BODYBUILDING COMPLETE

2 Books in 1: Bodybuilding Science & Bodybuilding Nutrition

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Book 1: Bodybuilding Science

The Formula of Hypertrophy - Optimize Training, Exercises, and Nutrition to Stimulate Maximal Muscle Growth

Introduction

Becoming part of bodybuilding society can be an intimidating experience for most of us even on the first visit to the gym. You see big lean, muscular men with a serious attitude training intensely. When you hear most of the vocabulary they use, at first it will seem like an alien language. Thus, you should learn everything before you set foot in your gym, not just to avoid the daunting experience, but also because you will start to train without an increased chance of injury.

Keep in mind that bodybuilding is a lot more than just oiled up muscular men flexing their muscles until they pop up. It is an art. It is perfected with sincere effort combined with months of training, dedication, and knowledge. Having the right guidance is an essential aspect since it will provide you with success without experiencing failure. Fortunately, now you already have this book.

If you truly want to have a muscular and lean body without any obstacles, this book is for you. You will expand your knowledge beyond training. First, you will learn about your body and understand more about its functioning; this will help you connect with and listen to it. You won't get any results if you work against nature.

If you search for shortcuts, you won’t find them. There is no one secret or a magic pill that will help you achieve your goal. All you need to do is set realistic goals and adhere to the training and nutrition guide.

Chapter 1 – Hormones, Hormones, Hormones

First things first: you should learn how your body works before engaging in any training. Knowing its signals will help you realize the need for any special food to boost your performance. Let’s start with hormones. Hormones are responsible for everything that happens--for muscle growth as well as health. It doesn’t make any sense to ignore your health. Being unhealthy means less energy, little willpower, and low self-esteem. You won’t have the most important motivators to push you further toward your goal.

What are hormones? Why are they important for your muscles and health? Which ones should you look out for? What happened if you have lower or higher levels? How does one boost hormones naturally? All these questions are answered without getting too much into physiological science. This book is simplified and easy to understand with even easier tips to follow.

Body and Mind Transformation: Hormones

You already know that exercise and healthy eating is fundamental to the way you look and feel. Hormones control our lives from every aspect. It affects the metabolism, body, appetite, how much you weigh, how much fat and muscle you have; and it affects energy levels, emotions, and mood.

When everything is balanced, metabolism will be improved as well as energy. This is why people who have a fast and healthy metabolism burn calories more efficiently. Those with a have slower metabolism shows extra fat on the hips and/or stomach. Burning calories faster means higher energy levels that you need for a productive day.

There are many hormones and they all work together in a system; but since I am not here to teach you biology, I am going to tell you about those that affect your muscles, weight, and health.

What are hormones?

Particular cells release hormones that affect other cells in the body. All organs create hormones; they travel through the blood and other fluids in the body. These hormones are affected by the food we eat and the lifestyle we live. Understanding which has the most effect on muscle growth and weight, and learning what food affects them, will bring you success in bodybuilding and any other type of training you might do.

At first, you might be surprised why I have started off with hormones as a top priority; but yes, they are that important. They are all about fat loss, muscle growth, and overall health. It is essential to learn everything you can about hormones in order to change your body.

There are two types of hormones: anabolic and catabolic. The anabolic builds up the body while the catabolic breaks down the body. In bodybuilding vocabulary, this means anabolic hormones help in building up muscles and catabolic means the inverse or muscle loss.

Here are the sic hormones that play the principal role in muscle growth and fat loss. I am going to explain all about their function and, most importantly, how to use them to increase your workout performance:

- Testosterone
- GH – growth hormone
- Insulin
- Thyroid hormone
- Cortisol
- Estrogen

Testosterone

Testosterone is known as the male hormone since it stimulates male characteristics. Both women and men have this hormone, just in different amounts; men have a lot more. It serves an essential role in our body in terms of bodily and sexual development, behavioral and metabolic characteristics, and a lot more.

This male hormone is produced in the testes and also the adrenal glands. After it is secreted into the blood, about 97% is bound to globulin and albumin (proteins).

This binding has three purposes:

- It serves as a storage depot or reservoir used to dispose of fluctuations in the plasma testosterone.
- It protects the testosterone from the kidneys and liver, from being degraded.
- Testosterone becomes soluble so that it can be easily transported by the blood.

The other small percentage of testosterone is not bound to the plasma and thus it is known as free testosterone. It interacts with cells and causes physical changes.

When it comes to regulation of T levels, it is controlled by two factors: the plasma protein binding capacity and the total T levels in the blood. This means that when the binding capacity increases, the free testosterone lowers. This is why certain T supplements and certain drugs can reduce its capacity and there is freer testosterone.

Even when we were embryos, T levels had the final word for us being male or female. For males, testosterone production lasts until ten weeks after birth and when puberty arrives, it stops. This is the time when the levels are through the roof. In this period, men show are surprisingly different from women looking from many angles such as body weight and muscle formation, drawing them to more aggressive sports like football. It is sad that testosterone starts to decline after 30 years of age, and by the time we turn 70-80, one-third of it is gone.

Here is how testosterone makes all the difference:

- Growth of testes, scrotum, and penis during puberty

- Enlargement of the voice box – larynx-- with the result being a deeper voice
- Formation of sperm
- Hair growth – face, chest, pubic area (and for some men the back)
- Increased skin darkness and thickness
- Increased sex drive
- Increased metabolic rate
- Increased blood volume and higher number of red blood cells
- Kidneys retain water and sodium
- Increased muscle protein, which means muscle mass is increased
- Muscle glycogen gets broken down less during exercise
- Bones retain calcium
- Sebaceous glands (sweat) are increased and in some cases result in acne
- Promotes strengthening and narrowing of the pelvis

These are just a few illustrative testosterone functions; there are many other effects on the body not listed here. I now want to inform you about the role of testosterone on bodybuilding.

Low Testosterone

Since testosterone is responsible for many functions, when decreased it can result in significant psychological and physical changes. The low limit of T in men is 300 ng/dL and the upper limit is 1000-1200 ng/dL. But how do see the first signs of low T before even getting checked? What causes low T?

Sign 1 – Sexual Function

Since testosterone decline is normal, many men worry that the time will come when sexual performance and desire will be affected. But age is not always a trigger of low T because that change happens slowly and low sex drive

doesn’t occur right away. However, there are three signs that your levels are too low:

- Reduced sex desire
- Less spontaneous erections, like during sleep
- Infertility

Do not mix up low T with ED (erectile dysfunction). Testosterone only plays a small role in this case. T therapy might help with ED, but it is not the cause.

Sign 2 – Physical Changes

You already know why this hormone is known as the male hormone because it gives male characteristics. It increases body hair and muscle mass, and it helps with the formation of strong and lean muscles. If testosterone is low, these physical changes can happen:

- Body fat is increased
- Decreases mass and strength of muscles
- Fragile bones
- Less body hair
- Tenderness/swelling in breast tissue
- Increased fatigue
- Hot flashes
- Cholesterol metabolism is altered

Sign 3 – Sleep Disturbances

Despite the fact that low T can cause low energy, it can also cause sleep problems like changes in sleep patterns and, in some cases, insomnia. On the other hand, testosterone therapy can cause sleep apnea, which can also disturb the sleep pattern. The overall changes in the body that lead to sleep

apnea can also be the cause of low T.

Sign 4 – Emotional Changes

In addition to physical changes, levels of T affect your emotions too. This condition can lead to depression and a feeling of sadness. It can degrade one's overall sense of well-being. There are even cases where people have problems with concentration and memory and experience lower self-confidence and motivation.

Since T is the hormone that affects emotional regulation, depression is linked to many men with low T levels. This can be the result of fatigue, lower sex drive, and/or irritability.

Overall Signs and Symptoms of Low T

<u>Physical:</u>

- Lack of energy, fatigue
- Reduced muscle strength and mass
- Increased body fat
- Back pain
- Reduced bone density/mass, increased chance of osteoporosis (more prone to bone fracture)
- Risk of heart attack
- High cholesterol
- Refractory period is increased (increased time between sex, inability to have more frequent sex)
- Sperm count is reduced (infertility)
- Gynecomastia (male breasts)

Mental:

- Lower sex drive, libido is decreased
- Difficulty concentrating, brain fog
- Memory problems

Emotional:

- Despair, hopelessness, sadness – depression
- Ambition and motivation is decreased
- Irritability (loss of patience, increased agitation, and anger)

Increasing Your T

Whether you go only with the signs you see or you get tested for your testosterone levels (a simple blood test), there aren't any shortcuts to achieve your T goal. If you expect to get info about a magical supplement for your muscles, then you are wrong. There aren't any. The best option is your way of life. It is all about how you live. It all comes down to one simple thing, changing your diet and lifestyle long-term. If you really want to have great T levels and keep them that way, it is important to stick to your new lifestyle and be happy.

Diet

I wanted to skip all other natural ways to increase testosterone because you will be doing them with intense training. Testosterone will increase if you control stress and sleep. In other words, it is important to have a healthy lifestyle in order to get your T levels in check.

Diet is important when it comes to T production. The glands need special minerals like magnesium and zinc to get production started and the Leydig cells (in the testes) need cholesterol to create testosterone. Food such as cabbage, cauliflower, and broccoli help increase T by removing estrogen from the system. There isn't a specific diet you can follow, but you can create your own diet plan with ease. There are only a few foods to stick to:

Spinach – The best source of magnesium is spinach; not only does it increase muscle development, but it also necessary for the reproductive function in young and old, sedentary and active. Magnesium should be taken at 22mg per lb. of body weight daily. As you increasing magnesium, you will be boosting your magical T levels. So load up on leafy greens and not just spinach. Only one cup of spinach (cooked) will give you nearly half of your daily recommendation, and also it is twice what you will find in kale.

Oysters – Oysters are full of zinc, the mineral that will elevate testosterone while it boosts another important hormone—the growth factor (more about growth factor later). Trainers who take zinc supplements have shown amazing results even in the first few weeks. It has the power to increase testosterone levels as well as increase leg strength, even more than a placebo. Eating only 6 oysters (on the half shell) will give you 33 mg zinc, which is about three times more (12mg for an adult man).

Hot Sauce – Make it HOT! The hotter the pepper or pepper sauce, the more testosterone you will have. Research has shown that the hotter you can eat it

means your T levels are good. It is also known to decrease belly fat and increase the size of the sex organs. Many benefits come with simple hot sauce.

Garlic – There is a compound in garlic that triggers the luteinizing hormone. It is responsible for controlling testosterone production. Using garlic as an addition to a high protein diet can increase T production. In actuality, 500mg of onion or garlic per lb. each day will be enough to increase T levels by 300% in 20 days. Both onions and garlic contain the same chemical that releases the specific hormone responsible for starting T production. Note that fresh onion and garlic have more nutrients compared to powders.

Brazil Nuts – These nuts are special because they are rich in the trace mineral selenium. Yes, it is a trace mineral, but Brazil nuts are the best source. It has been proven that people who have trouble conceiving have also low T levels, followed by low selenium levels. Those who increased selenium got their T in check and were able to impregnate their partners.

You need 55-microgram of selenium each day and you can get about 90 mcg in one Brazil nut. So don't overeat! The upper limit for selenium intake is just 400 mcg; and if surpassed, it can cause toxicity. So, don't go too nuts.

Broccoli – This veggie is cruciferous and all types of it are rich in indoles; they are anti-cancer and boost testosterone production indirectly by releasing and flushing excess estrogen from the body. As men age, estrogen increases and testosterone decreases; indoles veggies will keep them in balance. Show that you know how to take care of your system by eating indoles, Brussels sprouts, cabbage, cauliflower or broccoli.

Eggs – The hormone boost you will get from an egg is actually from the yolk. In fact. It has been proven that vegetarians have 12% less testosterone and that a diet rich in cholesterol, mono-saturated and saturated fats will definitely improve testosterone. How is that? It is simple: cholesterol creates

building blocks from which T is created.

So, you can enjoy a few eggs per week cooked in any way you want. To have a balanced diet, eggs must be on your food timetable. Keep in mind quality over quantity.

Growth Hormone

This hormone is similar to testosterone since it provides the same benefits: it decreases fat and increases muscle mass. There is no need for any special diet or changes in life to boost this hormone. All you need to do is exercise, eat healthily, and sleep well. In no time, everything will be great and you will get the boost you have been looking for.

With this hormone in check, you will be in a better mood and, of course, have more energy, which will help you train more. When everything works in sync, you will defiantly lose fat and gain muscle mass.

The growth hormone is produced while you sleep; and when you sleep less, no matter the reason (mostly stress), it will lower production of this hormone.

What do you need to naturally boost the growth hormone?

- Quality sleep every night (at least 8 hours)
- Heavy weight training
- Niacin supplements or adding food rich in niacin in your diet (1-3gr per day)
- Suppress any excessive production of insulin (limit carbs)

Insulin

The hormone secreted by the pancreas is insulin and its job is to transport glucose or blood sugar to cells, which are later burned for energy. The second and equally important function of insulin is moving amino acids for anabolic action. It is no accident that too much insulin is a fat builder.

The pancreas plays an important role here because it secretes digestive

hormones and enzymes. It is located under the stomach and is connected to the small intestine.

How is insulin connected to bodybuilding? It is simple, whether you are resistant or not. A person can be less or more resistant to insulin or, in some cases, sensitive the hormone. Depending on the conditions, it can become a medical problem and an obstacle in building muscles and losing fat. The conditions include:

- Genetic predisposition
- Emotional stress
- Not enough dietary fat
- Too much sugar intake
- No exercising
- Obesity

Insulin will become and remain high when carbs are eaten in large amounts. In time, cells will adapt to carbs so they will become resistant to the function. Insulin will carry sugar to cells for energy. However, the excess not used for energy will be turned into fat.

As a result of not being able to lose fat and build muscle, many health issues can arise, such as cardiovascular disease.

Practicing intense weight lifting and training the body takes more carbs so that their ingestion controls your energy. This means more than normal carb intake is needed before and after training, about 50 grams before and about 60 grams after. Remember to keep your carbs moderate so that there won’t be any remaining for fat storage.

Thyroid Hormone

The fourth important hormone for health and bodybuilding is the thyroid hormone, which is responsible for regulating body temperature; it controls the metabolism, our appetite, mood and energy levels. If it is underactive, you will start to feel tired because your metabolism is slower and your energy levels are lower.

As with any other hormone, stress can affect its normal performance. This especially happens if you are constantly under stress. In this case, the immune system won't do its work properly and the body won't be protected against viruses, for example. Once the thyroid starts to slow down, the body metabolism will start to store more calories as fat. Thus, a slower metabolism means lower energy levels.

If you are suffering from an underactive thyroid hormone, the first sign will be fatigue. I mean feeling tired all the time. (I was having problems with this hormone and it is not good). No one has the motivation and energy to exercise and even stick to a diet plan when you are often tired and neither napping nor sleeping improves it. Other symptoms are muscle and joint soreness, dry and itchy skin, slow hair growth or obvious shedding. Low thyroid levels will cause a retention of fluids and result in face or eye puffiness, and swelling of legs, feet or hands. The lower the levels of this hormone, the higher the cholesterol production. Either a low or high level can cause high blood pressure.

Improving the thyroid hormone:

- Eat food rich in iodine like shellfish, seaweed, saltwater fish, cow's milk and eggs.
- Have a few cheat days, not for you, but for your thyroid. This will allow the body to adjust to more regular food which will trick the thyroid into boosting the metabolic rate. So, up your calorie intake once every 10 days. On a cheat day, you can have 3 grams of carbs per pound and an additional 15 grams of fat.

Cortisol

Cortisol is the stress hormone that might burn body fat, which is why you might have heard that some bodybuilders deliberately over train just to increase the levels of this hormone. However, its side effects are more negative than positive.

Among many other functions, cortisol can shrink the thymus gland, the key of immune system regulation. The immune cells will be shot down and eventually die. As a result, you are going to be more prone to illness. In addition, aside from affecting the immune system, the hormone might promote diabetes, heart disease, fat gain, and muscle wastage. To sum up, cortisol is the only hormone a bodybuilder doesn't need to achieve success.

To lower cortisol and get the success you are pursuing, you should:

- Minimize stress, avoid pointless and unnecessary arguments, and relax often.
- When you are dieting, you have to eat at least two post-workout foods that are high in sugars like fat-free sweets, cookies, etc.
- Reduce caffeine, because even one cup of coffee (200mg of caffeine) can increase cortisol by even 30% in just one hour.
- Sleep longer and deeper.
- Keep your blood sugar stable and at normal levels.
- Take supplements or consume food known to have stressbusting properties like zinc, chromium, calcium, magnesium and antioxidants. (As you can see, these are same as recommended testosterone food.)

Estrogen

Even though estrogen is known as the female hormone, it is also produced by men, but in a lot lower volume. In point of fact, estrogen is as important as testosterone. Estrogen helps in sperm production and bone maintenance. When estrogen is at higher levels in men, it can be detrimental. Excess estrogen can cause breast and prostate cancer and increase body fat.

Nature should always be in control and a male body can't function properly without estrogen. The ratio of testosterone to estrogen should be in balance. T levels should remain high, but estrogen should be kept to minimal levels.

To make sure your estrogen levels are low, always:

- Keep your body fat low because fat tissue will increase the enzyme aromatase that turns T into oestrogen. In short, the fatter a body is, the more aromatase it produces.
- You can consider taking a supplement with a natural aromatase inhibitor.
- Consume a diet rich in cabbage, cauliflower, broccoli (the same cruciferous veggies recommended to increase testosterone levels).
- Limit alcohol consumption.

As you can see, all these hormones work together and bring the same results to a bodybuilder; they help maintain energy levels, promote fat loss, and build healthy and lean muscles. All this can be kept in control with a simple new lifestyle that includes three main things: restful sleep, a stress-free life, and a healthy diet. In keeping with the food recommendation for holding your hormones in check, we are going to look at two healthy diets you can add to your new bodybuilding and healthy lifestyle regime.

Chapter 2 – Diet and Nutrition for a Healthy Bodybuilder

Dieters and people trying to lose weight are not the only ones who get hit by a new type dieting that comes each year. With so many suggestions like low-fat, low-carb, gluten-free, etc., you just can't decide if you need to focus only on protein or on a whole new diet plan.

I understand your problem; I was in your shoes once. Since I was always changing my diet, lasting results were hard to get. I was going months before I could see new muscles building up. The problem was that my body got confused and didn't know how to configure itself to take the essential nutrients and proteins it needed to stay healthy and still build muscles.

I stopped listening to people, other bodybuilders, and posts on social media about diets; rather, I started to listen to my body and undertook research to see which diet or a combination of diets would bring me closer to my targeted goal.

After intense research and one month into my new diet plan, I started to notice the results I had been searching for.

A Combination that Promises Success

The paleo diet, intermittent fasting, and soup cleansing. Yes, these three in combination will do wonders. How is this possible? It is simple; let’s first see the characteristics of each diet.

1. Paleo Diet

The paleo diet is focused on eating meat, which means it is one of the best diets that will provide the best protein source. Unlike a low- or no-carb diet, the paleo diet doesn’t restrict carbs, but it only focuses on natural carbs found in fruit. Even when you will need more carbs before or after training, you will be getting them from fruit and not artificial sweeteners.

The paleo diet focuses on meat and is built on the fact that our ancestors had lived about 140 000 years without any farming and their food was based on what they could catch or gather on the road. Just 10,000 years ago, when people started to settle down and form a society, farming was the practice that led us to eat grains, drink milk beyond infancy, and eat food that needed cultivation to grow.

But only 1,000 years is not enough for our genetics to get used to this type of eating, which is why we have become more obese and unhealthy whereas our hunter-gatherer's ancestors were muscular and full of energy. And so they thrived.

The paleo diet is not something difficult to remember; it is simple and amazing; delicious meals can be made. There are a few tips to follow when on this diet:

- It is a meat-based diet, but this doesn't mean that veggies are ignored.

Make sure that you eat a lot of veggies with each meal. Focus on the veggies that will increase your hormones and keep them in balance so that you can get lean muscles.

- Even your first meal should be filled with fat and protein instead of carbs and grains. Instead of eating dietary cereal as your first meal of the day, eat foods rich in protein like bacon, eggs, beef, and fish. Here is a simple casserole: take some steamed cauliflower and broccoli, shred it, add 6 eggs and some bacon, mix well and toss it in a baking pan (shallow) and bake for 30-45 minutes in a preheated oven.
- Eat until you no longer feel hungry. If you eat and stop, but you are still hungry, you will find yourself opening your fridge every second searching for something to eat.
- Make sure that the meat you will consume is grass-fed and unprocessed.
- The fish you eat should be caught in the wild
- Eggs must come from grass-fed chicken
- No more processed food
- Say goodbye to sugary drinks
- Limit alcohol (especially beer because it increases estrogen); you can have some dry wine.

2. Intermittent Fasting

This is another famous diet; it is actually more of a lifestyle. You can still stick to your old diet and just add IF. Intermittent fasting is nothing compared to starvation; it is just a period when you are not going to eat. You have chosen not to eat, which means you will be fasting.

In this fasting period, you won't be consuming food or any type of calorie drink. You are allowed only water, tea, and coffee--as much as you want.

This type of lifestyle is practiced in some traditions that are still in existence, for example, the Muslims. They fast from sunrise to sunset for 40 days each year for Ramadan.

Intermittent fasting has been proven to bring success to all those searching to lose weight and gain muscles. There are a few fasting protocols from one that lasts 14-16 hours to some that go on for 36 hours.

Not everyone can keep up the fasting that long, and neither can I. This is why I decided to combine the paleo diet and intermittent fasting that lasts 14-16 hours. I do this each day.

My last meal is at 7:00 pm and my fist meal is around 10:00 am to 1:00 pm. I go to bed at 11:00 pm, which means that about 8 hours of my fasting period has elapsed while I am sleeping. Therefore, it is the easiest protocol. 8 hours sleeping, 2-3 hours spend without food before going to bed, and the other after waking up-- very easy.

But after that my first meal (it is not breakfast, which is why I don't say breakfast) is packed with fat and protein that will help me get my energy back. I eat until I feel full; and after an hour or so, I like to have fruit to get some healthy carbs into my system, or I get some carbs from a few potatoes skin wedges.

One last thing about intermittent fasting is that it won't destroy your muscles; on the contrary, you will be building them faster and stronger.

3. Soup Cleansing

Toxins always surround us; no matter how much we try to eat healthily, the air is still polluted, and everything else is. Everything is absorbed into our bodies. This is why it is essential to clean the body at least once in 3 months (with a 1-week soup cleaning) or each month (a 2-3 days soup cleansing) or 1

day per week. It is all up to you.

When the body is full of toxins, it can’t work properly and inflammation, the one thing that should help it fight injuries, will actually start to fight the body itself because all the dirt that has built up confuses it.

With one soup cleanse, it is important to eat only creamy soups that won’t let the stomach use too much energy for digesting. It is all about energy here. You won’t use the energy to digest, and the body will use this energy to clean itself.

Since you are following a paleo diet and practicing intermittent fasting, the best timing for soup cleansing is once a month 2-3 days, or if you can be strong and go on for 7 days only eating soup, go ahead (but at 3-month intervals). If you are new to soup cleaning, it is okay even for just one day as a start.

How to create a Bodybuilding Diet Plan

Many bodybuilder beginners and those experienced know that they need good nutrition to get their targeted look and correct muscle weight. However, even “experienced” bodybuilders don’t know how to create their own meal plans and, instead, they follow an already planned diet.

Wouldn’t it be easier to follow your own plan? You can add the food you like and still build muscles. It is better to plan according to your responsibilities away from bodybuilding. Of course, it is not always all about training.

If you spend all day at the gym, it doesn’t mean that you will get results; it means that you are not giving your muscles a chance to rest and you don’t have time to feed your body the nutrients it needs.

What nutrients do you need and how much?

Even though paleo is based on not counting calories, when it is combined with bodybuilding, it is important that you do count them. And not just total calories, but also carbs, protein, and fat.

Since I hate math (and most of you do, too), I won’t be explaining how everything is calculated. Why bother with it when you can simply find a calorie calculator online. Once you decide on your calorie intake, it is time you decide about your macronutrient ratios, or Marco for short.

Marco is the combination of the 3 main nutrients that the body needs to stay healthy, energetic, and build muscles.

1. 10% carbs/50% protein/ 40% fat (most low-carb diets)

2. 50% carbs/40% protein/10% fat (not my favorite anymore, but still used by some bodybuilders)
3. 40% carbs/40% protein/20% fat

I do not agree with all the above percentages because you need to calculate the right protein intake according to your weight. This means 1g per one lb. of body weight.

1. Anti-oxidants and vitamins. Yes, vitamins are also essential for building muscles, but I do not ignore fresh veggies and fruits and get supplements instead. There are also important trace elements in veggies and fruits that you won't get in supplements. It is vital to have at least three to four pieces of fruit each day and six or more cups of veggies (the more the better). Eat colorful fruits such as grapes, prunes, and berries. When eating veggies, choose kale, red bell peppers, and spinach; and don't forget those that will increase your testosterone.

2. Fiber – Why is fiber important? Because it will help you lose that boring fat. The best part is that every food containing fiber is low in calories or doesn't have calories at all; and it still makes you satisfied. You will need to add legumes with veggies in order to get at least 40 grams of fiber each day.

3. Omega-3 fatty acids – Your body needs essential fatty acids, especially because it can't produce them. It is important to get enough omega-6 and omega-3 every day. The best sources are flax, anchovies, mackerel, herring, and salmon. These essential fatty acids will not only help you gain more muscle mass, but they will keep you healthy, especially your heart. Your body needs at least 5 grams per day.

4. Quality Protein – Why didn't I tell you about protein first? Because the food that I already talked about in the previous points already have a great amount it. If I had added chicken before everything else, you would have ended up with more than your proper calorie daily intake and you wouldn't be

getting the other important nutrients. This means that it is not all about chicken because proteins can be found everywhere. Everywhere means even in big burgers, but this is not lean protein. You have to focus on lean protein from grass-fed animals.
Okay, so, which foods have the best protein? Eggs and milk, and if you can tolerate lactose, go for the milk. Plus, keep in mind that beef is not the best protein source; even quinoa has more quality protein than beef.

5. Good Fats – Yes, there are fats good for your body and they should not be ignored; instead, they should be counted as important as other nutrients. Mono- and poly-saturated fats are great for you. But stick with unprocessed oils, not the liquid form. Eat olives, nuts, or avocados and get at least 10% of your calories from fats. Not long ago, cholesterol was still mistaken as a villain, but not anymore. Saturated fat should come from animals, and it should not go over 5% of your total calorie daily intake. Eggs are great for this, but you have to be very careful because, with them, you can easily exceed the recommended amount.
In case you use eggs as your protein source, it is important to eat only the white (2-3 yolks are fine). So, what is bad fat? Well, it is the oil that is fried, which all that junk and snack food has...

6. Water – Don’t ever forget to drink water; our body is composed mostly of it. Without water, it won’t function properly. First, it is important for detoxing the body and it is needed for chemical reactions that include muscle building, energy production, and fat burning. Just like fats, water also lubricates the joints. Water not only controls body temperature, but it also helps you control appetite. If you feel hungry even after a big meal, it might be a sign that you need more water. Water can stop cravings and increase your metabolism.

I think you get my point here. You should use your daily calorie recommendation to get all the important nutrients. The vitamins and minerals you need for your health and hormonal balance, plus protein, fats and carbs to

have the energy and power to work out more, will all get the results you have been searching for. There is no point telling you exactly how many calories, proteins, carbs, and fat you should get with each meal and snack, since every person has different calorie requirements and I definitely don’t accept all those exact nutrition values.

Overall, follow just these three essential steps:

1. Follow the paleo Diet

2. Add at least one day of intermittent fasting for quicker fat loss (a 16-hour fast)

3. Use a soup cleanse once a month (for1-3 days) or once every 3 months (a 7- day cleanse)

Chapter 3 – Bodybuilding Principles

I never liked following rules; and actually, I never did. The best part is that bodybuilding is not about following rules but using guidelines and principles that provide you with predictable and consistent results. The principles that I am going to tell you about go together, and you can't succeed if you choose one to follow and the other to ignore. But remember that these are not training styles. These principles might even sound lazy, silly and obvious, but a bodybuilder can’t succeed if they are ignored.

Principle No.1

- *Work on each body part at least once a week*

It is good to train each body part at least once a week. Even people who don’t train each part once per week train every five days. If you are really into getting success faster, and the right way, you must be willing to work as needed to get the desired results. When combining willingness and a good work attitude, you will start to think that more is defiantly better, and you will easily evolve in your training. Even as a beginner, you will train each part twice and even three times each week.

The problem here is that when the training frequency is increased, it will also lead to improper recovery. Don't forget that the point is to reap the benefits you get from recovering. The process of training is stimulation, recovery, and so on.

When you start your training, the hunger for more progress increases and it becomes tempting over-train. The next question arises when you should train that body part again? The true answer is once it has recovered. How long is it until it recovers from the training? It depends upon different factors that include the intensity and volume of the workout overall.

Here is a simple rule: the more damaged the muscle from the workout, the more prolonged the recovery.

When you start training, it is important to keep logs. These will help you see what actually works for you and what doesn’t. One variable that your workout might need more tinkering is training frequency. No matter what

training schedule you follow, it doesn't mean it will work for you 100%; that is why you need to find a balance between recuperation and frequency. This will allow you to get 100% adaptation.

In addition, you need to know the right expectations: they may include back abs and calves. Abs and calves recuperate faster than other body parts. This means that you should not expect equal results for all parts. Some will require more work than others.

Principle No.2

- *3-4 exercises for each body part*

As I mention, it is essential to find a balance between training frequency, training intensity, and training volume. This principle, and the next, will help you control volume.

Even though there are some valid times when you will be doing 1-2 exercises per part, and sometimes even five, it is not steady volume that guarantees success. Actually, you need to keep it simple and limit yourself to 3-4 exercises per body part.

In this way, you have a good variety of workouts that will ensure that each muscle gets stimulated differently, with various rep schemes, exercises, and rest intervals. I recommend going for 4 back exercises and 2 each for triceps and biceps.

Don’t think of the leg as one muscle group; it is not. It is a group of muscles just like calves, hams, and quads. Don’t lie to yourself by only doing 3-4 exercises for the whole lower body because in the end, you will look like an unshaped muscular big man.

To be a real bodybuilder means to work on each muscle separately, like 3-4 exercises for the quads and 3 for calves and hams. At first, it might seem a lot, especially when you see the table I will give to you later in the book; but it is not. To be a real bodybuilder, you should expect to work hard during each training session.

Principle No. 3

- *Practice 3 workout sets with each exercise*

I have seen and heard many people quantify training volume and training session with total sets. For me, this doesn't make sense at all; and here is why.

The warm-up sets should not be counted as part of the training volume because they don’t have recuperative abilities; instead, just count the “work sets.” A work set is closer to the point when you won’t be able to do another rep. Any set that is less intense is just a preparatory set.

Principle No. 4

- *Strength and/or power move*

The bodybuilding goal is to enhance the physique and not always to be more powerful and strong. Going for strength and power has to be a cornerstone of bodybuilding training.

When you want to train for more power, it is important to do more work in a shorter period time. This way, the muscles develop an ability to activate or recruit a lot more muscle fiber at once.

And, yes, this will make you powerful; but it is also something unique to bodybuilders. This improved efficiency will recruit more fibers which will be stimulated and also taxed to the point of adapting; in other words, your muscles will grow larger and larger.

The muscle fibers will be increased by 10% over some period and the benefits that you get will be amazing. Implementing 3x5 (3 sets, 5 reps) on a barbell push press during your routine will make the dumbbell shoulder 3x8 reps more effective.

Power and strength are about moving faster and with heavier weights, regardless of speed. This kind of strength training brings similar benefits as power training and includes muscle fibers as well. Its effect is similar, which means it will make the other exercises a lot more effective.

Do not forget that strength training can promote hypertrophy, or enlargement of the muscles, by building new myosin and actin filaments. However, the overall effect of performing heavy and low-rep sets might not be that great when compared with TUT (time under tension), achieved from strength-training and resulting in dense-looking muscles.

If you don’t care about athletic performance, practicing just one power or strength movement for each body part will give your physique a wonderful appearance.

Principle No. 5

- *For each body part, do a hypertrophy/strength exercise*

When I talk about hypertrophy/strength exercises, I mean sets/reps and exercise schemes with a hybrid goal--an increase in hypertrophy and strength. As I said before, low-rep sets will increase strength; but with less resistance and also a faster speed, the low-rep set is best to increase power.

Here the problem is that these low-rep sets won't stimulate hypertrophy to the max. This can be achieved by prolonged TUT, by inducing metabolic stress to your muscles.

When you aim for a set that will stimulate more improvement in hypertrophy and strength, it would be better to use 8-10 reps. This will allow you to use heavier weights for your hybrid goal but light enough to increase the Time Under Tension.

Keep in mind that 6 to 12 reps is okay, too, but do not end up with around 6 reps because this will compromise hypertrophy; and if it is around 12 reps, it can compromise strength.

Variety in bodybuilding is critical. If you want to choose the most successful repetition range, it is an 8-10 range.

Principle No. 6

- *Do a volumization/endurance exercise*

People who like the burn feel and maximized pump usually neglect low-rep heavy sets; and those who enjoy lifting heavier neglect a higher rep-range. More than 12 reps are good to increase endurance and this gives visual effects because of the higher sets. Training in higher reps will prolong the TUT which this will stimulate better hypotrophy.

When talking about muscle enlargement, but not muscle fiber, it is called volumization. This muscle enlargement happens due to an increase in the number and/or size of capillaries, mitochondria, sarcoplasmic reticulum enlargement, etc.

The perfect sets for volumization is an exercise with 12-20 reps; and the result is fuller-looking and rounder muscles. But keep in mind that if you want larger muscles, you need to enlarge all parts of them. Failure to do this is like leaving money on the table.

Principle No. 7

- *Isolation exercises and implement compound*

With this principle, you are going to understand which one is better for increasing muscle size: isolation exercises or compound exercises. For instance, are leg extensions or squats better for quads?

Both of them have pros and cons. It is always better to stimulate your muscles in different ways. As a result, you will get overall hypertrophy by doing each exercise rather than focusing only on isolation exercises or compounds.

As a bodybuilder, you have to know that you should not just use compound exercises. Yes, this might give you more strength, but it won't be what you are looking for in growing your muscles.

Isolation exercises are not that "functional" when talking about real applicability, but they do put the focus on the muscle you want to enhance. You will be ensuring that that muscle gets the right training stress.

Principle No. 8

- *Exercise for your weakness*

Since bodybuilding is not just about muscles and training, and it is about art, it is essential to keep aesthetics and symmetry in mind. There are many bodybuilders who get caught up working harder and start lifting heavier weights, doing more reps, etc.; in some cases doing both. However, keep in mind that improvement in bodybuilding won't come if you just increase your performance; instead, it is the result of improving appearance.

Think that you are an artist and creating an aesthetically beautiful physique. Here is how to succeed. Take a picture of yourself and then critique it like you would others. Cover you head if it makes it easier for you to be more objective. Next, categorize your body parts: underdeveloped, balanced, or dominant and use this to configure your training program and address your weaknesses.

For instance, if your back's width is your flaw, focus on exercises that are specifically designed for this area. Be methodical with the exercises because it will take some time to improve your physique.

Principle No. 9

- *First, do the important exercises*

This principle is connected with the previous one. What would happen if you chose the wrong time to do the right exercise? The effects might be nullified.

If you are want to work on your back in order to enhance it, but you do the exercise last, what will happen? Nothing! You won't have the strength and power to lift more weight for additional reps to address your weakness. This means that if you have an important exercise in mind and on your schedule, do it first. Doing it when you are fatigued will waste an important exercise. Doing it first will reap the maximum benefit.

Principle No. 10

- *Rest and reps – inversely proportional*

Many principles of bodybuilding come from intuition, something close to common sense. But the fact that rest and reps are really inversely proportional is not part of it. Actually, it is usually counterintuitive.

Let's say that you have done 3 reps during an exercise. When you start to rest, you are letting your breathing and heart rate return to normal. You will see that it won't take long before these two return to their optimal state. After all, you didn't even feel any burning on the specific body part with a brief TUT. After one minute, you will be able to do another set.

However, if you take a rest after 15 reps, you will need more rest (about 2 minutes) before you can continue and until your breathing and heart rate have returned to normal.

It is somehow strange but the perception recovery is not that accurate. Even though the two BPMs are important (breaths per minute and beats per minute), there is something else going on that you can't feel.

If fatigue is reached when doing a low-rep heavy set, it is because of the ATP-CP system and also failure of the nervous system. This means that it will take about three minutes for the components to rest and replenish before you can do another set using the same intensity.

If you do a low rep, high-tension set to increase protein synthesis, it is essential to perform each set by doing as many reps as you can with the given weight.
Do not reduce weight because this won't duplicate your performance, because the tension is what stimulates strength and ultimately creates larger

muscles.

Performing higher reps, but with a longer TUT, is not critical because here tension is not the primary stressor; it is the metabolic fatigue. This kind of activity will stimulate a different training stimulus. Metabolic fatigue won't lead to myosin filaments and new action. Instead, it will lead to hypertrophy of other structures like capillaries, mitochondria, reticulum, etc.

When doing heavy but low-rep sets, you should rest enough so that you can lift the maximum weight during the next set. This tension will cause the muscles to grow.

Principle No. 11

- *Volume and intensity as inversely proportional*

I have set this principle as the last because it is the most critical. If you don't follow this principle, you won't see any progress. Most bodybuilders have struggled with this one the most.

The issue here is how close you are to giving your all for a set. Some erroneously believe that you do as many reps as you can, like your life is depending on it, only then will you reach 100% intensity. When talking about volume, it refers to the number of reps, sets, and exercises performed in one workout. Thus, it means the number of sets done until you reach fatigue.

It is important to know that when you are doing all-out sets in one workout, you should do fewer overall. If not, you will be compromising the recovery frame.
You can train long or hard but you definitely can't train both hard and long.

It is always better to make steady and ongoing progress. Train smart and not hard. Use your new nutritional knowledge and the principles that will be your recipe for a successful bodybuilding lifestyle.

Chapter 4 – Bodybuilding Program

I am aware that it might sound boring in the beginning, but it should not be. Before we start looking at two types of bodybuilding programs, first you should know their benefits, which will help you decide the one best for you, according to your goals and lifestyle.

For many years in the past, trainers would have the last word on which type of training you should do, but not anymore. Now it is up to you to choose between full body and split training. You can know the right one for you by understanding their respective benefits.

Full Body Training Benefits

Benefit No. 1 Frequency – The more you stimulate your muscles, the more they will grow. You are training fresh, plus you are hitting your muscles with different stimuli by varying rep ranges, and so on. By doing full body exercises, you will hit the major muscles about three times a week. This is amazing stimulation! If you do this in combination with split training, it will be probable, practical and plausible.

Benefit No. 2 More energy with each workout – When compared with split routines, full body training will give you greater energy per each workout. This is because of a number of muscles are taxed with each session.

With a full body program, you can either:

- Eat more (no fat gain).
- After weight training, skip the 15 minutes of cardio.
- Gain mass without gaining fat.

Benefit No. 3 Greater Super-compensation – With full body training, the body will experience depletion that will lead to greater super-compensation a type of protein degradation, micro-trauma, and glycogen depletion will occur. This will leave the body in a primed state such that anabolism will start and nutrient uptake is needed. This will give your body the right nutrients it asks for.

Benefit No. 4 Better Hormone Stimulation - Working your muscles to a large degree in given session will result in higher concentrations of the anabolic

hormone. This increase is short lived; however, even during that brief increase, the anabolic hormones will increase the sensitive time - the time when the body starts to consume a great amount of nutrients.

Split Training benefits

Benefit No. 1 Greater Load with less Fatigue – This happens due to two reasons. First of all, the demanding nature of full body training, despite its benefits, are calorically expensive compared to split training, and they are also more fatiguing. This is not always a good thing when done later in your program. When you reach compound movement, the load will make you suffer from general fatigue.

With a split program, there is less fatigue and a specific fatigue doesn't exist. With the antagonistic approach to the split design, it will be heightened. Finally, working for each muscle group with the heaviest load possible will increase adaption a lot faster. This means that it will have a positive effect on size and strength.

Benefit No. 2 Giving more attention to a specific muscle group – When you have about two muscles to focus on, those specific groups will get concentrated attention. This will result in specific adaption and micro-trauma. It might seem like split programs prioritize everything and full body programs prioritize nothing.

It is not that true since full body training has its own unique benefits. However, it is impossible to focus on each muscle group like you can with split programs. When you focus only on 1-2 things, it leads to quality work.

Benefit No. 3 Less prone to overtraining – Despite the full body program's benefits, this type demands more energy and for longer periods. But the split programs include an extremely high, intense quality workout in about a half-hour. You will leave the gym motivated and fresh, and you will feel that you have accomplished your targeted workout program. This is an essential benefit. If you love going to the gym, you will get better and better in your

training and you will definitely accomplish your goal.

As you can see, both programs are great for everyone, even beginners. With their unique properties and benefits, each will provide different advantages. Now it is up to you to decide which is for you and up to me to give readers a simple bodybuilding program for both full body and split training.

Before Starting

Simple, short tips are best when it comes to giving information on how to start training. This goes for any type of workout program you go for.

Stretching and Warming up
Don’t forget to stretch and warm-up before you start your training session. This means before any type. This will stimulate blood flow, increase joint mobility, raises the body temperature and also increase your mental and physical readiness.

You can warm up with any cardio exercise and machine (10 minutes). Also, you can opt for simple warming up exercises/stretches like body weight lunges, squat-to-stand, spider-man steps, leg swings, trench or arm circles, and so on. These won’t just warm you up, but they will also increase flexibility and mobility in your joints.

In order to decrease the risk of injury and increase performance, do at least two light sets (non-fatiguing) of each exercise. This is valuable before you move on to the heavy sets. It is never wise to jump right into the heaviest set and give everything you have while you are cold.

Keep in mind that static stretching is just for flexibility but not for warming up.

Adjust the Reps and Weight
Knowing the right weight, you need to use will lead you closer to your goal. It is about applying the proper resistance. It might take about two sets and

even two workouts before you get the right weight.

The advantage when working with rep range is the help you get to choose the right weight. It goes like this. If your rep range is 6-10 reps, you should reach at least 6 (the lower number). If you can't reach 6 and you reach less, it means that the weight you have chosen is too heavy. If you can reach 10 (the upper number) or more, and it feels easy, it is a sign that your chosen weight is too light and you need to increase it.

Full Body Program

The full body program that you will understand now is great for beginners and it involves activating the whole body with each workout for 3 days per week. Don’t forget that in contrast to split workouts, full body workouts are a great way to start your bodybuilding lifestyle. After 6 months or so, you can start changing your workout routine and advance to a 4-5 days split programs. You have to let your body get used to training first. Don't worry, you will be seeing results soon enough, even with these starting exercises.

	Week 1	Week 2
Monday	Bent Over Row 3x5 Bench Press 3x5 Squat 3x5	Pull Up 3x5 Overhead Press 3x5 Deadlift 2x8
Wednesday	Pull Up 3x5 Overhead Press 3x5 Deadlift 2x8	Bent Over Row 3x5 Bench Press 3x5 Squat 3x5
Friday	Bent Over Row 3x5 Bench Press 3x5 Squat 3x5	Pull Up 3x5 Overhead Press 3x5 Deadlift 2x8

As you can see, these workouts are easy and created for the first month. This month is the time when your muscles need to get used to the weights, training, and your new routine, which usually takes about a month. After the first month, you can move to a more serious and intense workout that will definitely give you results.

The regular workout program after the first month (reserved for adaption) usually will involve about 10-12 different exercises. With each, you will be hitting the major muscle groups. Don't forget that ex. 3x15 means 3 sets of 15 reps.

Targeted Muscles	Exercise	Sets x Reps
Back	Pull downs	3 x 10
Chest	Bench presses	3 x 10
Triceps	Pushdowns	3 x 10
Shoulders	Military presses (standing)	3 x 10
Biceps	Barbell curls	3 x 10
Quadriceps	Squats	3 x 10
Lower Back	Hyperextensions	3 x 15
Calves	Standing Calf Raises	3 x 10-12
Hamstrings	Leg Curls	3x10
Abdominals	Incline Sit-ups	3 x 25

These 10 exercises with a total of 30 sets should be done at least 3 times per week. However, if you see that you are sore more than 2-3 days, you should wait until it goes away and, in some cases, reduce to 2 gym visits per week. You can do some light stretches at home, because they will help with the soreness and promote a faster recovery.

You can go on with this full body program as long as you want, of course; if you see fit, you can increase the weight. But if you choose, you can work on both types of programs--full body and split. For instance, you can go with a full body program the first three months and then start the split workout.

3-day Split Program

The first question that most beginners ask when seeing this type of workout program is: is a 3-day split really enough? Training for 3 days per week is the best starting place for any beginner since it covers all muscles and demands the required effort. These workouts will build muscle mass and help you gain strength.

The workouts I constructed below will train 2-3 muscle parts in a day and in one week, all the muscles will be covered. The following workouts require about 1 hour and 30 minutes, depending upon the time you take to rest. Just don’t forget to warm up before you start training.

Day 1 – Biceps & Chest (Monday)		
Exercise	**Sets**	**Reps**
Leg Raises	4	10
Alternating Dumbbell Curls (Standing)	3	Each Arm 8-10
Incline Dumbbell Bench Press	4	8-10
Barbell Bicep Curls (Standing)	3	8-10
Flat Barbell Bench Press	4	8-10

Day 2 – Legs & Shoulders (Wednesday)		
Exercise	**Sets**	**Reps**
Abdominal Crunches	3	20
Rear Hamstring Leg Curls	3	8-10
Front Thigh Leg Curls	3	8-10
Squats	4	8-10
Lateral Shoulder Raises (Standing)	3	8-10
Dumbbell Shoulder Press (Seated)	4	8-10

Day 3 – Triceps & Back (Friday)		
Exercise	**Sets**	**Reps**
Leg Raises	4	10-15
Lat Pull Downs	4	8-10
Cable Triceps Extensions (Standing)	3	8-10
Lying Triceps Extensions	3	8-10
Dumbbell Lat Rows	4	8-10
Pull Ups	4	8-10

Chapter 5 – Understanding Muscle Groups and Exercises

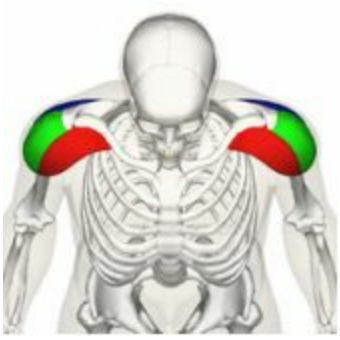
Weight lifting is not an activity that you can do without being mindful. Not just bodybuilders, but athletes, trainers, and gym-goers should all understand each muscle and its functions so that the training can be done properly. Together with nutrition principles and programs, muscle knowledge is the way to reach your bodybuilding goal.

So, let's start. The muscles that you are going to work on are under 2 categories: lower and upper body muscles.

Lower Body Muscles	Upper Body Muscles
Glutes	Shoulders (Deltoids and traps)
Quads	Back (Lats, middle back, and lower back)
Hamstrings	Arms (Biceps, triceps, and forearms)
Calves	Chest (Major & minor pectorals)
	Abdomen Muscles

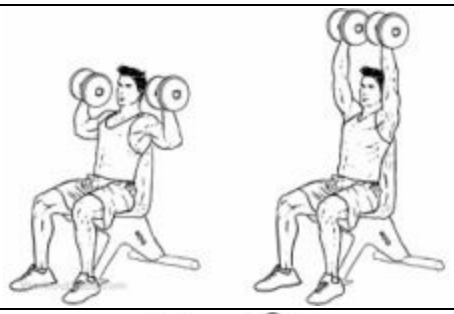
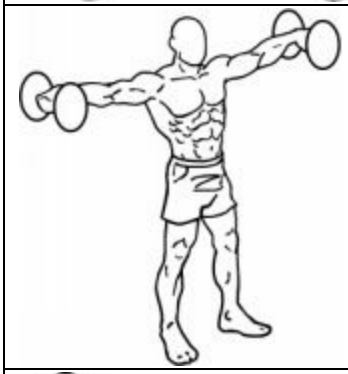
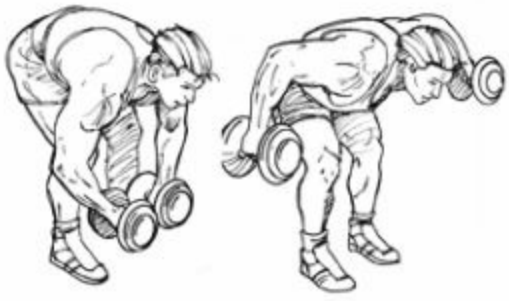
Upper Body Muscles

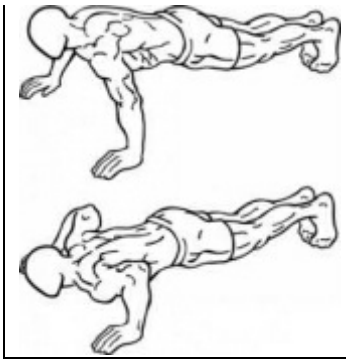
1. Shoulders



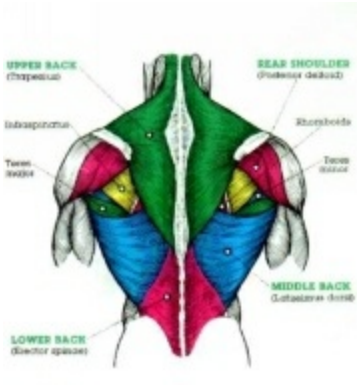
Deltoids are the muscles found on top of the shoulder and are also known as delts. Under this muscle group are anterior, middle, and posterior deltoids. These muscles aid in abduction, rotation, and flexing.

Exercises

	Dumbbell Shoulder Press
	Side Dumbbell Raise
	Dumbbell Front Rise
	Bent-Over Rear Rise

	Push-Ups (Best for delts, abs, pecs, triceps)

2. Back



The back muscle category is divided into traps, middle back, lats, and lower back.

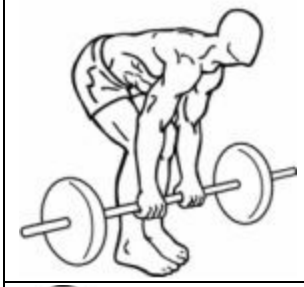
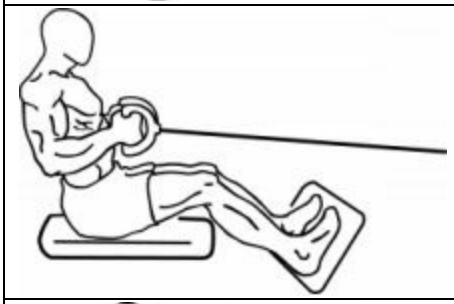
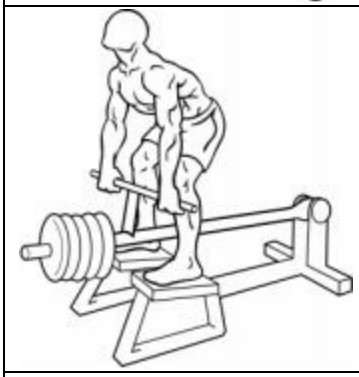
Lower Back – Keeps the spine and core muscles stable.

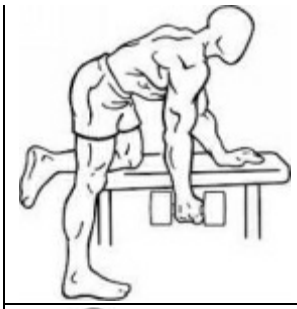
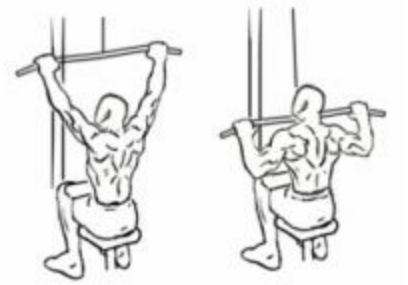
Lats – Keep your elbow close and help in pulling the back and arms down.

Middle Back – Or rhomboids provide stability for the shoulders and keeps the shoulder blades together.

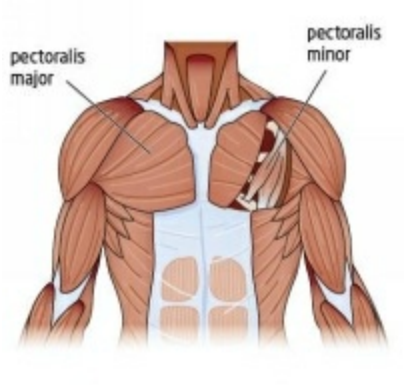
Traps – The deltoids are connected with Traps or trapezius muscles; they retract and rotate the shoulder blades and support the arm's weight.

Exercises

	Pull-ups (best for all back muscles)
	Deadlift (all back muscles, chest, hips, hamstrings, quadriceps, abs, biceps, legs, hips and abs)
	Two-seated Cable Row (all back muscles, biceps, and triceps)
	T-bar (middle back, biceps and shoulders)

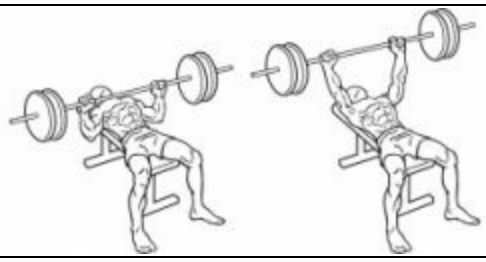
	Dumbbell Rows – with one arm (lats, traps, and biceps)
	Dumbbell Shrugs
	Lateral Pull Down (lats, biceps, shoulders)
	Grip pull-down (lats, biceps, and shoulders)

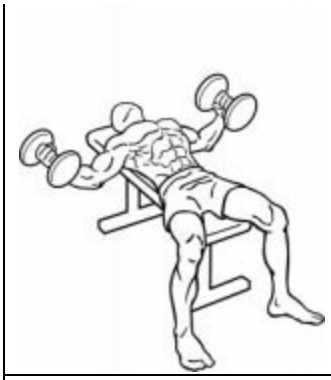
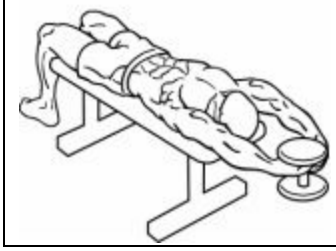
3. Chest



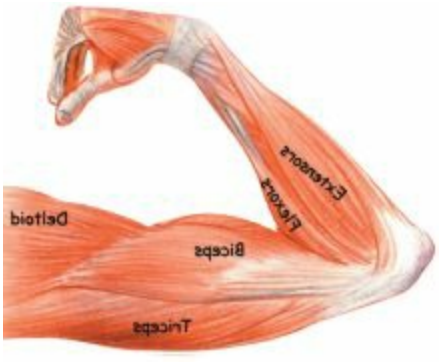
This muscle group is constructed from the major and minor pectoralis. These are the muscles that allow you to pull your arms toward you and down, and also put them ahead. Some of the exercises for the chest are mentioned in the previous tables and here are the rest of them.

Exercises

	Barbell Bench Press
	Dumbbell Bench Press

	Dumbbell Flyes
	Straight-Arm Dumbbell Pullover

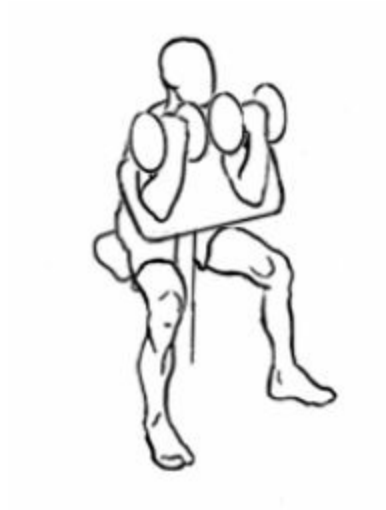
4. Arms

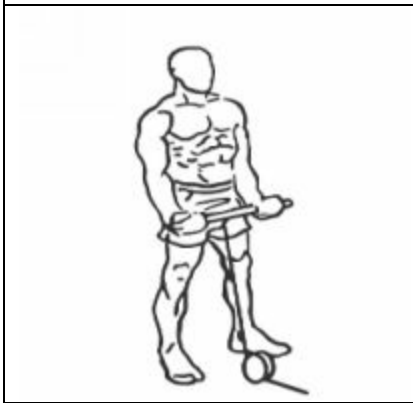


There are 3 groups of arm muscles: biceps, triceps, and forearms. These are responsible for increasing the angle of the joint and they also extends the arm. Flexors aid in flexing and decrease the angle of the joint.

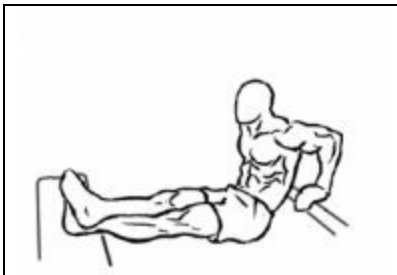
Biceps Exercises

	Hammer

	
	Barbell Curl
	Preacher Curl
	Concentration Curl

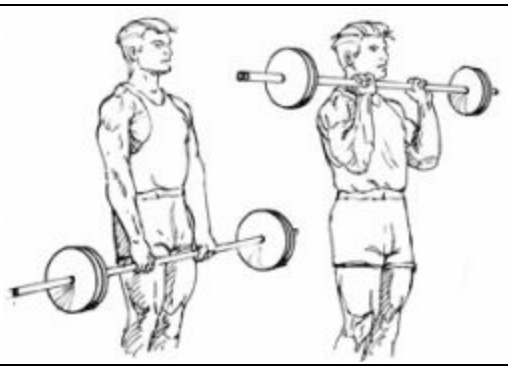
	
	Cable Curls

Triceps Exercises

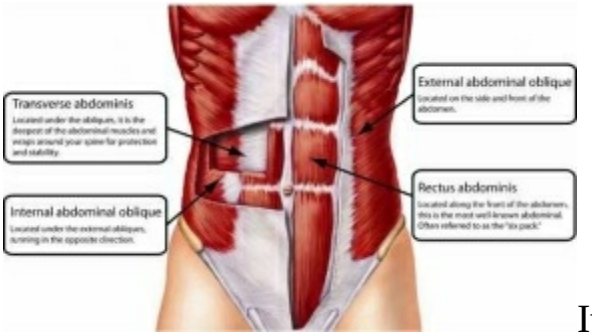
	Bench Dips
	Triceps Lying Extensions
	Triceps Cable Extension
	Overhead Cable Extension

	Close-grip Bench Press

Forearms Exercise

	Reverse Barbell Curls

5. Abdominal Muscles

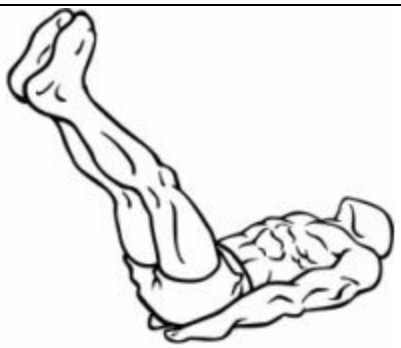


It is a fact that people at the gym usually target the abs. They are the muscle section that gets most of the attention. However, if you also want to have rock-hard abs, you have to work on them with proper exercises. They are one of the most important muscles because they hold up the whole body structure. They are divided into transverse abdominal, internal oblique, external oblique and rectus abdominals.

- The deepest muscles are transverse abdominals that support the body posture and spine.
- The internal oblique helps in rotation, bending and spine support.
- The external oblique is located on both sides and helps in rotation, bending and supporting.
- The visible muscles are called rectus abdominals and they provide body posture and give that amazing six-packs look.

Abs Exercises

Before we get to the types of exercises you must know, you must lose body fat so your abs can be seen. Everyone has them, but fat is covers them up. With the right diet from this book and a proper program with regular exercises, you will most definitely have them.

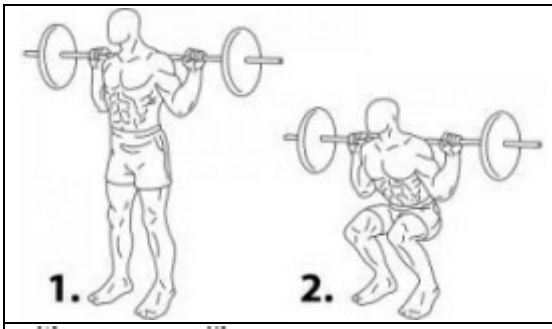
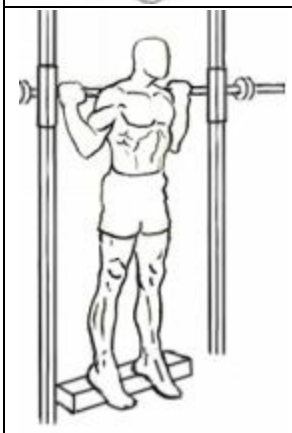
	Abdominal Crunches
	Leg Raise
	Plank
	Hanging Leg Raise

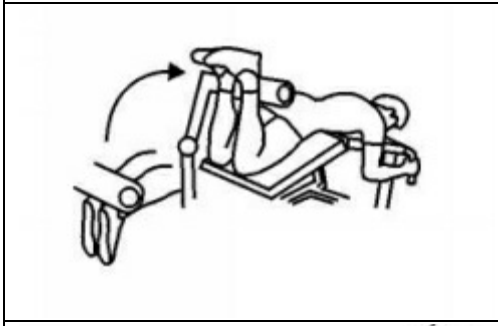
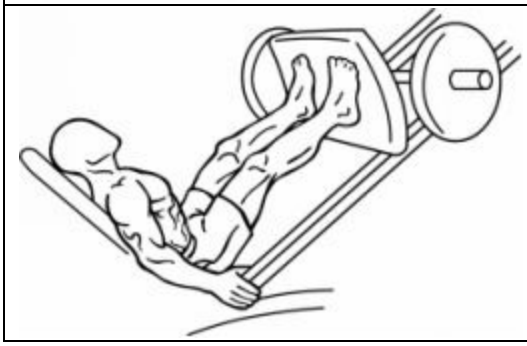
6. Lower Body

For some unexplained reason, the lower body gets less attention, which is not good. For an artistic and amazing look, and also to have strength in your lower body, this area must be worked out too. The lower body muscles are divided into glutes, quadriceps, hamstrings and calves.

- Glutes – Extend and rotate the hip and stabilize the pelvis. They are the biggest muscles.
- Quadriceps – Help in flexing the thighs and hips and also extend the leg and knee.
- Hamstrings – Aid in lower body and hip movement, stabilize the pelvis and hips, and flexes them.
- Claves – Aid in lifting the heels.

Lower Body Exercises

	Squats
	Standing Calf Raises
	Seated Calf Raises

	Leg Extensions
	Lying Leg Curls
	Leg Press

Chapter 6 – Boosting Muscle Growth without Steroids

Many people shy away from starting bodybuilding just because they have heard mistruths and think it is associated with steroids. This is so not true. In fact, aside from being the most natural way to get important nutrients from food, you can get an amazing boost in muscle growth by using supplements and boosters that are not steroids. Few people know that natural supplements are great for increasing your success without any life threatening side effects.

If you really want to go deeper, it is the time to start thinking about using boosters that will definitely help in reaching your targeted goal.

Amino Acids

Whey Protein – As you already know by now, your body needs at least a gram of protein for each pound of your weight on a daily basis. This increases your muscle growth and strength and also will prevent deterioration by stopping your body from losing lean mass. The best quality of proteins you can get include:

- **Lactalbumin** from concentrate from whey protein, egg albumin (egg white) poultry, fish, meat, and casein (milk)
- **Vegetable protein** (but not as high in quality as lactalbumin) and soy protein

The right high-quality protein will optimize healthy muscle mass and lean tissue, and will also help in preventing bone and muscle damage associated with weight training. In addition, it increases fat loss, boosts metabolism, and promotes minimized muscle soreness and a shorter recovery time.

Glutamine – The amplest amino acid in your body, it covers more than half of all amino acids in muscle cells. It will enhance exercise performance and stamina. With regular glutamine intake, the usual pains and aches that come after exercise are significantly reduced. You should take 6,000-18,000 mg each day in capsule or powdered form before going to bed or after workouts.

Arginine – This important amino acid is not just great for bodybuilding, but for all sports, because it increases performance. It works by increasing the release of different hormones, even the growth hormone, which will help in increasing and healing your muscles and reducing fat. Our bodies use

arginine to create nitric oxide, a chemical that relaxes the muscles around the arteries, which increases tissue oxygenation and blood flow. Take 6,000-12, 000 mg each day.

Ornithine – Just like arginine, ornithine helps in releasing the growth hormone. In addition, it boosts the immune system and also promotes healthy liver regeneration and function by detoxifying ammonia. It is used for bodybuilding because it improves wound healing and performance. Ake 3,000 – 6,000 mg daily.

Valine, Isoleucine, and Leucine – These are known as the branched-chain amino acids since they have a common structure. These three make up 1/3 of all amino acids in muscle cells. You can get them from protein and they are important for mental alertness and vigor, maintaining calm, blood sugar levels and muscle repair and co-ordination. They should be taken as follows: 1,500-6,00mg leucine, 800 – 3,000mg isoleucine and valine each day in divided doses.

Other Natural Busters

Creatine Monohydrate – It has been so hard to keep up with the news about this supplement because it has been under unwanted criticism, political debate and too much moralizing. However, one thing is for sure, it is not a steroid! It is found in our bodies. It is tasteless, natural, and safe and it can be found in protein from animals.

Creatine monohydrate is very popular among bodybuilders because it gives them 5-10 lb. more muscle since it attracts water. Don't confuse it with the kind of fluid retention and bloating caused by congested organs, allergies, or other problems because in these cases, fluid is build up outside the muscles. This booster also neutralizes dangerous free radicals that can be produced when doing heavy exercises.

The daily dosage of creatine is 20gr each day or 0.3 grams per one kg of your weight. After 5 days, you will switch to 0.003 per one kilo to maintain it. Don't forget to drink a lot of water (at least 64 ounces) each day when taking your creatine.

Bovine Colostrum – This non-milk secretion is produced by mammalian mothers (all of them) in the first 48 hours after delivery. This can be a bodybuilder's best friend because it contains many different complex proteins that aid muscle building like the growth and other hormones. This will increase athletic prowess. The dosage is 4-6 capsules of 500mg each day taken on an empty stomach.

Chrysin – This is an extract from passiflora coerulea. How does it help? It boosts testosterone production by even 30% without any conversion into dihydrotestorone or estrogen. This is good because a high level of estrogen can cause fat gain, breast enlargement, and water retention and

dihydrotestosterone, which can lead to increased baldness and prostate enlargement. The suggested dosage is 500mg twice a day.

Tribulus Terrestris – This amazing herb is known to be one of the best for bodybuilders. Its incredible effects include increasing the luteinizing hormone, the pituitary hormone responsible for stimulating testosterone. It increases testosterone levels by 30% or even more in just 5 days without any side effects. The benefits you will get are muscle growth and body strength. In addition, this herb promotes faster muscle recovery, increases lean body mass and muscle size, boosts immunity and lowers cholesterol levels, enhances mood, and increases libido. Take 750 – 1, 500 mg each day in divided doses.

Deer Antler Velvet

Pay attention more to this product since it has become popular in the past few years. There are many reasons why and I will get to it shortly. First, I have to tell you one thing. A while ago, it wasn’t allowed in sports, and then it was allowed. Then not and now it is acceptable once again. All this fuss because of the main component IGF – 1, an insulin-like growth factor.

IGF-1, growth hormones, and other performance-enhancing drugs were and are still frowned upon in sporting because it is called a way of cheating. Why is it now legal? Because the same IGF-1 is found naturally in food products like milk, eggs, and red meat.

Deer antler velvet is the construction of new antler before it hardens and calcifies. During its growing stage, it is rich in different nutrients and one of them is closely linked to IGF-1, a byproduct produced by its pituitary gland.

Which one is better?

As always, nothing is created equal. Some deer antler velvet products will bring more benefits while some not so much. It is not just because of its form but also its ingredients.

For instance, the various capsules and pills may provide you with a lot fewer IGF-1 benefits because growth hormone is very sensitive to the digestive process. However, there are some other ingredients that can be combined with the growth factor like green tea extract, tribulus terrestris, and other ingredients with an herbal base that help support the pituitary gland.

The best products come in the form of drops and sprays. This is because they dissolve in your mouth and do not go in the gastrointestinal tract. I am not saying that these capsules and pills are not good, but they might give you fewer benefits, all depending upon the ingredients used.

Here are some other benefits you will get aside from increased strength, fat loss, and muscle gain:

- Anti-aging
- Better mental health
- Development of the skeletal system
- Stimulation of the immune system
- Better sex life
- Reduced inflammation
- Better muscle recovery
- Improvement in joint mobility and flexibility
- Increased energy and endurance
- Reduced blood pressure
- Increase in blood circulation and supply
- Improved general health

Dosage

Capsules:

- 1000mg for general health
- 2000mg for therapeutic effect
- 300 mg for increased workout performance

Spray:

There are different dosages for the spray form depending on the manufacturer, which is why you should read the directions before using the product. Just make sure that you hold it in your mouth for 20 seconds so that it can be absorbed.

Bonus Chapter

Simple, Delicious and Effective Pre and Post-Workout Smoothies

Pre-workout Smoothies

A protein-rich smoothie before you start your training will keep you healthy and strong. Not just because of the protein, these shakes are also designed to give you all of the important nutrients you need to increase your testosterone to a good level that will help build muscles.

Blueberry Smoothie

Nutritional Value			
12g Fat	54g Carbs	49g Protein	514 Calories

Ingredients:

- 1 cup blueberries, frozen
- 1 ¼ cups of almond milk, vanilla and unsweetened
- ¼ cup od oats, old-fashioned
- 2 scoops of egg white or vanilla protein powder
- 3 tbsp. of acai powder
- 2 tsp. light nectar

Directions:

1. Combine all ingredients in a blender and blend until very smooth.
2. Drink about 30-60 minutes before training.

Black Smoothies

Nutritional Value			
7g Fat	43g Carbs	49g Protein	405 Calories

Ingredients:

- 1 ½ cup of cherries, frozen
- 1 cup of spinach leaves
- 1 cup of almond milk, chocolate
- 2 scoops of whey protein or egg white powder

Directions:

1. Combine all ingredients and blend them until smooth.
2. Drink about 1 hour before training.

Grapefruit Smoothie

Nutritional Value			
3g Fat	61g Carbs	47g Protein	433 Calories

Ingredients:

- 2 cups of frozen strawberries
- 1 cup juice of pink grapefruit
- 1/3 cup of lime juice
- 2 scoops of egg-white or vanilla whey protein powder
- 5 ice cubes

Directions:

1. Blend all ingredients on high until smooth.
2. Serve 40-60 minutes before training.

Peanut Butter Smoothie

Nutritional Value			
20g Fat	35g Carbs	31g Protein	422 Calories

Ingredients:

- 1 cup of strawberries, frozen
- 3 ice cubes
- 2 tbsp. peanut butter
- 1 tbsp. 100% strawberry fruit spread
- ¾ cup of vanilla almond milk, unsweetened

Directions:

1. Combine all ingredients and blend until smooth.
2. Serve 1 hour before training or use it as a meal replacement.

Post-workout Smoothies

Why are post-workout smoothies important? Because they will speed up the process of recovery, provide essential nutrients, and keep you healthy and energized.

Pineapple Smoothie

Nutritional Value			
8g Fat	59g Carbs	46 Proteins	467 Calories

Ingredients:

- 1 ½ cups of pineapple, frozen
- 5 ice cubes
- ½ fresh orange juice
- ¼ cup pomegranate juice, 100%
- 2 scoops egg-white or vanilla whey protein powder

Directions:

1. Combine the ingredients and blend well until smooth.
2. Serve right after training.

Peach Smoothie

Nutritional Value			

3g Fat	49g Carbs	52g Protein	430 Calories

Ingredients:

- 2 cups of peaches
- ¼ cup of Greek yogurt, fat-free
- ½ cup fresh orange juice
- 2 scoops egg-white or vanilla whey protein powder

Directions:

1. Combine the ingredients in a blender and blend until smooth.
2. Drink after training.

Mango Smoothie

Nutritional Value			
12g Fat	80g Carbs	12g Protein	364 Calories

Ingredients:

- 2 cups spinach
- 1 cup mango frozen
- ½ cup baby carrots
- ½ cup coconut water
- ¼ cup fresh orange juice
- 2 mandarin oranges
- ½ cup plain yogurt

Directions:

1. Blend the ingredients until very smooth.
2. Serve 30-60 minutes after workout.

Beet Smoothie

Nutritional Value			
8g Fat	53g Carbs	18g Protein	332 Calories

Ingredients:

- 1 cup silken tofu
- ½ cup frozen or fresh cranberries
- ½ beet, raw
- 1 small Persian cucumber, peeled
- 1 celery stalk
- 1 cup kale
- 1 orange or ½ cup fresh orange juice
- 2 tsp. honey

Directions:

1. Combine the ingredients and blend on high until very smooth.
2. Serve 40-60 minutes after workout.

Conclusion

Now you have everything you need to start your new life of bodybuilding. As you can see, with proper guidance and information, you can dive into bodybuilding waters without any hassles at all.

Start changing your diet by cleaning your kitchen and ridding it of all the food that is against a good bodybuilding diet; then stock it with what you really need. Don’t let the food you have at home become a liability. Don’t forget to always keep in mind the principles in this book, because without them, the training won’t work and your valuable time will be spent for nothing.

Next, you should choose the type of bodybuilding program you want to follow and start it. Make sure you have your pre- and post-workout smoothie ready because it is what will give you all the energy you need to perform your exercises and it will also help you recover faster. Of course, health is the priority; and with smoothies and your new diet, you will have it in no time at all.

Stop ignoring hormones and start to count them as a primary thing. Increase them to get the maximum muscle gain and also to increase your emotional and physical health. All you need to do is follow the above information and buy the food that is required. In addition, the actual exercises will also help in increasing the right hormones, which means you will get benefits from every side of the bodybuilding life style.

Enjoy your newly-chosen goal and stay strong. Don’t rush and be patient, because success won’t come if you accelerate things prematurely but only if you work on them and wait for the results of your efforts.

Lastly, if you really enjoyed reading the book, please take time out to share

your insights by posting a review on Amazon. It’d be really appreciated.

Thank you and good luck!
Kevin

Book 2: Bodybuilding Nutrition

Train Big, Eat Big, Get Big - 13 Nutrition Rules You MUST Obey to Boost Muscle Growth

Nutrition and the Role it Plays in Muscle Building

As a bodybuilder, nutrition is one of the most important training elements. Nutrition can make or break your dedicated attempts. Even if you work out regularly, you will still not make all of your fitness goals without a proper diet.
For proper bodybuilding, you need a clear-cut ratio:

20% of your calorie intake should be protein foods
40% should be complex carbs
The rest should be from fibers or fats.

With regard to muscle strength building, the amount of protein you intake and your gym training are two of the most important components. You must blend these in order to get the muscle mass you want. This is not to discount the importance of the other aspects of nutrition like carbohydrates. These, too, are important in maintaining overall muscle health.
That said, you want to search for carbohydrates that are sources of energy for your body. They are in everything from bread and pasta to fruit and lettuce. They give you energy. The key difference lies between simple and complex carbohydrates. Complex carbohydrates are, as the name suggests, more difficult for your body to break down which is why they give you better energy over a longer period of time. These are edibles like brown rice or whole grains. Simple carbohydrates on the other hand are simple and easy for your body to breakdown. These give a fast rush of energy all at once, but you will tend to crash right after. Processed sugar, white rice, white starchy pasta are all examples.

Obviously, if you consume too many simple carbohydrates and fail to burn them off, the body doesn’t know what to do with them. The blood glucose, or sugar level, goes up, which causes rises and falls in insulin production. This can not only overwhelm the liver but cause the pancreas to get involved, storing that extra sugar as fat. As any bodybuilder knows, it is harder to get rid of fat once it is on rather than preventing fat from building up in the first place.

Low GI

To strike a healthy balance for your body, you need to find foods which are lower in simple carbohydrates and sugars. The glycemic index (GI) is an index of foods based on their sugars and starches. You can use this to eat the right carbohydrate foods during the day.

Good foods with low GL and High PI are what you need. These include things like:

- Whole grains
- Seeds
- Nuts
- Beans
- Fruits
- Vegetables

You want to avoid foods like flour products, junk food, refined grains, processed foods, or refined sugar.

Back to the idea of simple versus complex carbohydrates. You want to seek out complex carbs that will increase your metabolism. Examples include:

- Brown rice
- Whole wheat pasta
- Wild rice
- Whole grains
- Oatmeal
- Cereal
- Rye
- Quinoa
- Sweet potatoes

There are also fruits that serve as complex carbs that include:

- Berries
- Papaya
- Apples
- Oranges

- Melons
- Bananas

With regard to proteins, you should seek out:

- Fish
- Lean turkey
- Lean beef
- Skinless chicken breasts
- Lean ham
- Natural peanut better
- Lentils
- Peas
- Soybeans
- Skim milk
- No-fat milk
- Cottage cheese
- Peanuts
- Walnuts
- Almonds
- Dried beans

And, of course, eat vegetables, including:

- Broccoli
- Kale
- Onions
- Spinach
- Bean sprouts
- Carrots
- Celery
- Green peppers
- Asparagus
- Carrots
- Cucumber
- Mushrooms
- Zucchini

- Tomatoes
- Artichoke

There are a few key foods that can help you build muscles, unique foods that are quite popular for various reasons.

Buckwheat products are a Japanese noodle made with 0% fat that can assist in muscle mass. Broccoli helps fight cancer, gives you a high level of iron and needed vitamins while also building muscle mass. Cottage cheese is a fat-free dairy source that is perfect for snacks, especially when you serve it with fruit. Oatmeal is a favorite carbohydrate because it is digested by the body slowly. Ideal for a pre-workout snack, it gives you the energy you need to get through your workout, while preventing muscle fatigue. Sprouted grains, in the form of breads for example, are easily digested and perfect for breakfast or lunch. Eggs, of course, are high in proteins and essential fats, great for a post-workout meal. Keeping hardboiled eggs on hand is a good practice for muscle building.

Lean ground beef is popular as a muscle building source because it has high protein levels, iron, zinc, and Vitamin B. Turkey breast is a great post-work out food, one traditionally used by old school bodybuilders for its high protein value. Canned salmon and tuna give you omega-3 fatty acids, perfect when mixed with boiled eggs or salads. Lean beef is great after a workout with a chicken breast, also one of the best foods for muscle building.

Chickpeas, navy beans, and lentils are low in fat. Bananas are nice after a workout because they give you energy but can be easily digested. Omega-3 and Omega-6 can be derived from seeds, nuts, almonds, avocados, and other healthy fats.

Of course, always have the right amount of water. Water allows your body to digest foods properly and absorb their vital components.

This is just a short list of specific foods that are important for you. Near the end of this book, you will find a more comprehensive list of meal plans, pre-show diets, and recipes for preparing foods.

What is most important to take away here is that you need a healthy balance of proper nutrition to boost your metabolic rate and build muscle. Certain fruits give you the vitamin C needed to aid muscle building. Calcium present in dairy helps burn fat. Protein is imperative to the rebuilding of muscles and carbohydrates give you the energy to do it all.

Supplements

Nutrition can be aided with dietary supplements. Do not buy any supplement just because. You want supplements that are all protein, without fillers, sugar, or syrup.

Protein Powders

Protein powers are made of pure protein, handy for bodybuilders trying to make sure they get a specific amount of protein. If you need to double your intake, one of the easiest ways is to add protein drinks to your daily snacks.

Meal Replacements

Meal replacements are powders you mix with water or whole milk. You can blend fruits with them to add flavor, like apples, bananas, or blueberries. Other people like to add peanut butter. These are high in protein and can help you to get the calories you need.

L-Glutamine

Amino acids are something we will talk about in the next chapter and they are imperative to your health. When you are training as a bodybuilder, more than 50% of this particular amino acid in your body is consumed. You should take it upon yourself to replenish the lost amino acids with regular supplements. This will make sure your muscles do not start to deteriorate after a workout.

Fat Burners

Fat burners increase the body temperature which can help you get the metabolic rate you need to burn fat. They should be used sparingly.

The Science of Muscle Growth

Muscle growth, also referred to as hypertrophy, is the development of mass, shape, function, and density of muscle cells. This adaptation is what allows your muscles to handle exercise-induced distress.

Muscles are made up of many fibers: cylindrical bundles of filaments called sarcomeres. They are the fundamental units behind muscular contractions and are made up of actin and myosin.

These proteins comprise approximately 20% of your muscles. The other 80% are made up of water, phosphates, and minerals.

When you break it down physiologically, each cell of muscle fiber is supported by other groups of cells. These wrapped bundles of cells wrap on top of one another, with fibers in between and blood vessels surrounding each one. The epimysium grows in between these groups of fibers and around the entire muscular structure and is what becomes fused with the tendon. This is either the fixed attachment or the movable attachment depending upon its origin. Furthermore, it connects muscles to the bones.

Now that you understand the basics, when you perform resistance training regularly you might notice that your muscles grow. This growth is because of an increase in water, an increase of the cellular bundles, and an increase in connective tissue. Scientists divide hypertrophy into two different types.

The first type is sarcoplasmic hypertrophy which increases your muscle size by increasing the volume of fluid inside of your muscle cells. Myofibrillar hypertrophy is sometimes referred to as functional hypertrophy and it increases the size of a muscle by adding some amount of protein.

Different people within the fitness industry argue that bodybuilders demonstrate that first type of muscular development, or sarcoplasmic hypertrophy where muscles look really puffy. Weightlifters like to show off the functional hypertrophy whereby the muscles look tight and dense.

Even though growth can take place in all of the muscle fiber types, the different types of muscle fibers vary in terms of how much they can grow. Fast twitch fibers will grow more than slow twitch fibers if you practice intense strength training. This is part of the reason why athletes like sprinters

are bigger and more muscular compared to endurance athletes; it is also why heavier loads tend to stimulate increased muscle growth compared to light loads.

Muscular growth is influenced not only by the type of exercise you do but nutritional intake and hormonal status, which will influence how your body allocates the nutrients you eat. If you are sedentary, stressed out, and malnourished, your body probably won't put on muscle no matter how much you try or what you eat. If you train hard, eat a lot, and you make sure to get enough recovery time, your body will put on muscle.

There are six main hormones that modulate muscle growth:

1. Growth hormones
2. Testosterone
3. Cortisol
4. Beta-endorphin
5. Parathyroid hormone
6. ISG – 1

Growth hormone, testosterone, and cortisol are among some of the most important of these hormones. We will talk more about this later.

Health benefits of muscle growth

First, it is important to understand why muscle growth is so healthy. Subjectively, muscle growth will improve your appearance. Objectively, on the other hand, muscle growth improves function. Larger muscles are typically the stronger which means that working them out will lead to improved daily functioning. Muscle is metabolically active and it impacts the way your body handles nutrients. For example, muscular individuals who have lower body fat typically have better control over their insulin production.

From a health perspective, advancing age tends to be associated with muscle loss. The older you get, the more muscle mass you lose. You can preserve your muscle mass and strength by regularly working out. Strength, scientifically, is a predictor for survival as you get older. A lot of muscle function can be the result of decreased total muscle fibers, decreased muscle fiber size, impaired contractions, or decreased motor skills all of which you can improve with regular exercise and good nutrition.

What you need to know is that muscles respond to the demands you put on them. If you ask your muscles to lift something heavy, they will get stronger. If you ask your muscles to stay stagnant and sit on the couch, they will shrivel up and do exactly that.

Intense training actually damages your muscles which then allows your body to remodel them to prevent further injury. Each time you train the small fibers, you injure them and force them to get bigger and stronger. This means that intense exercise is essential.

Your muscles respond to calories. Studies show that people who restrict their calories while avoiding heavy training end up losing muscle mass with a slower metabolism. Simple calorie restriction is not enough. In fact, some people who are strict about calories and field exercise are fatter than when they started. It is important that you eat well. You need roughly 2800 calories to build one pound of muscle, so obviously you have to consume quite a bit.

The proteins and the fluid in your muscle fibers are broken down and rebuilt

approximately every 7 to 15 days. Training can change this by impacting the type and amount of protein your body produces. Again, your muscles will respond naturally to the demands you place on them.

Muscles that are overloaded appropriately are able to grow during starvation. Energy from your fat stores are released and stored inside muscle tissue, but you need ample nutrients to really enhance the growth response of your body. Eating right is always the best way to go, and so is eating enough. Even though growth can take place during starvation or restriction, muscle growth without proper calorie consumption is not something you should aim for.

The way your hormones respond to training and how they impact muscle growth depends heavily on your nutritional status--the number of calories you are consuming. Eating 2800 calories of pizza is not the same as a 2800-calorie meal of lean salmon, brown rice, and broccoli.

When you are in a resting state, muscle protein breakdown will exceed the protein synthesis in your body. This balance can be improved if you use strength training. But generally speaking, you break down more than you build up. With bodybuilding, you want the opposite. You want to be able to build up more than you're breaking down, especially after training. To do this you need adequate protein.

One session of resistance training can stimulate your protein turnover for approximately two days. During this time, if you consume enough proteins, representative of approximately 12 to 15% of your energy intake, you can actually grow your muscles. Protein needs are important.

What help stimulate muscle protein synthesis? Six grams of essential amino acids are adequate to stimulate muscle protein synthesis after a training session. You don't actually need nonessential amino acids for this to take place. Elevated levels of insulin can also generate muscle growth if your amino acid consumption is where it should be, something which demonstrates how important it is to consume carbohydrates after exercise. Consuming amino acids regularly from your food when you are awake can also play a significant role in how your muscles grow.

Understanding Proteins

There is so much more to understanding dietary protein. It is, in fact, one of the most important topics you have to face when you are trying to improve your body and become a bodybuilder. Proteins are organic molecules made up of amino acids. They, as anyone in school remembers, are the building blocks of life. They are joined together with chemical bonds and fold in different ways to meet the functions of your body. Thirteen types of amino acids are in your body. The first are the essential amino acids, those you cannot live without. You must absolutely consume them in your diet. Some of these amino acids are essential, but your body only produces them conditionally. If you are under severe stress, your body might not make as much as you need.

Obviously, the second type of amino acids are the nonessential, the ones the body can usually make for itself.

Essential amino acids include the following:

- Histidine
- Isoleucine
- Leucine
- Lysine
- Methionine
- Phenylalanine
- Threonine
- Tryptophan
- Valine

Conditionally essential amino acids, those your body might stop producing under stress include the following:

- Arginine
- Cysteine
- Glutamine
- Tyrosine

Non-essential amino acids include the following:

- Alanine
- Asparagine
- Aspartic acid
- Glutamic Acid
- Proline
- Serine

So why do you need to make sure you get enough protein?

When your body is digesting food, it breaks down the protein you eat into each of the individual amino acids. This contributes to a giant pool of amino acids which circulate in your blood.

This pool trades with the other amino acids and proteins. It literally flows through your body in a large group and if it notices that one cell in your body is missing a particular amino acid, that amino acid leaves the group and bonds with that cell.

Since your body needs proteins and amino acids to create all of the important molecules in your body, you absolutely need to have the right amount of protein or your body can't function properly. If your body can't function properly, you stand no chance of putting on the muscle you want.

Protein helps to replace older cells and transports different substances throughout the body to help repair it. By consuming protein, you can also increase a hormone in your body called glucagon which controls body fat. This hormone is released whenever your blood sugar level drops. It can actually cause your liver to breakdown any glycogen stored in your body into glucose.

Eating the right protein can also help to get rid of the fatty acids from adipose tissue, converting it into fuel.

So how much protein you really need? This is contingent upon a few factors, but the most important is your activity level. The average recommendation for protein intake is .36 g per pound of body mass for healthy adults. However, this amount is only the bare minimum you need to prevent a protein deficiency; it is not the optimal amount you want when you are training. If you're doing high-intensity training, this amount goes up to approximately .64 2.9 g per pound of body mass.

The suggested limits are what your body absolutely needs for basic protein synthesis. The most you have to consume throughout the day is not more than 1.4 to 2 g per pound. In addition, you have to make sure that you have enough protein in your diet for weight management, optimal performance, immune function, and metabolism. You need only a small amount of protein to survive, but you need a lot more to put on the musculature you desire.

You can only store so much protein in any given period. Your body's protein stores will fluctuate throughout the day. This means that can't just eat all the protein your body needs in one sitting and be done with it. Your body needs the protein to be regularly replenished every few hours, which means you have to consume a moderate portion of your total protein every so often.

Consuming more protein helps maintain the body composition you want and enjoy a healthy metabolism. Moreover, it promotes satiation wherein you feel fuller for longer. Many bodybuilders have relied on the rule of 1 g of protein per pound of body weight per day.

Understand that when you eat protein is just as important as how much you intake. After you have done resistance training, your body synthesizes proteins for approximately two days. During your resistance training and immediately after, your protein breakdown increases. The body actually drops into what is called a catabolic state. Taking in adequate levels of protein before and after your workout can actually offset the anabolic state.

If you eat too much protein, it will be converted into sugar or fat. Protein isn't as easily converted into fat because of the amount of energy required by the body to digest, absorb, transport, and store it. This energy level is a lot higher than what is required for carbohydrates and fats. So while 30% of your protein energy goes toward digestion, absorption, and transportation, only 8% of carbohydrate energy go toward the same processes.

In healthy people, normal proteins pose no health risk. You can absorb a fairly high amount of protein before your kidneys start to respond.

When to Eat

Many bodybuilders start their day performing light cardio on an empty stomach. They want to burn fat immediately. This is a perfectly fine thing to do. But it also teaches us an important lesson. Most people are overly concerned with *when* they should. They panic about going more than three hours without food, terrified that they are now in a catabolic state and won't burn enough fat. Yet, these are the same people who do their morning cardio on an empty stomach—a stomach that has not eaten for 7-8 hours.

What does this teach us? It teaches us that *when* you eat is not nearly as important as *what* you eat. Your success as a bodybuilder is contingent upon timing your meals around your workouts and getting the right nutrients each time.

Have a pre-workout and post-workout meal/snack. Then, for the rest of the day, just worry about getting the right macronutrient ratios and number of calories. Whether you go three, four, or even six hours in between a meal will not cause your muscles to immediately start eating themselves away.

Understand that your metabolism is not going to come crashing to a jarring halt. The biggest advantage to having meals every three hours is to simply help you avoid binging. However, if you are following a strict daily calorie

allowance with planned meals, binging is not much of an issue. Additionally, eating more frequently stabilizes your blood sugar.

Just make sure that you are not getting too stressed out or this will increase your cortisol levels which WILL negatively impact your ability to improve muscles and reduce fat. High cortisol levels result in catabolic states and prompt your body to store excess fat, particularly in the abdominal region.

When you are bodybuilding, you need to get in a pre-workout and a post-workout meal whenever you are exercising. In the end, what really matters is your calories and nutrition.

Now let's talk about hormones…

Hormones That Impact Muscle Growth

Earlier we talked about the main hormones that help regulate your muscle growth and bodybuilding physique. Now it's time to look a little bit further into three of them.

Cortisol

Cortisol is a hormone that is part of the glucocorticoid family. It is secreted by your adrenal cortex, a gland that sits on top of your kidneys. It is a hormone that impacts every cell in your body.

This hormone is among the more important because it breaks down proteins into amino acids. If you were paying attention in the previous chapters, you know that this is the backbone of the muscle building process. Cortisol actually breaks down protein into amino acids so they move into your blood where they are converted into glucose. High concentrations of cortisol give you higher levels of blood glucose. Most people read this and think it is really bad. But, increasing blood glucose is what gives your body the energy required to combat stress caused by infection, trauma, sickness, or bleeding, among many other things.

This is a great mechanism for overall survival, but yes, it is bad for muscle breakdown. The body is really just trying to preserve its carbohydrate stores and deliver energy where it is needed the most. Cortisol also mobilizes fatty acids from your fat cells to help regulate blood pressure levels. It also helps the inflammatory response to recovery from injury.

While it does many good things, too much cortisol for a prolonged period of time will decrease your white blood cells. In reality, it is protein-mobilizing, hyperglycemic, and gluconeogenic. Whether these things are good or bad is based on whether its release is brief or ongoing. Basically, brief releases are fine and good for your body. This is something you need during exercise and training.

What you eat plays a strong role in maintaining cortisol levels. Poorly managed levels of blood sugar or inflammation often result in hormonal imbalances and high cortisol levels. Controlling inflammation and cortisol is key. You must avoid high glycemic foods with high levels of sugar, avoid too many refined or trans-fats, alcohol and caffeine, and instead consume adequate fiber. Without enough fiber, your body will have problems balancing your blood sugar. Without enough healthy fats and protein, your

body will face high blood sugar spikes, weight gain, and regular hunger.

Having a low-glycemic diet, as discussed above, with adequate proteins and healthy fats gives you the right amount of phytonutrients and fiber. Eating nuts, seeds, lean proteins like grass-fed beef or fish, probiotic foods like yogurt, coconut or olive oil, and fresh fruits and vegetables will all go a long way in stabilizing cortisol levels.

If you fail to get the right nutrition, or you just don’t eat enough, you will face low carbohydrate intake, negative energy balance, dehydration, micronutrient deficiencies, and an amino acid imbalance. When this happens, it increase adrenalin, noradrenalin, ACTH, glucagon, and cortisol. Training anxiety and stress from your environment or daily life also increase these hormones. All of this simultaneously decreases testosterone levels and insulin.

In order words, high intensity resistance training produces dramatic increases in cortisol which are short and sweet. Aerobic endurance training like running results in protein loss from your muscles because of the chronic high levels of cortisol. Long-term excessive levels of cortisol in the body encourages fat synthesis and storage which can lead to a higher appetite. The time of day that you eat can have an impact on cortisol levels as well. For example, your peak cortisol levels take place between 7:00 and 9:00 am.

Overall, you want to be aware of your stress levels and the type of training you are doing, and from here pick the foods that help regulate your cortisol levels during the day.

Testosterone

Androgens are steroids with anabolic effects (meaning growth) effects. Testosterone is among the most important of these hormones in the human body not only because they are in charge of regulating libido and energy, but for their role in muscle development.

One of the main purposes of testosterone is muscle growth. Androgen exposure impacts the size and characteristics of muscle fibers. Exercise actually stimulates short-term testosterone releases which can enhance muscle growth. The amount of testosterone released is relative to the intensity of your workout. In other words, resistance training or metabolic conditioning gives you higher levels of testosterone post-workout.

Eating testosterone promoting foods are a great way to add to the levels you have, especially after a workout. This increases overall muscle growth. Below is a list of foods you can consume to naturally increase your testosterone:

- Olive oil
- Tuna
- Ginger
- Eggs
- Sea salt
- Avocados
- Yogurt
- Pomegranate
- Grass-fed butter
- Coconut oil
- Onions
- Garlic
- Milk
- Honey
- Cabbage

Growth Hormone

Growth hormone is an anabolic hormone secreted by your pituitary gland. It is important because it helps your bones, muscles, and tissues grow. It also helps stimulate protein synthesis and fat metabolism. It actually limits the amount of fat storage in the body and instead mobilizes fat for energy. Growth hormone is responsible for many things including decreasing blood sugar utilization, decreasing glycogen synthesis, increasing amino acid transportation throughout your blood stream, increasing fat breakdown and usage, increasing collagen synthesis, maximizing retention of key elements including potassium and nitrogen, enhancing your immune function, and improving kidney filtration.

The amount of growth hormone your body produces during and after a workout is directly related to the intensity of the regimen. The harder and tougher you work out, the more your body will release growth hormone. Increases in the level of growth hormone also increase acids. Your levels will rise during intense workouts but peak only after your workout is done. The peak release of growth hormone takes place concurrently with your fatty acid release from adipose tissues.

You should exercise intensely with as many muscle groups as possible. Make sure to exercise with multiple sets and heavy weights permeated with short rest periods. Avoid alcohol or limit your consumption. Sleep well because it helps regulate your natural production of hormones. Make sure you also consume enough carbohydrates and proteins before and after you work out. Below is a list of foods you can consume to naturally increase your growth hormone levels:

- Coconut oil
- Soy beans
- Salmon
- Pineapple
- Fava beans
- Grass-fed beef

- Yogurt

Important Calculations - Calories and Proteins

Calculating Your Nutritional Intake

In order to make sure you get getting the right amounts of proteins, fats, and carbs, you need to calculate your nutrition intake. Keeping a log for a few days at a time can help you to make better calculations.

Step 1:

Start by recording the amount of food you have eaten throughout the day, making a note of the calories, fats, proteins, and carbohydrates. You can use nutrition fact labels for the ingredients you use in regular cooking, or the USDA website for more specific information on the raw foods you are preparing. Packaged foods like canned tuna or meat should have a nutrition facts label. Restaurants should list this information on their website.

Step 2:

Add your total intake for each category at the end of the day. Use the chart below as a sample:

	Calories	Fats	Proteins	Carbs	Total:
Breakfast					
Snack					
Lunch					
Snack					
Dinner					

Step 3:

With your totals on hand, multiply your total grams of carbohydrates by four. This is the number of calories in one gram. This helps you determine how many calories total in your diet come from carbohydrates.

For example: If you have a standard diet of 2,000 calories, 150 grams of which are carbs, then a total of 600 or 30% of your calories are from carbs.

Step 4:

Once you have done this, multiply the total grams of fat by nine. This is the number of calories in one gram of fat. For example, if 80 grams of fat are consumed in one day, using the 2000 calorie example above, then 720 calories are derived from fat.

Step 5:

Now it is time to calculate the protein. Multiply the total protein by four. This is the number of calories in one gram. For example, if 50 grams of fat are consumed in one day, using the 2000 calorie example above, then 200 calories are derived from fat.

Be cautious about the size of your servings. For example, if you are reading the nutritional intake information on a label for wild rice, remember that it is for one serving size which might be the same as one cup. If, then, you consumed two cups, multiply this information by two.

There is an online nutritional intake tracker you can use online called the USDA SuperTracker or Bodybuilder.com. The online trackers can take into account things like age, sex, height, weight, fitness goals, and activity in order to give you more precise information not only on nutrition intake, but on calories burned based on activity level.

How to Follow Your Bodybuilding Diet When Eating Out

When you start changing your diet, you may find that going out to a restaurant proves challenging. However, it does not have to be. Knowing how to follow our diet when you are eating out you can still enjoy your food and your social outings.

One of the biggest challenges is controlling the type of oils in which your food is cooked. You almost cannot guarantee that they use coconut or avocado oil, but beyond that you can control it quite a bit.

Mexican Restaurants:

These are great for different bodybuilding options. You can order things such as fajitas and ask for the sour cream or cheese on the side, or just not included. You can get tacos without cheese. You can ask for corn tortillas instead of flour in order to reduce the gluten, or you can just eat the contents of your tacos with your fork.

Burrito Locations:

There are many great burrito places like Chipotle out there which can customize anything you order. As such, you can get a meat-filled burrito bowl with brown rice and chicken, and double the meat, add some lettuce, double the guacamole, and add some mild salsa without corn.

Thai or Asian Restaurants:

The problem here is that most of these foods comes with white rice and most sauces are very sugary. You can try to substitute brown rice if you are not being strict, or you can ask for fried rice full of veggies, lacking all the sauces. You can also get pan-fried fish with the sauce on the side if it is made with something not approved. Some places will make curry sauce from scratch which is great. You can also order egg rolls and enjoy the steamed

veggies inside.
Italian Restaurants:
These are not really bodybuilder friendly, but they often have large salad options which can be requested without cheese or croutons. If you are lucky, they will offer a salmon or shrimp dish and you can request steamed veggies in lieu of pasta.

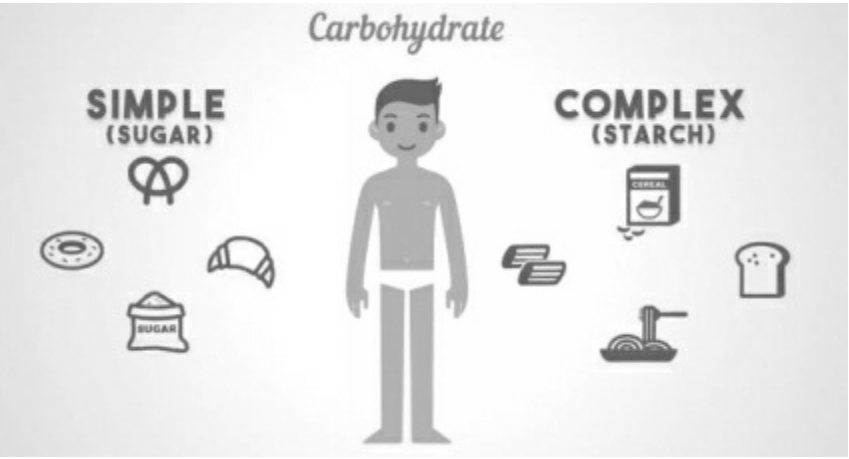
Sneaky Foods: Use these with caution

Many people think that burgers are great as long as you take off the bun. But this is not entirely true. Many restaurants will place bread crumbs in the patties so ask what goes into the meat before you bite into it. Alternatively, get a grilled chicken burger.
Scrambled eggs are often made with milk, so be cautious. Mashed potatoes at restaurants are often made with milk as well, and their sauces have a lot of sugar, corn syrup, and thickeners. Whatever you get, ask for sauce on the side. Check on salsas and guacamole, too, because some locations will add cream cheese to make the sauce creamier.

Competitions and Nutrition

Whether you are a bodybuilder looking to gain muscle strength or to lose weight, appropriate intake of carbohydrates is essential to consider as part of your bodybuilding diet. Your body should never be low on energy, and so the intake of carbs play a pivotal role.

Bodybuilders who have to take part in various bodybuilding competitions follow a low-carb diet at least couple of weeks beforehand. This is to ensure they get rid of excess body fat. Care should be taken that a low-carb diet should not be persisted too long, as it can eventually result in the loss of muscle strength, size and density; and all your effort will be in vain. Therefore, you need to get it right in terms of proper diet.



For bodybuilders, the pre-contest diet should be something like this. Eat a high protein and zero (as low as possible) carb diet for 3-4 days. Every fifth day, you can eat what you wish, provided the food is high in protein. The next four days should again be high protein-low-carb, and this cycle should continue for 4-6 weeks. If you are looking for optimal results, it is imperative for you to follow the diet plan to a tee.

Along with this, you need to supplement your diet with kelp tables, lipotropic compounds (3 amino acids) and wheat germ oil, cold pressed. One thing to remember is that you need to say no to caffeine or alcohol during the diet period. Moreover, you need to drink plenty of water to ensure there are no hindrances in the digestion of food. If you aren’t sure about a competition

diet, there are many you can follow it. The following is a competition diet taken from a bodybuilding website.

Competition Diet

When it comes to contest preparation for bodybuilders, this may be the most difficult part to deal with. You need to train for 1-2 hours a day, but you must stick to a particular bodybuilding diet for the entire day; and for this reason, it can be tough. Furthermore, following a particular one can be expensive, which adds to the level of difficulty. Expensive vitamins, food and supplements can be the best way to go. When you are into bodybuilding, you have to cope with all of this.

This bodybuilding diet enables you to lose the maximum body fat, without disturbing your muscle mass. This may seem to be a tough task, but if you persist with this diet along with training, you will not find any difficult getting the job done. To ensure you do not lose valuable muscle mass during this diet, watch the proper intake of supplements.

The amount of body fat determines the term needed to pursue the mentioned diet. If you have ample body fat, you need to follow the diet for 8-12 weeks. For others, 6-8 weeks may serve the purpose just fine. In order to reach the desired weight loss goals, increased cardio workouts can help. The best time to do cardio is when your stomach is empty, as this will be helpful in overcoming stored fat.

You should eat six small meals during the day, and all the carbohydrates must be consumed by 2:00pm; after that, only protein-rich food must be eaten. Along with this, approximately two gallons of water must be imbibed.

Avoid eating refined sugars and concentrate on celery, green vegetables, and carrots. A week or so before the competition, look to limit your intake of carbohydrates, which can help you achieve the ideal physique before the competition day. In addition, five grams of K-glutamine and potassium supplements taken four times a day are helpful.

The day before the competition is critical. You need to divide your meals into very small ones, and ensure you drink water only when you feel the need to do so. It is imperative that you implement these instructions the day before the actual competition. Many individuals eat peanut butter or raw honey

which acts as an energy booster.

Approved foods

Meats:

Naturally you want to steer clear of meats that are high in fat like Spam or hot dogs, as well as highly processed or low-quality meat.

- Turkey
- Chicken legs
- Chicken breasts
- Chicken thighs
- Grass fed beef
- Steak
- Bison sirloin
- Bison Steaks

Fish:

Fish are full of great things like Omega-3 and an overall rule is that if it can swim and has fins, it is approved.

- Tuna
- Salmon
- Shrimp

Vegetables:

In terms of vegetables, almost all are on the list of approved items. The biggest concern is differentiating between vegetables high in starch and low in nutritional value and those with a high amount of sugars. The following are on the approved list:

- Green onions
- Asparagus
- Eggplant
- Avocado
- Parsley
- Artichoke hearts
- Cauliflower
- Brussels sprouts
- Peppers
- Carrots
- Cabbage
- Spinach
- Zucchini
- Celery
- Broccoli
- Beets*
- Yams*
- Acorn squash*
- Butternut squash*
- Sweet potato

Oils and Fats:

Fat does not actually make your body fat, although lots of people believe this to be true and thus try to stay away from fats all together. In fact, carbs are what make you fat. Natural fats and oils are a way for your body to get energy, so don’t neglect them. Some of the items below will give your body

the energy it needs:

- Coconut oil
- Avocado oil
- Olive oil

Nuts:

Nuts are great for you and your overall health, but if you are opting to lose weight, remember to eat them in moderation. Below are the approved nuts:

- Walnuts
- Cashews
- Macadamia nuts
- Hazelnuts
- Sunflower seeds
- Almonds
- Pumpkin seeds
- Pecans
- Pine nuts

Fruits**:

Fruits are very tasty and very healthy. Fruits approved for post workout snacks and some breakfasts are:

- Blackberries
- Watermelon
- Blackberries
- Strawberries
- Blueberries
- Cherries
- Raspberries
- Bananas*

**These items are starchy foods and are great for athletes who need an energy replacement. If you are training and exercising, then these are perfect, especially after your workout. However, you still may want to limit these items.*

***These items should be eaten in moderation. They are great for you, but they are high-sugar items.*

Bodybuilding Meal Plans

For those new to building lean muscle, one of the most important things to understand is proper food for longevity and energy. You need to fuel your body the right way, otherwise any progress you enjoy will be slow.

It is important to eat every 3 to 4 hours in order to keep your metabolism going. This helps with fat burning and muscle synthesis. You want to have five to six meals a day in order to remain energetic and circumvent that feeling of hitting the wall in the middle of the afternoon. 3:00pm and 3:00am are the two times when your body temperature is at its lowest. Couple that with a lack of proper nutrition, and it is no wonder people feel sluggish in the middle of the afternoon.

That said, your macronutrient intake should look like this:
1-1.5 grams of protein per pound, meaning your bodyweight. You should have between 25 and 30 grams at each meal, or about 6-8 ounces. Protein should come in the form of eggs, Greek yogurt, turkey, chicken, salmon, grass-fed beef, cottage cheese, whey, or casein protein powders.
You want your carbohydrate intake to sit somewhere between 150 and 200 grams per day. Complex carbs take the form of brown rice, oats, beans, quinoa, sweet potatoes, grain breads, or whole grain pastas. You want these because they are digested slowly and are associated with longevity.
Simple carbs like white potatoes or fruit are best for post-workout snacks to help you recover.

As for fats, you want between 65 and 85 grams per day. Good fats include olive oil, avocados, egg yolks, coconut oil, and nut butters. These give you fast energy.

All the vegetables you eat help with digestion and give you fiber that is imperative to the long- term health of your intestinal tract.

Make sure you consume half your bodyweight in water, especially when you are sweating heavily.

Not sticking to a good diet will derail you, leaving you sluggish without the gains you want.

In the next section you will find a 4-week meal plan for bodybuilders. The recipes for all the items are included in the next chapter.

Portion Size Guide

You can always plan ahead with your meals by making them all at once, or a handful each day. Understanding what all this talk of ounces or cups means in relation to how food looks on your plate can be difficult. So, follow this quick guide:

- 1 ounce of meat is about the size of a box of matches. Use this to help you figure out the total size of meat you need to consume.
- 3 ounces of fish is about the size of a modern checkbook. You can increase this based on what you need to consume for the day.
- 1 ounce of cheese looks about like four dice.
- 1 medium potato, when mentioned in recipes, is actually the size of a computer mouse.
- 1 cup of pasta or grain is about the size of a tennis ball.
- 2 tablespoons of peanut butter equate to roughly the size of a ping pong ball.

Meal Plan

This 4-week meal plan example should give you an idea about how yummy a proper bodybuilding diet can taste like. In the next chapter, you can find the recipes of each of the meals mentioned in the meal plan.

Week 1

	Breakfast	Snack	Lunch	Snack	Dinner
Monday	Cereal with milk and berries	Bread with almond butter	Salmon with greens	Bread with almond butter	Pork and applesauce
Tuesday	Scrambled egg wrap	Cereal with fruit and milk	Tuna wrap	Cereal with fruit and milk	Steak and spinach with sweet potato
Wednesday	Veggie omelet	Chocolate protein pudding	Grilled chicken salad	Chocolate protein pudding	Salmon with String Beans
Thursday	Cereal with milk and berries	Oatmeal nut butter mixture	Salmon with greens	Oatmeal nut butter mixture	Pork and applesauce
Friday	Scrambled egg wrap	Cottage cheese and English muffin	Tuna wrap	Cottage cheese and English muffin	Steak and spinach with sweet potato
Saturday	Veggie omelet	Yogurt parfait	Grilled chicken salad	Yogurt parfait	Salmon with String Beans
Sunday	Cereal with milk and berries	Bread with almond butter	Salmon with greens	Bread with almond butter	Pork and applesauce

Week 2

	Breakfast	Snack	Lunch	Snack	Dinner
Monday	Ham, egg and cheese muffin	Rice cakes with guacamole	Ground turkey salad	Rice cakes with guacamole	Shrimp stir-fry
Tuesday	Blueberry oatmeal	Eggs with toast	Bison burgers	Eggs with toast	Fish with veggies
Wednesday	Protein fruit smoothie	Apple dipped in nut butter	Salmon with brown rice	Apple dipped in nut butter	Steak with potatoes
Thursday	Ham, egg and cheese muffin	Chocolate protein drink	Ground turkey salad	Chocolate protein drink	Shrimp stir-fry
Friday	Blueberry oatmeal	Yogurt parfait	Bison burgers	Yogurt parfait	Fish with veggies
Saturday	Protein fruit smoothie	Fruit with nuts	Salmon with brown rice	Fruit with nuts	Steak with potatoes
Sunday	Ham, egg and cheese muffin	Rice cakes with guacamole	Ground turkey salad	Rice cakes with guacamole	Shrimp stir-fry

Week 3

	Breakfast	Snack	Lunch	Snack	Dinner
Monday	Whole Grain waffles and eggs	PB & J sandwich	Turkey wrap	PB & J sandwich	Turkey with Brussels sprouts
Tuesday	Avocado Toast	Cereal with fresh Strawberries	Grilled salmon salad	Cereal with fresh Strawberries	Chicken with zucchini noodles
Wednesday	Oatmeal with berries	Chocolate protein pudding	Chicken over brown rice	Chocolate protein pudding	Steak and sweet potatoes
Thursday	Whole Grain Waffles and eggs	Rice cakes with guacamole	Turkey wrap	Rice cakes with guacamole	Turkey with Brussels sprouts
Friday	Oatmeal with berries	Strawberry jam toast	Grilled salmon salad	Strawberry jam toast	Chicken with zucchini noodles
Saturday	Avocado toast	Apple dipped in nut butter	Chicken over brown rice	Apple dipped in nut butter	Steak and sweet potatoes
Sunday	Whole grain waffles and eggs	PB & J sandwich	Turkey wrap	PB & J sandwich	Turkey with Brussels sprouts

Week 4

	Breakfast	Snack	Lunch	Snack	Dinner
Monday	Veggie omelet	Oatmeal mixed with protein powder	Chicken and greens with toast	Oatmeal mixed with protein powder	Salmon with pasta and broccoli
Tuesday	Protein smoothie	Cottage cheese with muffins	Deli turkey with cheese	Cottage cheese with muffins	Turkey with vegetables
Wednesday	High-protein waffles	Greek yogurt parfait	Burger with sweet potatoes	Greek yogurt parfait	Bison burger with chips
Thursday	Veggie omelet	Coconut oil protein smoothie	Chicken and greens with toast	Coconut oil protein smoothie	Salmon with pasta and broccoli
Friday	Protein smoothie	Fruit with Greek yogurt	Deli turkey with cheese	Fruit with Greek yogurt	Turkey with vegetables
Saturday	High-protein waffles	Cottage cheese with nuts and fruit	Burger with sweet potatoes	Cottage cheese with nuts and fruit	Bison burger with chips
Sunday	Veggie omelet	Oatmeal mixed with protein powder	Chicken and greens with toast	Oatmeal mixed with protein powder	Salmon with pasta and broccoli

Bodybuilding Recipes

Below are the recipes for the foods listed in the meal plan. Understand that these leave the preparation up to you insofar as you can choose preferences for steamed or grilled chicken. You can prepare your salmon in the oven or on the stovetop. All of this is up to you. What matters is the correct ratios of the right foods, which are listed below.

If you are following the meal plan, you will find that some things like brown rice can be prepared en masse ahead of time at the start of the week so that you do not have to wait forty-five minutes each time brown rice in on the menu. You can even change the order of the meals listed in the weekly meal plan so that the brown rice meals, for example, are closer together.

In all cases, meal planning ahead of time, even preparing all of the foods twice per week, can really make things easier for you, freeing up a lot of time for workouts.

Week 1 Recipes

BREAKFAST RECIPES

Cereal with milk and berries:

- 1 cup of Whole grain cereal
- 1% milk or almond milk
- 1/2 cup berries
- Serve and enjoy!

Scrambled egg wrap:

- one whole egg
- 3/4 egg whites
- 1/4 cup low fat cheese
- spinach, tomato wrapped in a low carb tortilla
- 1/4 cup salsa if desired
- Serve and enjoy!

Veggie omelet:

- Sauté bell peppers, tomatoes, onions until soft. Set aside.
- Make omelet with one whole egg and 5 egg whites, then add cooked veggies
- Add ¼ cup low fat cheese
- 2 pieces of whole grain whole bread
- Serve and enjoy!

SNACK RECIPES

Bread with almond butter

- 3 slices of Ezekiel bread
- 1 tablespoon almond butter
- 1 tablespoon natural berry jam
- Serve and enjoy!

Cereal with fruit and milk

- 1 cup whole grain cereal
- With a cup of 1% milk
- 1 cup strawberries
- Mix and enjoy!

Chocolate protein pudding

- 1 ½ scoops of whey/casein powder
- Add water and stir until you get the consistency of cake or muffin batter
- Put in the microwave for one minute
- Add in ¼ cup sliced, crushed, or chopped almonds or walnuts
- Blend until creamy!

Oatmeal nut butter mixture

- 1 cup of oatmeal
- 1 scoop of whey protein (any flavor)
- 1 Tablespoon of natural almond butter
- Mix all together with water and cook according to package directions

Cottage cheese and English muffin

- 1 whole grain English muffin (any flavor), toasted
- Add ¾ cup of cottage cheese no salt added
- ¾ cup of pineapple
- Mix and enjoy.

Yogurt parfait

- 8 oz. of nonfat Greek yogurt
- ¼ cup of chopped walnuts or almonds
- ¼ cup of dried cranberries
- ½ medium apple
- Serve and enjoy!

LUNCH RECIPES

Salmon with greens

- Prepare 5-6 oz. grilled salmon by cooking for 12-15 minutes until it flakes easily
- Place it on top of a salad with vegetables
- Add 2-3 brown rice cakes

Tuna wrap

- Mix 1 can of tuna with 1 tablespoon of fat free mayo
- Add 1 tablespoon of Dijon mustard with 1 cup of chopped celery/onion
- Spread it onto 1 tortilla wrap
- Add 1 cup of romaine lettuce, wrap, and enjoy

Grilled chicken salad

- Prepare 5-6 oz. chicken breast, steamed or grilled. Grill your chicken on the stove in a saucepan on medium heat with olive oil.
- Made a small salad with 1 tablespoon balsamic vinegar and 2 tablespoons avocado, chopped or diced, your call
- Place the chicken on the salad and serve with 2 slices of Ezekiel toast

DINNER RECIPES

Pork and applesauce

- Cook 5-6 oz. lean pork
- Prepare 10-12 stalks of asparagus
- Prepare 5 ounces of sweet potato or yam
- Serve with 1/2 cup unsweetened applesauce

Salmon with string beans

- Prepare 5-6 oz. grilled salmon by cooking for 12-15 minutes until it flakes easily
- Add 2 cups green string beans and 5-6 oz. of cooked red potatoes either steamed or boiled

Steak and spinach with sweet potato

- 6 oz. of grass-fed flank steak
- 2-3 cups baby spinach sautéed with
- 1 tablespoon of olive oil, sea salt, garlic & pepper to taste
- 5 oz. of sweet potato

Week 2 Recipes

BREAKFAST RECIPES

Ham, egg and cheese muffin

- 1 whole grain English muffin
- 2 whole eggs
- 2 pieces of ham
- 1/4 low fat cheese
- 1/2 cup fruit
- Serve and enjoy!

Blueberry oatmeal

- 1/2 – 1 cup oatmeal with water
- 8 oz. nonfat Greek yogurt stirred in
- 1/2 cup blueberries, cinnamon to taste
- Mix and enjoy

Protein fruit smoothie

- Vanilla whey powder
- 1 small banana
- ½ cup strawberries
- Toss in blender with almond milk and ice
- Blend until creamy!

SNACK RECIPES

Rice cakes with guacamole

- 3-4 brown rice cakes

- 1/4 cup of guacamole
- ½ cup of nonfat 1% cottage cheese

Eggs with toast

- 2 whole hardboiled eggs / 4 hardboiled whites
- 2 slices of whole grain toast
- 1-2 tablespoon of berry jam

Apple dipped in nut butter

- 1 medium apple
- 1 tablespoon natural nut butter

Chocolate protein drink

- 1 scoop of chocolate whey protein powder
- Combine in a blender then add almond milk and ice
- Let it mix, then add 1/2 Tablespoon of coconut oil
- Blend until creamy!

Yogurt parfait

- 8oz nonfat plain Greek yogurt
- 1/2 cup fruit
- 1/4 cup chopped walnuts

Fruit with nuts

- 1 medium orange
- 12 toasted almonds
- 3/4 cup 1% cottage cheese

LUNCH RECIPES

Ground turkey salad

- 5 oz. of lean ground turkey over
- Salad with 1/2 small avocado chopped
- 2 slices of lean turkey bacon
- Add salsa
- 15 baked tortilla chips
- Toss and enjoy!

Bison burgers

- 5 oz. bison burger
- 1 whole grain whole bun
- Add slices of lettuce and tomato
- 1 slice low fat cheese
- 1 Tablespoon mustard

Salmon with brown rice

- Prepare 5-6 oz. grilled salmon by cooking for 12-15 minutes until it flakes easily
- Cook 1 cup of brown rice (prepare ahead of time)
- Add 2 cups of steamed broccoli

DINNER RECIPES

Shrimp stir-fry

- Take 6-8 oz. shrimp and add 2 cups mixed vegetables in a pan
- Cook all in 1 tablespoon of olive oil until the shrimp is cooked thoroughly
- Served over 1 cup of brown rice (prepare ahead of time)

Fish with veggies

- 6-8 oz. of white fish (cod, halibut, etc.)
- 2 cups of kale cooked in 1 tablespoon of coconut oil
- 1 cup of long grain wild rice

Steak with potatoes

- 6-8 oz. grilled flank steak
- 2-3 cups of spinach sautéed in 1 tablespoon of olive oil with sea salt and garlic
- 1 medium baked potato

Week 3 Recipes

BREAKFAST RECIPES

Whole grain waffles and eggs

- Prepare 3 whole grain waffles
- Cook 5-6 egg whites 1 whole egg
- Cover the waffles with 2 tablespoons of maple syrup
- Add 1/2 cup fruit and enjoy

Avocado toast

- Toast 2-3 pieces of whole grain whole bread
- Spread 1/2 small avocado on top
- Serve with 1/2 cup of 1% no-salt added cottage cheese
- Add ½ cup of cantaloupe or honeydew melon on the side

Oatmeal with berries

- Prepare 1 cup of Oats
- Add 3/4 cup of berries to the oats when finished
- Prepare 1 cup liquid egg whites and 2 whole eggs

SNACK RECIPES

PB & J sandwich

- Take 3 slices of Ezekiel bread
- Cover all three with 1 tablespoon almond butter and 1 tablespoon natural berry jam

Cereal with fresh strawberries

- Mix 1 cup whole grain cereal
- With a cup of 1% milk
- Add 1 cup strawberries on top

Chocolate protein pudding

- 1 ½ scoops of whey/casein powder
- Add water then stir until you get the consistency of cake batter or muffin batter
- Put in the microwave for one minute
- Add in ¼ cup sliced, crushed, or chopped almonds or walnuts
- Blend until creamy!

Rice cakes with guacamole

- Take 3-4 brown rice cakes
- Top with 1/4 cup of guacamole
- Add ½ cup of nonfat 1% cottage cheese no salt

Berry jam toast

- Prepare 2 whole hard boiled eggs and 4 hardboiled whites
- Serve with 2 slices of whole grain toast covered with 1-2 tablespoon of berry jam

Apple dipped in nut butter

- Cut 1 medium apple and eat with1 tablespoon natural nut butter

LUNCH RECIPES

Turkey wrap

- Take 1 low-carb wrap
- Cover with 1 tablespoon Dijon mustard
- Add 4-5 slices of sliced, smoked turkey breast
- Add one or two slices of lettuce, tomato
- Chop or spread 2-3 tablespoons avocado

Grilled salmon salad

- Grill 5 oz. of salmon and serve over a large salad with vegetables. Cook salmon for 12-15 minutes until it flakes easily
- Add 5 oz. baked potato (white or sweet)
- Cover it the potato with 1 tablespoon of grated cheese, 1 tablespoon balsamic vinegar to taste

Chicken over brown rice

- 6 oz. of grilled chicken breast. Grill chicken on the stove in a saucepan on medium heat with 1 tablespoon extra-virgin olive oil or coconut oil
- 1 cup of brown rice (prepare ahead of time)
- Steam or consume raw 3/4 cup of broccoli

DINNER RECIPES

Turkey with Brussels sprouts

- Prepare 6-8 oz. of turkey breast in 1 tablespoon of coconut oil
- Add 2 cups of Brussels sprouts
- Serve with 6 oz. of yams

Steak and sweet potatoes

- Prepare 6 oz. grass-fed sirloin
- Serve with 1 medium sweet potato
- Cook 10 asparagus spears and enjoy.

Chicken with zucchini pasta

- Prepare 6-8 ounces of chicken breast, sautéed in 1 tablespoon extra-virgin olive oil
- Cook 2 cups of zucchini pasta
- Add 1-2 cups of brown rice pasta

Week 4 Recipes

BREAKFAST RECIPES

Veggie omelet

- Sauté spinach, tomato, and onion in pan, set aside
- Combine 1 cup liquid egg whites and two 2 whole eggs, whisk and pour into pan
- Add veggies and fold into the omelet
- Serve with 2-3 slices of whole grain bread

High-protein waffles

- Prepare 3 waffles and serve with 3/4 cup of berries on the side and 2 tablespoons of maple syrup
- Pair with cooked 1 cup liquid egg whites and 2 whole eggs cooked

Protein smoothie

- In a blender, combine 1 1/2 scoop whey protein
- 1/2 cup of berries
- Small banana
- 1/2 Tablespoon coconut oil
- 1 cup of water or almond milk
- Add ice and blend
- Blend until creamy!

SNACK RECIPES

Oatmeal mixed with protein powder

- Mix 1 cup of oatmeal
- 1 scoop of whey protein any flavor
- 1tbsp of natural almond butter

- Add them all and prepare the oatmeal according to directions

Cottage cheese with muffins

- Toast 1 whole grain English muffin (any flavor)
- Add ¾ cup of cottage cheese no salt added
- Serve with ¾ cup of pineapple

Greek yogurt parfait

- Take 8 oz. of nonfat Greek yogurt
- Add ¼ cup of chopped walnuts or almonds
- Add ¼ cup of dried cranberries
- Serve with ½ medium apple

Coconut oil protein smoothie

- 1 scoop of chocolate whey protein powder
- Add almond milk
- Blend with 1/2 tablespoon of coconut oil and ice
- Blend until creamy!

Fruit with Greek yogurt

- Take 8 oz. nonfat plain Greek yogurt
- Mix 1/2 cup fruit
- Add 1/4 cup chopped walnuts

Cottage cheese with nuts and fruit

- 1 medium orange
- 12 toasted almonds
- 3/4 cup 1% cottage cheese

LUNCH RECIPES

Chicken and greens with toast

- Prepare 6 oz. chicken breast, grilled or steamed
- Prepare a big salad with mixed vegetables. Toss with 1 tablespoon extra-virgin olive oil and balsamic vinegar
- Pair with 2 pieces whole grain bread

Burger with sweet potatoes

- Prepare 5-6 oz. of grass-fed beef
- Top with 1 tablespoon of mustard
- 1 tablespoon of ketchup
- Add 2 cups of romaine lettuce

- Pair with 1 medium sweet potato

Deli turkey with cheese

- Toast 2 pieces whole grain bread
- Top with 2-3 slices of low fat cheese
- Add slices of lettuce/tomato
- Spread 1 tablespoon mustard or fat free mayo
- Add 4 slices of turkey

DINNER RECIPES

Salmon, with pasta and broccoli

- Prepare 5-6 oz. grilled or poached salmon. Cook for 12-15 minutes until the salmon flakes easily.
- Steam 3/4 cup of broccoli
- Prepare 1-2 cups of pasta according to directions
- Mix with cooked pasta

Bison burger with chips

- Prepare 6 oz. bison grass-fed patty
- Place on 1 whole grain roll
- Top with lettuce, tomato, and mustard
- Add 12 baked potato or tortilla chips

Turkey with vegetables

- Prepare 6-8 oz. ground turkey
- 1 cup of brown rice (prepare ahead of time)
- Serve with a salad with lots of vegetables
- Add 1/4 cup sliced, crushed, or chopped walnuts
- Top with 1 tablespoon balsamic vinegar
- Toss salad and enjoy!

Summary - The 13 Golden Rules of Nutrition

With all of this information in mind, you now know how important nutrition is for the body. Finally, we will talk about how to still eat out while getting the right nutrients, how to prepare meals at home, and what plans you should use and at what points during the day. But first, let’s summarize the 13 Golden Rules of Nutrition.

1) Keep a Nutritional Ratio

For bodybuilding, you need a clearcut ratio for food:

- 20% of your calorie intake should be protein foods
- 40% should be complex carbs
- The rest should be from fibers or fats.

With regard to muscle strength building, the amount of protein you intake and your gym training are two of the most important components. You want to blend these in order to get the muscle mass you want. This is not to discount the importance of the other aspects of nutrition like carbohydrates. These, too, are important toward overall muscle health.

That said, you want to search for carbohydrates which are sources of energy for your body. Carbohydrates are in everything from bread and pasta to fruit to lettuce. They are what gives you energy. To strike a healthy balance for your body, you need to find foods that are lower in simple carbohydrates and sugars. The glycemic index (GI) is an index of foods based on their sugars and starches. You can use this to select the right carbohydrate foods during the day.

Good foods with low GL and high PI are what you want. These include things like:

- Whole grains
- Seeds
- Nuts
- Beans
- Fruits
- Vegetables

You want to avoid foods like flour products, junk food, refined grains, processed foods, or refined sugar.

2) Find the Right Carbs

Back to the idea of simple versus complex carbohydrates. You want to seek out complex carbs that will increase your metabolism.
Lean ground beef is popular as a muscle building source because it has high protein levels, iron, zinc, and Vitamin B. Turkey breast is a great post-workout food, one traditionally used by old school bodybuilders for its high protein source. Canned salmon and tuna give you omega-3 fatty acids, perfect when mixed with boiled eggs or salads. Lean beef, of course, is great after a workout, with chicken breasts one of the best foods for muscle building.

Chickpeas, navy beans, and lentils are low in fat. Bananas are nice after a workout because they give you energy but can be easily digested. Omega-3 and omega-6 can be derived from seeds, nuts, almonds, avocados, and other healthy fats.

3) Picking Supplements

Nutrition can be aided with dietary supplements. Do not buy just any supplement just because. You want supplements that are all protein, without fillers, sugar, or syrup.

Protein Powders

Protein powers are made of pure protein, handy for bodybuilders trying to make sure they get a specific amount. If you need to double your intake, one of the easiest ways is to add protein drinks to your daily snacks.

Meal Replacements

Meal replacements are powders you mix with water or whole milk. You can blend fruits into these replacements to add flavor like apples, bananas, or blueberries. Other people add peanut butter. These are high in protein and can help you to get the calories you need.

L-Glutamine

Amino acids are something we will talk about in the next chapter and they are imperative to your health. When you are training as a bodybuilder, more than 50% of this particular amino acid in your body is consumed. You should take it upon yourself to replenish the lost amino acids with regular supplements. This will make sure your muscles do not start to deteriorate after your workouts.

Fat Burners

Fat burners increase the body temperature which can help you get the metabolic rate you need to burn fat. These should be used sparingly.

4) Why Resistance Training Helps Muscles Grow

This section repeats an earlier page.

Now that you understand the dynamics, when you do resistance training regularly you might notice that your muscles grow. This growth occurs when there is an increase in water, an increase of cellular bundles, and an increase in connective tissue. Scientists divide hypertrophy into two different types.

The first is sarcoplasmic hypertrophy which increases your muscle size by increasing the volume of fluid inside of your muscle cells. Myofibrillar hypertrophy is sometimes referred to as functional hypertrophy and it increases the size of muscles by increasing the amount of protein.

Different people within the fitness industry argue that bodybuilders demonstrate that first type of muscular development, sarcoplasmic hypertrophy where your muscles look really puffy. Weightlifters like to show off the functional hypertrophy whereby the muscles look tight and dense.

Even though growth can take place in all of the muscle fiber types, different types of muscle fibers vary in terms of how much they can grow. Fast twitch fibers will grow more than slow twitch fibers if you practice intense strength training. This is part of the reason why athletes like sprinters are bigger and more muscular compared to endurance athletes, and it is also why heavier loads tend to stimulate increased muscle growth compared to light loads.

5) Hormones Impact Muscle Growth

Muscular growth is influenced not only by the type of exercise you do but your nutritional intake hormonal status as well. The type of exercise you do and your hormonal status will influence how your body allocates the nutrients you eat. If you are sedentary, stressed out, and malnourished, your body probably won't put on muscle mass how much you try or what you are eating. If you train hard, eat a lot, and make sure you get sufficient recovery time, your body will put on muscle.

There are six main hormones that modulate muscle growth:

7. Growth hormones
8. Testosterone
9. Cortisol
10. Beta-endorphin
11. Parathyroid hormone
12. ISG – 1

6) Muscles Respond to Demand

What you need to know is that muscles respond to the demands you put on them. If you ask your muscles to lift something heavy, they will get stronger and lift something heavy. If you ask your muscles to stay stagnant and sit on the couch, they will shrivel up.

Intense training actually damages your muscle which then allows your body to remodel the muscle to prevent further injury. Each time you train the small fibers, you injure them and force them to get bigger and stronger. This means that intense exercise is essential.

7) Muscles Respond to Calories

Your muscles respond to calories. Studies show that people who restrict their calories while avoiding heavy training end up losing muscle mass with a slower metabolism. Simple calorie restriction is not enough. In fact some people who were stricter with calories and field exercise ended up fatter than when they started. It is important that you eat well. You need roughly 2800 cal to build 1 pound of muscle, so obviously you have to consume quite a bit. The proteins and the fluid in your muscle fibers are broken down and rebuilt approximately every 7 to 15 days. Training can change this by impacting the type and amount of protein your body produces. Again, your muscles will respond naturally to the demands you place on them.

8) The Role of Proteins

Proteins are organic molecules made up of amino acids. Amino acids, as anyone who went to school remembers, are the building blocks of life. They are joined together with chemical bonds and fold in different ways to meet the functions of your body. There are thirteen types of amino acids. The first are the essential amino acids, the ones you cannot live without. You must absolutely consume them in your diet. Some of these amino acids are essential, but your body only produces them conditionally. If you are under severe stress, your body might not make as much as you need.

When your body is digesting food, it breaks down the proteins you eat into each of the individual amino acids. This contributes to a giant pool of amino acids which circulates in your blood.

This pool of amino acids trades with the other amino acids and proteins. It literally flows through your body in a large group; and if it notices that one cell in your body is missing a particular amino acid, that amino acid leaves the group and bonds with it.

Since your body needs proteins and amino acids to create all of the important molecules in your body, you absolutely need to have the right amount of protein or your body can't function properly.

If your body can't function properly, you don’t stand a chance of putting on the muscle that you want.

Protein helps to replace older cells and transports different substances throughout the body to help repair it.

By consuming protein, you can also increase the hormone in your body called glucagon which controls body fat. This hormone is released whenever your blood sugar level drops. It can actually cause your liver to breakdown any glycogen stored in the body and convert it into glucose.

Eating the right protein can also help to get rid of the fatty acids from your adipose tissue, converting it into fuel.

9) Finding the Right Amount of Protein

The right amount is contingent upon a few factors, but the most important is your activity level. The average recommendation for protein intake is .36 g per pound of body mass for healthy adults. However, this amount is only the bare minimum you need to prevent a protein deficiency; it is not the optimal amount you want when training. If you're doing high-intensity training, the amount goes up to approximately .64 2.9 g per pound of body mass.

The suggested limits are what your body absolutely needs for basic protein synthesis. The most you have to consume throughout the day isn't more than 1.4 to 2 g per pound. Beyond this, you have to make sure that you have enough protein in your diet for weight management, performance, immune function, and metabolism. You need only a small amount of protein to survive, but you need a lot more to put on the musculature you desire.

10) When to Eat

When you eat is not nearly as important as *what* you eat. Your success as a bodybuilder is contingent upon timing your meals around your workouts and getting the right nutrients.

Have a pre-workout and post-workout meal/snack. For the rest of the day, just worry about getting the right macronutrient ratios and number of calories. Whether you go three, four, or even six hours in between a meal will not cause your muscles to immediately start eating themselves away.

Just make sure you are not getting too stressed out or this will increase your cortisol levels which WILL negatively impact your ability to improve muscles and reduce fat. High cortisol levels result in catabolic states and prompt your body to store excess fat particularly in the abdominal region.

When you are bodybuilding, you need to get in a pre-workout and a post-workout meal whenever you are working out. In the end, what really matters is the calories and nutrition.

11) Cortisol

Cortisol is a hormone that is part of the glucocorticoid family. It is secreted by your adrenal cortex, a gland that sits on top of the kidneys. It impacts every call in your body.

Too much of it for a prolonged period of time will decrease your white blood cells. In reality, cortisol is protein-mobilizing, hyperglycemic, and gluconeogenic. Whether these things are good or bad depends on whether its release is brief or ongoing. Basically, brief releases are fine, good for your body. This is something you need during exercise and training.

Having a low-glycemic diet, as discussed above, with adequate proteins and healthy fats in your diet, gives you the right amount of phytonutrients and fiber. Having nuts, seeds, lean proteins like grass-fed beef or fish, probiotic foods like yogurt, coconut or olive oil, and fresh fruits and vegetables will all go a long way toward stabilizing cortisol levels.

12) Testosterone

Androgens are steroids with anabolic effects, meaning growth effects. Testosterone is among the most important of these hormones in the human body because it is not only in charge of regulating libido and energy but also muscle development.

One of the main roles for testosterone is muscle growth. Androgen exposure impacts the size and characteristics of muscle fibers.

Exercise actually stimulates short-term testosterone releases that can enhance muscle growth. Levels of testosterone are relative to the intensity of your workout. In other words, resistance training or metabolic conditioning gives you higher levels of testosterone post-workout.

Eating testosterone promoting foods are a great way to add to the levels you have, especially after a workout. This increases overall muscle growth.

13) Growth Hormone

Growth hormone is an anabolic hormone secreted by your pituitary gland. Growth hormone is important because it helps your bones, muscles, and tissues grow. It helps stimulate protein synthesis and fat metabolism. It actually limits the amount of fat storage and, instead, mobilizes fat for energy. The amount of growth hormone your body produces during and after a workout is directly related to the intensity of the workout. The harder and tougher you work out, the more your body will release growth hormone.

Conclusion

Thank you for buying this book.

I hope this book was able to help you achieve more understanding about bodybuilding nutrition and give concrete advice regarding your nutrition goals and needs.

The next step is to craft your own meal plan, or simply try out the example meal plan in this book. 4 weeks should be long enough in order to observe and feel the benefits of a proper nutritional intake.

Lastly, if you really enjoyed reading the book, please take time out to share your insights by posting a review on Amazon. It’d be really appreciated.

Thank you and good luck!
Kevin