

The Definitive Guide to Muscle Gain



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A black and white photograph of a man in a gym, wearing a dark tank top and shorts, sitting on a bench and lifting a dumbbell. He is looking down at the weight. In the background, there are rows of dumbbells on a rack. The image is overlaid with a white box containing a table of contents.

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Nutrition Overview

When it comes to building muscle tissue, nothing, not even training, is more important than proper nutrition.

Optimizing one's nutrition for building muscle is a nuanced and semi-complex process.

It requires a robust understanding of the impact of the three primary macronutrients (protein, carbs and fats) as well as the impact the timing of said macronutrients has on various physiological processes.

Some of these fundamentals are more well-known than others. For example, most of us know that protein plays an integral role in muscle gain - but how much do you need? and just how important is the timing of that protein? The same question can be asked of carbohydrates and fats. We will explore and answer these question in the pages that follow.

While dietary fat is important, it's role in muscle gain is mostly indirect. It acts as a precursor for some incredibly important anabolic hormones, but it does not work as directly on energy production and tissue repair as protein and carbohydrate.

It is for that reason the primary focus of the next few pages will be on outlining protein and carbohydrate guidelines and practices aligned with maximizing skeletal muscle gain.

If your goal is maximizing muscle gain, aim to eat no less than 20-30% of your total calories from dietary fat. If you can include a high amount of omega-3 fatty acids in your diet, even better!

Getting the right amount of fat and ensuring you have adequate omega-3 intake is a great way to set the stage for muscle gain, now - on to the big macros, protein and carbs!



PROTEIN

Resistance training has some unique nutritional requirements for optimal performance. Protein plays the chief role. The JISSN recommends 1.4-2.0 grams/kg as a minimum range for protein consumption amongst athletes. In America, you will often hear lifters needing to eat 0.7-1.0 grams of protein to optimize muscle protein synthesis.

This is not to say some people won't do better with more, while others may need less. These are just ranges.

I have found protein to be the most commonly under eaten of the macronutrients amongst most of the general population. Beyond simply building muscle, protein can create satiety and help with fullness for those dieting and looking to lose body fat.

When designing a macronutrient prescription for YOURSELF or a CLIENT, you should ALWAYS start with protein. The range I have had the best luck with 0.8-1.2 grams/lb of bodyweight - lower on the range for heavier individuals is recommended.

For those clients or individuals who are very overweight. I use 0.7-1.0 gram/lb of lean body mass, NOT body weight.

Protein sources I regularly consume/keep around the house are:

- steak/red meat
- ground turkey
- chicken breast
- cold water fish
- eggs
- yogurt products
- whey/vegan protein powder



Carbohydrate

Protein is the star of the show when it comes to macronutrients that play a role in facilitating muscle gain, but carbohydrates deserve their time in the spotlight. They are amazing for energy production, glycogen repletion, they spare protein and mitigate muscle loss.

As I noted above, protein gets all the love, at least amongst those of us looking to build muscle. But carbohydrates are equally awesome in several respects.

Carbohydrates are the bodies preferred energy substrate for most physical and cognitive tasks, but specifically for the type of training best suited for building muscle (resistance training).

Most forms of resistance training rely heavily on the glycolytic pathway, a pathway in the body that breaks down carbohydrate into usable energy in the form of ATP.

Beyond just being used for energy and more specifically, muscle contraction, carbohydrates can limit the degree to which muscle breaks down in response to vigorous exercise. This can limit muscle damage and, indirectly, enhance muscle growth over one's training career.

Carbohydrates also enhance the bodies secretion of insulin, a hormone that can directly reduce excessive cortisol (a stress hormone that, when present in high amounts, is not ideal for muscle growth).

Once you have established an adequate range of dietary protein and fat to facilitate muscle growth, the remaining calories in your diet should likely come from carbohydrate.

This will likely mean that carbohydrate represents the largest overall contributor of calories to your diet.

Training Frequency



With nutrition out of the way, we can take a look at the training variables with the greatest impact on muscle growth.

The frequency with which you train a muscle plays an important role in optimizing the amount of muscle someone gains. While individual variance to training stimulus is certainly a thing, the most recent research I have seen at the time of writing this guide (2020) illustrates that 2-3 training sessions per week, per muscle group may be better for muscle growth than 1 training session per week per muscle group.

It is worth noting that more is not always better.

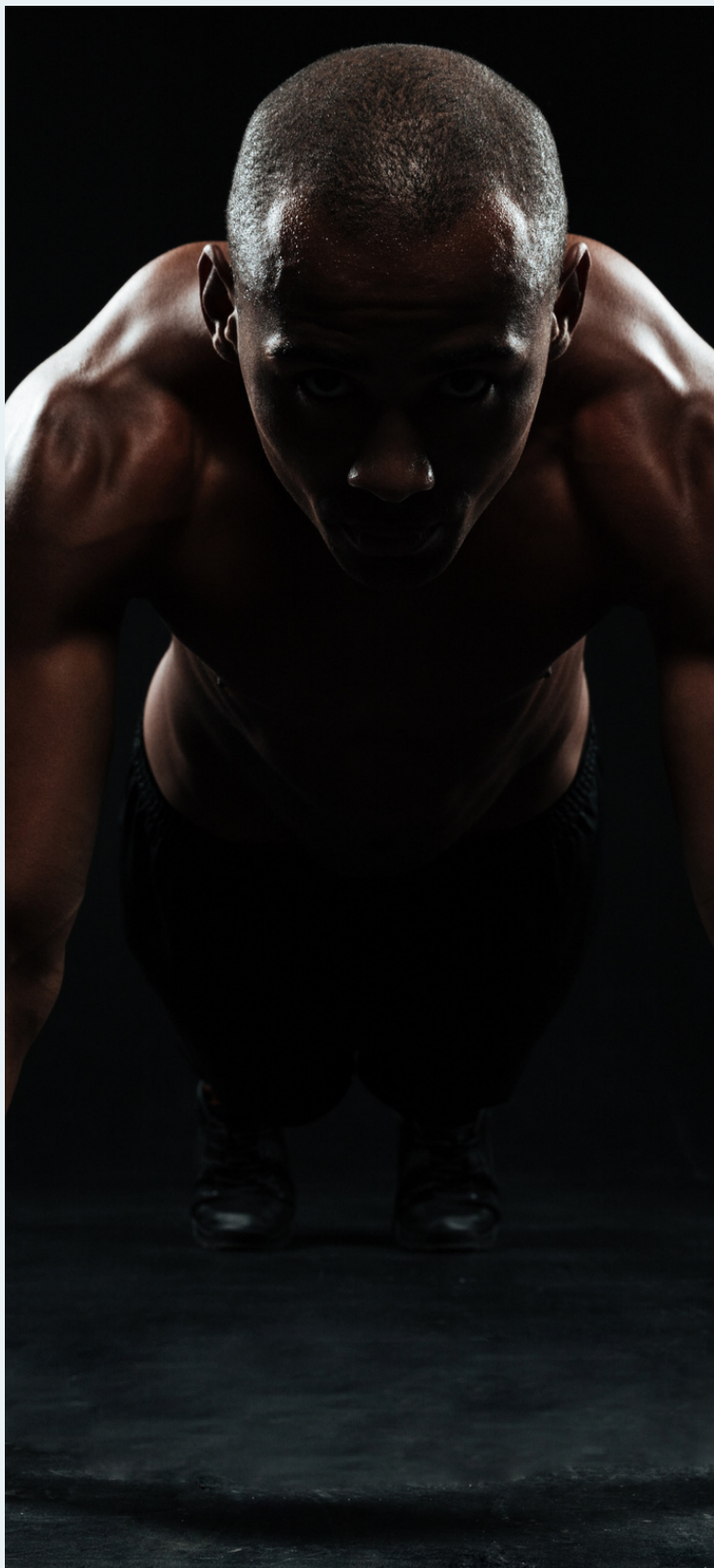
The larger a muscle group, the more systemic fatigue may be required to train it effectively. It is for this reason, I recommend clients train large muscle groups like the quads, hamstrings, pectorals, and lats only 2x/week with heavy loading strategies.

Smaller muscle groups like the biceps, triceps, calves, and deltoids for example may be more receptive to more frequent training, and are also less likely to contribute as much to systemic fatigue due to their smaller size.

All of this to say that training your muscle groups somewhere between 1-3 times/week is likely ideal with the largest percentage of folks finding 2-3 slightly more optimal than 1-2.

Training intensity will largely dictate how frequently you can train, so we will touch on that in detail on the next page.

Training Intensity



Training intensity and frequency tend to elicit an inverse proportionality to one another...

The harder your train, the greater your output, the closer you are to failure, the more intensifiers used and the more novel movements employed, the more recovery the body tends to require.

I outlined the likelihood of 2-3 sessions/week per muscle group being better than just 1, but what if you take every set to absolute failure? Well, then you might have to reduce your frequency in order to recover from training that is that intense.

My recommendation for clients tends to be to try and strike a balance.

Training closer to failure (1-2 reps from failure for example) is probably going to be better for muscle growth than training 5 reps from failure.

If you can train close enough to failure that your training is substantially difficult enough, you should be good to go.

If you can combine that with around 2-3 training opportunities per week, per muscle group, even better.

If you take anything away from this section, let it be this. I have learned about hypertrophy from some of the best bodybuilders and evidenced based practitioners in the world, and there is certainly a ton of debate around the many different aspects of one's training philosophy. The one thread of commonality that shows up time and time again, no matter who you ask, is the importance of training HARD more often than not.

Training Volume



With frequency and intensity covered, let's dive into training volume.

In simple terms, training volume refers to the overall amount of work you do in the weight room.

It is often equated as set volume (number of sets) or total volume (sets x reps x weight lifted). There does appear to be a positive correlation between volume and hypertrophy, but everyone has a different "sweet-spot".

Which is to say, more is not always better for everyone.

For most people 10-20 well-executed, challenging sets, done close to failure, is plenty to facilitate muscle growth. That is 10-20 working sets per week, per muscle group.

Some might have better luck with more, and some might have better luck with less. Some of the factors that impact this are:

- Training age
- Training intensity
- Exercise selection
- Nutrition status
- Sleep
- Allostatic Load (stress)

Before you simply add progressively more and more volume, it is important to be sure that you are aiming to achieve:

- Progressive overload
- Intelligent exercise selection



SLEEP

Sleep is critically important for optimizing recovery and maximizing muscle gain.

I'll make it really simple, missing sleep (getting less than 8 hours/night) is NOT good. Poor sleep has been linked to:

- Lower levels of testosterone. Even for women this is NOT a good thing.
- Impaired ability to maintain a calorie deficit.
- Lower levels of growth hormone.
- Lowered maximal strength levels.

Optimizing sleep if you are chronically sleep-deprived is the closest thing we have to a "natural" steroid in my experience working with the general population.

A few things you can do to increase both the quality and quantity of your sleep are:
Limit exposure to blue light by cutting off your exposure to screens leading up to bed time.

Calm down before bed using tools like breathing and meditation.

Limit your caffeine intake throughout the day. Do "calming" activities closer to bed rather than energizing activities.

Consider supplementing with glycine, melatonin and magnesium.

If you really care about your training you will make the time to get as much sleep as possible. Put your phone away, turn the TV off, and commit to sleep the same way you commit to training and eating.

You should aim for 7-8 uninterrupted hours of sleep per night.

For more information on things you can do to help improve your sleep you can head to my website and download my better sleep guide completely free.

SUPPLEMENTS

Supplements are a huge part of the fitness industry. The two are inextricably linked. As of 2016, supplements represented a whopping 120+ billion dollar industry.

To put this in perspective, in the same year, the health club industry was valued at only 80 billion.

In my opinion, 85-90% of supplements are unnecessary. Those that I have found to be truly worth taking that are supported by both scientific data and reputable anecdotes are listed below:

- **Vitamin D3 ***
- **Creatine Monohydrate***
- **EPA/DHA (fish oil)***
- **Protein Supplements or Essential Amino Acid Supplements***

- **Magnesium***
- **Vitamin C***
- **Highly Branched Cyclic Dextrin (intra-workout carbohydrate)***
- **Ashwagandha***
- **Caffeine***
- **Beta Alanine***



***Dosages will vary based on individual's goals and nutritional needs. (none supplements of these are intended to treat disease or illness)**

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I thank you for taking the time to read the ideas inside this E-Book and wish you the best in your fitness endeavors.

Sincerely,

Coach Danny Matranga, CSCS