body fat is just that. It's essential for maintaining physiological processes, including optimal brain functioning, supporting the skin and keeping it lubricated, sheathing neurons, helping the absorption of vitamins, the proper functioning of the immune system, and the production of hormones. Storage fat provides a source of energy, protects the body and organs, and keeps you insulated. Body fat is important to climbers as it provides padding and protection to the fingers and tendons, cushions the feet, and helps the skin to repair itself.

When body fat becomes too low, the above physiological processes are impaired, and in extreme cases may stop. The metabolic rate slows

and hormone levels are disrupted, including a reduction in insulin and testosterone. These are both important anabolic hormones involved in building and maintaining muscle mass. For women, reproductive health is put at risk which can cause poor bone density and lead to stress fractures and osteoporosis.

Eating dietary fats is essential to help maintain the above processes, and saturated fat (sources include meats, dairy, oily fish and coconut) is required to make hormones including testosterone. Increasing your intake of omega 3 fats (e.g. oily fish such as salmon, sardines, and mackerel) can aid muscle recovery and skin healing. Believe it or not, eating fat in a calorie controlled diet can help improve body composition. Some studies have suggested that eating more foods rich in omega 3 fats and mono-unsaturated fats (e.g. oily fish, avocados, olives, olive oil, nuts) can help reduce undesirable body fat.

## HOW FAT DO YOU NEED TO BE FOR OPTIMAL BODY COMPOSITION AND CLIMBING PERFORMANCE?

There is no defined 'ideal range' of body fat percentage as individual variation in body composition and genetics come into play.

Average ranges of body fat percentage for healthy, active males are 14-17% and for women 21-24%. Studies carried out on elite climbers have shown body fat percentage for male climbers ranged from 4-14% and female climbers 10%-20%. It has been suggested less than 4% body fat for men and less than 13% for women are too low, and would be extremely difficult to maintain without heavily restricting energy intake and severely impairing health - let alone climbing performance.

It is advisable if you are trying to lose weight in order to help push the grades to first get your body composition assessed. Various methods are available - the gold standard assessments include DEXA, PODPOD, bio-electrical impedance analysis, or skin fold measurements carried out by a trained health professional. This will give you an idea of your starting point, and how much body fat you may or may not have to lose.



If you do not have access to these assessment methods, then the following questions will help you determine a desirable body weight for performance:

What is your usual body weight? What weight have you climbed at your best so far? What weight do you feel you would climb well for the route / project or goal? Have you been this weight before? Is this weight realistic, achievable and won't compromise health? (I.e. the desired weight won't require extreme prolonged energy restriction to maintain).

Certain clear indicators occur as a result of low body fat: increased frequency and duration of coughs and colds, poor recovery, sudden drop in climbing performance, lack of gains from training, a general feeling of fatigue, low mood, injuries, and slower recovery from injury, always feeling cold, and females will have a loss of menstruation and in the worse cases stress fractures as a result of low body fat over a longer term.

For the elite climber, in order to maintain a high level of performance and low body fat requires a consistent balanced diet, containing sufficient protein, healthy fats and adequate amounts of carbohydrate eaten at the right time to fuel training and climbing.

Nutrition strategies to improve body composition - and reducing weight as body fat, whilst preserving muscle mass - involve energy restriction to induce a gradual weight loss of 0.5kg-1kg per week, adequate protein intake eaten at regular intervals through out the day (3 x meals containing 0.25-0.3g of protein per kg of body weight per day and a pre-bed protein-rich

snack such as milk, yoghurt, eggs, cheese, fish, or meats, and taking around 30-35% of your daily energy intake from fats (e.g. oily fish, dairy, avocados, olives, coconut, nuts, seeds and meats).

Extreme energy restriction resulting in significant weight loss in short periods of time puts a greater strain on the body's physiological processes. It will also result in greater muscle mass loss, and will most likely impair

climbing performance and recovery.

For any elite climber, or those striving to climb to their best, it is important to grasp that being the lightest you think you can be, or overly restricting your dietary intake to drop weight quickly may not be the best practice in order to climb well.

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It is important to also understand that your body weight will fluctuate through out the climbing year depending on training, rest periods, injury and illness, and knowing this can help you manage a healthy attitude towards your eating habits and body composition goals.

The best practice may be training for a project or competition at a 'heavier' weight and reaping the benefits of good nutrition and body fat levels for optimal results, and then to plan a gradual weight loss strategy to achieve your ideal weight, but within safe lower body fat levels. If you do so, you might just find out you can climb harder.

**FACING PAGE:** Eat your greens! Upping your intake of fresh fruit and vegetables along with a 30-35% fat intake will increase your energy levels and promote general well being. **THIS PAGE:** Perfect post-climbing power food: paella in a Valencian street cafe. Well-balanced meals containing fats, protein and carbohydrates will help you climb harder. BOTH DAVID PICKFORD