

# THE ULTIMATE NUTRITION GUIDE

# ***PT* KIT**

[www.ptkit.co.uk](http://www.ptkit.co.uk)

# **WHAT IS A CALORIE?**

Simply put, a calorie is a unit of energy.

When we say calories, we almost always mean kilocalories. If a meal is 800 calories, it's actually 800 kilocalories.

Just like a car burns petrol so it can drive, our bodies burn calories so we can function.

1 kcal is the amount of energy required to raise the temperature of 1kg of water by 1 degree Celsius.

To find out how many calories are in a certain food, a calculation is used to find out how much of that food source is required to heat 1kg of water by 1 degree Celsius. We then know how many calories are in 100g, 250g etc of that food.

# WHAT IS ENERGY BALANCE?

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Energy balance is what determines weight gain, weight loss, or weight maintenance in the human body.

## **Calorie Maintenance**

If you consume the same amount of calories on average than you expend, you will maintain your current weight.

## **Calorie Deficit**

If you consume less calories on average than you expend then you will lose weight/body fat.

## **Calorie Surplus**

If you consume more calories on average than you expend then you will gain weight/body fat.

## **Do I have the right Energy Balance?**

This is a tough question to answer, at best we can make a good estimate. Later in this guide we will show how to calculate an estimate of the calories you burn, and a target daily calorie intake based on your personal goals.

# **WHAT ARE MACROS?**

Macro is short for macronutrient.

These are the nutrients our bodies need to function in fairly large quantities.

The three main macronutrients are Proteins, Carbohydrates and Fats. Each macro has a different calorie value per gram.

When you see a calorie value for a food or drink, the calories will come from one of, or a combination of Protein, Carbohydrate, and Fats.

## **How calorie dense is each macronutrient?**

- 1g of protein = 4 calories
- 1g of carbohydrate = 4 calories
- 1g of fat contains 9 calories

It's important to remember that almost no foods are made up of only 1 macronutrient.

For example, 100g of chicken breast is not 100g of protein.

The food labels on packaging will (should) show the macronutrient breakdown of the food plus additional information.

# WHAT ARE PROTEINS?

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Proteins are made up of amino acids, which are the building blocks of our bodies, and are essential nutrients for the human body.

They are one of the building blocks of body tissue and can also serve as a fuel source.

Because of this, protein is often thought of as the most important macronutrient.

There are 20 amino acids that make up proteins, 9 of which our bodies can't produce, we can only get them from food, these are called essential amino acids.

Animal products tend to have fairly complete chains of amino acids.

Vegetables tend not to have the same ratio of amino acids which is why it's important if you follow a plant based diet you eat a wide variety of vegetables to fill in the chains of amino acids.



1 gram of Protein contains 4 calories.

# WHAT ARE CARBOHYDRATES

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Carbohydrates (or carbs for short) are the sugars, starches and fibres found in fruits, grains, vegetables and milk products.

Carbohydrates are most associated with energy, the energy source that our bodies prefer to use is glucose, which is a carbohydrate.

It is easier for our bodies to convert carbohydrates into glucose than it is for protein or fat.



1 gram of Carbohydrate contains 4 calories.

# WHAT ARE DIETARY FATS?

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Dietary fats are essential nutrients for optimal health, but they have a bad reputation because of the 'link' to body fat.

Fats provide energy and support cell growth. They help your body absorb some nutrients and produce important hormones.

Fat is more than twice as calorie dense as protein or carbohydrate. It is much easier to overeat fatty food than protein or carbohydrate heavy food.



1 gram of Fat contains 9 calories.

# HOW MANY CALORIES SHOULD I BE CONSUMING?

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Your REE, or Resting Energy Expenditure, is the number of calories your body needs to accomplish its most basic life-sustaining functions.

I.e. the calories you need to eat to stay alive, as an average per day. You may hear it called REE, or Resting Energy Expenditure.

Your TDEE, or Total Daily Energy Expenditure, is your BMR + any calories you burn by being active.

There are relatively accurate calculations you can do to estimate your BMR.

Calculating your TDEE is much harder, your activity level fluctuates every day... Have you been at work, did you use the stairs instead of the elevator, did you sit at your desk all day, did you go to the gym etc. An activity tracker or smart watch is the most accurate way, but they aren't 100% accurate.

If you consume more calories than you burn, you are in a calorie surplus, and you will gain weight.

A calorie deficit means you're eating fewer calories than you're burning each day, and you will lose weight.



# **CALCULATING YOUR REE**

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**Step 1:** Multiply your age in years by 5

**Step 2:** Multiply your height in CM by 6.25

**Step 3:** Multiply your weight in KG by 10

**Step 4:** Add the answers from Steps 1, 2, and 3 together

**Step 5:** Using the answer from step 4, if you are Male add 5, if you are Female subtract 161

The answer in Step 5 is the estimated number of calories your body needs each day, before accounting for any physical activity.

Example:

If you are 38 years old, 172cm tall, weigh 88kgs, and male...

Step 1:  $38 \times 5 = \mathbf{190}$

Step 2:  $172 \times 6.25 = \mathbf{1075}$

Step 3:  $88 \times 10 = \mathbf{880}$

Step 4:  $190 + 1075 + 880 = \mathbf{2145}$

Step 5:  $2145 + 5 = \mathbf{2150 \text{ kcal per day REE}}$

# **CALCULATING YOUR TDEE**

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To estimate your TDEE (Total Daily Energy Expenditure) you apply a multiplier to your REE based on how active you are on a given day.

- No exercise = 1.2
- 30 to 60 minutes light exercise = 1.375
- 30 to 60 minutes heavy exercise = 1.55
- 60+ minutes heavy exercise = 1.725

If your REE is 2150, and you have done 45 minutes of light exercise, a good estimate of you TDEE that day is:

$$2150 \times 1.375 = \mathbf{2956kcal\ TDEE}$$

If you are wondering why no exercise still increases your kcal burned, it assumes that you aren't sitting in a chair for the entire day. You will walk around the house, up/down stairs etc.

**IMPORTANT NOTE: This is only an estimate, using an activity tracker or smart watch will be more accurate, but is still an estimate.**

# LOSING OR GAINING WEIGHT

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There is an additional calculation you can do to estimate a daily calorie intake goal, based on whether you want to lose, maintain, or gain body weight.

- Lose weight quickly = 0.8
- Lose weight gradually = 0.9
- Maintain weight = 1
- Gain weight gradually = 1.05
- Gain weight quickly = 1.1

If your TDEE is 2956 and your goal is to lose weight gradually:

$2956 \times 0.9 = \mathbf{2660 \text{ daily calorie target}}$

Your calorie deficit each day is  $2956 - 2660 = \mathbf{296}$

**IMPORTANT NOTE:** These calculations are just estimates, if you have you have changed your calorie intake but are not seeing any change in your bodyweight, you may not have as big a calorie deficit or surplus as you thought.

**Be 100% honest with the calories you are consuming and adjust in small increments until you can see/measure the difference in your weight.**

# YOUR TARGET MACROS

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The macronutrient source, as well as the type of exercise you do, can impact if/how your bodyweight changes.

For example, a high protein diet coupled with a strength training program is likely to see an increase in muscle mass and a reduction in body fat. This could mean a change in body composition, with a smaller change in body weight.

Choose your weight goal in the table below, and split your calories using the percentages shown.

	Carbs	Fat	Protein
<b>Lose Weight</b>	35%	15%	50%
<b>Maintain Weight</b>	40%	30%	30%
<b>Gain Weight</b>	45%	20%	35%

If your target calories each day is 2660, and your goal is to lose weight:

- Carbohydrate: 35% of 2660 = **931 kcal**
- Fat: 15% of 2660 = **399 kcal**
- Protein: 50% of 2660 = **1330 kcal**

The final step is to convert calories to grams.

- Carbohydrate: 931 kcal divided by 4 = **233 grams**
- Fat: 399 kcal divided by 9 = **44 grams**
- Protein: 1330 kcal divided by 4 = **333 grams**

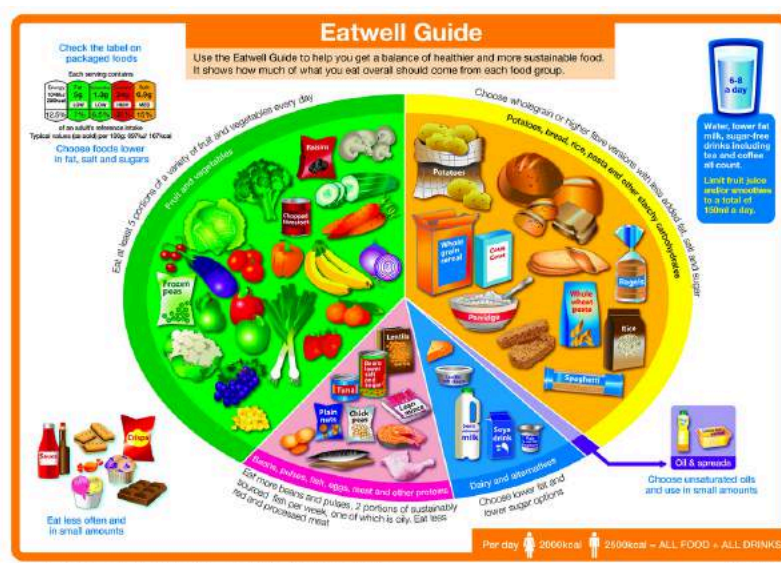
# SO WHAT SHOULD I EAT?

The truth is, most of us know what we should and shouldn't be eating... Keeping processed foods to a minimum. We want foods with as little processing as possible.

The Eatwell Guide from Public Health UK is a great place to start. It details the types of foods we should be eating and how to split our plate in to the different food groups.

Your macronutrients are important for optimal body health. It is a science and it can be overwhelming. You will see from the eat well plate that the focus is on fruits and vegetables with equal amounts of starchy carbohydrates.

It's important to remember that we all have different goals, as shown earlier in the macronutrient section, changing the proportion of Protein vs. Carbs vs. Fats can help us achieve our goal for effectively, and more sustainably.



<https://www.nhs.uk/live-well/eat-well/food-guidelines-and-food-labels/the-eatwell-guide/>

# PORTION CONTROL & SNACKING

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A great and simple weight loss tool...reduce your portion size.

There is a substantial difference in calories when we reduce our portions over time. You can do this mindfully when you fill your plate, or you could use a smaller plate.



## Snacking

If your a snacker and need an energy boost in-between meals, its a good idea to allow yourself 300 calories per day on snacks.

That could be:

- 1 x 300 calorie snack, or
- 2 x 150 calories snacks, or
- 3 x 100 calorie snacks

# **WHEN SHOULD I EAT?**

When you eat is likely to be more important than you think it is. Your brain has an internal 24 hour clock called your Circadian Rhythm.

Your circadian rhythm control some important processes in your body; Alertness, Sleepiness, Appetite, Body temperature, and is naturally aligned with the earth's cycle of day and night.

We haven't mentioned when to eat yet, we're getting there.

Sleep and food are very closely linked.

Getting a good nights sleep is a great way to help regulate how much, and when, we eat.

If you have your last meal at 6/7pm, 2-3 hours before bedtime, and are asleep at 9-10pm, you should naturally wake up between 6-7am, and with more energy than normal.

The less processed and sugary food you eat during the day will help you with this evening routine.

You won't get it right all of the time, if you can focus on one thing, as consistently as possible, it's having your last meal no later than 7pm with no snacks afterwards.

If you want to learn more about your circadian rhythm, visit:  
<https://www.sleepfoundation.org/circadian-rhythm>

# HYDRATION

## Staying Hydrated...

- Supports blood flow
- Regulates blood pressure
- Aids mental concentration
- Boosts metabolism
- Helps to absorb nutrients & convert food into energy
- Helps to carry nutrients and oxygen around your body
- Helps remove toxins
- Supports joints & cartilage

## How much water do I need to drink?

It's common to hear 8 glasses of water or 2-3 litres per day. The truth is, it all depends on your body weight and how much you sweat.

Start with 0.35 litres for every 10kg of bodyweight. Increase this if you have a particularly sweaty day.

If you weigh:

- 60kg = 2.1 litres per day
- 75kg = 2.6 litres per day
- 100kg = 3.5 litres per day

Try and stay ahead of the game... **Pre-hydrate**, drink water before and during exercise.



# **BUILDING HEALTHY HABITS**

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Building healthy habits is crucial for overall well-being, and it involves a combination of psychological, behavioral, and environmental factors.

There is no one-size-fits-all approach, here are some tips to get you started.

## **1. Set Clear and Achievable Goals:**

Instead of a vague objective like "exercise more," be specific; "30 minutes of brisk walking every day." Clear goals give you direction, making it easier to track progress and celebrate achievements.

## **2. Focus on One Habit at a Time**

Prioritise one habit to avoid spreading yourself too thin. Mastering one behaviour creates a foundation for tackling additional changes. Once a habit is well-established, shift your focus to another.

## **3. Create a Routine**

Add your new habit into an existing routine. Linking it to a specific time or activity helps establish consistency. For example, if you need to start buying healthy food, add a trip to the supermarket on your drive home from work

## **4. Track Progress and Celebrate Success**

Keep a record of your efforts in a journal, notes app, or checklist. You will be able to see how far you've come and when you deserve a reward.



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