Muscles & Wellness

Muscles, Abs & Curves

Dear Readers,

We will not take much time by giving an introduction of our team mates. Let's straight away get into what's it for you guys.

We happen to hear a lot of suggestions from near and dear one's, fitness trainers and bro science preachers and a part of it could be real and part of it could be exaggerated or may be false as well. Not that they intend to misguide you, but most of them don't know what is what about nutrition.

For example, you're asked to stop eating fats because that makes you fat. Truth is that eating excess fats than what your body consumes makes you fat. In fact, fats are important for body to function. All your steroid (testosterone, estrogen, progesterone) hormones are formed from cholesterol (sterol).

Similarly, people misguide saying fruits are bad as it contains sugars.

There's one thing we need to understand. Anything and everything depends on your goals, your overall calorie intake and the kind of calories that you would be consuming. By reading this booklet, you shall have a basic awareness of how to calculate your overall meals in a day or a week or for a particular period of time and make adjustments as and when required.

Let's start off with the Basics.

Nutrition:

Nutrition is a science that helps us understand the functioning of different kinds of nutrients. Nutrients are any substances that help in maintenance of life and help in growth in any living organism.

So everything we eat and drink like rice, wheat, milk, meat, eggs, fish, vegetables, fruits are made up of nutrients. That's again complicated to decide which food is good and which one is bad as everything can do good and bad. So these are further classified into **Macro nutrients** and **Micro nutrients** for easier and better

understanding. The terms convey it all. Any nutrient that is required by body in larger quantities are classified into macronutrients and nutrients that are required in smaller quantity are classified into micronutrients

There are four macronutrients (carbohydrates, fats, proteins & water) and a wide range of micronutrients which are further classified into vitamins and minerals.

Before we get into more details regarding Macro's (macronutrients) and micro's (micronutrients), let's understand the energy system in our body.

Energy:

Energy is the ability to perform work. (This is with respect to living organisms. There are different forms of energy which are not feasible to perform any activity). This energy is stored in the form of ATP (adenosine tri-phosphate) in human body.

ATP: It is generated by the breakdown of food. Each macronutrient provides different amount of ATP. It is referred to as universal energy donor as this is required by all cells in the body.

So, how do we measure energy?

There are numerous options to measure energy, but "calorie" is the most used measurement.

We always check on the food labels on how many calories it contains, but do we know how much energy does 1 calorie mean?

A calorie is the amount of heat needed to raise the temperature of one gram of water one degree Celsius. That's very little and we when we refer a calorie, it means a kilocalorie.

1000 calories = 1 kilocalorie (kcal)

So when someone says this food has this many calories, it actually means it has this many kilocalories. So don't get confused about it.

Let's get back and start with the macro nutrients

Carbohydrates:

Carbohydrates (or simply carbs) can be your best friend if you manage well and can be your enemy too if you don't play smart. However, you need to understand what kind of carbs to consume, when to consume and how much to consume.

Lets understand this now…

Carbs are nothing but sugars. There are simple carbohydrates and complex carbohydrates

Simple carbohydrates: Mono-saccharides and disaccharides are considered as simple carbs. These are carbohydrates with one(mono) or two (di) glucose molecules (saccharides).

Complex carbohydrates: carbohydrates with three or more than three molecules of glucose are considered to be complex carbohydrates. These are also called polysaccharides.

Examples:

Monosaccharides: glucose, fructose, galactose.

Disaccharides: lactose, sucrose, maltose

Polysaccharides: starch, cellulose, glycogen.

Carbohydrates are body's primary source of energy and are very easily broken down and absorbed by the body. They supply energy for the brain and working muscles. When you consume carbs, few are consumed for energy and the remaining is stored as glycogen in muscles and liver for future use. Liver can store upto 75-100 grams of glycogen and muscles can store up to approximate 450- 550 grams of glycogen for a healthy adult. This can further be improved by weight training and dieting techniques and thus making muscles look bigger. Let's get into more details going forward on how to use these carbs to build better aesthetics and move on to fats now.

One gram of carbohydrates gives you 4 kcalories

FATS:

How many of you don't like the word fat? Or scared of eating fats because that makes you fat? Quite a few of you I am sure. What if I tell you that fats make you fit and look much better? Yes, you're reading it right. Fats don't make you fat.

Eating excess calories than what your body requires makes you fat. In fact, fats are essential for your body to produce cholesterol (sterol) which produces all your steroid hormones such as testosterone, estrogen, progesterone etc.

We are forced to believe that fats are bad by a lot of websites and trainers who aren't well certified or aware of nutrition science. Fats are not bad, stored fat in body beyond an extent is bad. These are also called the triglycerides (stored form of fat in the body).

There are two major classifications of fats.

- Saturated fats
- Unsaturated fats

Saturated fats: I shall not get into more detail and confuse you with the chemistry of why they're called saturated fats, However, always keep this thing on top of your mind that saturated fats are good sources of fat. They promote your HDL levels (Good cholesterol), thus preventing cardiac arrests.

Example of saturated fats: ghee, butter, coconut oil, egg yolks etc.

Unsaturated fats: These are the culprits. They increase your LDL levels(Bad cholesterol) and these are the main reason for inflammation because of the poor balance between omega 3 and omega 6 fatty acids. Inflammation is the main cause for majority of the diseases and disorders.

Example of unsaturated fats: all vegetable oils

There is also another classification called trans fat. These are the bi product when unsaturated fats are converted to saturated fats, which by all means need to be avoided.

So, on any diet you plan or follow, please include saturated fats and avoid unsaturated fats and trans fats.

Fats are body's preferred source of energy in the absence of carbs. So, while you want to target fat loss in your body, reduce carbs to a great extent and then body will start adapting fats to be used for energy. One gram of fat gives you 9 kcalories. We shall get more in detail of the same while discussing on how to prepare diet chart and dieting techniques.

Proteins:

Proteins help in building and repairing tissues. Proteins can be converted to energy as well, but unlike carbohydrates and fats, proteins are not the body's preferred source of energy. You body will break down proteins and convert to energy in very few cases such as long interval fasting, extreme low carb diets where protein is the predominant source of energy, and during high intense activities such as weight training etc. But that doesn't make protein unimportant. It builds your muscles and maintains the muscle mass which further regulates your metabolism (we shall discuss in detail about this).

Proteins are formed by amino acids. There are twenty unique amino acids that combine together in various forms to build these proteins.

Amino acids are classified into two types:

- 9 Essential amino acids
- 11 non essential amino acids

Essential amino acids: Amino acids that cannot be synthesized by body on its own are called essential amino acids. These are supposed to be consumed via food or food supplements. Of the essential amino acids, leucine, isoleucine and valine contribute majorly to the muscle tissue. These are also called the branched chain amino acids (BCAA's).

Non essential amino acids: Amino acids that can be synthesized by body on its own are called the non essential amino acids. Out of these amino acids, 7 are conditionally essential as they can be synthesized by body but not in the quantity required. Depending on the individual's activity levels requirement of these conditional amino acids vary.

So, while you pick your protein foods, pick foods that are rich in all essential amino acids. Generally Animal Based proteins and dairy are rich in called complete proteins because they have all the essential amino acids while plant based proteins are called incomplete proteins as they don't contain all the amino acids. Soya is an exception. That is a plant based protein but is rich in all amino acids.

AMINO ACIDS		
ESSENTIAL	**CONDITIONALLY NONESSENTIAL**	**NON ESSENTIAL**
HISTIDINE	ARGININE	ALANINE
ISOLEUCINE (BCAA)	ASPARAGINE	ASPARTATE
LEUCINE (BCAA)	GLUTAMINE	CYSTEINE
METHIONINE	GLYCINE	GLUTAMATE
PHENYLALANINE	PROLINE	
THREONINE	SERINE	
TRYPTOPHAN	TYROSINE	
VALINE (BCAA)		
LYSINE		

One gram of protein gives you 4 kcalories.

Water:

Water does not yield any energy. Still this is the most important macronutrient for a lot of reasons.

- Water comprises around 60-70 percent of human body
- It is crucial for various chemical reactions
- Helps in carrying all the nutrients(macro and micro) to the cells
- Helps in proper functioning of kidneys

So, how do you know you are well hydrated or not?

Here is an easy reference for you.

	You are well hydrated
	You are well hydrated
	you may be dehydrated. you need to increase your water intake
	you are dehydrated. you need to increase water to a great extent
	you are dehydrated. you need to increase water to a great extent
	you are very dehydrated. you need to drink plenty of water immediately.
	you need to consult a doctor at this particular stage. this is very dangerous.

You can always have an easy track of your hydration levels my monitoring your urine color. The more yellow it is, more you need to hydrate yourself.

Now that we discussed macronutrients, lets summarize the points to be kept on top of mind.

1. Energy is measured in calories.
2. Carbs are body's primary source of energy. In the presence of carbs, Body shall only use carbs for energy.
3. Not all Fats are bad.
4. Unsaturated fats are bad and saturated fats are good.
5. Fat doesn't make you fat. They are very important in producing steroid hormones such as testosterone, estrogen and progesterone. So please include saturated fats in your diet.
6. Proteins are important to build and maintain muscles
7. Animal based proteins and dairy are complete protein sources and plant based proteins are incomplete.
8. You can pick soya for protein if you are a vegan.

9. Carbs and proteins give you 4 kcal per gram and fats give you 9kcal per gram.
10. Water is very essential for functioning of body. Have a track of your hydration status and consume fluids accordingly.

Micronutrients:

Micronutrients are vitamins and minerals required by your body to sustain your body. These are required in very minute quantities hence dubbed as micronutrients.

Vitamins are carbon containing molecules which can be influenced and inactivated by heat, light, oxygen and chemical processes whereas minerals do not contain any carbon and are not destroyed by any heat or other circumstances.

Vitamins:

- They include B-complex, A, C, D, E &k.
- Vitamins A, D, E &K are fat soluble vitamins and rests of the vitamin are water soluble.
- Vitamins are important in maintaining proper immunity and absorption of macronutrients
- Supports Bone growth and health.

Minerals:

- Essential for maintaining and sustaining water balance in cells. (electrolytes)
- For strengthening bones and teeth
- Supports immune function
- Assists in metabolism and other chemical reactions in body
- Helps in functioning of brain and nervous system
- Helps in regulation of hormones
- Helps in bone formation
- Helps in maintaining acid-base balance.

Great! Now we know what nutrients, their benefits are and how much energy they provide.

But how do you decide and plan how much quantity we require?

Depending on your goals and preferences you shall plan your calorie intake and macronutrient ratio.

Everything revolves around your metabolism.

"Metabolism is your body's ability to convert these nutrients to sustain life"

Metabolism is divided into two categories: Anabolism and catabolism.

Anabolism is building up of cells and tissues. This consumes energy.

Catabolism is breaking down of cells and tissues. This releases energy.

There are multiple factors that influence your metabolism, as in the amount of calories you burn in a day.

1. Your muscle mass.
2. Your hormones.
3. Total calorie intake and kind of calories we consume.
4. Your activity levels.
5. How much rest you are providing your body.

It is always suggested to consult a physician before you plan any of the programs, if you have any hormonal disorders or chronic disease.

Let's discuss on how we calculate for a healthy individual.

BMR:

BMR is the minimum amount of calories required by a person to sustain life in resting state at normal temperature. This is always multiplied by an activity factor to determine the average energy a human body utilizes.

This can be calculated using Harris Benedict equation:

Men: BMR = (10 x weight in kg) + (6.25 × height in cm) - (5 × age in years) + 5

Women: BMR = (10 x weight in kg) + (6.25 × height in cm) - (5 × age in years) - 161

This further needs to be multiplied with an activity factor to identify your overall energy expenditure for the day.

Little to no exercise	Daily kcal needed is BMR x 1.200
Light exercise (1–3 days per week)	Daily kcal needed is BMR x 1.375
Moderate exercise (3–5 days per week)	Daily kcal needed is BMR x 1.550
Heavy exercise (6–7 days per week)	Daily kcal needed is BMR x 1.725
Very heavy exercise (twice per day, extra heavy workouts)	Daily kcal needed is BMR x 1.900

Let me explain it to you with an example.

Case 1

Height: 175 cm

Age: 25

Weight: 60 kg.

Lifestyle: moderate exercise.

Gender: Male

BMR = (10*60(kg)) + (6.25*175(cm)) -(5*25)+5

=> BMR = 600 + 1093.75 - 125 + 5

=> BMR =1575.75 (rounded off to 1575)

So this is the BMR. To identify the overall calorie requirement, it needs to be multiplied my BMR with an activity factor.

Since his lifestyle is moderately active I shall multiply his BMR with 1.55 to arrive at a daily calorie requirement.

Total calorie requirement = 1575*1.55 = 2441

So, he needs to consume 2440 calories every day in order to maintain the present body condition with moderate exercise levels.

This is with an assumption that you are a healthy individual without any obesity. Ideal scenario is to calculate your weight after deducting your body fat%. For example, you weigh 60 kgs with around 25% body fat. Then consider your weight to be just 45 kg i.e. 60kgs – (25% of 60 kgs). This is known as lean body weight

Let's take another example where we take a lean body weight to arrive at total daily calorie requirement.

Case 2

Height: 150 cm

Age: 25

Weight: 60 kg.

Body fat %: 30

Lifestyle: Sedentary lifestyle. Need to sit and work at office from 8 am to 8pm. No exercise or activity.

Gender: Female.

First let's calculate her lean body mass

Lean body weight = body weight - fat mass

Lean body weight = 60kg - (60*30%)

= 60kg - 18kg

= 48 kg

Women : BMR = (10 x weight in kg) + (6.25 × height in cm) - (5 × age in years) - 161

BMR = (10*42KG)+ (6.25*150) -(5*25) -161

=> BMR = 420+937.5 - 125 - 161

=>BMR = 1071.5

This needs to be multiplied with an activity factor. Since her lifestyle is sedentary, let’s multiply it with 1.2

Her total calorie requirement per day = 1072*1.2

= 1286 calories (1300 approximately)

We know that's a lot of math. You need not do that, its just to explain the fundamentals. For easy calculations visit http://www.musclesandwellness.com/bmr-calculator.php and click on BMR calculator and you will get the results with few clicks.

So, here is the fun. Having discussed all these things, you also need to be able to utilize all these information and calculations for your goals.

As mentioned at the beginning of this guide. It's always two things that you need to look into.

- **How many calories I need to consume?**
  a. If your goal is for weight loss, consume lesser calories than your daily energy requirement.
  b. If your goal is for weight gain, consume more calories than your daily energy requirement.

But it's apparently not weight loss or weight that we need to look after. It needs to be fat loss or muscle gain. So that's where we will discuss the second part of the question..

- What kind of calories need to be consumed?

This is the trickiest part. There are different dieting strategies. It is always ideal to follow a lean gains process for building a better physique. So If you are anywhere above 15% body fat. Never go on calorie surplus to gain muscles. Please reduce calories partially and come down to 13-14% body and then start increasing calories gradually.

So, let's discuss a few dieting strategies, where anyone can fit into any of these buckets and follow any of these programs.

- **High protein, Moderate carbs and moderate fats diet: (40:30:30) (P:C:F)**: Different sites and nutrition expert name it differently. Let's call it "Wellness diet".

  This is suitable for an individual who is targeting lean muscle gains with a decent fat loss. Calories need to be at 150-200 below your total daily

energy expenditure. Don't be confused with these macronutrient ratios. Let me explain it shortly in detail with an example below.

- **Moderate protein, high carbs and low fat diet: (35:45:20) (P:C:F)**: this works wonders for people who are looking for muscle gains and is with a very low body fat %. Say 12-13%. You need to start with around 200-300 calories less than your daily calorie requirement and increase it gradually till your body experiences fat deposits. Once you experience fat deposits drop calories again and start fresh with 200-300 below your daily calorie requirement.

- **Low carb diet: (40:20:40):(P:C:F)** In this particular diet you don't enter the phase of ketosis, but still you will be able to burn fats at a very decent speed. Ideal way is to time your carbs at night in this particular diet or around your workout.

- **High fat, very low carbs and moderate protein diet (30:5:65) (P:C:F)**: This is known as Atkins or ketogenic diet. Your body enters the stage if ketosis, hence the name. This is a great and very effective way to drop extra pounds of fat in your body. But however it has its own side effects. Going so low on carbohydrates for a longer can drop your testosterone levels drastically. So it is not advised to go on this particular diet for more than 4 weeks continuously. You can take a two weeks break and then start back again. Start with your lean body BMR and increase calories gradually on a weekly basis and move to low carb after 4 weeks.

Let us explain you it in a simpler and easier way.

Let's consider a female with 30% body fat. Height: 150 cm weight : 60 and sedentary lifestyle. Let's assume she have two vegetarian days and 5 non vegetarian days in a week. And she is a healthy individual without any medical disorders.

Her goal is to drop her body fat and look lean. We need to calculate her lean body BMR (which we already calculated in the case 2 above.)

Her lean body BMR comes to around 1075 calories, lets round it off to 1100 calories.

There are two scenarios here that are ideal for her quick fat loss without any muscle loss.

1. Atkins Diet.
2. Low carb Diet.

Atkins:

Macronutrient ratio: 30:5:60. 30% of the energy needs to come from proteins, 5 % energy or lesser from carbs and 65% energy from fats. Fats are the predominant source of energy here. Thus you are tricking your body to burn fats for energy instead of protein or carbs.

Targeted calories: 1100

Protein: 30% of them = 1075*30% = 330 calories. As mentioned while discussing proteins. One gram of protein gives you four calories. So for your body to get 376 calories from protein you need to consume (330/4 =82.50) i.e. 82.50 grams of protein.

Carbs: 5% of 1100 calories = 1075*5% = 55 calories. One gram of carbohydrates also gives you 4 calories. So you can consume up to (55/4 = 13.75) i.e 13.75 grams

Fats: 65% of 1100 = 1100*65% = 698.75 Calories. One gram of fat gives you 9 calories. So for your body to get 698.75 calories you need to consume (698.75/9= 77.63 grams approx) 77 grams of fats.

So now, we need to prepare a plan which provides me 82.50 grams of protein, 14 grams of carbs and 77 grams of fat. You can break it down this way.

This is The quantity that can be used, you may also visit http://www.musclesandwellness.com/macro-calculator.php where we have preset values for you for your ease also you can adjust the values as per your convenience.

calorie intake:	1075	Target macros	Carbs-13	Proteins 81	Fats-77	Calories 1075	REMARKS
	Food Items	**Quantity**					
VEG	whey protein(IN SCOOPS)	1	3	25	1	121	Spices in moderation
	cheese slice	4	0	16	20	244	
	spinach (in gram)	300	4.2	8.7	1.2	62.4	4-5 Litres of water
	ghee/butter/coconut oil (in gm)	24	0	0	24	216	1 black coffee on empty stomach
	Home made paneer (in gm)	150	1.5	27	31.5	397.5	
	soya chunks (in gm)	15	4.5	7.8	0.045	49.605	
	TOTAL		13	85	78	1091	
	Difference		**-0.2**	3.9	0.1	15.5	

calorie intake:	1075	Target macros	Carbs 13	Proteins 80	Fats 77	Calories 1075	REMARKS
	Food Items	**Quantity**					
NON VEG	whole eggs	4	2.4	24	20	285.6	Spices in moderation
	spinach (in gram)	300	4.2	8.7	1.2	62.4	
	ghee/butter/coconut oil (in gm)	50	0	0	50	450	4-5 Litres of water
	Chicken breast (in gm)	150	0	46.5	5.4	234.6	1 black coffee on empty stomach
	TOTAL		6.6	79.2	76.6	1032.6	

	Difference		-6.8	-1.4	-1.0	-42.4	

So here are your both veg and non veg charts. You can ignore the minute differences. These are the total amount of foods she can consume. This can be consumed in two meals or three meals or as many number of meals you wish for. But do not go lesser than these calories and more as well. Please don't forget to add a digestive enzyme if you are consuming any protein rich meal above 600-700 calories at one go.

It's always very easy for non vegetarians to plan their macros. Chicken or eggs for protein and difference in fats can be bridged using ghee/butter/coconut oil. These foods can be adjusted according to the choice. You can pick any food and google the nutrition facts and fit them in the targeted macronutrient ratio.

High protein sources to plan for vegetarians are : paneer, cheese, soya chunks whey protein, casein protein, milk, curd, tofu, soya beans

Protein sources for Non vegetarian : chicken, eggs, fish, beef.

Also, in any diet while you plan carbohydrates, Limit them to one or two meals if your goal is for fat loss. Don't stress much on whether they're simple or complex carbs.

Few points to keep in mind while you follow any of these dieting patterns.

1. Keep your foods simple, so don't that you don't complicate your plan. Try to make food as interesting as you can with whatever ingredients you planned to consume.
2. Always keep spices in moderation. As you haven't been tracking the quantity of spices in your chart, it's always good to keep them in negligible quantities.
3. Please add multivitamin tablet every day after your breakfast, No matter whichever diet you are in. As you would be consuming a very little variety of foods Every day and you will be missing out on a lot of vitamins that your body require. It doesn't cost much as well. We use becadexamin. It costs 26 rupees or 30 capsules which is pretty much affordable for most of the individuals.

4. Please take any digestive enzyme if you are consuming high calorie meals. Papaya extract is good to consume. You can pick anything from a local medical or generic store that fits your pocket.
5. It's always a great idea for vegetarians to supplement with low carb whey protein as it is very tough for them to get complete protein. However they can balance with dairy and soya beans. But they come along with fats and carbs thus making it complicated for you to plan protein rich diets. Make sure you buy supplements from a authentic seller.
6. Omega 3 supplement can be a very good addition to the diet . It helps in functioning of brain and improves immunity as well. You can skip on days when you consume fish.
7. Make sure you consume abundant fiber . Green leaves are ideal choice. In cases you cannot consume abundant fiber, you can supplement with isabgol (psyllium husk). This can be found in any ayurvedic store and most of the medical stores. Go for a powdered form and flavorless one.
8. You can add apple cider vinegar if you are facing any acidity issues. You can go for a brand called american garden. That is a zero calorie one. You can use it while you are fasting as well.
9. Its always good to have a check on your electrolytes(potassium and magnesium, etc) intake while following any strict diet regime specially Atkins.
10. Give abundant rest to your body. Rest is the key for your overall wellness.

Stay committed. Don't give up for any reason. Don't starve. When ever hungry drink green tea, black coffee or water over and above the macros. Plan your meals in a proper way and reach your goals. Also for a change you can have any zero calories soft drink, For any support our team is always available.

We hope you enjoyed reading this simple guide. You can post any of your queries after reading this document on our Facebook group. Our trainers shall be happy to answer your queries. Looking forward to see you fit. Please join our group by clicking https://www.facebook.com/groups/1103276413062838/ to know more about how to transform and real transformation stories.

Your thoughts and suggestions are welcome.

#TeamMusclesAndWellness