



Building A Macronutrient Number Diet

By Ru Anderson

Creating a detailed nutrition plan that includes exact macro numbers for each nutrient, in every meal, can be a difficult task if you don't know what you are doing.

We now have a host of calculators that have been designed to help with this, yet these too seem to over complicate the simple procedure of finding someone's daily-suggested macro numbers based on their goals.

Being able to do this yourself is a great skill to develop. Also most people using the calculators do not fully understand what exactly they are calculating or why they should be doing it.

This article will help you change that, and let you stand on your own two feet by knowing how to calculate your own/clients macro nutrient needs. We are going to break down how to create a macro nutrient number based diet, by focusing on some very simple and easy to follow guidelines.

Firstly, there are no magic ratios, techniques or programmes that will create the Holy Grail macronutrient split. So stop looking.

The key to it is getting a good starting point. Get someone started on a macro number plan, assess the progress and tweak the plan to achieve the results required.

Let's get started.

What are macro nutrient numbers?

Most nutrition plans are set out with a daily breakdown of the number of meals, when to eat them and the suggested food choices.

e.g. Monday, breakfast (meal1), 3 whole eggs, 2 rashers of bacon, with 2 fried tomatoes and a handful of mixed almonds.

This is perfect - the user knows exactly what to eat and how much - all they have to do is follow it.

Behind this meal is a set of macro nutrient numbers, defining the amount of protein, fat and carbohydrates in each of the foods, which then provide a total for the entire meal.

	Protein (g)	Carbohydrates (g)	Fats (g)
Food			
Egg (3 whole)	23	3	16
Bacon (2)	5	0	4
Tomatoes (2)	2	10	0
Almonds (10)	3	2	6
Total (all)	33	15	26

As we can see, each food contains a certain amount of each macronutrient, and these are measured in grams. This is the same information as shown on the back of the food packets.

We then know exactly how much protein, fat and carbs there are in this meal. From this, we can work out the exact numbers of calories in this meal too:

Protein = 4 calories per gram in weight i.e. 33g x 4kcal = 132kcal

Carbs = 4 calories per gram in weight i.e. 15g x 4kcal = 60kcal

Fat = 9 calories per gram in weight i.e. 26g x 9kcal = 234kcal

This gives a total overall calorie intake for this meal of 426kcal.

Each food contains its own amount of macronutrients, depending on what it is, its size and its quality. More on this topic later.

For now, we know that macronutrients are the amount of protein, carbs and fats that make up our food. When it comes to creating nutrition plans, it is not the calories that we should focus on, but the macronutrient breakdown.



How do you create a macro nutrient number based plan?

There are a number of simple calculations you have to complete in order to work out a suggested macro nutrient breakdown for a person.

The first thing to consider is overall energy balance i.e. the total number of calories someone needs in order to meet their goal.

This is a 2-step process and I shall use myself as an example (bodyweight of 180lb):

1. Calculate the BMR (basic metabolic rate)

Your Basal Metabolic Rate is your daily energy expenditure in calories without any contribution from exercise or digestion.

Think of BMR as the amount of calories you would need to consume daily to maintain your body if you were comatose.

The quickest method for determining your BMR is to multiply your total body weight by a simpler multiplier; often-used values are 10, 11 or 12.

This is my favourite method and it brings very similar results to more advanced versions:

eg. Bodyweight (in pounds) x 10 (multiplier) = 180lbs x 10 = 1800kcal

Mifflin-St Jeor BMR formula

Generally the most reliable of the BMR formulas when body fat % is unknown. The formulas used are:

Male: $(10 \times \text{weight}) + (6.25 \times \text{height}) - (5 \times \text{age}) + 5$

e.g. $(10 \times 180) + (6.25 \times 5.9) - (5 \times 26) + 5 = 1712\text{kcal}$

Female: $(10 \times \text{weight}) + (6.25 \times \text{height}) - (5 \times \text{age}) - 161$

As you can see from these two examples, there is very little difference, hence why most people (including myself) will just use a quick multiplier and save the calculations for the number geeks. But now you know where it comes from and why it is used.



2. Total Daily Energy Expenditure (TDEE)

The total calories you require on a daily basis, including:

- Basal Metabolic Rate (BMR), which we calculated above;
- Non-Exercise Associated Thermogenesis (NEAT), which are calorie requirements from normal daily activity (NOT from exercise) like walking, working, chores, etc;
- Exercise Associated Thermogenesis (EAT), which are calorie requirements from planned exercise and sports;
- Thermic Effect of Feeding (TEF) which are calories associated with eating and digestion. TEF varies according to macronutrient and fibre content of your diet, with protein having a TEF of up to 30% of the consumed calories, while carbs are around 6% and fat a mere 3%.

Luckily, we can account for all of this in one very easy to apply calculation. To account for TDEE, we simply multiply our BMR by an activity level:

Sedentary: little or no exercise = BMR x1.2

Lightly Active: light exercise/sports 1-3 days/week = BMR x1.375

Moderately Active: moderate exercise/sports 3-5 days/week = BMR x1.55

Very Active: hard exercise/sports 6-7 days a week= BMR x1.725

Extra Active: very hard exercise/sports and physical job = BMR x1.9

For my own example, I train 3 days per week, so am moderately active:-

TDEE = BMR x activity level

TDEE = 1800kcal x 1.55 = 2790kcal

Therefore it requires 2790kcal for my body to maintain this bodyweight based on my total daily energy expenditure.

The problem is that people who want a nutrition plan do not want to remain the same. Most want to lose body fat or gain some muscle, while staying healthy in the process.

In order to lose 1lb fat, we know this equals 3500kcal, therefore if I reduce my

diet by 500kcal per day, we will ideally be creating a calorie deficient (essentially for fat loss) with around 1lb fat loss per week (the ideal).

e.g. weight loss = 2790kcal – 500kcal = 2290kcal

To add muscle, we need the opposite, a calorie surplus in order to grow new muscle tissue and cells. Depending on weight training experience, 100-300kcal per day increase is ideal for aiming at a weight gain of 1-2lbs per month (half this for females).

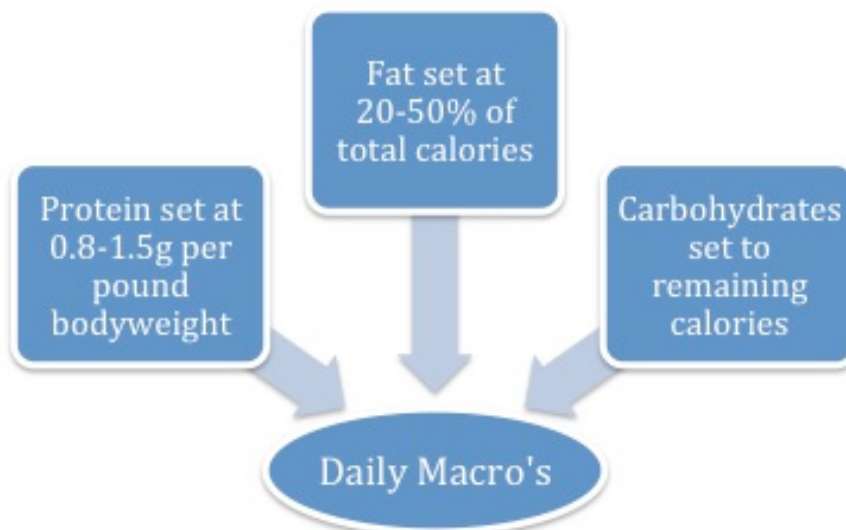
e.g. weight gain = 2790 + 200kcal = 2990kcal

Remember the numbers cannot be set in stone, these calculations are merely good pointers to get you started.

Macronutrient split

Up to this point, we have only worked out how many calories are needed by the body to maintain current body weight, and then adjusted this to match our goal of weight gain or weight loss.

The next step we should look at is how the macronutrients can be broken down into their respective protein, carbs and fat profiles:



As you can see, there are no set in stone figures on how to break down each macro nutrient, this calculation is highly individual depending on the person in question.

This is why it is essential to conduct a consultation process when creating nutrition plans - to really explore the make-up and lifestyle of each individual.



This is the only way to 'fine tune' this process, and make it more accurate.

The above macronutrient ranges are those that I typically use for a large majority of clients, these ranges will get results for 90% of people.

Again, the goal is to start somewhere (ideally with the help of your consultation pack and experience) and be open to making adjustments as required.

From my own example, I know I carry ample amounts of muscle mass, so protein can be high. I also train using high intensity techniques, so carbohydrates are important in my daily diet, and therefore fats can be lower as a result.

e.g. Goal for fat loss i.e. 2290kcal (worked out from earlier example)

Protein (1.2g per pound bodyweight) = 1.2g x 180lbs = 216g

Fat set at 30% of total calories = 30% x 2290 = 687kcal = 76g

Carbohydrates set at remaining = 2290kcal - (864kcal (protein) + 687kcal (fat)) = 739kcal = 185g

So the ideal starting point for me to lose weight is a diet adding up to 2290kcal a day, with a macro nutrient split of protein: 216g, fats: 76g and carbs: 185g.

If I were to eat 5 meals per day, I can simply divide each macro number by 5 to get how much of which nutrient I should be eating at each meal.

e.g. Protein: 43g Fat: 15g Carbs: 37g x 5 meals per day. (note - this is neglecting any sort of nutrient timing)

Of course, these numbers will all change for somebody else. For example, a female weighing 140lbs with a goal to lose fat, who does not train and works at a desk job, is not going to have the same macro nutrient breakdown as myself. Protein intake will be lower, fat levels much higher and carbohydrates very low, if at all.



When to use a macro nutrient number based plan?

As per the examples above, macro number plans can be used for anyone with any goal.

It is an advanced template to use, and I get the best results by using it.

You do not need a macro number plan for someone who is not already following a 'good' diet to start with. If you eat cereal for breakfast, bread for lunch and some more crap on an evening, while washing it down with pop, you just need a simple plan based on good foods and consistency.

If someone is eating what seems to be a perfect diet but are not seeing the progress they expect, macro numbers can be a great addition to the plan to get things moving.

You set the overall calories, while adjusting each macronutrient to better suit their goals. It shows people how much of the good stuff they should be eating. Or more commonly, how much less they really require.

When you combine good food choices with ideal calorie intake, along with a balanced macro breakdown, results are not far behind. It's a solid nutrition system that is now used by most.

It also gives us great freedom in our nutrition plans, which is partly due to its recent success in the fitness industry.

Providing someone with a set of macro numbers to hit over the course of a day (or even split up into each meal) gives the user much more freedom on food choices and planning their meals.

As long as you match your good food choices (that you like to eat) to your daily macro numbers, progress will be made. The plan even appears to allow some people to add 'treat' foods into their diets, while still getting results. So as well as being an accurate and advanced method for dietary success, it also gives nutritional freedom and choice.

Take our original example for the breakfast:

e.g. Monday, breakfast (meal1), 3 whole eggs, 2 rashers of bacon, with 2 fried tomatoes and a handful of mixed almonds.

Instead of the user having to eat this exact meal every Monday in order to achieve results, we can replace this meal with another one using the same recommended macro numbers:



E.g. Monday, breakfast (meal1), protein: 33g, fat: 26g, carbs: 15g.

Match the foods you wish to eat according to these numbers and you're good to go.

Problems with macronutrient counting.

Despite offering greater nutritional freedom, it is an advanced nutrition technique. Once you work out your daily macros, you then have to break down every single food you eat, how much you are eating of it, and how many macros this then contains.

This can take some time, and I have found this to be a steep learning curve for most. To be the most accurate with it, you also need to weigh your foods in order to know the exact amounts, and if this doesn't happen people tend to over estimate their intake.

Of course, if you are creating a plan for someone else, you can do this work for them and create their ideal daily meals based on your calculated macro nutrient split. Over time, it is better to get someone to learn this process for themselves, and after a few months of counting and weighing, you can get a very good idea of food macros by using the eye.

That being said, it is one of the best and most effective nutritional tracking systems we can use to currently get results. It allows coaches/trainers to know exactly how much is being eaten and where we should then make adjustments to see further progress.

It allows the more experienced user to obtain nutritional freedom, while in essence still adhering to a strict nutrition plan.

There are a number of free online programmes that can be used to help track your macro nutrient intake on a daily basis. But unless you wish to log onto a computer for the rest of your life, I suggest learning to read the back of food packets and understanding what macros are in these foods and how much.