

Get SHREDDDED

4.0



FITTR

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First of all, let me congratulate you.

You wouldn't have taken time to start reading it if you were not ready to change.

This shows you're ready to begin your transformation journey.

JC

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DISCLAIMER

Be informed that this book is solely written based on my personal experience and I, in no way claim, that the information in it is 100% verified, as there are more and more researches coming every day, discretion is advised. Furthermore, nothing contained herein is to be construed as Medical Advice. Use of any supplements/ drugs and exercise regimen should only be done under the directions and auspices of a licensed physician. The writer does not claim to be a medical doctor nor does he purport to issue medical advice.

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Introduction

It was 2013. It had been almost 6 years then that I had been working out on and off, based on what “experts” have been telling me. However, after marriage, I put on a lot of weight! Happens right? Office stress and managing the house budget further deteriorated my condition. I was not able to go to the gym for almost a year, resulting in my muscle mass getting lost while the fat took a leap forward. However, in November 2013, after changing my stressful job, I started going back to the gym again. I weighed around 84kgs with a body fat of about 16%. This was the time Krish-3 was being promoted in India, and there were posters of Hrithik Roshan in every nook and corner. Aesthetics were in! I too wanted to get that chiselled look and beach body which I could have throughout the year rather than bulking for months and then again cutting back for months. I was tired of that nonsense.

So, I knew right then what I wanted, and I had a target in mind too, but I did not know how to reach there. I did not have any mentor. All I knew was the typical stuff everyone knew bodybuilding fundas that are prevalent through hearsay for eg., “Creatine is not good, it damages the liver and causes bloating, and water retention”, “Heavyweights for gaining mass and lightweight for losing”, “More reps are good for cutting...”

And other hazy misinformation in circulation. I didn’t even bother questioning these ideas – It had worked for me so far after all! I had a decent body. Using those same ideas from hearsay, I knew I had to lean out first to reduce my fat, so I thought to myself, “Let’s do cardio every day along with weight training.” And

84kgs weight
16% bodyfat

2013



ONE YEAR LATER



2014

73kgs weight
7% bodyfat

so, I cut my calorie intake. After around 3 months, I looked like this. *

I was about 73 kgs now, so I lost a total of 11kgs, which for most people would be amazing. But for me, it was complete a disappointment!

I checked my body fat levels, they were only down by 2%. While I had shed 11 kgs of body weight, I had lost only 2% body fat! Then what exactly did I lose? Was it muscles??

Bang on! What I had lost was a lot of muscles! And on top of that, I had messed up my metabolism, getting to a position where I was barely consuming 1500 calories a day! Anything I was eating was converted to fat, and that made me reduce my calories more and more to keep off that fat. All in all, it was a vicious cycle I was on, and my physical condition and metabolism kept declining until I came across this article that changed my whole perspective. Once the truth registered in my mind, it gave rise to a tremendous urge to learn more about how the body responds to food and exercise. Then all I did was read more and more. And as I did so, I realized the degree to which misinformation and misconceptions were prevalent in the current scenario & how these so-called “experts” were messing up an entire generation of health enthusiasts by feeding them wrong information! That was where the foundation to my whole vision was laid - the foundation that led directly to this document you are reading.

This complete guide is built on my personal experience, my learning, and my journey from 14% body fat to 4.6% body fat. Neither did I do anything stupid, nor was I dehydrated. It is believed that bodybuilders are very weak on the day of the competition. Hey, I did 39 strict pull-ups and a workout too!

But enough of me, let's get to you now.





BASICS

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The Basics

You have to understand one thing – we're not actors who roam around with their personal chefs who cook us personalized high protein meals! We don't even have a lot of money to spend on all sorts of pre-workouts, fat-burners, casein, hydro- whey, and all that high-end expensive stuff. I, myself, was an ordinary middle-class husband and a father, who worked for a software company. So, there are none of those luxuries that glamour brings, neither do you need any of that. We learn to do the best with whatever we have available in our budget.

Before getting to it, please understand a few things very clearly:

1. **Fitness is science.** If you're getting desired results without needing a proper plan for nutrition and workout, then good for you, you can stop reading this document right away.
2. To lose weight, you have to take lesser calories than your **Total Daily Energy Expenditure (TDEE)***, to gain weight you have to take more calories than that. Simple and logical.

That's it, and there is absolutely NO WAY around these two guidelines. Let science guide your transformation journey, not bro-science.

I figured the best way to tell you everything would be to start from the start. It may be boring initially, as it is all about the basic science behind our health, but trust me, you'll see almost 99% of the things are relevant. So please don't skip anything and if possible, re-read it multiple times. Good luck!

Metabolism

Your body is like a car – it needs fuel to run. However, unlike a petrol or diesel car, your body can use multiple fuels. In simple words, the process in which your body uses the fuel to provide energy to your body is called **Metabolism**.

The food contains ingredients which your body can use as fuel. But even this fuel is not yet in the form of energy that can be used immediately! If I give you a fully charged battery, try using it for baking an egg. Possible? No.

Having an energy-containing fuel does not mean that it is ready to use.

It all starts with food, and its **Metabolically Active Ingredients** –

- **Fat**
- **Fiber**
- **Long Carbohydrates**
- **Short Carbohydrates** (Sugar in other words)
- **Protein**

Fat contains 9 calories (kilocalories) per gram, and Carbohydrates and Protein contain 4 calories per gram each. While fibres do contain about 2 kcals, they are critical in making digested food leave your body. They help in digestion as well. Here's a more straight forward

presentation:

1g of Fat = 9 Calories
1g of Carbohydrates = 4 Calories
1g of Protein = 4 Calories

So far, we have discussed the fuel sources, but what exactly are these fuels that we've been talking about? What do they comprise?

Let's have a look: -

Your body can extract at least the following three kinds of fuel from what you ingest:

- | | |
|----------------------|---|
| 1. Fatty Acids | 5. Fibres (used for excreting ingredients) |
| 2. Glucose | 6. Long carbohydrates → Shorter → Glucose |
| 3. Amino Acids | 7. Shorter carbohydrates (sugars) → Glucose |
| 4. Fat → Fatty Acids | 8. Proteins → Amino Acids |

We know about the fuels now. It's time to understand how they are stored in the body. Different fuels are stored in various forms, amounts and in different locations.

1. Fatty acids

Almost any cell can store fatty acids, they can also be transported directly in the bloodstream - no conversion is needed. If it turns out that you do not have enough cells to store all fatty acids, your body can quickly generate specialized 'adipocytes' (fat cells), which put together, form the so-called '**adipose tissue**'. As can easily be observed, the body easily stores tens of kilos of fat. As each kilo of fat can power an individual for many days, an average person actually carries enough energy in the form of fat to survive for a month. An overweight person often has enough fuel to survive for many months! But hey! All this doesn't make fat terrible. Just remember, you can survive without carbs, but without essential fats, your brain will simply stop working. So never ever cut down fat entirely from your diet. You need essential fats every single day for your survival!

2. Glucose

Glucose is a tiny molecule and quickly travels from cell to cell. This makes it easily transportable. This mobility is not very well suited for actually storing sugars, so for storage, sugars are converted to glycogen. **Glycogen** is a molecule which consists of smaller glucose. This size and aggregation make it easier to store glucose.

As glycogen, sugar is stored in the liver and in muscles. Both liver and muscles can convert glucose to glycogen. The liver can convert glycogen back to glucose, but muscles cannot. Muscles can, however, use glycogen directly if needed, or release it into

the bloodstream.

What is very notable, is the limited amount of sugars which can be actually stored. Ingested glucose and small carbohydrates like table sugar travel nearly directly to the bloodstream. While this allows the body to rapidly utilize ingested sugar, what this eventually means is that the amount of glucose allowable in the blood can be easily exceeded.

People of average weight will generally have in the order of 5 grams of glucose in their blood at any specific time. Levels above 10 grams are considered too high.

This means that a regular candybar, which contains approximately 30 grams of sugar, actually poses a great challenge to the body.

When glucose arrives (via the food we eat) over 10 grams, the body releases insulin, which instructs the liver and muscles to absorb glucose from the blood. Furthermore, all parts of your body, which can run on glucose start doing so as well. Consequently, the burning of fatty acids for energy production is reduced.

Beyond the bloodstream, the body can store a few hundred grams of glucose. Amounts differ with the actual body mass and the physical condition of each individual body but are generally in the order of approximately 150 grams. The glucose storage can usually be depleted in a single day, making it a short-term fuel.

Complex carbohydrates cannot be transferred directly to the bloodstream and must be converted first, which can take quite some time. That is actually a good thing because this delay ensures that the blood isn't overflowed with glucose.

Remember, insulin spikes are bad as they indicate that your body does not need to burn fat. So fat loss stops right there!

3. Proteins and Amino Acids

These are found throughout the body, either bunched up as proteins or freely available amino acids. They are the building blocks and can be used to form muscle fibres, or cells, or lots of other things, all of which can also be broken down again into proteins or even amino acids. It is a reversible process. Proteins are broken down into amino acids in the intestine and then brought to the liver, where they are partly reassembled and partly released into the bloodstream.

Compared to glucose, a lot of protein is available for use at any one time. The blood alone will contain in the order of approximately 100 grams. Compared to either glucose or fatty acids, amino acids also have *vast* uses. It can also be stated that you ARE a significant aggregation of amino acids! They make up your DNA and mostly everything else that is interesting in your body.

I know it's all so scientific, and you're waiting to get to the part where all the 'real' action begins (the info that you can get your hands dirty with), but hold your horses for that! Whatever actionable items will come, comes precisely out of this scientific information and is built on this information alone. So, don't make the mistake of skipping these facts and figures! Keep reading.

The Actual Energy

Now, you have the petrol ready in the storage tank, but is that enough for your car to start? Certainly not. You'll have to trigger the start button, and that is when the petrol combines with air and is ignited in the combustion chamber, resulting in the release of a short burst of very powerful energy which will drive the pistons. In case of body, this energy is called **ATP (Adenosine Tri-Phosphate)**

As I mentioned earlier, your body stores its energy in the form of the three different fuels. To be used, these fuels must each be converted to ATP. This can be done in lots of places.

Glucose

Glucose, stored in the form of glycogen, can be converted into ATP by all cells containing mitochondria, which is the power-producing unit of the cell. Nearly all cells have mitochondria, which means almost all cells can convert glucose into ATP. Muscles can even burn glycogen directly, without needing to convert it first into glucose.

Fatty acids

Pretty much the same goes for the site of metabolism of fatty acids, with the very notable exception of the brain. Fatty acids cannot cross the barrier into brain cells.

The brain, however, uses loads and loads of energy in the form of glucose.

Fatty acids, however, can be converted to ketones, which can partly power the brain. But only partially. It still needs glucose, and that glucose can come from protein breakdown (from your diet, or if you do not ingest enough protein, then by breaking down the muscles)

Amino acids

Can be converted by the liver into glucose, or even into fatty acids.

Almost everything can be converted to everything else in the body. But not always and not everywhere. Important conversions are:

(A) From Glucose to Glycogen to Stored Fat

As mentioned earlier, this is done when your sugar intake has exceeded the storage capacity. This happens a lot.

(B) From Stored Fat to Glucose

Creating glucose from non-glucose parts is called Gluconeogenesis, and this is very important. It helps power the brain using long-term energy storage (fat).

Yes, that's all you need to know about fuels and storage for now. But, the exciting stuff is yet to come. Before that, you might want to know where and how this ATP or energy is used in

the body? And what about why you feel hungry even though your body has a lot of stored fat in it?

Why Do I Feel Hungry?

Well, energy is clearly spent when you do physical work, but as it turns out, a vast majority of work is latent – it happens anyhow without you noticing it. This energy expenditure is measured by what is called the **Basic Metabolic Rate (BMR)**, and trust me, it is a LOT.

To take an example, the body spends energy on pumping your blood around, to different stations. Every hour, about 80 litres of blood pass through your kidneys. Furthermore, the body needs to do work to keep you warm enough. And then there is the brain, which always requires a lot of energy to keep background processes running, even if you are not actively ‘thinking.’

You’ll be surprised to know that our ‘active’ functions (doing everyday things) actually require much less energy as compared to the BMR. However, you can quickly raise your BMR by exercising – while the exercise itself does not really cost a lot of energy, the physical infrastructure created for it will.

The body does not always expend energy the same way and in equal amounts.

The body’s strategy, in general, appears to be a lot like a modern laptop: to go on as long as possible with the available fuel. Such an approach boils down to spending a lot of energy when it is abundant and powering down (battery conservation mode) in its (perceived) absence. It also means whining for more energy even when a lot is available, just like a laptop claiming that its battery has run out when in fact it has hours left!

True, the body appears to have quite an attitude! As mentioned before, most healthy adults carry enough energy with them to survive at least a month. Most of us, in fact, move around considerably more. While ‘surviving’ sounds big, here is what it really means – it could probably be safely said that not eating for a whole week would not even tax the prowess of our metabolism.

Yet after skipping lunch, you will probably feel starved by the time you eat dinner. How come?

Well, it’s a strategy. The body appears much attached to its energy stores. So connected that most of us eat blindly well above our required caloric levels, and grow blissfully overweight – yet still feel hungry if we miss a single meal!

Strategy in detail – The strategy employed determines how energy is spent in the body, and how a demand for more is created. The demand part is natural.

Whenever the body runs short of one kind of fuel, it sends unmistakable signals that you should eat, even though it could also deal with the situation by conversion of another plentiful source into energy. Talk about greed!

Regarding energy expenditure, the human body is generally described to be in any of these

three states at any point in time: fed, fasting, or starved.

The **'Fed State'** starts sometime after eating and continues for several hours, after which the metabolism is said to be in the **'fasting'** state. When asleep at night, for instance, the body is fasting. (Which is why we take 'break-fast'). Starvation only occurs when eating does not happen for an extended period.

Now, when food has not arrived for a while, the body starts conserving energy in preparation of perceived hard times ahead. There are a lot of ways to do so -

Lowering the body temperature a bit, neglecting body maintenance, slowing down the brain etc.

This was about Food and Energy, and it was vital for you to know.

We've been discussing food for so long now, aren't you wondering where water comes into the picture?

Role of Water

Let's start by discussing blood. The blood serves as a medium for taking fuel to the cells, but it also works to transport away stuff the cells have discarded. What this means is, if left uncleansed of these waste products, the bloodstream would quickly become polluted. So, at least three organs are working on cleaning it up: the two kidneys and the liver.

The Kidneys function primarily as sophisticated filters. As long as things are kept wet enough, they can remove waste from the blood by osmosis. This waste may be further treated and is eventually sent to the bladder for excretion out of the body.

The Liver is a much more complex organ capable of advanced-level functions. It actually converts a lot of waste products into usable substances again. It can also break down molecules which cannot be filtered by the kidneys. Almost all energy conversions taking place in your body are centred around the liver.

The kidneys primarily need water to function - they need to be wetter than your blood. If that does not happen, the waste-laden blood is not filtered, and the job is left for the liver. The liver then becomes occupied doing that and has less time or capacity left for conversions. When this occurs, the body may actually enter a 'starvation' state. The liver is unable to furnish the brain with sugar, and no other energy sources are available. This quickly leads to dizzy spells and general incompetence.

Effectively, what this indicates is the overwhelming importance of staying hydrated. Water is a brilliant blessing to our body, although most of us seldom realize its significance. **Staying hydrated has tremendous health benefits.** Not just for your skin, or your metabolism, or your digestion, but for optimal functioning of vital body processes.

Conclusions

All good things come to those who wait. You have been a patient reader all this while, so this is the moment you've been waiting for. All the science we have discussed is no good if we cannot put it to some good use for our own benefit. Here are a few pointers I would like to state outright:

To lose weight, we must make sure that the following conditions are met:

- Energy intake must be decreased from maintenance levels, and energy has to be used **and not stored** in the body.
- Energy use must not be diminished at any time. Instead, it should be increased through efforts.
- Stored fuels should be able to deliver the missing energy that the body needs.
- The body is a simple container – to lose weight, more energy must be expended than is added. If done wrong, eating severely less (starving yourself) will actually increase your weight in the long run!
- Drinking plenty of water will actually allow the liver to do the conversions and burn fat, so if you look at it this way, drinking more water does help burn fat.

I have divided the book into three main parts, Nutrition, Training and Supplements. I will discuss nutrition first, then training, finally followed by supplements in the order of their importance.

NUTRITION



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Nutrition

Hard work in the gym isn't something uncommon. Everyone works really hard, and yet they don't get results. I'll share my personal experience with one of my clients, Pavan. When Pavan first came to me, he was working out for two years and had an okayish physique, the stomach was flat though, and the definition was lacking. He was at around 12% body fat with a muscle mass of about 41 kgs. After 4 weeks of following my diet, he was at 8% body fat and muscle mass of 43 kgs, and he could see his abs. What changed? Diet, my friends, diet!

(Do not heavily rely upon these statistics mentioned above. Use it just for reference because the machines that check your body composition are never 100% accurate)

To start with, you have to know your basal metabolic rate (BMR) or your resting metabolism.

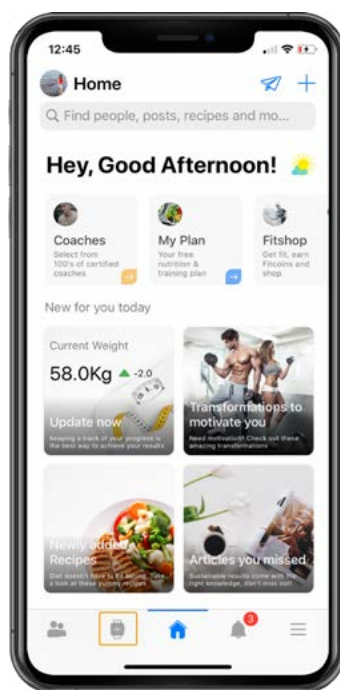
Calculating the BMR

First things first, you need to calculate your BMR, I hope you know why we're doing this? If not, please go back and reread it.

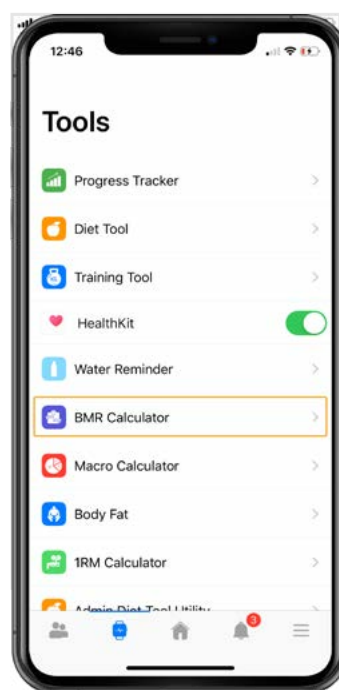
You can download the FITTR app and use it to calculate your BMR. You just have to enter a few basic details. Refer to the screenshots provided here:



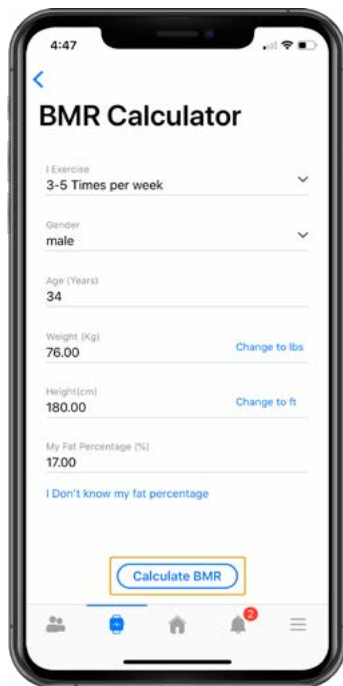
Open FITTR app



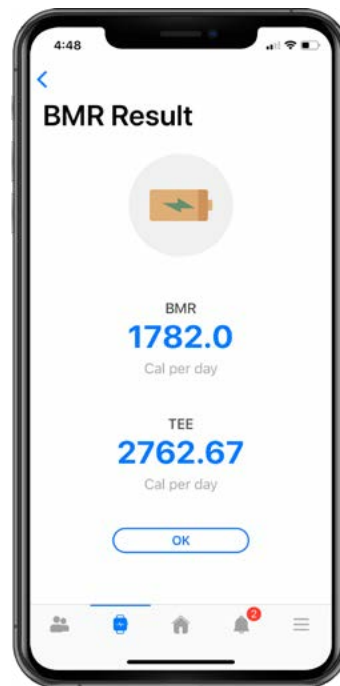
Go to Tools



Go to BMR Calculator



Enter your details
& click on "Calculate BMR"



This is your result

Alternatively you can use Harris-Benedict Equation. Once you know your BMR, you can calculate your Daily Calorie Needs based on your activity level. To determine your total daily calorie needs, multiply your BMR by the appropriate activity factor, as follows:

Calorie-Calculation

For sedentary (little or no exercise)

$$= \text{BMR} \times 1.2$$

For lightly active (light exercise/sports 1-3 days/ week)

$$= \text{BMR} \times 1.375$$

For moderately active (moderate exercise/sports 3-5days/week)

$$= \text{BMR} \times 1.55$$

For very active (hard exercise/sports 6-7 days a week)

$$= \text{BMR} \times 1.725$$

Total Calorie Needs Example

If you are sedentary, multiply your BMR (1745) by 1.2 = 2094. This is the total number of calories you need to maintain your current weight.

Once you know the number of calories needed to maintain your weight, you can easily calculate the amount of calories you need to eat to gain or lose weight.

Since our goal is to get shredded, we'll have to reduce our calorie intake. Those looking to

gain weight can follow the same routine, except that they have to increase their calorie intake above the TDEE.

Remember, if you don't count your calories, your results won't be quantitative, and you'll have to rely on hit and trial, so I suggest you do count your calories. Most of the food we consume has a label indicating both macro (Protein, Carbohydrates, Fibre and Fat) and micronutrient content (Vitamins, Minerals).

Lean Mass Calculation

Now we all know how to calculate our BMR, but it is to be noted that before calculating the BMR, we should see the value of our body fat. Basically, our body fat percentage decides if we need to calculate our BMR by considering our total body weight or our lean body mass. Lean Body Mass is basically the fat-free mass in our body. It's also not your muscle mass so kindly don't get confused between the two. Generally, if your body's fat percentage is more than 20 (in case of men)/28 (in case of women), it is advised to consider the lean mass to calculate the BMR.

There is a straightforward formula that is being used to calculate the lean mass, i.e.:

$$\text{Lean Mass} = \text{Total Body Weight} - (\text{Body Fat \%} \times \text{Total Body Weight}).$$

For example, if a person is weighing 100 kgs and has body fat % of 40, then his lean mass would be $100 - (0.40 \times 100) = 60\text{kgs}$. So the above person should calculate the BMR by putting his lean mass, i.e. 60kgs instead of total body weight i.e. 100kgs.

Now I'd be giving out my personal diet but what worked for me, might not necessarily be working for you.

You know the saying "give a man a fish, you feed him once, teach a man how to fish, and you feed him for a lifetime". I am going to do the latter. Many people are going to hate me for this.

I will discuss the following diets. Ratios for the macronutrients (carbs, protein, fat) are mentioned in the same order. Remember, these ratios aren't the most significant factor in determining your gain or loss of fat. What matters is your overall intake and overall expenditure.

However, these ratios and different diets help you follow a diet well, and has other aspects to it:

Low Carb Diet (25:35:40)

This would be required to trim excess body fat while making slow lean gains. It is useful. However, it takes a lot of time to show results
(ideal for anyone new)

Zone Diet (40:30:30)

This is the diet that has higher amounts of carbohydrates. This is ideal for the ones who absolutely love carbs. This is also perfect for the people who have a high tolerance towards carbohydrates which is commonly seen among the people with higher muscle mass.

Depletion Diet (Dynamic)

To reduce body fat% dramatically and bring definition to your muscles in a short period (not for people with body fat above 10%). This diet focuses mainly towards glycogen depletion and also reduces the subcutaneous water retention to a certain degree.

Ketogenic Diet (5:35:60)

A ketogenic diet will also target your body fat levels, and like the depletion diet, it will also reduce your water retention to a large extent. It engages your body in producing more ketones (will discuss in the diet sections) hence the name, Keto Diet. It is an ideal diet to start with if your goal is fat loss but would be sub-optimal for muscle gain.

I will also cover carb loading in brief. However, it is a very complex subject and a lot of research is still going on about it.

Warning: Depletion diet requires immense knowledge and understanding about body composition and should only be attempted if you're an advanced level athlete and are below 10% body fat. It can screw up your metabolism if done wrong, not to mention causing muscle loss and hormonal imbalance.

Before you start planning your diet, you have to calculate your BMR, as mentioned before. Figure out how many calories you're going to consume to reach your target goal and then based on the diet, you have to divide your macronutrients into ratios.

Remember, the BMR we calculated above only provides a baseline, many people have the metabolic rate above it or under it and therefore BMR should not be considered a universal indicator of one's metabolic rate.

Low Carb Diet

Since we're looking to get shredded with low carb diet, our **Fat:Carbs: Protein Ratio** should be low in carbs and balanced protein and fats depending on the rest of our intake. A **40:25:35** F:C:P ratio is decent for this in most cases. Of course, there will be a slight variation, but that is fine. It's just to give you an idea and stress on the fact that your carb intake will be the lower while fat intake will be the highest (keeping protein constant).

How does it help? Fats help in satiety. And this diet will help you to stay satiated, with enough fibre of course. Also, it's suitable for anyone who's insulin resistant or diabetic (more on this

later. Do not experiment on your own if you are diabetic. I suggest an expert handle such cases.

To help you understand more efficiently, let me give you an example.

I am 28-year-old and 5'10 weighing 75 KG, after calculating my BMR (say 2000) I estimate my daily calorie need using the Harris-Benedict equation (mentioned above), and my calorie intake comes to about 2300 calories a day considering I do light exercise (just an example).

Now to start losing weight (fat, not muscles), I will design my diet in such a way that I will have a macro ratio of 20:45:30 in a calorie deficit mode. How many calories you need to reduce? It's up to you. However, the body does not like dramatic changes, and it retaliates dramatically, leading to loose skin, water retention etc. (will address these problems in later part). It's better to lose weight gradually than dramatically. So I'd suggest a cut of 200-300 calories in the first couple of weeks to start noticing a change. And then further down by 400-500 in subsequent weeks to start fat loss and turn the body into a fat-burning machine. You should never reduce more than 1000 calories, as it would most probably slow down your metabolism.

Protein has 4, Carb has 4 and Fat has 9 calories per gram.

So if I were to receive 2000 calories in a day, I would use the macro ratio of 40:25:35 to calculate my macro in grams. Here, use free tools from [FITTR](#) to make that more straightforward for you.

All you have to do is enter the calories and then select the ratio. You can enter rate manually as well, in my case, I calculated using the above formula. I get the following: 125gm carbs, 175gm protein and 89gm of fat.

Now it is tough to find food which has only protein or carb or fat alone. Most of the meals have a mix of all. In this case, you can look at the labels or use Google and a little bit of brain to find out what combination will give you the above ratio. Another app like *myfitnesspal* can also help. You can use www.indianfoodfacts.com as well.

My Personal Diet

So by now, you must have understood that everyone owns a different car and I have my very own car. In this section, I'll tell you about how I fuel and maintain my car.

Note that your car is different, so do not apply these to yourself. However, here you go!

I try to keep things simple. The taste doesn't really matter to me as long as I am getting the desired results. Now some people won't be able to do that. I urge people to start a diet which they can sustain in the long run rather than copying from others for a short period only to eventually give up after getting frustrated.

Here's what I mostly eat:

I use eggs as my staple for protein, brown rice and oats for carbs, and nuts and flaxseeds for fats.

Keep the staple the same, and you have the flexibility to play around.

For example, if I have to reduce my caloric intake, then instead of eating 100 gm brown rice, I'll eat 50gm, same for protein and fat. Monotony is a part of the deal, but don't forget - you cannot achieve what you desire by sitting in your comfort zone - you have to go walk the hard path!

And from my personal experience, it gets more comfortable with time. Setting a goal, of course, is very important. In my case, it was Hrithik Roshan (huge fan!). I wanted a lean shredded body like him. I am not quite there, but perhaps I do have teeny weeny progress in that direction.

FOOD	CALORIE	PROTEIN, CARBS, FAT
Around 10 AM 1 Scoop Protein Shake	121 cals	25gm protein 3 gm carbs 1 gm fat
Around 2 PM 5 Whole Eggs 1 Bowl Spinach 150gm Mct Oil 1Tbspn Fat Free Curd 100gm	$350+80+130+40$ = 600 cals	30gm protein, 15gm carbs, 45gm fat
Around 6 PM		
AROUND 8PM POST WORKOUT 2 Scoops Protein	242 cals	50gm protein, 6gm carbs 2gm fat
AROUND 9 PM 1 Bowl Spinach 150gm Mct Oil 1Tbspn Fat Free Curd 100gm Brown Rice 30gms	$80+130+40+150$ cal = 400 cals	Around 45gm carbs, 20gm fat, 5gms protein
AROUND 10:30 PM 200Gms Boiled Chicken(Breast) 6 Scrambled Eggs	$220+102$ =322 cals	60gm protein, 5gm fat
1 AM Sleep		
TOTAL	1685 cals	170gms protein, 69gms carbs, 73gm fat

Alright, so this is my diet for the entire day, and you can see that the above diet is not really perfect and is short of 2000cals - This is to give you an idea. As I mentioned earlier, the aim here is to teach you how to catch the fish instead of feeding it to you. I'm sure you can now design a diet plan for yourself.

If you are curious about the high amount of green vegetables in the diet, here's the reason: First, they are very less in carbs/calories and give you a feeling of fullness, also known as satiety. So if you are eating in a deficit, fibre helps you stay full even at lower calories. And second, they provide you with a high amount of dietary fibre which is required for proper digestion of your protein. So please do not ignore fibre in your diet or it might lead to constipation or dehydration.

You can use the following table to choose your staples.

PROTEIN	CARBS	FATS	FIBRE
Chicken	Green Vegetables	Paneer	Vegetables
Eggs	Fruits	Yogurt	Sprouts
Fish	Rice	Cheese	Fruits
Whey Protein	Legumes	Olive Oil	
Tofu	Sprouts	Flaxseed	
White Mushrooms	Banana	Fish Oil	
Paneer/Cheese	Wheat	Nuts	
Soy beans/chunks	Quinoa	Coconut	

This limited list is only for your reference (in no particular order). There are several others you can choose from.

Zone Diet

Simply change the macro ratio in the above diet to 40:30:30 and it becomes Zone Diet for lean muscle gains if you stay on a small surplus. However, if you keep the total calories on a deficit, it will help you drop your body weight. You can introduce more carbs like oats, brown rice, sweet potato etc. It is always a good idea to consume carbs around the workout period. Also, I suggest you have carbs around 1 to 2 hours before the workout. What really matters is the intake and your expenditure though. The macro ratio is simply for better adherence. Choose whatever suits you. And what really helps you to lose fat would be your resistance training. So make sure you don't skip your exercise.

Depletion Diet

Warning: Following a depletion diet without proper know-how can lead to severe consequences. You've been warned. Depletion diet is no child's play!

You will need an iron will and a rock-solid determination to complete two weeks of this diet. I would not suggest extending it beyond that period for multiple reasons, including but not

limited to hormonal damage, poor metabolism, and regaining the weight. So if you do it, do it 100% right or do not do it at all.

It's called a Depletion Diet because you will deplete your body of carbohydrates and sugars, which will leave you with fat as the only available option in the body compelling it to make the "Switch" thereby allowing body to use fat as its primary fuel (of course, coupled with the right resistance training and proper protein intake)

Once again, I am not going to give you a magic formula. The idea here is to teach you, to help you understand how things work so that you can design your own diet. Now let's set a few things straight.

Your body, including your muscle tissues, is 70% water!

Your muscles are not as big as you think they are. They appear big at any point of time as they are holding a lot of glycogen and water in them. Generally, 100 gm of your lean muscle tissue will hold up to 2 gm of glycogen, and each of these 2gm of glycogen will further associate itself with around 3 grams of water.

So if a person has 30kg of lean muscle tissue, i.e. 30,000gm of muscle tissue, the muscles will store up to 600gm of glycogen which will further store $600 \times 3 = 1800$ gm of water. That's 1.8 kg of water.

People who start with a depletion diet often get confused when they see their weight dropping initially. It is this water glycogen weight that shows a massive drop initially. Even though there is no fat loss, you can lose up to 2 to 5 kg of your body weight at the beginning of the diet depending on your lean muscle tissue and water storage capacity.

Feeling a bit disappointed? You shouldn't be! It is actually not a bad thing. If you are into contest prep, you will realize how this water and glycogen manipulation can make you stand out in the crowd (Has to do with bodybuilding. Others can ignore).

Well, let's get deeper.

So now you know that proper fat loss is not really an easy game and to start seeing any results, you will have to get your basics right. And that my friends, is the main idea behind any diet, be it Atkins diet, or low carb diet.

One way of doing that would be to gradually reduce the caloric intake. But returning to depletion diet, the goal would be to gradually reduce the carb intake every week or few days, so that eventually our consumption is less than 20 gm per day, and simultaneously, we'll be supplementing with enough protein to make sure muscle loss is minimum. And don't worry if your muscles appear flat, it's because your muscles are getting rid of the excess glycogen and water. They will fill out once you're back to your regular routine.

Also, the initial few days of carb depletion will be very challenging as your body will struggle

to adjust with lower energy supplies. Remember, at this point, it will be reluctant to use fat as an energy source. However, once your glycogen levels are completely depleted, you will experience what is called “the switch,” i.e. your body will start using fat, and you will feel a tremendous surge in your energy levels. This should happen typically during the second week. The key is to keep pushing through the first week.

The following is a sample depletion diet which I use. This is what I personally use, if you compare this with my regular diet (earlier chapters), you will notice that I have eliminated all source of carbs here except spinach (since we need dietary fibre at all times and the carb content in vegetables can be ignored).

I agree that this is neither an ideal diet, nor is it adequately balanced. But then, I’m sharing it only to give you a rough idea. Now that you know the concept, I am sure you can come up with a diet which looks perfect for you. You can even add other vegetables and protein sources in it.

FOOD	NOTE
AROUND 10 AM 1 Scoop Protein Shake 1 Tbsp Flaxseed 4 Egg White Omelette	During the first week you can have brown rice as a measure of your carbs and you can gradually keep reducing it. E.g, 100 gm, then 80, then 60 and so on and during the conditioning week, no brown rice.
AROUND 2 PM 8 Egg White Scramble 1 Bowl Spinach 200gm	
AROUND 6 PM 4 Egg Whites	
AROUND 8 PM POSTWORKOUT 2 Scoops Protein	
AROUND 10 PM 8 Scrambled Eggs 1 Bowl Spinach 200gm	
12 AM 1 Scoop Protein (depends)	
1 AM Sleep	

Please note that you will have to drink more water than usual. Since your muscles will lose glycogen and consequently water, you will continuously need to drink Water to replenish and keep them hydrated.

Let’s move on to another crucial diet.

The Ketogenic Diet

Disclaimer: Now, the diet I am going to discuss here, you should not consider it the only option to fat loss. Though it has many benefits, but to some people, sustaining it for a long time can be a major issue. You have to remember, 'calorie deficit' is the only principle that is followed if we talk about fat loss. And, sustainability is a major factor in your dieting journey. So, I am providing you with the information here and you are the best judge to decide whether to go for it or not.

This has been a real hype in recent years. It has been treated as a God-sent magical diet. While it works great, trust me, it's no more superior to any other structured diet, considering only fat loss as a result if you keep the necessary variables the same, that is, your intake and your expenditure in terms of energy, your total protein intake and your training.

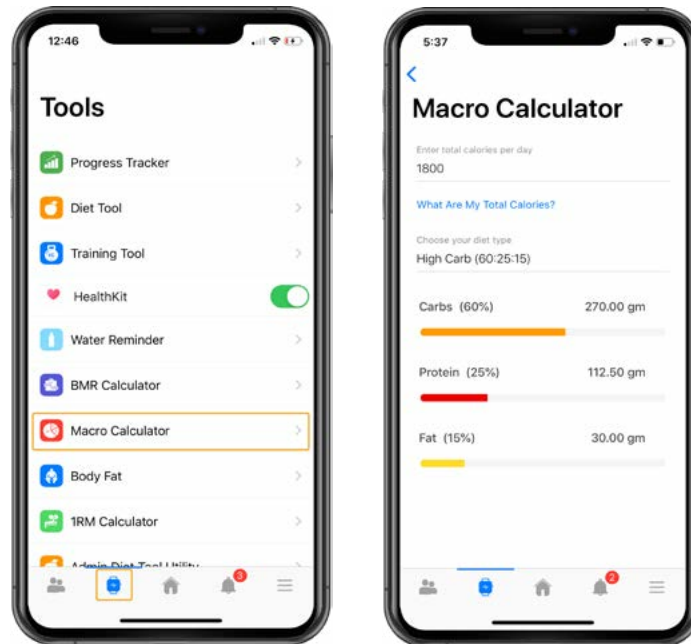
Let's get down to the basics.

A ketogenic diet or keto is basically a diet where you will have absolutely minimum carbs say 20-30gms max. This will force the body to utilize fat as a primary source of fuel, thereby aiding fat loss. Remember the car and the fuel example? There are different variations of Keto. One that is worth noting is the Atkins version. In this version of Keto, you basically eat fat to burn fat. This is particularly good for people who face adherence issues when on a diet with carbs as keto forces you to stay strict to be in ketosis, a state where your body uses ketones and fatty acids as a source of fuel instead of glucose (although your brain always needs a supply of glucose to function. We'll talk about that later). Let's discuss the Atkins version of Keto along with a sample diet plan.

For Atkins, I suggest you use the 5:35:60 macro ratio, i.e. 5 portions of Carbs, 35 portions of Protein and 60 portions of Fat.

If you know your BMR, you can calculate your macro breakdown from [FITTR](#) app.

Now, for example, my BMR is around 1500 and my TDEE (total daily energy expenditure is 2000), so my macro breakdown for Keto will be:



In the Tools section,
click "Macro Calculator"

Enter Total Calories
& get your macros

24gms of Carbs, 166gms of Protein and 126gms of Fat

Now we will build a sample diet around this. Like I've mentioned earlier, I like to keep things simple, and hence I use food that I use daily and is readily available.

For **Atkins**, following are the BEST CHOICES for me

- Paneer (per 100gm – Fat 20 gm, Protein ~ 20 gm, Carb 1.5 gm)
- Amul cheese (1 slice – Fat 5 gm, Protein 4 gm, Carbs–negligible)
- Extra Virgin Coconut Oil (per 100gm – Fat 86gm)
- Flaxseed (per 100gm – Fat 42gm, Protein 18gm, Carbs 29gm)
- Spinach (or any other dark green vegetables for fiber)

A sample diet would look something like this:

FOOD	NOTE
Around 8 AM Breakfast 50gm Paneer 1 Cheese Slice 4 Egg Whites	Paneer (per 100gm: fat 20gm,protein~20gm, carb 1.5gm)
AROUND 11 AM 50gm Paneer 1 Cheese Slice	Amul Cheese (1 Slice–Fat 5gm, ~Protein 4gm, Carbs–negligible)
1 PM LUNCH 100gm Paneer 1 Bowl of Spinach or any of your favorite vegetable	Spinach (or any other dark green vegetables for fibre)
Snacks, Paneer Cubes sauted in Extra Virgin Coconut Oil	Extra virgin coconut oil(per100gm--fat86gm)
9 PM dinner 100gm Paneer 1 Bowl of Spinach or any of your favorite vegetable	

This was just an approximated version, and the diet will vary for every individual. Let me remind you again that this information is to help you understand how to make a customized diet plan and not to give you a readymade plan.

Ketosis within your body will start typically 2-3 days after you start this diet and you will start seeing quick results soon. You may get a urine test done to see if your body is producing more ketones than usual, or you can simply test it with urine analysis sticks.

Most important thing is that you must, I am stressing on it again, keep off carbs completely. Carbs can completely reverse the effect of this diet.

Also if you lose 1-2 kgs in initial 2-3 days, don't start jumping! Like I mentioned, it would be your water weight associated with the glycogen that will be depleted. Although, you can lose up to 4-5 kgs in 4 weeks of this diet (varies for every individual again)

Please note - A lot of people recommend a refeed to be done every week. However, from my experience, I have noticed that the body gets smooth and retains a lot of water. It is a good idea to stay on keto for at least 4 weeks continuously before having carbs again in a refeed.

Also, sometimes, people start consuming more protein, thinking it will help.

However, it doesn't really help that way since you may get thrown out of ketosis with higher intake of protein too. It would be wise to have a higher protein intake in the initial weeks until the body adapts to keto. Once ketosis is achieved, the protein intake can be reduced to around 15-20% of the diet.

CKD and cheat meals

Cheat Meal is that meal in your diet where you can have any food that you like, and it can be absolutely anything from a full-fledged ice cream sundae to your favourite biryani. Anyone with a body fat percentage below 10% can have a cheat meal after an induction period of approximately 4 weeks of following the ketogenic diet strictly. This is done to boost your leptin levels, which is one of the most critical hormones for losing fat. If you are getting results and your weight loss has not stalled, then there is no need for a cheat meal, and you can just keep playing with your calories. Just don't bring it down to the levels you started with.

Cyclic Ketogenic Diet also popularly known as **CKD** should be followed by people who have body fat levels below 8%. People up to 10% can also follow it, but they should have a decent amount of muscle mass.

The main principle behind the cyclic ketogenic diet is the depletion and super-

compensation of your glycogen stores like I explained earlier. It is very critical for your sarcoplasmic growth. Now, even CKD can be done only once you are keto induced. So it is advised to follow a strict ketogenic diet for a period of at least 3-4 weeks. This induction phase is crucial, and further determines the success of your CKD. Some people tend to jump directly on CKD without getting properly induced, which is nothing short of a disaster.

So here is the correct method of doing CKD:

You have to get keto induced for 3-4 weeks (make sure you're around 8% bf), then you move to CKD. You stay on Keto for 5-6 days (depending on your goal), and then load carbs for 24-48 hours depending on your muscle mass, sensitivity towards carbs and a lot of other factors.

A typical CKD cycle for a week would look like this

Monday – keto

Tuesday – keto

Wednesday – keto

Thursday – keto

Friday – keto

Saturday morning, you need to do a depletion workout (high intensity, full-body, high volume, high rep workout done to make sure your glycogen levels are entirely depleted) after which you will start taking a combination of glucose + protein, every 2 hours for the next 8 hours along with some simple carbs. In the subsequent 16 hours, you can take solid meals like rice, chicken, pasta, oats and anything else you want. The amount of carbs that you need to bring depends on your lean body weight. The typical formula is to have around 6-8 gm per kg of your lean body weight, so for a 70kg guy with 10% bf, that would come at around 500-600gms of carbs. However, this formula is highly flawed and can often lead to excess carbs. Instead, I'd suggest eating 50gm carbs every 2 hours in the next 16 hours and see how your body reacts.

On SUNDAY morning, you should look fuller, more defined and more muscular. If you are holding water, or you are looking flat, it means, either the carbs were too less, or they were too many. So it takes a little trial and error to hit the right amount. It will take some practice.

On Sunday you can either continue to load carbs or if you have had too many on Saturday and are holding water, then do some cardio to burn off the excess calories, and you can switch to keto or eat carbs at your maintenance calories. Some people make use of the period and do cheats as well, which is fine since everything you eat is primarily used by your body to fill up your depleted glycogen stores. So sweets, ice-creams, candies, cookies, biryani etc. are all allowed, however, make sure your total fat intake on these 1-2 days is less than 15% of your maintenance calories. Also, make sure you do your depletion workout with maximum intensity, as the only way to super compensate your glycogen levels is by making sure it is completely depleted in the first place.

Peak Week and Contest Preparation

This is just for your information.

Remember when I said that during the initial period of carb depletion, your body only loses water weight? And how that it is not a bad thing. Now I'll explain how.

See once your muscles are depleted of glycogen and water, they have a tendency to store more glycogen. If during normal state your muscles stored 2gm of glycogen per 100gm of lean muscle tissue, after depletion it can store up to 4gm of glycogen and hence more water. Bodybuilders and athletes take advantage of this situation. Following a depletion diet, they start carb loading, which lets them appear fuller and huge on stage and all the carb will get used up to fill increased glycogen levels. Also, a lot of subcutaneous (under the skin) water will be pulled into the muscles giving a dry and ripped look. However, this only works for people who are below a body fat% of 10 or less, as it won't make a difference if you have more fat mass.

Not all Carbs are the same
Not all Calories are the same

Agreed it's the calories at the end of the day that matters when it comes to weight loss or weight gain, but choosing to ignore the right source because you read some new research or an article by some of the leading names in the industry may actually not be beneficial for your ultimate goals. You will get results, Will the results be optimal? Far from it indeed.

So people professing that eating Dal Chawal, mixing carbs and fats, eating sweets is allowed because it is within their TDEE. Here's something that might burst your bubble:

Not all calories are treated in the same way by the body, for, eg. Both fructose and glucose yield 4 calories per gm, but they are very different when it comes to being metabolized by the body. Fats have a different metabolic pathway so do amino acids, and mind you all this is conditional, based on various circumstances, the usage in the body can change.

One such example is the ghrelin levels. Ghrelin is your hunger hormone. When it is up, it makes you feel hungry. Different foods have different effects on ghrelin levels, while foods containing fructose or glucose will trigger more ghrelin levels and will make you eat more compared to proteins or fats. This is one more reason why it is easy to stick to a low carb diet compared to a high carb diet at the same calories.

Different foods can impact your metabolism negatively or positively, be on an ice-cream diet for 1600 calories for a few days and you'll see your metabolism will drop and even at 1600 calories you will find it difficult to lose weight. Try the same with a high protein or a high-fat diet, and you'll be losing weight pretty sharply. Same calories and different results, anyone doubting the results can try it on themselves if they dare.

A gram of omega-3 fatty acid will provide the same amount of calories as a gram of

omega-6 fatty acids, yet one is good while other is bad for health (read: high amount of omega-6 in our existing diets).

So you see a calorie is not just a calorie, and anyone who says that at the end of the day that calories are calories and source doesn't matter does not know what they are talking about.

Sources of the calories matter! Be wise, while picking the sources.

Reverse Dieting

You hit a wall!

The single most relevant factor that is responsible for a 'no-more' fat loss zone or fat loss plateau is the downregulation/slowdown of your metabolism. This is because as you cut down calories, no matter how small the deficit be, metabolism will start to come down. Simply because the body will try to preserve energy for survival. In this process, our collection will reduce the production of metabolism friendly hormones like thyroid, free testosterone and leptin to maintain energy balance. Not just that, but your body will downregulate a lot of its operations. I had linked this article earlier.

Reverse Dieting Protocol:

Now you might claim that decreasing calories result in weight loss, so adding up calories will result in weight gain. This is where maintenance calories have to be kept in mind while reverse dieting specifically for weight loss. A slight increase in weight while reverse dieting does not necessarily mean that you are adding fat.

That will not happen unless you go beyond your maintenance Calories or overlook macro distribution. This slight increase in weight will be intracellular water retention or gain in muscle glycogen. For example, if you are on a calorie deficit diet for weight loss, you start off by preparing a diet chart with calories equal to your BMR, suppose your BMR = 1600 calories, and you are following a low carb diet so you would start with calculating your macros for 1600 calories, i.e. 25:45:30 – C/P/F. This would come up to 80gms carbs, 160 gms proteins and 71 gms fat. Now after following a chart with the mentioned macros for a week, you should increase the calories by 100-150 gms (depends upon the week's results), so for the next week you will have to modify your diet chart and make a new chart for $1600 + 100 = 1700$ calories, similarly the macros would change to 85gms carbs, 170gms proteins and 75gms fat. Every week we keep increasing the calories by 100-150 based on the improvement and keep repeating the procedure until our fat loss stalls. The stage at which this happens, this stalling, this stage indicates that the person has reached his/her maintenance calories and thus they should ideally go back to their BMR value and repeat the whole thing again.

Dieting Road Map

Most people, after reading this would want to diet dieting immediately, without any clue as to what they will do once it's all over. Shall they repeat the dieting or go back to their old habits. That is what I will cover in this section.

DIETING STRATEGY – Everyone wants to get muscles, but you have to decide for yourself. Do you want to look like a freak show or aesthetically built? If the answer is latter, then you should follow this guideline.

- If you can see your abs, you can start by adding around 150–200kcal to your maintenance calories with low carb diet initially for 4 weeks and then continue on zone diet for as long as you want.
- If you can't see your abs but are already fit, then switch to low carb till you are shredded enough and then stick to zone diet for as long as you want. Whichever food you choose for dropping your fats or for gaining muscles, you need to maintain a caloric deficit or a caloric surplus respectively.

Do not keep reducing the calories – most people, if they don't get results, keep on reducing calories further and further, which is not good. What you are actually doing is you are harming your metabolism. This is true for most people who tend to lose weight by doing a starvation or crash diet. And they gain the weight back again very soon.

If you do the diets mentioned above correctly, you will see that your metabolism will only get better, you may even keep losing weight despite higher calorie intake. However, you should be regularly lifting heavy weights as well. Your training should be on point. Not only during the dieting down phase but always.

Remember, the more muscles you have, the more fat body will burn, even while resting. So focus on building muscles. However, this is just one of the many strategies that can be used to achieve the desired body composition. You are free to choose what works best for you.

TRAINING

A close-up, artistic photograph of a dumbbell. The focus is on the weight plates, which are stacked and show signs of use. The handle is a bright red, and the weight markings on the side of the handle are visible, including '50', '45', '40', '35', '30', '25', '20', '15', and '10'. The background is blurred, suggesting a gym setting.

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Training

If I were to get a dollar every time someone asked whether they should go for a heavyweight, less rep or lightweight, more reps, I'd probably be a millionaire.

A lot of people have this question, and it's a genuine question too. Unfortunately, there is no direct answer. I am going to explain how it all works and then maybe you can figure out what would work better for you. I'll also tell you my personal training regime and how it was better than others.

There are a lot of factors that matter when it comes to building muscles or losing fat, ranging from body type to genetics and whatnot. Different type of sports would require you to have different bodies, however since we're into building muscles and losing fat, I'll only discuss training which will be relevant to that.

Starting with body type, we have three major classifications:

1. Ectomorph

An ectomorph is the typical skinny guy. Ectomorphs have a light build with small joints and lean muscle. Usually, ectomorphs have long thin limbs with stringy muscles. Shoulders tend to be weak with little width.

2. Mesomorph

A mesomorph has a large bone structure, large muscles and a naturally athletic physique. Mesomorphs are the best body type for bodybuilding as they find it quite easy to gain and lose weight. They are usually strong, which makes for the perfect platform to build muscle.

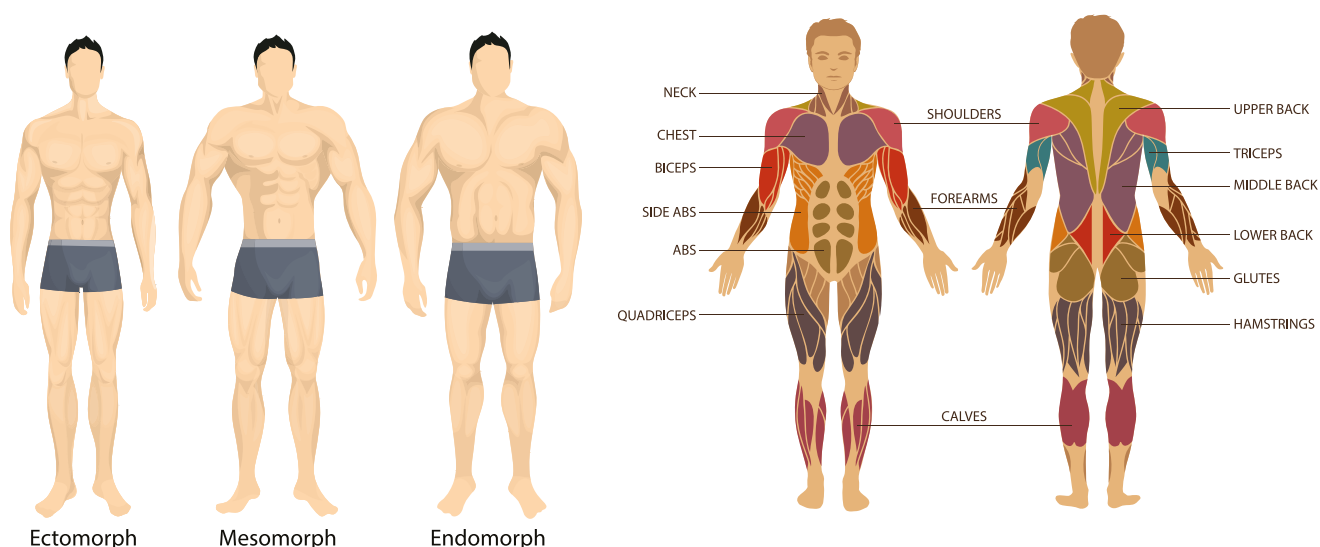
3. Endomorph

The endomorph body type is solid and generally soft. Endomorphs gain fat very quickly. Endomorphs are usually of a shorter build with thick arms and legs. Muscles are strong, especially the upper legs. Endomorphs find they are naturally healthy in leg exercises like the squat.

Now don't be disheartened if you are an ectomorph or endomorph, I am an endomorph, just saying! You must be thinking, 'yeah so there is endo, ecto blah blah, who cares, where's my workout routine?' Well, hold your horses, Leonidas, we are getting there. It is essential to understand a few things before you go there.

Since your primary goal is to build (or maintain) muscles, you need to understand them

first. The following chart shows an overview of different types of muscles in the body:



Your muscles are not all the same size and may require different types of stimulus to get stronger and develop. You cannot keep doing squats and expect to get a right chest- I know that is obvious and it is not what I am trying to say, what I mean to say is that the weight, the repetitions, the intensity and the form, all these are the factors that play an essential part in giving the proper stimulus to any muscle group. So if you were going to ask should I lift heavy weight and do fewer reps or lift lightweight and do more reps, read what I just said again. There is no single answer, and no one size fits all here. Different athletes in the history of bodybuilding have shown and proved that you can build a great body by following different methods.

Frank Zane (three-time Mr.Olympia) used to believe in lifting smaller weights and doing more repetition while more recent bodybuilders like Jay Cutler, Phil Heath and so on are proponents of lifting heavy. The article written below becomes all the more relevant now, read it to find why.

Muscle Fibre Types

Though muscles are muscles, their composition can vary. It can have different proportions of two different kinds of muscle fibres – slow-twitch and fast-twitch.

So your body has bundles of muscle fibres, and these bundles have varying proportions of these two types of fibres.

1. Slow Twitch

These are also known as Type I or red muscle fibres. They are responsible for long-duration, low-intensity activity such as walking or any other aerobic exercise.

2. Fast Twitch

These are known as Type 2 or white muscle fibres (divided further into A and B). They are responsible for short-duration, high-intensity activity.

Type 2B fibres are built for an explosive, very short-duration activity such as Olympic lifts.

Type 2A fibres are designed for short to moderate duration, moderate-to-high intensity work, as is seen in most weight training activities.

By looking at elite athletes in different sports, you can see extreme examples of each make-up of muscle fibre. At the slow-twitch end is the endurance athlete, such as the marathon runner.

These athletes can have up to 80% or more of slow-twitch muscle fibres in their bodies, making them extremely efficient over long distances. At the fast-twitch end is the sprinter. World-class sprinters can have up to 80% or more of fast-twitch muscle fibres in their body, making them extremely fast, strong and powerful but with limited endurance.

How To Train Your Muscle Fibre Type?

When you're training with weights, your goal is to work as many muscle fibres as possible. Targeting more muscle fibres means more significant gains in strength and muscle mass.

If your fibres in a particular muscle consist primarily of slow-twitch fibres, to affect the highest number of those muscle fibres, you'll need to train that muscle with higher reps, shorter rest periods and higher volume. This is because they take longer to fatigue, they recover quickly, and they require more work to maximize growth.

Unfortunately, slow-twitch muscle fibres are limited in their potential for growth so even if a muscle group is a primarily slow twitch, you should definitely include some lower rep training to maximize the fast-twitch fibres you've got in that muscle.

If you find you have a hard time gaining size in a particular muscle, it could be because it has a predominance of slow-twitch muscle fibres. Higher reps (e.g. 12 to 15 reps), higher volume (more sets) and shorter rest periods (30 seconds to a minute between sets) can help you to maximize those muscles.

This doesn't mean you should use lightweight, though. You should still strive to use weights that are as heavy as possible that will cause you to reach failure in those higher rep ranges. If you don't use heavyweights, you won't give your muscles a reason to grow.

If your fibres in a particular muscle group consist primarily of fast-twitch muscle fibres, you're one of the lucky ones. You'll have a much easier time building mass in that muscle – fast-twitch muscle fibres have more significant potential for size than slow twitch. The more fast-twitch fibres you've got, the greater your ultimate muscle size can be. These muscles are most likely the strongest and quickest to develop.

To maximize your muscles with fast-twitch fibres, you'll need to train with low to moderate reps (e.g. 4 to 8 reps), rest period so far around 1 to 2 minutes and a reasonable training volume (too much volume will compromise recovery).

If your muscles have a relatively even mix of fibres, you can evenly divide your training between focusing on the lower-rep, fast-twitch fibre training and the higher-rep, and slow-twitch fibre training. This will help you to develop all the fibres in your muscles, maximizing your ultimate development.

The concept of periodization revolves around this very fact.

It's an advanced concept and beyond the scope of this book anyway.

Time Under Tension or T.U.T

Although you have read the above article, science claims that irrespective of the weights, your muscles develop when they are put under tension for a certain duration which crosses your muscles threshold. For, eg. You can lift a 20 kg dumbbell and do 5-8 reps, or you can hold a 10 kg dumbbell facing upwards and hold it for a minute. So which one is difficult? Which one will give you more benefit? The light weight or the heavy? As both the weights will put your bicep muscle under immense tension for a particular duration. Food for thought! Next time someone asks you in the gym to lift the heaviest possible weight, ask them to hold the smallest possible weight against gravity for a certain duration.

Now that you don't need to bother about lifting heavy or light let's move on to some personal tips from my own experience. For me, it's a mix of heavy and light weights. I will do a heavyweight session at 4-6 rep range followed with a lightweight (not as light as you might be thinking *wink*) session at 8-10 rep range, alternating weekly.

Follow these tips for optimum results:

- Use drop sets and supersets as tools for more volume in the workout. Volume is all that matters.
- Personally, I'd do more inclined chest press as it will build your overall chest
- Like I said, the volume is the key. Instead of doing 4 sets of 12-15 reps, try doing 6-8 sets of 4-6 reps each
- The form is everything.
- Tip – Try to retract your shoulder blades when doing a chest press. This will minimize the load on your shoulders and maximize the load on your chest.
- Follow a 1:3 approach, 1 second to pick the weight up and 3 seconds to bring it down slowly
- Do it slow and do it with proper form
- Use dumbbells wherever possible instead of barbells. It will isolate each side.
- Weighted pull-ups are one of the best exercises; do it every day. Even if you can do one, do it with strict form.
- With back, it's mostly pull, so you have to lift heavy enough weights.
- Try to avoid exercises which could hurt your neck, Lat pulldown behind the neck is a big no-no.
- Use compound movements
- Focus on your negatives and try to hold the weight, Mind-Muscle Connection.
- Do heavy lifting, but not ego lifting.
- Don't overlook calves and hamstrings. You're going to get a lot of negativity if you don't

focus on them, especially the calves.

These are a few things I could remember at the moment.

There are many more, and I'll try to add them in the upcoming versions of this book.

Also since cardio is a big thing among gym-goers, let's go ahead and cover that too.

Cardio

Cardiovascular exercises or cardio are basically any exercises that can raise your heart rate. They are beneficial for your overall cardiovascular health, i.e. your heart and your respiratory system. Cycling, running on a treadmill, or cross-fit trainer are a few examples of cardio. Cardio can be done once or multiple times throughout the week. However, doing cardio for weight loss is not a suitable option for various reasons. Rather change your diet.

Research has shown doing regular cardio can significantly improve your cardiovascular health; however, it should not be used for dropping inches off your body. From my personal experience, weight training is the best way to do it. Also, fat loss, like we discussed, is a matter of calories in vs calories out. So revisit your diet.

HIIT Vs Steady State Cardio

HIIT or high-intensity interval training is basically a training split in which your resting periods are smaller. An example would be to run on a treadmill for 2 minutes at 15kmph and then taking a gap of 1 minute and then running again. HIIT assists in gaining muscles and is shown to increase your metabolism over 24 hours.

HIIT is fueled by both glycogen and fat and will not target fat immediately. Some researchers have proved, however, that doing HIIT will help you reduce more overall calories in a shorter amount of time than steady-state cardio. The scientific logic for this is EPOC. (No in the scope here)

My Opinion?

HIIT is badass and does what it claims. However, it is pretty exhaustive!

Steady-state cardio is cardio done in 70-75% of your maximum heart rate range. It taps your fat for energy and is very useful for dropping the last few pounds before a show. You can still do it for overall good cardiovascular health but do not expect magic!

Use cardio for improving your cardiovascular health. You are not going to build any muscle while on cardio and remember, the more muscles you have, the more fat you burn even while you're resting, so it's your call to make.

If you're looking for a personal training regimen, I'd suggest downloading the Bodyspace app, it is a free app from bodybuilding.com and has more than 40000 training programs. Look for High-Intensity Volume Training program by FITTR.

MY BEST EXCUSE FOR AVOIDING CARDIO FOR FATLOSS!

Like everyone, even I, before paying my annual membership fees of the new gym I wanted to join, checked out their equipment for cardio: there were 8 treadmills, 6 bicycles and 6 cross trainers (or elliptical, whatever). I felt like I had found the perfect gym. Paid my annual fees and from the next day itself, I started with 40 minutes of cardio utilizing all three of the different equipment for cardio and after that proceeded for 45 minutes more of weight training, because “big biceps are more important”. A month passed, and I had lost around 3kgs, and I was so relieved. Moreover, those figures on the equipment that displayed “calories burnt” felt like they were the right estimates, and they may even have been right. But when I looked at myself in the mirror, there were no ‘cuts’ or ‘blown up biceps’. It felt like the obese aunty in the cardio room (who used the bicycle while talking on the phone) had the same progress as I had. This nonsense started getting to me now, and then I started reading more and more articles, research papers joined all the bodybuilding groups and asked people for their advice who had gone through the same situation.

Diet was the apparent answer to all my queries. But that is something all the members of SQUATS are aware of by now. So let me emphasize more on what cardio does and does not do, what can be its substitute for improving your cardiovascular health and most importantly, to burn your fats.

WHY ISN'T CARDIO THE FIRST OPTION FOR FAT LOSS?

The basic idea behind doing cardio for losing fats for an average Joe is, you burn more calories and hence your total caloric expenditure is more than your caloric intake, and this isn't wrong by any means. But do we know from where our body is making arrangements for these calories needed? Yeah, some fats are burned

here, but after a short while, your body starts breaking muscles for converting them into glucose which will be used as energy by the body. There was a study done where subjects were examined for 4 months where one group did low-intensity cardio while the other did high-intensity interval cardio for 4 months, and it was concluded that there was a significant loss of muscle mass in the subjects that did the low-intensity cardio whereas, surprisingly, there was a slight increase in the muscle mass in the subjects doing high-intensity interval cardio.

Now, this muscle loss will further bring down your metabolism because muscles eat up energy, and since you are burning your muscles, less energy will be expended.

Why does this happen? Because the cortisol levels increase in your body when you perform low-intensity cardio. Cortisol is a stress hormone which mainly causes muscle breakdown when cardio is done in isolation without any resistance training.

- *Low-intensity cardio is where you jog at a moderate to low speeds for a prolonged duration*
- *High-intensity cardio is where you run at your highest speed, and it becomes interval cardio when you add periodic intervals in between.*

WHAT IS THE ALTERNATIVE TO CARDIO THEN, you ask?

Here are two options before you:

- **Strength training and low intensity steady state cardio:**
Strength training and cardio both can help. ST helps in retaining muscle or even better, building muscle. Cardio will help in additional fat loss apart from helping with improving cardiovascular health.
- **Strength training and high intensity interval training:**
This needs a detailed explanation. Let us begin.

Now, when you're doing low-intensity cardio, you start breathing faster because you need more energy and your body derives this energy by sending oxygen to your muscles causing the muscles to break down into glucose and then providing you with the energy. But when you're doing HIIT or strength training, your body needs the energy faster. It simply cannot wait for the oxygen anymore. Here the body causes an increase in the levels of lactate. Glucose breaks down to pyruvate, which further converts to lactate. Now, this goes to the liver and converts into glucose.

[Glucose > pyruvate > lactate > glucose = energy]

But hey! Glucose is again used here like it was used in LISS, so how are we sparing the muscles here? The thing is, unlike in the former, here not only will your cortisol levels be elevated, but even your Growth Hormone and Testosterone levels go up. And in this environment, your body will burn fat and not the muscles!

One more advantage in HIIT is that, as the lactate levels go up, the capacity of your muscles to go on for some more time comes down. There is an upper limit for the presence of lactate too. In HIIT, we go above that limit when we are running at the highest pace. Even if we stop or start walking suddenly, the brain is under the impression that the lactate levels are over the top. So, in effect to this, the ability of our muscles to go on comes down. Now, this prevents us from overtraining too which otherwise would cause a breakdown of the muscles.

The environment in your body is different in LISS and HIIT. For, eg. Let's relate this action of 'running' to rain. When it rains in a drought-prone area like Rajasthan, it's a boon, whereas if it rains in places where floods are frequent like in Assam, it's not that great, is it? Precisely the same is the case here. When you 'run', cortisol levels go up, but when it's done HIIT style, it's like rain in Rajasthan; the situation is ideal as testosterone and growth hormone levels are high too resulting in just the fat loss. It's not the same in LISS. That's like rain in Assam, where you will save water in the dam and similarly here you will burn fats surely, but there will be more significant destruction like loss of some muscle mass.

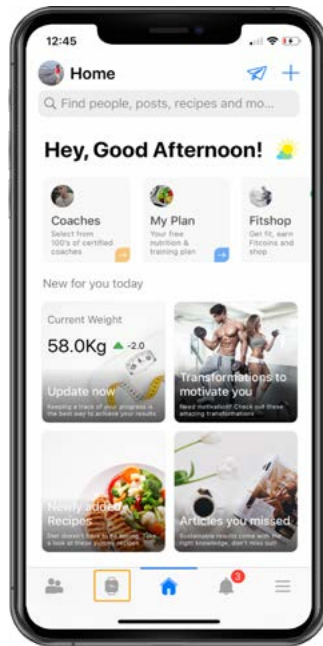
So how to do HIIT?

In HIIT you run at your highest speed for 30-45 seconds (this may vary with person to person) and then stop or walk for a minute or so and repeat. I bet my ass that you cannot do this for half as long as you did low-intensity cardio. This is still just an example. You can do HIIT in quite a lot of different ways.

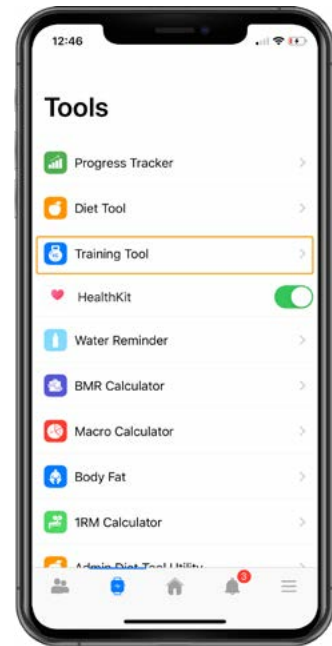
How to Use Training Tool



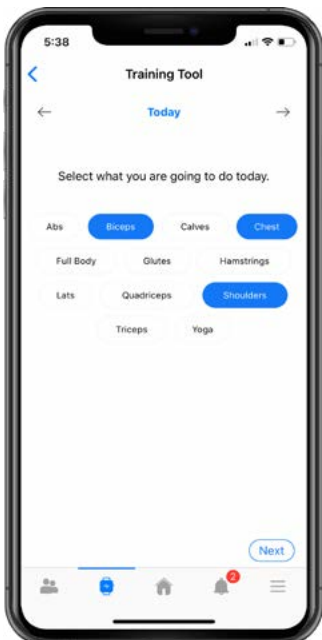
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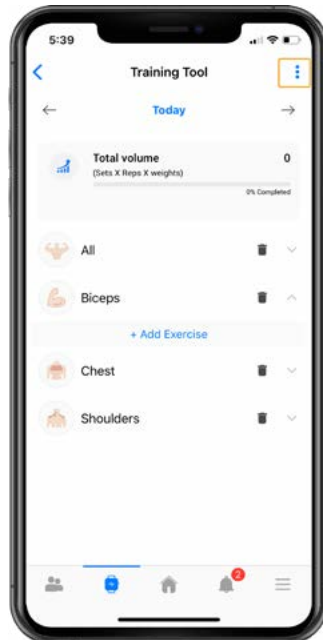
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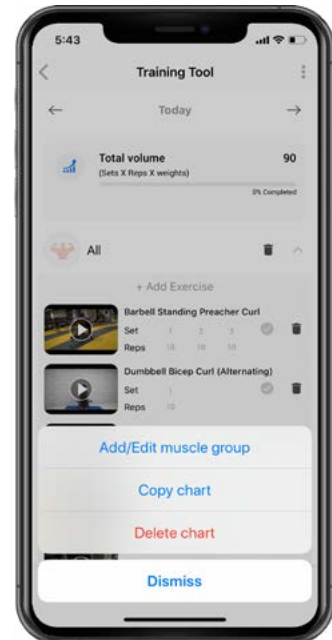
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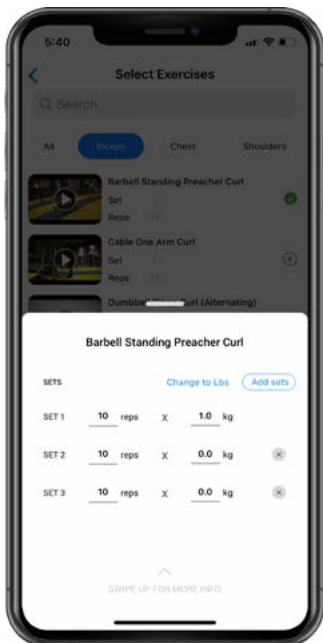
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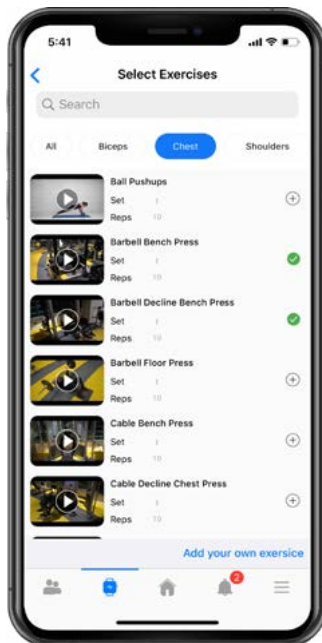
Click "Add Exercise"



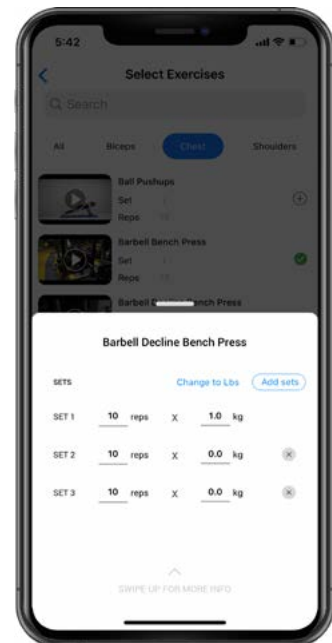
Add/Edit Muscle Group as needed



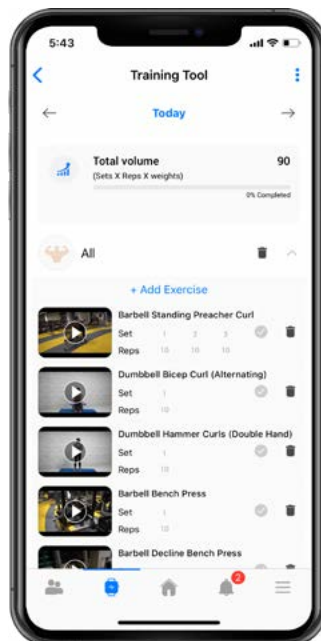
Add sets for each bicep exercise



Select exercises for chest



Add sets for each chest exercise



Your Training Chart is ready!



SUPPLEMENTATION

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Supplementation

There are N numbers of supplements available in the market these days, be it L-Carnitine, HMB, CLA, NO products and so on and if you start buying them all, you'll probably have no money left in your pocket. See these products work, they have years of solid research backing up their claims, but there are two things to consider: 1. It's just 5% of your entire 100% and 2. For this mere 5%, it costs a BOMB! Who has the money for this idiotic advantage of 5%, right? Instead, give 100% in your diet and training efforts. Here, I'll only cover the most basic and most essential supplements.

Protein

Not going to discuss this! You need this no matter how proper your diet is, don't fall for expensive isolates though, blends are good too.

How much? 1.6-1.8 gm per kg of lean bodyweight is decent.

Creatine

It gives you more energy to lift! Quite literally!

When lifting heavy weights, your body primarily uses ATP and CP (Creatine phosphate) stores, however, these are very limited and you cannot push any further until body makes more ATP from glycogen again. Also, most of these ATP actually exists in the body in the form of ADP (adenosine diphosphate). When Creatine monohydrate is introduced in the body, it binds to the phosphorus inside the body and exists as Creatine phosphate. Now this Creatine phosphate during heavy workouts gives its phosphate to ADP to form ATP, this happens much faster than glycogen to ATP conversion; thereby, there's a notable increase in your strength.

Creatine is one of the most well-researched supplements available in the market and should be used by anyone who lifts the weight.

Now there's a common myth among bodybuilding community, that Creatine retains water. So let's address that. First of all, what do you mean by water retention? The water is stored in your muscle cells as well as outside of your muscle cells under the skin.

This extracellular water stored under the skin is called Water Retention. It's a defence mechanism employed by the body to keep you hydrated all the time. Now Creatine draws water directly into the muscles and not into the extracellular skin, which is a good thing. Tell this to the experts, and they'll be rolling their eyes now. Most of the time, these people stop drinking water altogether and stop consuming sodium as well. Now sodium is one primary electrolyte that helps in the regulation of water in the body. When the body detects low levels of sodium and water, the hormone aldosterone is triggered, which further as a part of body's defence mechanism tries to hang onto the water, thereby causing water retention intracellular as well as extracellular. And people thought it was due to Creatine.

BCAA

You don't really need it if you have enough protein intake which has a complete amino acid profile. BCAA or branched-chain amino acids are basically essential amino acids which are synthesized in the body, namely leucine, isoleucine and valine along with many other amino acids. However, what makes these BCAA's more important is the role they play. These amino acids are being used by the body for energy when you're lifting heavyweights. And if the body starts making these amino acids, it will not manufacture other amino acids at the same speed. And we know that all the amino acids are required for building proteins which are nothing but chains of amino acids. So, it is a good idea to supplement these essential amino acids. This gives the body enough time to make all other amino acids, further leading to more muscle protein synthesis. However, if your protein intake for the day is sufficient, then you do not need to supplement with BCAA.

ZMA

ZMA or Zinc Magnesium Aspartate is a mineral supplement that is a combination of Zinc Monomethionine Aspartate, Magnesium Aspartate and Vitamin B6. The reason ZMA has become popular amongst athletes is because it supplements mainly with zinc and magnesium, which is studied to be deficient in people who train.

Zinc has been proven to be vital for the activity of more than 300 enzymes. Zinc containing enzymes aid in macronutrient metabolism and cell replication, which as we know are key biochemical functions that correspond to recovery and growth. Zinc has shown to have positive effects on anabolic hormone profile, particularly testosterone. It increases free serum testosterone levels which is particularly important in older men as their testosterone levels start to decline with age.

Micronutrients

Your Multivitamin/multimineral tabs. They come cheap, and it's a good idea to take them. You may not realize this, but if your diet doesn't have chromium in it, you will suffer poor metabolism. How?

Let me explain, even though chromium is required in micrograms, it is an essential cofactor for the proper functioning of your hormone insulin. And you know how vital insulin is. This is just one example showing how essential these micronutrients in your body can be. There are more than 26 vitamins and minerals that are required for optimum health by your body every day.

Unfortunately, there is no single food that will provide you with the full spectrum. Hence supplementation becomes all the more essential. Multivitamins and minerals tabs can do that for you.

Having a balanced diet can take care of most of the micronutrients however supplementation of the following is always beneficial and is even recommended:

Vitamin C, and for vegetarians – Vitamin-B (thiamin, riboflavin, niacin, and so on).

Don't forget fish oil capsules or flaxseed oil for omega-3 and omega-6 fatty acids. Remember they are required by your brain. Similarly, garlic is a very beneficial herb.

Why supplement with ZMA?

It is not really necessary if you have ample intake of these minerals from your diet. But if not, you might want to consider its use. Lower levels of zinc and magnesium are either due to sweating while training where you lose a lot of minerals and electrolytes or due to poor diet.

ZMA improves sleep– studies show that people suffering from mild to moderate insomnia seem to improve with oral magnesium therapy. Long term sleep deprivation causes magnesium deficiency and improving the magnesium intake can help with sleep. ZMA enhances REM (rapid eye movement) cycles of the rest. The better your sleep, the more you recover and assimilate nutrients.

The list goes on; I'd suggest stick with the basics. Try to explore more herbs and check out their benefits, a fish oil capsule will cost you more but flaxseed you can get for 140rs/kg in the market.

HORMONES

Before I say goodbye to you, let me talk about some crucial hormones, in brief, just to introduce the jargons to you. I won't be going deep into the endocrine system, but it will be helpful to you to get the basics of a few essential hormones right.

So what are hormones?

Hormones are special chemical messengers that pass messages between different parts of your body and control various essential functions in your body. They co-ordinate complex processes like growth, fertility and metabolism. You have facial hair? Hormones. You have right muscles naturally? Hormones. You feel very energetic? Hormones. Your menstruation to your thyroid functions – Hormones.

You are diabetic? Well, hormones.

Hormones play a vital role in everything that your body goes through.

Let's look at a few crucial hormones.

1. Insulin:

Insulin has always been propagated as the muscle-building hormone and even as the fat-storing hormone. Truth is, it does both, and you don't need to fret much about it. It's a hormone that helps you stay stable, by keeping your blood glucose levels stable when it tends to rise due to incoming carb intake. It "opens up" the cells to take the incoming glucose in.

Insulin is a hormone made by the pancreas that allows your body to use sugar (glucose) from carbohydrates in the food that you eat for energy or to store glucose for future use. Insulin helps

keeps your blood sugar level from getting too high (hyperglycemia) or too low (hypoglycemia).

The cells in your body need sugar for energy. However, sugar cannot go into most of your cells directly. After you eat food and your blood sugar level rises, cells in your pancreas (known as beta cells) are signalled to release insulin into your bloodstream. Insulin then attaches to and signals cells to absorb sugar from the blood. Insulin is often described as a “key,” which unlocks the cell to allow sugar to enter the cell and be used for energy.

2. Glucagon:

We discussed how insulin helps keep the blood glucose level stable by assisting the body to take in excess glucose. Glucagon does the exact opposite by helping the blood glucose to remain stable by bringing in a supply of glucose when blood glucose is low, by breaking down the stored glycogen in the liver. So insulin and glucagon are interlinked, and it's no surprise that both of them are produced in the pancreas itself.

3. Testosterone:

Now testosterone is the primary male hormone which gives men their “male” characteristic, from voice to facial hair. It helps maintain proper health in men and also helps to build muscles. Now testosterone is a male hormone, but it doesn't mean that women don't produce it. Even women produce it, but much lesser than men. Women are more sensitive to this hormone. A healthy testosterone level is essential for you to for proper muscle gain and fat loss. So make sure your micronutrients are on point and that you are not on a hypocaloric diet for long. (Note – there is a difference between calorie deficit and hypocaloric. The hypocaloric diet here means severe deficit for a long time.) The best testosterone booster in nature is lifting heavyweights. If you lift weights, your testosterone production gets better, thereby aiding in muscle build up and strength gains (in women, “toning” is essentially muscle build-up itself, along with fat loss. Lifting weights will help you do that instead of aerobics)

4. Estrogen:

Estrogen is the female counterpart of testosterone. It makes a woman, a woman. It is responsible for the development and regulation of the female reproductive system and secondary sex characteristics. Now, there are different types of estrogen, too, but that is beyond the scope of this book for now. One thing to remember here is, it is an essential hormone for women. And lifting weights will NOT bring it down to affect your health. Another concern among men is about the increase of estrogen in their bodies due to soya consumption. That won't happen unless you eat 1-kilo raw soya every day continuously for months at a stretch. So there's nothing to worry about.

5. Leptin:

Leptin is a vital hormone in your body that's essential for fat loss. It is like your fuel indicator that signals your brain about the availability of food and based on that your mind holds on to your body's fat stores or goes easy on them to release them for use. That's directly related to metabolic adaptation (how your body controls and varies your metabolism). This hormone goes down when you are on

a caloric deficit for too long, and the effect is more if carbs are omitted from the diet. This is the reason why a refeed helps. A well-timed and well-placed refeed can help you lose more by raising your leptin levels after a short dieting phase.

6. Ghrelin:

This hormone is also known as the hunger hormone. It signals your body to feed it more. This hormone goes up when you are on a caloric deficit for long and are dieting up. That's why you feel hungry. So the next time you feel hungry, don't think that your body lacks energy or energy stores. It has a lot of fat stores that it can use. It's just the ghrelin in action.

7. Cortisol:

In the fitness community, cortisol is seen as a villain. Truth is, it is neutral. Depends on how it functions and the scenario it operates in. It is a catabolic hormone that helps in the metabolism of fat, protein and carbohydrate – all three. So even your fat loss is dependent on cortisol. However, excess amounts of cortisol for extended periods is harmful as it can metabolise your muscle mass too. Cortisol is released in response to stress and low blood glucose concentration.

TIP: Minimize your stress, be on a proper diet and make sure you take your micronutrients. Get involved in activities that you like doing. Pursue a hobby, meditate. It will not just help you with your cortisol but also lead a good life. My belief is health, not only in your body but also in your mind.

Read more, use logic and question everything that's happening. That's the only the way you'll benefit your body as well as people around you.

I hope this small booklet gave you enough information to start with. Feel free to share it among your friends and family as well.

Remember, Fitness is your right, but you have to earn it!

Cheers,
JC

FITTR