

A close-up photograph of a white plastic scoop tilted, pouring a thick, white, clumpy powder onto a dark wooden surface. The powder has a granular, slightly moist appearance. The background is dark and out of focus.

The Essential Guide to Bodybuilding Nutrition

INCLUDES ESSENTIAL ADVICE ON HOW TO EAT FOR YOUR DESIRED SHAPE!

***START GETTING MORE FROM YOUR WEIGHT LIFTING NOW
WITH THIS ESSENTIAL GUIDE TO BODYBUILDING SUPPLEMENTS!***

Feel even stronger and more powerful than you would from body building alone!

The Essential Guide to Bodybuilding Nutrition

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Introduction

Welcome to Bodybuilding Nutrition

First let me start this e-book by congratulating you. You see the very fact that you're reading these words implies two things about you; a) that you've taken an interest in bodybuilding and b) that you realise the importance of nutrition and supplementation to be successful in the sport.

Taking up bodybuilding was a wise move. Whether you want to be the next Mr Olympia or just want to get into better shape for the beach, you'll benefit from regularly hitting the gym and improving your diet. When you're getting stronger and fitter you see impacts every area of your life - your confidence, your athleticism, your attractiveness, your ability in sports and your presence - it changes your whole life from the inside out. Just in case you need more convincing though, here are some more reasons to take up bodybuilding:

- You can take off your top with pride - and you regularly will, trust me.
- You'll win at sports, events and activities that you wouldn't otherwise. Alpha Male status ahoy!
- You'll be able to do cool party tricks like handstand press ups.
- You'll gain automatic respect, unless you're a lost cause.

- You can use it as a way to attract the opposite sex (saves money on buying drinks that way too).
- You'll be more imposing and authoritative.
- If you get *really* good you can make money as a model or professional bodybuilder.
- You can give awesome dead arms...
- And win arm wrestles...
- And fights.
- You'll never struggle with a jam jar again! You could also achieve this by stopping eating jam.
- You can climb better.
- You'll get to experience the pleasure of relaxing after a workout with your body feeling numb and tired and flowing with endorphins.
- You'll have lots of energy.
- You'll be able to eat much more meat!
- You might get called 'Big Guy' or 'Arnie' or 'Rambo'.
- You'll start catching yourself in shop windows and thinking *damn!*
- You'll get to experience the camaraderie of the gym.
- Plus you'll be a member of the Iron Brotherhood.
- Finally, if you ever met Batman you'd have stuff in common...

The good news is that by reading this e-book, you're already on the path to achieving all those things. The very fact that you understand the large

role played by nutrition and supplementation bodes well for your success in the sport too. So many people will take up a training routine with no real understanding of the nutrition or even how to lift properly. They'll hit the gym for maybe one week before getting disheartened, never realising that they've failed because bodybuilding needs to be a *lifestyle* change.

Food plays a vitally important role in keeping us fit and healthy, acting both as a fuel source and as the very building blocks that make up our anatomy. The more you tax your body however the more your body needs both which is why bodybuilders need to be constantly vigilant in what they eat. If you're going to be a bodybuilder your body needs to be a temple... and no I don't mean a temple of doom! If you don't understand the importance of diet then a lot of your hard work at the gym will be going to waste. You owe it to yourself to make the most of your training!

This book then will tell you exactly which foods your body will need to perform in the gym and to grow outside of it as well as which supplements to use and how they work.

The Goal of Nutrition in Bodybuilding

The goal of bodybuilding as you are no doubt aware is to build visible muscle. For this reason it is different from a sport like power lifting as this requires only that the muscle is powerful with no attention paid to

appearance. For these reasons the nutrition advice followed also needs to be different with bodybuilders aiming to limit their caloric intake.

This might make bodybuilding seem a tad narcissistic or shallow but in fact training in this way is healthier for your heart *and* has functional aspects. Obviously being as large as a power lifter will make you cumbersome and much slower whereas being ripped as well as strong will mean you're still as agile as possible while maintaining the strength. Evolution has taught us to appreciate *healthy* and *functional* physiques, so if you train to look good chances are you'll feel good and perform well too.

So you need to eat healthily diet low in fat and simple carbs to keep off the fat. At the same time you need to supply your body with energy to perform in the gym and protein in order to grow. Chances are though you'd like a bit more detail on that... so read on!

Don't Believe Everything You Read

Before we get started though, a disclaimer of sorts; for while the information in this book is fully researched and based on years of my own experience, all advice will vary depending on whom you speak to. As you'll know if you've ever spent any time on a related forum, bodybuilders are an opinionated bunch and once they get an idea in their head they'll defend it viciously against any claims against it. Chances are they've read some experimental new diet plan or training regime and suddenly think they are

the ultimate authority on bodybuilding and its nutrition. Don't be fooled though as all these fads come and go and while they might bring fast results at first they often prove to be unstable or unhealthy. The simple high protein diet has been road tested by bodybuilders such as Arnie, Columbu, Frank Zane, Lou Ferrigno and hundreds more - if it's worked for them it'll work for you. The point is no one is sure what the optimum diet might be at the moment and there may well be a secret method to getting massive guns. Be open to ideas and don't take anything as gospel. We eat what we eat for a reason though and for now, if you use your common sense and don't do anything too drastic, you'll find you can be both healthy and successful as a bodybuilder and that goes double for beginners.

Understanding Nutrition in Bodybuilding

If you've studied Biology or Dietetics then you should have a fairly good idea of the roles of various food stuffs in our diet, if you were an A-grade student you may even recall the five major food groups. For those of you more prone to chatting at the back here they are again: carbs, protein, dairy, fruit and vegetables and fats. Handily that's also arranged in order of recommended quality (I'm clever like that) so you need lots of carbs in order to function properly and few fats.

Essentially these food groups can be categorised into those used by the body as fuel (those used in metabolic functions) and those used by your body to build and repair (those used in anabolic functions). Obviously for bodybuilding both are highly crucial; you use the energy to go and lift stuff at the gym and then you use the building blocks to build back the 'microtears' you cause in the gym (more on that later). In the latter case you literally *are* what you eat. I'm a giant tuna pretty much then... When it comes to energy and building blocks what we're really talking about are the carbohydrates and the protein. Bellow I'll explain how these work and why need to include them in your diet. I'll warn you though; this will probably get quite technical so bear with me. If you're not interested in how or why protein and carbs work then feel free to skip the next couple of segments. I don't recommend this however as it's very useful to understand the science what you do and is just one factor that can set you apart from the

competition. At the same time it's quite interesting; we should all know what our own bodies are made of.

Carbs and Sources of Energy

Carbs work as little fuel cells for our body which when used immediately do not turn into fat. Some bodybuilders make the mistake of ironing carbs out of their diet in order to ensure they don't gain any weight that isn't muscle. However this basically means they're running on empty which can be dangerous and will damage their performance in the gym. We are designed pretty well, either through God or evolution depending on which belief system you subscribe to, and everything we eat we eat for a reason. Cutting *anything* out of your diet is a mistake and whatever the current trends in bodybuilding nutrition may say, they almost always come back full circle and realise that straying too far from the tried and tested formula is a mistake.

Essentially our muscles get their energy from splitting Adenosine Triphosphate (also known as ATP, an adenine nucleotide bound to three phosphates), the 'global energy currency'. ATP is produced in the mitochondria of cells from the glucose in our diet and energy can be released through the breaking of the high-energy bonds that hold the phosphates together. This creates Adenosine Diphosphate or Adenosine Monophosphate with two or one phosphates respectively as a byproduct.

Creatine phosphate is used to maintain the levels of ATP in our muscles by converting used ADP or AMP back into ATP using its own high-energy phosphate bond. This supplies our muscles with energy during fast usage such as during sprinting (the phosphagen system). Our muscles can only retain enough ATP for roughly three seconds of use at full power however and can store around 2-3 times more creatine phosphate; allowing for 8-10 seconds of maximum exertion in total. This method of obtaining energy is called the Phosphagen System and is the system used for short explosive moves.

Now crucially, ATP can also be obtained from glycogen - found in most carbohydrates. This is a slightly slower process, known as the Glycogen Lactic Acid System, where glycogen stored in the muscles is split into glucose which is then split again to release four ATP molecules providing approximately an additional one and a half minutes of extra energy, though at lower power and resulting in the by-product lactic acid. This process is used in swimming or the one to four hundred metre sprint and is 'anaerobic', meaning that it does not use oxygen, or for us bodybuilders maybe a set of one hundred sit ups.

The last line of defence against... extreme tiredness, The Aerobic System, kicks in when energy is needed for extended use. It achieves this through the oxidation of foodstuffs in our mitochondria, in other words by 'burning' carbohydrates (initially), then fats and finally protein to get ATP.

This is another reason bodybuilders shouldn't completely neglect Carbohydrates (or engage in excessive CV) in their diet lest they risk cannibalising their protein. For these reasons The Aerobic System can sustain an athlete for two hours or longer in some cases and has water and carbon dioxide as a by-product as opposed to lactic acid. Additionally, in order to provide muscles with adequate oxygen, the body pumps blood to them (which creates the feeling of being 'pumped' in the gym), diverting it from the rest of the body and other organs so increasing the depth and rate of your breathing. These three systems kick in in the above sequence, starting with the Phosphagen System, then the Glycogen Lactic Acid System and finally the Aerobic System. All three will likely be used during a workout which is why eating carbohydrates for energy is so important.

Making matters more complicated is the fact that there are two types of carb: complex and simple. The distinction is made by the number of sugar units in the food where foods with just one or two are simple (monosaccharides and disaccharides respectively) and those with longer chains are complex. Sugar and sweet foods are examples of simple carbohydrates while starches such as bread and pasta are examples of complex carbohydrates.

Here it's the complex that we're interested, so bread, pasta and bananas; I'm afraid sugar and cake are out for now as they'll give you an

energy spike followed by a dip and are too easily converted into fat. Bread , rice, pasta, or a banana, eaten an hour or so before a workout then can give you a more steady and long lasting energy supply. That said sports drinks such as Lucozade or certain supplements can be a good way to get an energy rush from simple carbohydrates and sugars. Again, nothing should be completely left out of your diet.

Protein and the Building Blocks of Life

The above description of how the body utilises carbohydrates and ATP for energy is known as ‘catabolism’. At the other end of the spectrum is ‘anabolism’ which is where the body repairs and maintains itself using amino acids (the building blocks of life) found in protein.

The protein in our protoplasm is the most abundant substance making up 10-20% of our cells’ mass. This is then used for structure, maintaining the form of the cell; and for enzymes which control chemical reactions within cells. Essentially when you eat meat you’re almost ‘recycling’ the animal and using it to repair and build your own body. Each cell has within it your genetic code - your DNA - and it uses this as a guide for sending the amino acids where they’re needed in the body. This is why a supply of high-quality protein is so important for the body and particular for aiding in recovery and growth after a workout.

Muscle fibres cannot reproduce via mitosis (by splitting in half) as they have multiple nuclei. This means that in order for your muscles to grow, the existing fibres need to become thicker. For this to happen the muscle must add more 'myofibrils' (the small 'strands' which make up muscle fibres and that are themselves composed of even smaller sarcomeres) which it does by splitting them along their longitudinal axis. This action however requires lots of Myosin, Actin and other proteins (and how much protein a muscle fibre can use is limited by the number of nuclei in each one).

When you strain a muscle from 'overloading', probably by hoisting a hefty great dumbbell, you're creating 'microtears' in the fibres. Though that sounds gruesome don't worry - this is how hypertrophy (muscle growth) occurs. Once the fibre is recognised as damaged 'satellite cells' (AKA stem cells that wait in the area ready to jump to action) will be sent to the area in order to repair the damage, the single nuclei of the satellite cells however will stick around and become incorporated into the repaired fibre meaning that it has more nuclei than it did before and can use more proteins to become thicker. This also explains why the bigger you are the more protein you need.

So it's important we get lots of protein and the official line for bodybuilders is that they should be eating around one gram of protein for every pound of weight. So if you weigh in at 200 pounds you need 200 grams

of protein. If you weigh 175 pounds you need 175 grams of protein... I could go on but you should get the idea. What's also important though, is that we consume *high quality* protein and that we get all 22 amino acids; though this number can range from 20 to 26 depending on the source, it really comes down to a matter of definition and for bodybuilders it is the 22 that are crucial for muscle synthesis. These are as follows: alanine, arginine, asparagine, aspartic acid, cysteine, cystine, glutamic acid, glutamine, histidine, isoleucine, leucine, lysine, methionine, ornithine, phenylalanine, proline, serine, threonine, tryptophan, tyrosine and valine. Yup, they sound like names from a sci-fi film (I love 'phenylalanine'). The reason it's essential to get all 22 is that if your body needs an amino acid and cannot get it from your diet, it may break down muscle in order to obtain it (known as 'negative nitrogen balance'). As well as aiding with muscle growth and maintenance they also have many other benefits and are important for every aspect of our health.

However very few sources contain all 22 with most meat containing 19 or less, even the wondrous 'Whey' (of whey protein fame) is missing two. This is why it's essential to make sure you consume more than one type of protein in day and preferably at each sitting. In other words don't *just* eat chicken as your protein source if you want to grow. Preferably you should try and get more than one protein source at each sitting as you cannot supply an amino acid after it is too late. Eggs fortunately do contain all 22

due to the combination of the egg and the yolk, which is why removing the yolk to eliminate fat (as many bodybuilders do) is a mistake.

The quality of a protein source is also measured by its biological value and absorption rate. These numbers indicate how much of the protein you consume can actually be utilised by the body. For example, while eggs have a BV of 100 and an AR of 94%, tuna has a BV and AR of around 70% and 80% respectively. Therefore if you ate the same amount (in grams) of protein from tuna and eggs, you'd benefit most greatly from the eggs (though both are very good). Also key to be aware of is how much fat a protein source contains which is another reason to go for fish or white meat over red meat. A list of suggested protein sources with their statistics will be presented later in this book.

So you need to consider several factors when consuming your protein: how many grams your getting, how much of it your body can utilise and how much fat is in it. You then need to pick at least two to combine at each sitting.

The Other Food Groups

I've already mentioned several times at this point how important it is not to eliminate entire food groups from your diet (that's right, even fat). Here's what the others do for you, how they work, how to consume them and why you need them.

Fat is the black sheep of the food groups' flock and is feared by bodybuilders and dieters alike. When our bodies have excess carbs they sensibly convert them into fat cells to be stored for future use, this process ironically takes a large amount of energy itself however meaning that only a proportion of the unused carbohydrate is stored at all. The problem is however that other animals also use the same process meaning that when we eat meat we are often also eating their fat cells which take very little energy to convert. These cells then are immediately packed on as fat resulting in a layer of fat cells that prevents definition in the muscles and eventually leads to a bulging gut and flabby arms - however strong you are underneath no one is going to know.

This does not mean however that you should completely eliminate fat from your diet. Firstly, you never know when you might actually need to burn that extra fat and if you don't have any your body will burn your muscle instead - essentially cannibalising itself to get the energy it needs. Secondly, essential fatty acids have many other uses including strengthening cell membranes, lowering blood cholesterol (which will be high in a high protein diet), helping to repair wounds, aiding in blood clotting and regulating blood pressure. A deficiency can result in bad skin, dull hair, delayed wound healing, thirst and even heart disease and arthritis in extreme cases. Crucially fat is also needed for the absorption of protein. So don't completely rule it out!

Fat has only become a problem from around the 20th century where large amounts of fat are used in all sorts of cooking and deserts. Eating roughly the amount of fat you'd expect to find in the wild then won't hurt, just limit lard and cakes etc. The aim then is to eat minimal extra fat that isn't from your protein or carbohydrate sources, not to eliminate it completely.

Vitamins, minerals and fibre are also vital for bodybuilding though the link may not seem obvious immediately. The point here is that if you restrict your diet to just chicken, eggs and rice, not only will it be bland but you won't be getting any fibre, vitamins, minerals or fats. At first you'll quickly pack on lean muscle but soon you'll find yourself encountering other problems. For example your immune system will be weak from lack of vitamins so you'll have frequent colds, each of which will keep you out of the gym for a week and set you back considerably. You'll also be prone to injury with weak bones due to a lack of calcium and let's just say you might be spending a long time on the toilet too... You could easily have added steamed veg and perhaps a nutritious cereal with skimmed milk and you'd have a far tastier diet that would be much better for your health *and* your success in the gym.

In other words you should include as wide a variety of foods as possible while still being selective and it'll be easier to stick to this way too.

Your body knows what it needs so listen to its cravings, just try and interpret them with a healthy slant.

Your Nutrition Plan

The Low Fat/High Protein Diet and How to Stick to It

Your diet then should be mostly a healthy version of what you might normally eat but with more protein and less fat. It's nothing drastic and probably easier than you expected huh? If you read the chapter above however then you'll see that straying too far is a mistake.

What you should also have taken from the previous chapter is that you need to select your foods carefully making sure you have complex carbs and good quality protein containing all 22 amino acids by eating two portions of protein per sitting where possible. Aim to eat a gram of protein per pound of bodyweight. At the same time you're aiming to reduce fat intake, this means limiting your treats (such as ice cream or chocolate) to perhaps one every two days - or less if you're feeling hardcore. On top of this you should be getting your minerals, vitamins and fibre to keep yourself on top of your game.

So in an average day you might be eating a couple of chicken breasts, some eggs and some tuna along with a few sources of carbohydrates such as bread or rice. You should couple this with some steamed or boiled vegetables and fruit (bananas happen to be a great source of carbohydrates); try and get five to seven a day and vary the colours as much as possible (and the less you cook them the more vitamins they maintain). You might also want to eat a breakfast cereal such as Fruit and Fibre. A

great meal might be tuna steaks with new potatoes and a salad containing nuts (your extra source of protein). So it really is just an ordinary diet but with emphasis on health and protein.

There are some easy incidental ways you can cut your fat intake too and change your sweet tooth so that you begin craving healthier foods at the same time. For example, teach yourself to drink tea without sugar and to eat toast without butter. You should also cut out drinking soft drinks in favour of fruit drinks (I humbly recommend apple juice) and water and remove the extra oil from your cooking; if you stir regularly and cook onions first it won't stick, even just a bit of water will do or if you must then use vegetable oil. You can also use healthy snacks to satisfy your cravings, so that instead of eating crisps or chocolates you're eating nuts, sunflower seeds or raisins (nuts being a protein source and the latter of which supplying a steady flow of carbs).

So far so good, but there are further complications to eating the protein that you need to understand. Firstly is just how hard it is to consume the required amount of protein; a boiled egg only contains about six grams of protein, so say you're 180 pounds that would mean you'd have to eat around 30 eggs. 300 grams of tuna - that's a full can - contains 23.5 grams of protein. So that would be eight cans of tuna minimum and not all of that protein would be absorbed by the body. So in a real day you'd

probably have to eat something like three eggs, a can of tuna, a large chicken.

Fortunately you can grow without following such strict rules just not in the same impressive way you might if you ate truly bodybuilder-esque portions of protein. If you're a beginner eating about half that will do, or any increase in your usual diet will be beneficial. If you really want to grow though this is where protein shakes start to come in handy as they can contain up to 30 grams of protein to be taken up to three times a day on top of your normal diet. They'll be dealt with later on in this book.

Secondly, to fully utilise the protein to its fullest, it should be consumed within half an hour after training. Again this is another area for debate where some claim the window is smaller while others advocate eating it *before* your workout, so long as you eat it close to the workout though you should be safe. This however means that you'll be eating protein at another unusual time throughout the day and is another point where protein shakes can come in handy.

Separating your meals up so that you have around five smaller meals is also good practice. This is important as it'll keep you constantly supplied with protein and energy and will help you eat as much protein as you need to. At the same time it means you can time your workout to precede a

protein snack and you won't be in danger of stretching your stomach which can lead to gaining unwanted weight.

So there you have it in a nut shell (good source of protein) - eat lots and lots of protein, a few complex carbs, minimal fats, all your vitamins and minerals and fibre and time your meals so they are spaced throughout the day and so that you have at least one protein snack after your workout. That's really the essentials of bodybuilding nutrition on a plate (no pun intended).

'Bulking' and 'Cutting'

'Bulking' and 'cutting' refers to a dietary cycle undertaken by many a bodybuilder. Here the emphasis is put first on size and strength and then later on cuts and definition. This means switching between training styles in the gym (since you ask it's low weight high reps for cutting and high weight low reps for bulking) and also affects your diet. Obviously while bulking you eat as much protein as you like, but you're also allowed to eat as many carbs as you like. The idea is just to really pack on the pounds while lifting massive objects in the gym in order to become a massive monster. That means cake is actually okay! When you're bulking anything goes... Now, once you've reached your target size you start to trim off the excess fat in order to bring out the definition by eating just lean meat and the minimum amount of calories. This works well as your body burns off fat long before it

resorts to cannibalising muscle so you'll strip away the flab to reveal powerful muscle in no time.

Bulking and cutting is designed for professional bodybuilders in the lead up to a competition however and amateurs who have adopted it for their casual training will be doing more damage than good. Firstly, constantly changing fluctuating your weight and eating habits like that can put a strain on your heart. Secondly, you'll never be at your biggest or your most ripped; you'll always be walking around as either a giant chubby guy or a ripped lean guy, never the image of perfection you're striving for. Thirdly, bulking and cutting puts you at greater risk of gaining stretch marks and even saggy skin which really isn't attractive. Finally, the act of adding extra fat and then simply removing it really won't have many advantages for you anyway. If you actually maintain the rough shape you want then simply increase in size as you improve you'll find it's slower but at the same healthier and more efficient. Bulking and cutting then should be reserved for use as an effective and time-saving strategy in the build up to a competition.

Adapting Your Diet to Your Desired Physique

You may want to lean more towards bulking or cutting though in general depending on both your current fitness levels and your desired level of muscularity/detail. For instance, if you're currently overweight and/or an endomorph then your main priority is to slim down before you start

training for strength (contrary to misguided popular belief you cannot convert fat into muscle). In this case protein isn't as crucial though you should still consume a fair amount and you should eat even fewer fats and carbohydrates. If you combine this type of diet with cardiovascular exercise you should slim down quickly until you're at the point where you're ready to being adding muscle. On the other hand if you're an ectomorph and have difficulty adding weight you should do the opposite aiming to eat as much protein as you can get your hands on and being less limiting with fats and carbohydrates.

The same goes for your target physique and you should again consume more if you want to be bigger and slightly less if you just want to be leaner. A good piece of advice is to research the diet and exercise plan of celebrities or bodybuilders who have physiques you'd like to emulate and then follow their guidelines while applying the understand of good bodybuilding nutrition you should already have from this book. Bare in mind that everyone's different though and you may find it needs tweaking for you if it's not having the desired effects right away. As you get used to eating as a bodybuilder you will eventually get a better understanding of what your body needs and will begin to crave the protein and carbs as you need them.

Pre Competition

If you are a serious bodybuilder intent on competing then you should have completed your diet a week before your competition. You should have

been cutting hard towards the end of the diet in order to get your bodyfat percentage as low as possible and by now even your veins should have veins. Ideally the diet should last around 12 weeks with the last few weeks being very low in calories. Some bodybuilders go as far as to practice 'depletion' which is a hard-core zero calorie diet for two or three days just before your final week. It's an extreme measure that's not particularly healthy and definitely only advisable for competitors and even then as a last resort if the cuts aren't showing as you'd like them too. It certainly isn't a compulsory step by any means.

However such a process is exhausting and a strain on the body and for this reason many bodybuilders recommend using the last week to recover, eating a normal diet fairly high in carbs in order to get your strength back before the competition and making sure you're at the top of your game. Remember you're going to have to be pulling poses up there which is surprisingly tiring work! Additionally, 'carbing up' as it's called can help your muscles swell after three days as they begin to store glycogen.

Water is also a large concern for bodybuilders pre-contest as retaining it can make the body look 'puffy' and less defined. The solution to this is actually rather counter-intuitive as you should actually drink *more* water right up until the last few days as this will encourage your body to flush it out of your system whereas restricting fluids can teach it to store more thinking there's a shortage (one reason why you'll find bodybuilding

makes you need the toilet a lot). Additionally, if you restrict water too much early on you will lose the water that makes up 75% of your muscles causing them to shrink. So keep drinking a lot until you get to the final day of the competition, at which point you should drink roughly half to a quarter as much as you might normally. Some bodybuilders have been known to use diuretics in the past but just don't go there...

Well that's the diet side accounted for, as long as your tan is in place and you've actually been to the gym you've done all you can. Now it's in the laps of the Gods...

On Vegetarianism

Obviously all this protein consumption will be tricky for vegetarians though not impossible. While meats are out of the question there are various plant sources of protein that you can use instead, though be aware that these often have a lower biological value/absorption rate and fewer amino acids.

If you eat fish and dairy products you can probably get away with eating lots of eggs and tuna and protein shakes. Otherwise you're really going to struggle; particularly if you're vegan as Whey (the main ingredient in most protein shakes) is a by-product of cheese making.

It is possible to be successful as a vegetarian bodybuilder and there are some out there as well as dedicated books that will help you with your nutrition. However, though I don't want to dictate to you how you live your life (what with not knowing you and all), as I've kept saying everything we eat we do so for a reason and you shouldn't restrict yourself or your body will pay the consequences. Eating meat is perfectly natural, it's the circle of life if you like, and they'd certainly just as soon eat us. On the plus side though at least quorn is low in fat...

What to Eat and What Not to Eat

Some Good Sources of Protein

A selection of good protein sources and why and how you should eat them.

Tuna fish

Protein: 55 grams per 227

Protein Absorbed: 80%

Tuna fish is personally my favourite source of protein for its taste, versatility and amount of available protein and lack of fat. Even better, not only is it good as a source of protein but it's also high in antioxidants meaning you'll live longer, oil for your joints and omega 3 fatty acid which is good for your brain and heart. Tuna will make you stronger, smarter and longer lasting!

Eggs

Protein: 13 grams per 100

Protein Absorbed: 90%

Eggs are the quintessential natural protein source for bodybuilders and contain all the 22 necessary amino acids. They're also incredibly versatile, though there is a large amount of controversy surrounding how to eat them for best.

Many bodybuilders point out that raw eggs retain more of their protein than do cooked eggs and this is certainly true. An even more hardcore approach is to remove the yolk which eradicates the fat and to actually consume the egg shell (which is allegedly also high in protein). Not a tasty snack however and as we discussed earlier removing the yolk is actually counter productive.

Others however are concerned about the potential for salmonella poisoning and find the taste unpleasant. They prefer to soft boil their eggs and eat them that way. What you do here is entirely up to you but let me state here that the risk of salmonella is largely exaggerated.

Firstly, the chances of an egg containing salmonella are incredibly low at 0.0003% (2.3 million eggs in every 69 billion produced each year). Of these 0.0003%, most are from battery hens and hardly any are those marked as having been tested for salmonella. Then, even if you do contract salmonella, chances are it'll be treatable with probiotics and won't be life threatening. In other words, to die from a bad egg is incredibly unlikely, especially if you eat good quality eggs.

Personally I swallow mine raw in a mug; white *and* yolk and often with a pinch of pepper. It's cheap, it's quick I don't dislike the flavour. You should do whatever you feel comfortable with.

Chicken

Protein: 40 grams per 227.

Protein Absorbed: 68%

Chicken is great for its versatility and is the best of the animal meats in terms of its biological value. For this reason it is the meal of choice for many a bodybuilder and should be what you look for on the menu when eating out. You can even make a takeaway healthier by having a chicken burger, they're generally better quality meat too and less processed.

Beans

Protein: Around 15 grams per 170

Protein Absorbed: 46%

The low absorption rate of beans demonstrates the problems with plant sources of protein (vegetarians take note). However they are about the best of the bunch and also quick and tasty. Beans on toast or a baked potato are a quick and mostly healthy snack.

Some Good Sources of Carbohydrates

Rice

There's a reason why Chinese men and women are so thin. Granted genetics has a lot to do with it, but rice is still a great alternative to pasta. Opt for brown rice.

Pasta

That said, pasta is still delicious, versatile and a great source of energy... and it's certainly better than chips. If you get whole wheat it's also a good source of fibre and better for you generally.

Bread

Bread again is a versatile option to accompany your protein. Best of all though, it gave us the mighty sandwich (along with the legendary Lord Sandwich). For that bread should be worshipped as a holy food. Again opt for granary over white bread when possible.

Potato

Sadly potato does not count as one of your five a day; however it is still high in vitamin C and also a highly versatile source of carbs. Have it roasted (in vegetable oil), boiled, baked (with beans) or mashed.

Banana

Bananas are a fantastic source of energy as well as one of your five a day. An added bonus is that they're high in potassium which will minimise cramps and so accidents in the gym.

Raisins

Raisins are high in carbohydrates and make an amazing low-fat snack. They can also make a pudding sweater without adding icing or sugar. Have these to peck at and you may not crave chocolate in quite the same way.

Other Good Foods

Apples/Apple Juice and Oranges/Orange Juice

Apple and Orange are high in vitamin C and help keep colds at bay. Vitamin C is vital for the immune system as well as aiding the formation and maintenance of collagen, essential for the connective tissue in skin, bones and ligaments. Collagen is high in amino acids too and so speeds up the healing of wounds and burns and will aid in the repair of muscles. When you train you deplete your vitamin C stores (through sweating) so a juice drink immediately after can help bring them back up to speed.

Carrots

If you're struggling to fulfil your fruit and veg quota, munching on a raw carrot is a quick way to tick another one off. They're also tasty, useful in a lot of recipes and supply the body with vitamins A, B, C, D *and* E.

Tomatoes

Tomatoes are also one of your five a day and are high in antioxidants so longer life and less cancer!

Sunflower Seeds

Sunflower seeds are a great solution to hunger pangs and one bag will last a very long time without costing the Earth. They are also a source of Linoleic acid which is an essential fatty acid which helps with healing.

They're almost like senzu beans from Dragon Ball Z (yes I'm a geek). They're also good for your prostate, strengthening it and fighting off cancer. They are also an additional source of protein, iron and fibre.

Salad

Boring though it may be it's important that you include greens somewhere. They contain barely any calories (celery is famously supposed to use more to eat than it contains) and high in just about everything else particularly iron, calcium, vitamins and fibre. Iron in particular is necessary for the creation of haemoglobin, which transports oxygen around the blood, and for the equivalent myoglobin, which is found only in the muscles. Contrary to rumours Spinach is actually no higher in iron than other types of salad however; the myth actually began as a result of someone misplacing a decimal point!

Alcohol

Some bodybuilders don't drink alcohol, but come on we all need to relax from time to time and a unit or two a day has actually been shown to be good for your heart and blood pressure and red wine is high in antioxidants. Just try and avoid drinks such as Guinness which is rather high in calories and choose spirits or wine over lager when possible. So long as you get a good boogie in after you're finished you should be fine.

Some Quick and Simple Meals/Snacks

So you have a bunch of random and frankly quite bland food items listed above, the question is how can you realistically use these in your day to day diet without going numb from the boredom? Here are some handy solutions; quick recipes that are high in protein and low in fat but still delicious.

Tomato Tuna Pasta

Tuna chunks go great with onion and pasta if you add some chopped tomatoes, seasoning and a sprinkling of cheese. It's much healthier than using mayonnaise, tastes great and takes only as long to make as the pasta takes to cook.

Chicken Hot Pot

For a hot pot you literally boil chicken breast in a pot (cut up) with a small amount of water and throw in anything that you think might go; in our case that's anything *healthy* that'll go. So that means something along the lines of potatoes for your carbs, carrots, onion, stock, flavouring and mushrooms for example. It's not particularly quick but it's joyfully simple once you've cut up the veg - it can cook while you work out!

Chorizo Chicken

Sure chorizo sausage isn't lean but it is a good source of protein nonetheless and as you eat chorizo chicken with fewer carbs it can be forgiven.

Here simply follow the instructions for the hot pot above but instead of boiling it in water you use passata (at least two cartons) and chopped tomatoes (when you add the potatoes make sure they're pre-boiled as they'll take ages in the tomato). Add similar things: onion, mushrooms etc and definitely add some garlic. Now add chopped chorizo (a whole sausage is recommended for the best flavour) and you should have a delicious spicy tomato-y dish.

Mashed Banana

Mashed Banana looks gross I admit but it tastes great and makes an awesome pudding. Simple mash a banana, add milk and eat with a spoon.

Carbonara

Carbonara recipes these days contain all sorts of complicated fatty additions such as cream and bacon. However, originally the dish was invented as a way to use minimum resources and involved cracking a single egg over some pasta. Here you didn't even cook the eggs, rather you relied on the heat of the pasta to do that for you.

The recipe I recommend is a halfway house - simply boil some pasta and chopped onions (you can boil them in the same dish to save time) and fry up some bacon at the same time. Now crack two eggs and beat them adding a tiny bit of grated cheese. Drain the pasta and the onion, put them

on the pan and then pour on your egg/cheese sauce. Fry it for literally a second before you take it off the hob or you can even use the aforementioned method of using the pasta to cook it.

Pizza

It might not sound healthy but that's the beauty! If you make your own pizza it actually can be quite healthy and again you can pretty much pick what goes into it. Simply pick a pizza base that's fairly healthy sounding (thinner is better) then add pieces of chicken, ham, pineapple, vegetables and tomato puree. Adding low fat cheese is advised as it'll help glue the food to the base but if you're good at balancing (or have a horrible carpet) even this isn't necessary.

The Iron salad!

Here you can use a lot of the foods listed above to create an ultimate bodybuilders' salad. Get your lettuce, spinach etc and add hard-boiled eggs (cut into quarters), cherry tomatoes, sunflower seeds and kidney/broad beans.

Some other ideas include: tuna steak with new potatoes and vegetables, chicken with rice and steamed vegetables, chicken stir fry, baked beans on toast/a baked potato, scrambled egg on toast, tuna sandwiches, egg fried rice. It's fairly easy to find simple recipes containing healthy food but you can also adapt other people's recipes to contain less

fat and more protein. If you're having a bolognaise for example try to use lean mince, wholegrain pasta, puree and chopped tomatoes rather than sauce out of a pot and use low fat cheese on top and/or stock for your extra amino acids. As you get used to adapting your meals in this way it'll soon become second nature and you'll begin to think like a bodybuilder.

Bodybuilding Supplements

The Basic Supplements

Supplements are a large part of bodybuilding and there is now a thriving industry focussed on selling everything from mixes to build muscle, to pills to lose fat, to gels that claim to make your veins more prominent! While many of these products can give you an edge in bodybuilding there's also a lot of scams out there that will promise amazing results and give nothing in return. Here we'll address exactly what each type of supplement does and whether or not you need it in your life.

First of all realise that there's no such thing as a silver bullet. No matter what the label promises you're not going to see dramatic changes over night. One guy once phoned me up to ask if he should get some protein shake even though he wasn't going to the gym! He was overweight too so it really wasn't what he needed and was completely missing the point that supplements act as an *aid* to bodybuilding and are not adequate on their own to develop muscle. What they do is to capitalise on your hard work- helping you squeeze out an extra set at the gym or giving you that extra bit of protein to aid in recovery, and save you time and money hunting around for natural sources of amino acids and vitamins. That said however, you shouldn't be having supplements *instead* of a good diet but rather as well as.

As a general rule, you should avoid using supplements when it's just as convenient to use natural sources. I'd also recommend steering away from anything that makes you feel uncomfortable or generally from spending too much money. Pumping yourself full of artificial chemicals is never healthy and the money and the hassle generally outweigh the benefits other than with protein shakes and creatine.

Protein Shakes

Protein shakes, specifically the ones made from Whey Protein, are the most effective and reliable supplement for bodybuilders and if you only use one supplement it should be protein shake. Simply they act as a quick source of protein that should have between 20-30 grams of protein (depending on how much you spend), not too many carbs or too much fat, and a high absorption rate (90-100%). The bad news is that they're quite expensive ranging from \$20-\$50 or £12-£50 for a month's supply depending on the quality. Be aware though that you definitely get what you pay for with protein shakes and that the really cheap stuff is best avoided if possible.

The good news however is that one or two scoops of protein powder mixed with milk is actually generally rather delicious, tasting something like a thick milkshake. Sometimes they can be hard to mix however so I advise getting a shaker to help with that. Alternatively you can also get protein bars, or 'balls', or as an additive to sprinkle on your cooking. Instone even

have a protein 'pudding'! While bars and puddings are tasty however, they're also rather expensive for the single portion you get (a protein bar is around \$5 or £2). They are handy however for if you're travelling, though in this case a sachet of powder will do just as well. Good makes of protein powder include EAS, Maximuscle and Cytosport.

Weight Gainer

Weight gainer is like the protein shake only it contains carbs too and is high in calories. This is intended for bodybuilders on their bulking phase or ectomorphs who are having trouble putting on weight. Generally you should stick to the protein shakes; if you want to eat calories just have cake!

Creatine Monohydrate

Creatine is an entirely different kettle of fish that aims to provide your muscles with extra energy for the gym or other sports. It is used by many athletes and is another supplement that has a large following. If you only get *two* supplements, this should be the other one in your stack.

We examined the role of creatine in supplying the muscles with energy earlier (they convert used ADP or AMP back into ATP thus providing more explosive power). The role of creatine as a supplement then should be fairly self explanatory and the hope that is in taking it as a supplement, we cause our muscles to store more and have more readily available energy. An

added bonus is that through this and the side effect of water retention, it can also add an extra half and inch to our biceps with no real work. I almost find it worthwhile for this alone (though as we discussed earlier, added water retention can be bad for definition).

Studies on the energy-enhancing effects of creatine have mixed results and the long term side effects have not yet been tested. Additionally, taking creatine has been known to cause cramps for some (counter this with potassium from bananas) and is highly variable in its effectiveness from individual to individual. However, the fact that Olympic athletes regularly use it and that so many bodybuilders swear by it, suggests that there is at least some truth to the claims that it can enhance performance in the gym and on the track.

Creatine isn't tasty and you need to take a fair bit of it, but it does seem to work from my own trials and it's fairly inexpensive at \$20-40 or £10-£30 for more than a month's supply. It's definitely on 'the recommended-to-try' list.

Testosterone Boosters

Testosterone plays a large part in building and maintaining muscle and is largely responsible for the differences in men and women. It also gives men energy, ambition, confidence, a larger sex drive and even a more

impressive erection meaning an increase in testosterone is understandably highly sought after for men in general and bodybuilders in particular.

Unfortunately synthetic testosterone is also known as anabolic steroids (which we'll deal with below) but there is supposedly another way. Rather than simply filling your body with fake testosterone, testosterone boosters aim to cause your body to produce more testosterone naturally and so achieve the same results in a cheaper, more natural and more legal manner.

There are problems with this however, namely the fact that most healthy adults under the age of 60 are already producing their maximum testosterone meaning it's not possible to boost it any further. Many claim then that the supplement is worthless.

I tried testosterone tablets for around six months and found no difference in my training as expected. What I did find however was a noticeable difference in my mood, my sex drive and yes, my erection. This was surprising and suggests that my testosterone had been raised a little, even if I didn't notice it in the gym. This probably benefited my muscles too though I imagine this benefit to be minimal. Still, the effect was noticeable and pleasant enough that I did recently add them to my stack once again so I suggest you give it a go and see what you think (though be aware if you have bad skin that testosterone can also exacerbate acne).

Testosterone boosters generally cost between \$20-\$30 or £10-£20. I recommend the *American* Forza-T from Instone (the UK version had to have some of the best ingredients removed for legal reasons), or Alpha Male or Tribex from Biotest. Whichever you use though look for tribulus terrestris, ZMA and 6-OXO in the ingredients.

Energy Drinks

The bodybuilding supplements market is literally swamped by energy drinks and shots, each claiming to help fuel your workout and fight dehydration. Generally though from my experience I advise against them as they tend to make you feel a bit nauseous which actually hampers a good workout. To make matters worse I've never found any of them to be particularly effective in improving energy either. Some involve downing whole glasses of strange fizzy powder mixed with juice and rarely do they taste nice. Something like PowerAde isn't a bad idea but anything else is excessive. Good sleep, good music and a good pre-workout snack of carbs are what I advise.

Dietary Supplements

By dietary supplements I mean tablets with vitamins, minerals, fish oils or anything else. This is an example of using supplements through laziness however and you'd do better to try and find these naturally in your

diet unless you have a deficiency or an allergy or perhaps if you're going on holiday.

The More Bizarre Supplements

Above I described a few supplements that all bodybuilders talk about; if you walk into your local healthy store *these* are what you're likely to see. However the range of supplements on offer is mind boggling and there is much more out there. Here I'll list and describe a few of the more obscure options.

Caffeine Tablets

Caffeine has many bonuses including fat burning properties and some bodybuilders use it for energy too. A tablet from someone such as Prolab will contain the same amount of caffeine as a cup of coffee but will hit you harder due to the pill form and can be taken in multiples.

I myself found this to be a very unpleasant experience and found that I could literally feel my heart pounding in my chest during workouts. I also had disturbed sleep and ended up ruining my body clock to such an extent that I was almost becoming dependent on the tablets. I also experienced mild headaches - and that's as someone who drinks tonnes of tea and coffee in any given day.

A natural alternative that I use today is Guarana which is like an ‘all day’ caffeine high you take three times a day also in tablet form. It too is supposedly good for energy and fat burning but seems to have fewer unpleasant side effects.

NO Boosters

NO stands for Nitric Oxide, which these products aim to increase through the use of an ingredient called arginine (one of the amino acids from before if you’ve been paying attention). The reason bodybuilders want more Nitric Oxide is for its role in vasodilatation - a process that causes the smooth muscle cells of blood vessels to dilate allowing more blood to flow through. This then leads to more blood rushing to the muscles during a workout creating a greater feeling of being ‘pumped’ and more swelling in the muscles during a workout. This not only gives you a feeling of satisfaction but also means the muscles have a greater oxygen supply which is useful for any physical activity. Again it also has other benefits too including more blood rushing to the member which as you can imagine leads once again to larger erections. It also leads to increased vascularity (bulging veins) which as you know is actually a *good* thing in bodybuilding circles. Well known products include NO2 and NOs and opinion is fairly split down the middle. There are some alleged side effects but nothing to write home about so if you’re serious about bodybuilding and like the sounds of those benefits then try it out.

Recovery Drinks

Recovery drinks are designed to replenish the body's store of nutrients lost during a workout. There's nothing wrong with these as they're sound in theory, but a good meal and some juice will do just as good a job. Again you can get most nutrients from your diet so no need to splash out here.

GABA

AKA gamma aminobutyric acid and recently made illegal in the UK, GABA aims to improve your natural production of growth hormone. This is highly important for muscle growth and healing wounds and is achieved by tampering with pituitary gland and serotonin which also causes you to fall into a deep and heavy sleep that is also beneficial for bodybuilders for obvious reasons. The interesting thing is that you can actually 'feel' this process as it happens in the form of a mild tingling and loosening of the muscles for around half an hour.

It is also used as an anti-depressant and as a sleeping aid. I don't really like the idea of messing with chemicals in your brain and I also found that the sleepiness carried across into the next day making it difficult to train. The weird thing is it isn't even that good at getting you off to sleep and the spaced out feeling which makes it great as an antidepressant is also distracting and unsettling. So avoid. And no, if you're over 25 and your growth plates have closed it won't help you to grow taller (even if they

haven't it probably won't). It did cause in weird dreams though which were quite cool...

Human Growth Hormone

Human growth hormone, often abbreviated to HGH, is vitally important for repairing our body and building muscle as we mentioned earlier. It's power is such that it can almost turn back the ageing process, demonstrated aptly by advocate Stallone who seems to be getting younger each year while maintaining the shredded physique he had when he was in his twenties.

Unfortunately it's illegal in the UK and in most states of the US and comes with a host of unpleasant side effects including enlargement of the organs and even some areas of the face! So it's pretty much off limits, though I have my eye on it for the future when my days are numbered anyway.

Your 'Stack': 'Cycling' and 'Loading'

Once you've settled on which supplements you're going to use (and which drugs if you're so inclined) this then becomes your 'stack'. A stack might consist of simply a protein shake and a creatine, or it might contain a plethora of different powders and tablets.

Taking supplements however isn't simply a matter of taking a pill twice a day and there can be a lot of ritual involved in your routine if you have a few. A 'loading phase' is a process advised for some products such as creatine that involves taking a higher dosage for the first few days in order to create a 'store' within the body. Meanwhile 'cycling' is advised for others, such as testosterone boosting, and involves taking the tablets for say three days before having a two day break and then resuming again.

If you have a large stack then all this can get quite complicated and it can help to keep a diary of some sort and maybe a 'pill pot' to take with you when you're away from home.

A Note on Bodybuilding and Drugs

Drugs are also inescapable in bodybuilding and it's a sad fact that the majority of bodybuilders at Mr Olympia and the other big competitions are all on steroids and other illegal performance enhancers. While the use of steroids is prohibited, the IBF (International Bodybuilding Federation) currently test in such a way that it's fairly easy for users to avoid getting caught - a flaw that's probably designed to keep large audiences paying to see 'monsters' on stage. There are 'natural' competitions which more tightly monitor the use of steroids but they don't draw the same audiences or media attention as the others.

If you take up bodybuilding then the issue of drugs is hard to avoid and many might be tempted. Realise however that even steroids aren't a quick route to success and if you don't train hard you'll still only see minimal affects. It's also certainly possible to get more than big enough without engaging in the use of illegal substances.

Essentially, anabolic steroids are synthetic hormones, specifically testosterone. Earlier we mentioned the benefits of extra testosterone and this is one way that you can ensure you feel those advantages. Additionally you can use 'site location' to inject steroids directly into the muscle to stimulate growth in a specific area.

However the side effects are also exaggerated and include: acne, intense bouts of anger known as 'roid rage', heart problems including risk of risk of cardiovascular disease or coronary artery disease and shrivelled testicles. Worse, taking steroids means you have to inject yourself, which if you have a bit of a needle phobia like myself should be off putting enough on your own and you'll end up with unattractive marks on your arms. Oh yeah and it's highly illegal.

Additionally, while all food is manufactured to an extent and 'natural' is a term that's hard to define, being a 'natural' comes with a sense of pride and achievement that can be cheapened by drugs. There are

few greater compliments for me than when I'm accused of being on steroids
and I can smile smugly knowing that it's all down to me.

And Finally

Example: Three Days of Good Practice

<u>Monday</u>	
9am	Creatine
	A Bowl of Fruit and Fibre
	Protein shake
	Tuna paste on toast
12pm	Baked Potato with beans
	Banana
1pm	Workout
2.30pm	Protein shake
	2 eggs
	Apple Juice
4pm	Tomato tuna pasta
	Yogurt
7pm	Chicken with rice and steamed vegetables
	Fruit Salad
8pm	Sunflower seeds
10pm	Glass of red wine
11pm	Protein shake
	Creatine
	Bed

<u>Tuesday</u>	
9am	Creatine
	Grapefruit
	Protein shake
	Scrambled egg
12pm	Tuna fish sandwiches
	Banana
1pm	Workout
2.30pm	Protein shake
	2 eggs
	Apple Juice
4pm	Chicken Soup
	Grapes

7pm	Carbonara
	Fruit Salad
8pm	Sunflower seeds
10pm	Glass of red wine
11pm	Protein shake
	Creatine
	Bed
<u>Wednesday</u>	
9am	Creatine
	A Bowl of Muesli
	Protein shake
	Tuna paste on toast
12pm	Boiled Eggs with soldiers
	Banana
1pm	Workout
2.30pm	Protein shake
	2 eggs
	Fruit smoothy
4pm	BLT
	Crackers
7pm	Chorizo chicken
	Mashed banana
10pm	Glass of red wine
11pm	Protein shake
	Creatine
	Bed

Take-Home Lessons

- Diet is highly important in bodybuilding
- Everything we eat, we eat for a reason
- Fads come and go
- Increase protein, decrease fat
- Do not aim to 'eliminate' carbs
- Consume 1 gram of protein for every pound of bodyweight
- Consume protein immediately after each workout

- Consume more than one source of protein at a time where possible
- Protein shakes and Creatine are useful supplements
- Get creative with your options
- Your diet is unique to your body type and your aims
- Leniency doesn't hurt from time to time

Concluding Notes

So there you have it, everything you need to know to get started on your way to great bodybuilding nutrition. As you can see it's really quite simple, just a matter of increasing protein and limiting fats and simple carbs while maintaining a balanced diet. Overtime you'll find that adapting your diet becomes second nature and you'll find you begin to crave the things you want to eat and stop needing chocolate and greasy takeaways.

If you are having a tough time though then maybe give yourself a break from time to time. As I mentioned earlier a pudding every two days is no bad thing and some even like to give themselves a day off to eat anything, usually on Sundays. Remember it's better to slack a bit than to get frustrated and give up entirely so don't let it run your life!

In fact don't get too hung up on it at all. While following the advice in this book to the letter will get you the fastest gains, if you're just a casual bodybuilder who wants to get in better shape then you only really need to tweak your diet a little bit. Even if you don't change your lifestyle

at all going to the gym will have *some* effect, it's just that some of that hard work will be wasted when you could have reaped more rewards from it.

In conclusion then, absorb what's useful and reject the rest and keep looking around for new studies and pieces of advice. Keep your eye on the prize and you won't go far wrong. Good luck!