

The Leangains Approach

My name is Martin Berkhan, nutritional counselor, fitness magazine writer and creator of Leangains. Leangains is a unique approach to strength training and nutrition. The diet involves intermittent fasting and strength training in order to reduce fat mass and increase muscle mass. This is performed by switching between phases of overfeeding and underfeeding, as well as carefully manipulating the macronutrient ratio of the diet.

When Caleb first asked me to write a special report about my approach to intermittent fasting, I hesitated. The concept is so radically different to most diet approaches out there that I thought it would be too much of a challenge to change your perception about nutrition in just a few pages. Especially since you might have heard the very things I'm going to attack just a few minutes ago.

Let me cut straight to the chase. I'm going to give you a brief rundown on my approach, clear a few issues, and then go back to my approach at the end again. I'm also going to assume that you want the Cliff Notes version for now. If I manage to pique your interest, you can then check out the free information and resources on my site (www.leangains.com) to find out more. At my site you will also find tons of real world testimonials and before-after pictures from regular people that have used this unconventional approach with great success, along with my own documentation of my body transformation from fat kid to 200 lbs and 6% body fat.



To get the body I have today, I needed to change my perspective on nutrition completely.

Intermittent fasting – no hippie shit

I've been using intermittent fasting for years. There are a few different fasting based diets out there, but I've created the first one of it's kind that is designed specifically for anyone interested in building muscle, losing fat or improving their body composition. I don't fast for any esoteric reasons. Even though there's a multitude of health benefits to be had from it, those aren't my primary incentives, either. No, my reasons are probably the same as yours – I want to improve my physique by getting leaner, stronger and more muscular. How on earth do I accomplish that by fasting? Here's a quick primer on the benefits of intermittent fasting for anyone interested in improving their physique and mental state:

- Greater insulin sensitivity, which allows your body to make better use of carbohydrates
- A wide variety of potential health benefits, ranging from cardiovascular health and life extension to neuroprotective mechanisms that may protect against brain diseases such as Alzheimers.
- Mental alertness, boost in metabolism and improved energy levels due to increased levels of norepinephrine.
- Higher levels of growth hormone during the fast, which shifts fuel metabolism to fat burning and spares muscle protein.
- Appetite suppression. Contrary to what people seem to believe, fasting will not make you ravenous. It has a hunger blunting effect, which is invaluable during cutting.
- Practical. Gone are the days of having to carry around protein shakes or Tupperware boxes of food everywhere you go.
- Large, satisfying meals – you can eat big and still remain lean. No more foo-foo meals that merely act like appetizers and leave you with cravings. This one rings especially true for me; I would always break down on a high meal frequency approach just because the small meals always left me feeling unsatisfied and hungry for more. Using intermittent fasting, I stay 6% body fat year round without much effort.



This client got ripped with my approach and maintained excellent strength and energy throughout the diet.

The blueprint

In a nutshell, I fast 16 hours and feed 8 hours every day. Those hours are centered around the workout, strategically placed so that a great majority of the calories are ingested in the post-workout window. Specifically, I break the fast with a meal about 2 hours pre-workout, train, and eat the rest of the calorie allotment for the day, split into two meals post-workout. One of the main differences between my diet and other fasting based diets is the importance placed on pre- and post-workout nutrition, which I think is vital to optimize results and amplify the anabolic stimulus provided by training.

Here's an example of what I mean. In this example, the feeding phase is kept between 1-9 pm while other hours are spent fasting.

1 pm: pre-workout meal (I eat about 20% of daily total intake here)

Workout

5 pm: post-workout (big one – approximately 50-60% of daily total)

9 pm: last meal (30-20% of daily total)

By placing the largest calorie load in a period where the muscles are most responsive, which is the hours after your workout, you're creating an ideal situation for muscle hypertrophy. Combined with

the improved insulin sensitivity from the fast, you're making sure the post-workout calories are put to good use and are more likely to be used as building material for muscle and improved workout recovery. More calories when they are needed, less calories when you don't need them as much. That's the basic gist of my protocol.

I'm going to elaborate more on my approach later. First, we need to deal with some issues, as I already feel the doubts and questions building up in your head. There's probably a lot of things here that fly against everything you've heard regarding nutrition – for example, you might think you'd slow your metabolism and lose muscle by fasting. Well, think again.



This client went from 14% to 8.5% body fat, but his weight remained literally unchanged.

But I've heard...

I like my job, but there are a few things I very much dislike about the industry in which I work. That is, the sheer amount of misinformation being spread and repeated ad infinitum until everyone believes it to be true. There are many aspects of this, but one truly stands out: the conservative belief system surrounding proper nutrition.

I'm going to make assumptions about what I think you believe, solely based on the fact that almost everyone who gets involved with weight training and fitness all believe the same things. This results

from having been spoonfed a few nutritional myths over and over again. If you're like most people, here's what I think you believe at the moment.

Note: I don't expect you to buy what I say hook, line, and sinker, but there is one thing you should know. Everything I'm going to tell you is not merely my "opinion" or "theory". It is all scientifically proven facts. I'll even include a reference list at the end so you can go look it up for yourself.

"Eating small meals frequently boosts my metabolism and is the right way to eat if I want to lean down or build muscle"

Eating many small meals every 2-3 hours is how I was told to eat when I first started working out. Regardless of gaining muscle or losing fat, eating every so often was supposed to be vital to getting results. I never questioned the method, rather I questioned my discipline for my lack of results. I always got too fat, too fast when trying to gain muscle. The frequent eating also made cutting a chore and very challenging. I found the constant preoccupation with food to not only interfere with my results, but also to seriously affect my social life. It wasn't until after some experiments with a lower meal frequency that I started to question the methods I had used in the past. I explored the research surrounding this topic. And by that, I mean, actually reading the studies myself and not letting so-called gurus, magazine and supplement companies give me their skewed and biased interpretation. My background in Medical Sciences was a big help when doing this, as I was taught to critically examine research and sort out unbiased, well conducted studies from the biased or poorly conducted ones.

Here's what I found.

To this date, there isn't a single study showing that meal frequency affects metabolic rate. There are plenty of studies showing that metabolic rate is identical at the end of the day, regardless of how many meals were used to split your calorie intake. Six meals of 400 calories, or three meals of 800 calories, it simply doesn't matter. A high meal frequency does not boost your metabolism, nor does fasting or a low frequency slow it down either. The latter has been shown quite clearly when researchers made people fast for 72 hours and found no difference in metabolic rate at the 12 hour mark, compared to the 72 hour mark. That's three days without food, yet all subjects retained a fully intact metabolic rate. There are other studies looking at one meal a day and alternate day fasting that does not find an impact on metabolism either. Some studies have actually found that fasting boosts metabolic rate slightly during the initial 36 hours - this is supposedly an evolutionary response, mediated by norepinephrine, as the body mobilizes extra energy when food is scarce. You can imagine it would be highly counterproductive to mister caveman if he found himself slow and lethargic when he needed to find food in order to not starve to death.

Well, some might argue, a higher meal frequency will stabilize insulin and blood sugar, and in that way allow for more fat being used as fuel – no, not even that argument will fly based on research. The amount of fat being oxidized is dependent on what you ate during the day, not on the number of meals you consumed. When you eat frequently, you eat less food and oxidize less fat in between meals. Whereas, when you eat infrequently, you eat more food and oxidize more fat in between meals.

I'm not big on conspiracies and I don't believe supplement companies are evil. However, this is what you get when you let them interpret research for you - they just love the fact that people believe they need to down a shake or a meal replacement in between meals to keep their metabolism humming. The optimistic part of me wants to attribute the birth of this great myth through a misunderstanding of something called TEF (Thermic Effect of Food). Every time you eat, your metabolic rate increases slightly as an effect of digestion and absorption of nutrients. Eating actually does "stoke the metabolic furnace". However, the one *crucial* part people missed, or ignored, in this equation is that TEF is directly proportional to calorie intake. If we use 10% for TEF, eating a 400 calorie meal will cause a 40 calorie increase in metabolic rate in the hours following the meal. An 800 calorie meal will cause 80 calories to be expended through the same mechanism. By eating frequently, you give the metabolism a small boost several times a day, while fewer meals will lead to a big boost fewer times a day. The end result is identical and total TEF is the same regardless of meal frequency.



Yep, it works for women too. These pics were taken only 4 weeks apart.

Despite being a highly impractical meal pattern for many people, this is by far the most common diet myth around; not only in the fitness community, but also in the mass media. As a consequence, it's

also the hardest diet myth to kill. It is being perpetually kept alive and repeated ad infinitum by the supplement industry, nutritionists that can't put the research into proper context, and people that just keep reiterating what the others are saying.

- Meal frequency does not affect metabolic rate. Even three days without food will not slow your metabolism. Meal frequency does not have any effect on fat burning either. A lower metabolism is a consequence of weight loss and prolonged calorie restriction, and is in no way determined by meal frequency.

Let's look at another myth that's quite popular and seems to go hand in hand with the high meal frequency hoax.

“The body can only use 30 grams of protein per meal”

Common sense would dictate that a larger meal takes a longer time to digest, but somehow people seem to believe that protein is exempt. Supposedly, protein needs to be eaten in small amounts with regular intervals to be utilized properly. It's bullshit, of course. I could go on a tirade spending pages on explaining how I believe this myth originated, but I'll just go straight to the facts instead. The digestion rate of protein depends on several factors – the amount and type of protein, and the amount of fat and carbohydrate ingested, with the protein being an important factor to consider.

Looking at research in this area, 43 g of casein protein ingested on an empty stomach, as a liquid solution, was found to deliver amino acids at a steady rate into the blood stream for more than 7 hours (in this particular study, that was the maximum length time they measured it). Another study examined a whole food meal comprised of 75 g carbohydrate, 17 g fat and 27 g protein, and found that the meal was still releasing amino acids and other nutrients into the bloodstream after 5 hours. In these scenarios, we're looking at protein absorption ranging from 5-6 g per hour, meaning that big, protein rich meals would be digesting for way beyond 12 hours.

Whey protein is one of the few exceptions with it's remarkable fast absorption rate of 10 g per hour. However, if you're getting protein from whole foods like meat, eggs and milk products, your meals will supply you with a steady release of amino acids for many hours.

- The body can handle large amounts of protein in one sitting. A bigger meal simply takes a longer time to digest, supplying your system with nutrients and amino acids for many hours. Eat a big enough meal and it will last you well over the night and into the next day.



This guy added 10 lbs of pure muscle and went 16 hours without eating protein on most days. What gives?

“You lose muscle by fasting”

Basically, people seem to believe that the body will “run out of amino acids” and immediately start catabolizing muscle protein stores if you don’t eat every so often. This is simply not true for the following reasons.

First, looking at protein absorption rates, what we just covered above, you’ll see that dietary protein takes a long time to be fully digested and absorbed. If you set up the feeding phase the way I recommend, with a fairly large, protein rich meal at the end of the day then you’ll have plenty of amino acids floating through your system several hours into the fast. I typically recommend a big meal consisting of slow digesting protein like cottage cheese, or meat and veggies, which will lead to a sustained amino acid release through the night and into the waking hours. Recall that merely 43 g of casein will keep you covered for more than 7 hours.

Second, the hormonal response during short term fasting favors fat burning and protects against muscle catabolism through increased levels of growth hormone.

Third, studies on this topic show that genes controlling muscle catabolism, do not even get activated with 40 hours of fasting – and we’re only fasting for 16 hours. Here’s what the researchers wrote:

“..short-term fasting (40 h) fails to elicit marked alteration of the genes regulating both muscle-specific protein synthesis or atrophy. Greater periods of fasting may be required to initiate coordinated inhibition of myogenic and atrogenic gene expression”

“...it is likely 40 h would be insufficient time to stimulate marked catabolic processes and subsequent atrophy within skeletal muscle.” (Larsen et al, 2006)

And as a last point, I have countless real world examples in my clients, many of which reached very low body fat without any muscle loss whatsoever – in fact, many of them got stronger and gained muscle on this regimen (they’re all on my site). Trust me, if there was something, anything, to the belief that fasting would increase muscle loss or hinder muscle gain, I wouldn’t be writing this article in the first place.

- Fasting does not cause muscle loss – your body will burn fatty acids during the fast, not muscle protein. Muscle loss is primarily an effect of a severe calorie deficit, low protein intake, or overtraining.

In conclusion, most of the things you’ve heard about meal frequency, protein, and fasting are based on biased research, profit hungry supplement companies, and people not thinking critically or considering the source of the information. People like to be served facts, not spend time finding out the real deal. I’ve only covered a small percentage of the dietary misconceptions out there. This is such a vast topic and I chose the ones people have about the idea of meal frequency and fasting. If I can’t get you to consider intermittent fasting, I hope that at least I’ve manage to encourage you to think critically about what you hear about the do’s and don’t’s of nutrition.



Muscle loss by fasting? Tell that to this client who added muscle, got stronger and shed an impressive amount of body fat with my approach.

Back to the Blueprint

Ok, now that we've sorted out some issues, let's get back to my approach. The Leangains, aka the 16/8 split, approach to intermittent fasting can be used for fat loss, muscle gain or body recomposition. Body recomposition, which basically means gaining muscle and losing fat, is a common goal people have when they hire me for a consultation. It's almost impossible to pull off without a structured plan, but I'm going to give you a sample set-up that should work well enough for a lot of people.

Now before we start, there are a few things you should know.

- You should be fairly lean when attempting this approach, as lower body fat means better insulin sensitivity. This seems to work synergistically with the fasting and tends to improve results on my recomposition plan. I would say 10-12% body fat is an appropriate starting point to pull this off with the greatest efficiency.
- There are many individual factors to consider and finding the right calorie intake for each respective day may require some trial and error. I'm going to have a more detailed outline in my book than the one provided here.
- The plan below is best suited for newbies, as intermediate and advanced trainees require a slightly different approach to get optimal results.
- Another critical aspect of a successful recomposition plan is your training routine. If you train like an idiot, you won't get any results on this or any other plan. As a newbie, a workout frequency of 3x/week with a main focus on compound movements is the best way to go. There are plenty of good training templates suited for this, such as Starting Strength or the sample workout routines in "Beyond Brawn" by author Stuart McRobert.

Sample Newbie 3x/Week Recomposition Setup

This set-up is based on a 3x/week training template. It's a cyclical approach to losing fat and gaining muscle, which means you're overfeeding on workout days (to cause muscle hypertrophy) and underfeeding on rest days (to lose fat). Basically, you're shifting from muscle gaining to fat burning on a daily basis.

The first thing you need to do is know your maintenance intake, which is the amount of calories required for you to remain weight stable with the amount of activity you're currently doing. If you don't know this from experience, multiplying your body weight in pounds by 13-14 depending on day (rest/workout) might be a good starting point. To this number, you'll then add or subtract 20% on training and rest days respectively. If your maintenance intake is 2500 kcal, a nice and round number just for show, you'll be cycling between 3000 kcal on workout days and 2000 kcal on rest days.

On training days (3x/week), eat maintenance + 20%

- Keep carbs high, protein moderate and fat low. Carbs should be the dominant macronutrient this day.
- Split the meals so that you get 60-80% of total calorie intake in the post-workout period, either by eating one pre-workout meal of 20% of total calorie intake per the example provided earlier. If you workout in the evening, eat two meals, each of 20% total calorie intake, and then one big meal of 60% post-workout.
- Good food choices this day includes sweet potatoes, oatmeal, and other sources of complex carbs and lean protein sources such as chicken, fat-trimmed beef and white fish. Don't be afraid to add some carb dense treats in the post-workout period, such as cereal, low fat ice cream and similar foods. You get to eat quite a lot post-workout and there's no use being extremely obsessive by only eating "clean" foods.

On rest days (4x/week), eat maintenance – 20%

- Keep protein high, fat moderate and carbs low. Protein should be the dominant macronutrient this day.
- Split the meals so that you get 35% of total calorie intake and at least (body weight x 0.4) grams of protein in your first meal.
- Add some low or moderate intensity cardio to speed up fat loss.
- Good food choices this day includes lots of veggies, moderate amounts of fruit and berries, lean and fattier type of meats like ground beef and fish like salmon, whole eggs and egg whites, and good fat sources like avocado, olives and almonds.
- Always end this day with a slow digesting protein source such as casein or meat with some veggies to slow digestion.

This was just a little something to get you started. If you want more information about my approach or are curious about results other people have had, check out my site www.leangains.com. Also, keep your eyes peeled for my book coming out in 2009. It's going to be something quite different.

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