



Nutrition for Fighters



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Making weight

The fight game is a dynamic sport, which requires high-levels of technical skill, physical condition, reaction time, tactical efficiency, strength and speed of movement. It also demands a combination of both aerobic and anaerobic energy. Success requires close attention to body weight.

The first and most important thing is to know your weight accurately. Without accurate information, you cannot plan your weight management precisely. Bathroom scales are not good enough. We use electronic scales supplied by Colonial Scales — they are good supporters of the sport.

The next step is to know exactly what you are eating. The best tool to gather this data is to keep a diet

diary for one week. You will be amazed to discover what you are actually eating: we tend to forget our sins. This is much more accurate than trying to recreate what you have eaten from memory.

It is good to work with a professional if you want to be professional about your sport. You may be able to get help from your fight trainer. If you need more help you can consult a personal trainer, GP, dietician, exercise physiologist or sports physician.

Proper nutritional and dietary habits are a very significant factor in achieving optimal performance. Fighters have increased energy needs because of their strenuous training. What a fighter eats and drinks directly

affects his energy, strength and ability to last and perform well for the entire bout. A healthy fighter feels better, trains harder, recovers quicker and is less susceptible to injury and illness. Best possible nutrition is the result of daily, regular food choices. It is not achieved only by the pre-fight meals or by eating special foods the last few days before a fight.

There are many myths and misconceptions about nutrition and its influence and impact on the fight game. It is important that current, scientific and accurate information be understood and applied as part of any fighters training program.

Fighters often attempt to gain advantage over opponents by competing in a lighter weight class



than their normal body weight, thus they train at a heavier weight and use weight loss measures to make a lower weight for competition. Often they end up competing against someone who has done the same. In order to build up to an elite level of strength-endurance, your training must be very intense. However, fighters have the challenge of meeting a high-energy demand while staying relatively close to their competitive weight. Therefore, nutrient-rich, low-fat foods are necessary for optimal performance.

Sometimes fighters will utilize crash dieting and dehydration leading up to a weigh-in. Without proper re-hydration and refuelling (between the weigh-in and the fight), crash dieting and dehydration can result in a decrease in performance. Numerous techniques are used by athletes to rapidly reduce their weight, such as increased exercise, high protein diets, skipping meals, water restriction, exercising in a sweat suit, sitting in a sauna or a bath, as well as various combinations of these techniques. Also, athletes may take laxatives, diuretics (fluid pills) and use enemas. The less weight a fighter needs to lose, the less this will be an issue.

Of all these weight loss methods, the only one that is never appropriate is the use of diuretics. The reason is that they continue to work even after the weigh-in and make re-hydration very difficult, because as you drink, you subsequently urinate it out.

It is better to eat many smaller meals throughout the days than a few larger ones. Carbohydrates are a necessary source of energy that must be replenished regularly while training. Complex carbohydrates from natural food sources such as vegetables, legumes, salad, oatmeal and fruit are ideal. The best practice is to eat three hours in advance of a workout. You may also use an energy drink during a session.

Try to eat natural foods, free of preservatives and dyes. Processed foods like white bread and soft drinks should be avoided because they have little nutritional value. Go with wholegrain products. Sufficient

protein must be eaten while training to support muscle healing and growth. Many fighters supplement their intake with protein shakes but an adequate intake of lean beef or chicken, beans, fish, and eggs, is sufficient.

Drink plenty of water. Deep fried and fatty foods are not good. Microwaved, baked and steamed foods are much healthier.

Daily Nutritional Needs

Fighters require a moderate-to high-carbohydrate (carb) diet to maintain stamina, replenish lost glycogen stores, and fuel the ATP/CP system (i.e. the 'power systems') during practice, competition and weight training.

The American and Canadian Dietetics Associations recommend 55 to 58 per cent of calories be carbohydrate, 12 to 15 per cent protein and 25 to 30 per cent fat. However, there has been a growing body of evidence that protein and fat requirements need to be altered for fighters.

The Training Diet

Your training diet should be comprised of 45 to 55 per cent carbohydrate, 30 to 40 per cent protein and 15 per cent fat. The goal of the training diet

is to provide adequate energy for recovery and tissue repair quickly and efficiently — without adding body fat — thus maintaining a high strength, power-weight ratio.

Here is how to calculate your proper food ratios:

For example, if you ate 2,000 calories a day, 55 per cent of that is 1,100 calories from carbohydrates, which is equal to 275 grams (there are four calories of carb per gram; thus, $1100/4 = 275$ g of carbs). It is easier to keep track of grams than calories.

Protein

Research suggests that protein should be 1.5–1.8 g/kg bodyweight per day or as high as 2g/kg bodyweight per day in athletes. The Recommended Daily Allowance of 0.8 g/kg bodyweight per day protein is based on what is healthy for the average sedentary individual, which is not enough for athletes.

The additional protein is for muscle repair. During times of fatigue, intense training and overtraining, the body may start using its own muscle as an energy source. Because it is so difficult to build and maintain muscle, athletes should be careful not to lose it.



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Keep fat intake to about 15-20 per cent of your total calories. Essential fatty acids are commonly derived from foods like fish and walnuts. Good fats also come from olive or canola oils, seeds and avocados.

For someone consuming 2,000 calories a day, the fat intake should be about 400 calories. This is equal to about 45 grams (each fat gram contains nine calories).

You may be tempted to ingest as little fat as possible: however, this can be unhealthy. Keeping your fat intake to less than 15 per cent may have a harmful effect by inhibiting absorption of fat-soluble vitamins.

Off Season

During the off-season, fighters should strive to add muscle and improve their weaknesses. It is common to gain body fat during the off-season and then want to drop it quickly once pre-season begins. Some resort to crash or fad diets, which typically result in a loss of strength and muscle mass rather than body fat. The best strategy is to have a year-round eating strategy that includes weight management that ensures the fighter does not get outside 10% of his competitive fight weight.

Fighters hoping to acquire lean muscle mass should also pay close

attention to calorie intake. Your diet should consist of 60 per cent carbohydrate, 20 per cent protein and 20 per cent fat.

Muscle Mass Gain

Methods of muscle building depend upon body type, sex, age and current training status. In order for this diet to be effective, one must be involved in a weight-training program.

According to the research, each of the following should be practiced before, during and after training:

- Try consuming 20g protein isolate and 30–40g carbohydrates 30 to 40 minutes prior to exercise.
- Sip a carb drink or a carb-protein drink during weight training.
- Immediately after, consume a carb-protein shake with at least 20g whey-casein combo and 60g carb or drink 20 oz. of skim milk or fat free chocolate milk.
- Eat a whole food meal with the above ratios one hour later.
- Eat an additional 300-500 calories more than your weight-maintenance level.
- Increase protein to 1.5-2g/kg bodyweight.

Making Weight

Diets low in carbohydrates have increased in popularity because of effectiveness in achieving low body fat levels relatively quickly, but athletes should beware. Energy restriction has been shown to impair immunity, decrease performance and increase fatigue, tension, anger, and confusion. This energy restriction before a competition is commonly followed up with binge eating. This cycle can lead to swings in weight and body fat levels, as well as failure to achieve nutritional needs in the long term.

It is advantageous to compete at the upper level of weight categories. Ideally you should come in within 100 to 200 grams of the allowed weight.

In general, athletes should remain within three kilograms of the upper limit weight class for a weight category. In this way, 'making weight' will be more practical and



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manageable without having to rely on extreme measures for weight loss.

The Weigh-In

The Australian Institute of Sport has an interesting tactic for making weight that involves eating 'low residue foods':

In the two to three days prior to competition, athletes should reduce salt intake to avoid fluid retention. Adopting a low residue diet for the last 24 hours before competing will help to reduce weight further because it empties the gut of undigested food and fibre.

Low Residue Foods:

- Low-fibre cereal (corn flakes, rice bubbles)
- White bread
- Jam, honey
- Juice
- Tinned fruit
- Jelly
- Clear soup (e.g. chicken broth)
- White pasta
- White rice
- Tomato based pasta sauce
- Liquid meal (Meal Replacement Shakes)

The average person carries about 0.5 to 1kg of fibre and undigested food in the intestines. A low-residue diet composed of nutritious foods with minimal fibre will provide nutritional goals while being 'light' to eat.

Some fighters may use extensive dehydration to lower body weight



prior to competition. Excessive dehydration can adversely affect performance and increase the risk of heat stress. The effect of dehydration on a fighter's performance will depend on the fitness level of the athlete and how frequently he/she has experienced dehydration while training.

It is smart for competitors to manipulate food intake, then passively dehydrate the day before competition. Passive dehydration involves limiting fluid intake while undertaking normal daily activities. Use of saunas and active dehydration should not be necessary for amateurs if you have planned well. Professionals may use a sauna for a kilo of extra weight loss just before the weigh-in if required, but should be careful to re-hydrate immediately after the weigh-in

Alcohol

Alcohol intake can interfere with post-exercise recovery. Get a post-exercise meal and fluids in first before drinking any alcohol.

Avoid any alcohol for 24 hours post-exercise if you have any soft tissue injuries or bruises. Alcohol and injuries are a bad combination, as alcohol may increase swelling, bleeding and delay recovery.

Fighters should also make sure they stop taking any anti-inflammatory medication 24 hours before a fight.

Jamie Tarrant (AEP) forms part of a dedicated multi disciplinary team at Malvern Martial Arts with 10 years experience in rehabilitation and conditioning programs. He has a particular interest in helping patients with lifestyle related complications such as DIABETES, CARDIOVASCULAR DISEASE, HYPERTENSION and OBESITY.

Exercise Physiology patients on General Practitioner referral management plans may be eligible for Medicare and Private Health Insurance Benefits.



TERRY VORG

DR PETER LEWIS

Dr Lewis is internationally recognised as a medical authority in the martial arts field. He has also been studying and teaching martial arts for 34 years.

Dr Lewis is best known as a ringside physician. He is often seen on televised shows in many countries. He has worked in 28 cities internationally, 22 of these on world title standard events. He has performed every ringside role, including doctor, referee, judge, rules co-ordinator, timekeeper, commentator, ringside announcer, matchmaker, trainer, cornerman, cutsman and has competed in karate, taekwondo and kung fu. He has had the pleasure and honour of looking after some of the most important fights and fighters in history. He travelled the world with Stan Longinidis as his doctor and a core member of his team. Dr Lewis is also well known as an international lecturer and writer on martial arts medicine. He regularly runs martial arts medical seminars; the next one is in November this year. He has consulted at ReCreation Medical Centre for 24 years. He has also recently established a new clinic at Malvern Martial Arts, which is especially for martial artists. Dr Lewis works with a team including a nurse, physio, chiro, podiatrist, psychologist, exercise physiologist, dietician and masseurs who all have extensive experience in martial arts. **IK**