

THE



GUIDE TO CALORIES

AWARENESS, INTAKE AND OUTPUT



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WELCOME TO MY GUIDE TO CALORIES

The intention of this guide is to give you many of the tools required to increase awareness of calories, your caloric intake and how you would go about manipulating both the quality and quantity of them to fit with your own personal goals.

That goal could be centered around improvements to your physical composition or changes to your physical performance or perhaps a combination of both. Either way, energy balance is single handedly the most important factor to consider when trying to achieve this.

The quality and quantity of energy you consume on a daily basis therefore becomes critical and by giving you a deeper understanding and clarity surrounding that source of fuel is a large step in the right direction.

I hope you enjoy.

Mark Worswick
Nutrition Coach

WHAT ARE CALORIES

Calories or kilocalories (k/cals) indicate the amount of energy in an item of food or drink.

This is the energy that once digested will provide you with the fuel you need to firstly maintain normal bodily functions such as breathing, digestion and regeneration, and secondly, to fuel the exercise or activity you choose to do beyond that basal requirement. Depending on the source of the calorie it may also provide you with an array of critical nutrients such as protein, carbohydrate, fats, dietary fibre, antioxidants, vitamins and minerals.

You can obtain calories from three primary sources within our diets, commonly known as macronutrients. Each of which contains a given amount of energy per gram.

Protein – Protein contain 4 k/cals per gram.

Carbohydrates – Carbohydrates also contain 4 k/cals per gram.

Fats – Fats contain 9k/cals per gram

You also mustn't forget about alcohol (for those of you that consume it). Alcohol is made through fermentation and distilling of natural sugar or starch, so also contains calories. 7k/cals per gram to be precise.

Alcohol and some other foods are commonly known as empty calories due to being very low or even completely devoid in nutrients and instead only provide energy.

ARE ALL CALORIES CREATED EQUALLY?

When it comes to the laws of thermodynamics the answer is YES.

A milie is a mile, a kg is a kg, a unit of energy is a unit of energy, so when it comes to controlling and regulating someone's caloric intake for compositional purposes, the numbers count. Calories in (what you consume) vs calories out (what you expend) is the major determining factor in someones compositional change.

Contrary to popular belief, you can, in essence, lose body fat by consuming anything you want, provided the calories consumed are less than the calories being expended. This is called creating a calorie deficit and you cannot lose body fat without being in this hypo-caloric state.

However, consuming foods that are devoid of critical macronutrients and micronutrients, make managing energy balance and losing fat much harder for a multitude of reasons, which we will cover in the coming pages.

When it comes to fat loss there is nothing magic about ketosis, intermittent fasting, low carb, low fat diets etc. These are all just methods which may help someone adhere to a calorie deficit. It is, on paper, just a matter of managing energy balance.

At this stage it's good to also understand the thermic effect of food (TEF). TEF refers to the energy required for digestion, absorption, and disposal of a given nutrient following ingestion. In essence, you need calories to break down the energy in food.



Carbohydrates: 5 to 15% of the energy consumed



Protein: 20 to 35%



Fats: at most 5 to 15%

So if you were to consume 100 kcals of protein you would use up 20-35 kcals digesting, absorbing and disposing of it. Another reason why protein is great for fat loss!





Foods that are processed are typically less filling than whole, unprocessed foods for the reason that it fails to contain many of the above nutrients, or has even in some cases been stripped of them. Manufactured foods including alcohol, have further empty calories added to them in the form of solid fats and sugars to make them more enjoyable.

This is why when you ask people which foods they typically over-consume, they will almost always be foods that contain high amounts of solid fats, added sugar such as sucrose or high-fructose corn syrup, or a combination of both. This is why fats and sugars are often wrongly stigmatised and very loosely bracketed.

When you are hungry you will seek foods that have a high energy density (more calories) but low nutrient density (fewer nutrients) as they will fix the problem of immediate hunger and potentially low blood glucose much quicker. You will also tend to over-consume them because they have low satiety and taste great.

A 2000 k/cal diet using whole, unprocessed foods is much easier to maintain than one using processed variants. Due to the critical nutrients that will also be ingested, your willingness and desire to 'move more' and cognitive functioning will also undoubtedly be increased.



ENERGY & NUTRIENT DENSITY

ENERGY DENSITY

is the amount of energy, as represented by the number of calories, in a specific weight of food.

Energy-dense foods have a large number of calories per serving and tend to include foods that have high sugar, high fat and low water content.

These should play a smaller part in your diet.

An example of a food with high energy density is ice cream. Ice cream has lots of calories from the sugar and fat that fit into a small serving size but also bundles of taste. Spinach in comparison has a low energy density because there are only a few calories in a whole plateful of spinach, yet not a great deal to satisfy the taste buds.

NUTRIENT DENSITY

is the amount of carbohydrates, proteins, fats, fibre, antioxidants, vitamins, and minerals represented by the number of calories, in that weight of the food. To use the same example, the spinach is packed full of nutrients, yet the ice cream has very little.

Packing a diet with a higher proportion of nutrient dense food with a lower ratio of energy ultimately gives you a diet that can satisfy both hunger and taste whilst sustaining an intake of calories relative to your goals.



WHAT YOU NEED TO CONSIDER

WHEN IT COMES TO THE FOOD YOU REGULARLY CONSUME, YOU NEED TO CONSIDER THE FOLLOWING:

TASTE

The sense of taste is one of the most important human senses.

The experience of flavour of food/drink arises from the integration of multiple sensory cues, including taste, smell, temperature, and appearance.

The food and drink you consume need to be perceived as appealing and not just as satiating; taste quality is therefore critical in any type of long term dietary compliance. No one sticks to a diet that doesn't taste nice.

One main challenge you have here is that a large amount of manufactured and processed foods, that are cheap and easily accessible, inclusive of alcohol, have further calories added to them in the form of sugars and solid fats to make them more enjoyable and taste great. Everyone seems to think sugar is the devil, however, it is absolutely fine in moderation for healthy individuals. The problem is that it tastes amazing (especially when combined with fats), and it doesn't fill you up much, making it very easy to over-consume. These foods are known as hyper-palatable foods.

As the taste of food is a major determinant of food intake it is crucial to find low energy density foods you enjoy the taste of and limit (but not avoid) hyper-palatable foods.

Another challenge is that many people can't cook/prepare foods that taste nice, and as a result eat out more, eat more ready meals or use more high energy dense condiments. Therefore, food convenience, as well as culinary skills, need to be considered and catered for.

SATIETY

Satiety is the term used to explain the feeling of fullness and suppression of appetite that happens after eating a specific food or a combination of food. Food with a high level of satiety will help prevent over-consumption because, well, it makes you feel full.

Filling foods or foods with a high level of satiety tend to have the one or more of the following characteristics:

HIGH IN PROTEIN: Research shows us that of all the macronutrients, protein is the most satiating.

Consumption of protein also has a positive impact on the levels of several hormones that impact satiety.

HIGH IN FIBRE: Fibre provides bulk and slows down digestion and the emptying of the stomach. This in turn helps you feel fuller for longer.

HIGH IN VOLUME: Some foods contain a lot of water or air. This may help with satiety as well. These are typically foods with a lower energy density

LOW IN ENERGY DENSITY: This means that a food is low in calories for its weight. Foods with a low energy density are very filling. They typically also contain a lot of water and fibre and tend to be low in fat. Fruit and vegetables, soups, stews, pasta, pulses and rice are all great examples of low energy density foods.

As previously mentioned, anything high in sugar tends to leave very little to no satiety.



UNDERSTANDING ENERGY EXPENDITURE

In the balancing act of managing your energy intake vs energy expenditure, it's important you understand what contributes to your output.

COMPONENTS OF TOTAL DAILY ENERGY EXPENDITURE (TEE)

Resting energy expenditure/BMR

This accounts for more than 60% of your total energy expenditure. Even when resting, your body utilises energy (calories) by performing basic functions to sustain life, such as breathing, circulation, the processing of nutrients and cell regeneration. This is known as your basal metabolic rate or BMR.

Non-resting energy expenditure.

This is made up of three components.

NEAT or non-exercise activity thermogenesis.

NEAT is the calories burned walking, climbing stairs, fidgeting and maintaining/changing posture. Anything outside of formally planned or structured exercise falls under this category.

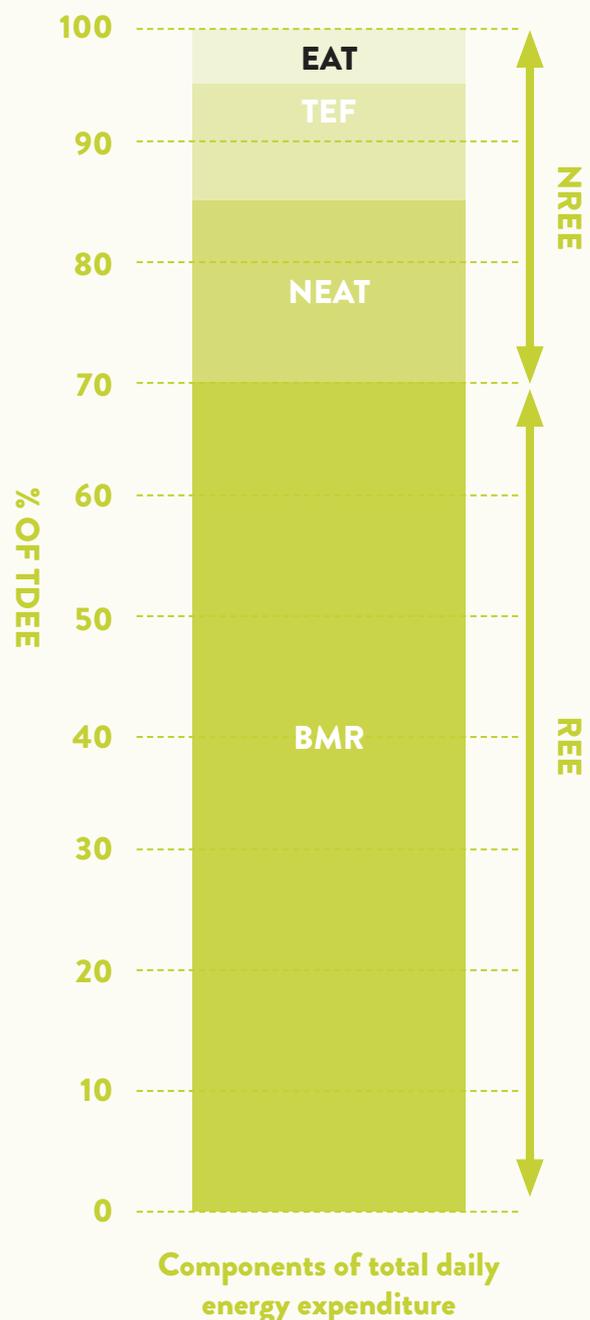
EAT or Exercise Activity Thermogenesis

EAT is defined as planned, structured, and repetitive physical activity with the objective of improving health. Doing sport or going to the gym falls under this category.

For most people, NEAT accounts for much more energy expenditure than EAT therefore habitual daily activity and movement should be your primary focus to creating a calorie deficit. Steps, steps and more steps!!

TEF or Thermic effect of Food

As previously mentioned, this relates to the amount of energy required to digest, absorb and store food.



UNDERSTANDING YOUR 'LIPOSTAT'

Just before you go I want you to understand something that really sucks - 'The Lipostat'. It was brought to my attention by Dr. Stephan Guyenet and explains one of the many reasons why a reduction in body fat is so hard to maintain.

WHAT IS THE LIPOSTAT?

Your brain regulates body fat, the same way a thermostat regulates temperature...Kind of.

Your body is very good at maintaining homeostasis. Incredible, in fact. Without it we'd be dead. However, on the flip side, this makes losing body fat a little bit trickier.

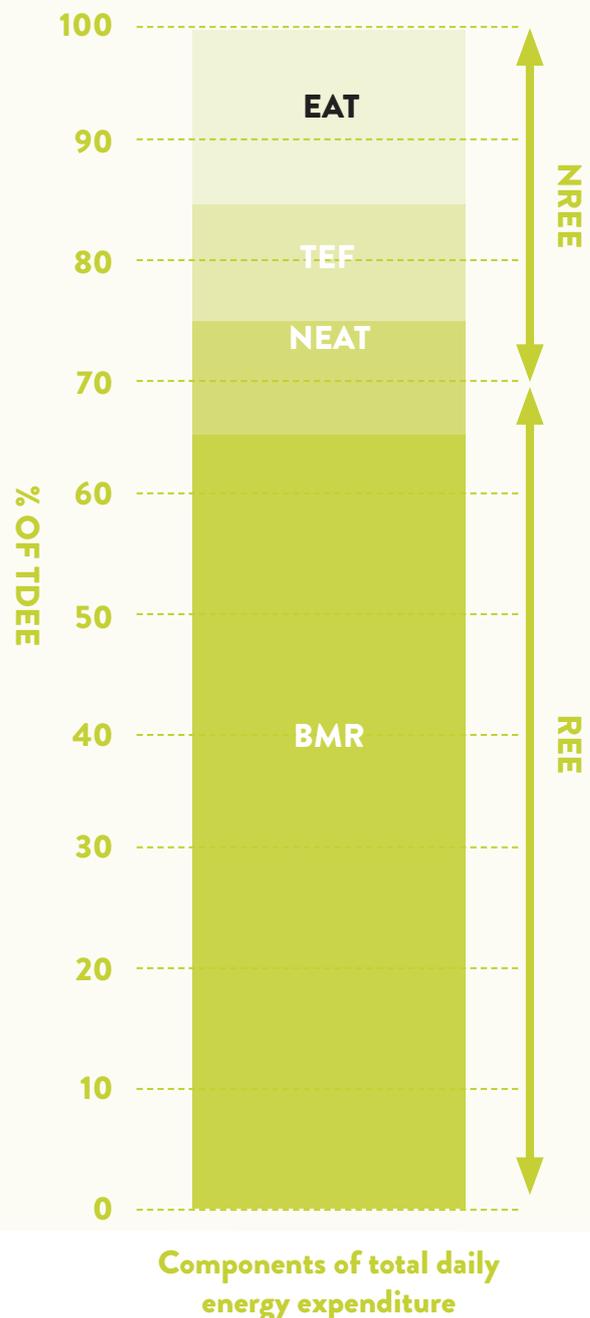
A thermostat in a house will detect the temperature. If the temperature drops, the heating goes up to maintain the preferred temperature and if the temperature rises, the heating will lower.

Once your body has been at a certain level of body fat for a while, your brain will try to regulate certain mechanisms to help maintain your body fat at this level - this is known as your 'set point'. Put very simply, if you start to lose body fat, your brain's hunger hormones will increase, your satiety hormones will decrease, your NEAT will naturally decrease, all to try and maintain your set point.

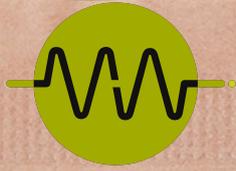
EXPENDITURE ADAPTATION

This is also why it's so hard for people to lose fat just from exercising more. They go for a their weekly HIIT class and burn 500kcal. When they return home an hour later, their brain tells them that they're hungry. Next thing you know they've had a couple of snacks, and on top of this, they haven't moved from the sofa all night, thus their NEAT has dropped significantly. The 500kcal deficit they created from their exercise has now been negated.

To combat this you have to go back to page 7 and think about the ways to increase satiety and if you exercise regularly, make sure you keep your NEAT levels up! The graph to the right is an example of how your lipostat may decrease your NEAT when you've increased your EAT.



UNDERSTANDING FOOD LABELS



Nutrition Facts	
8 servings per container	
Serving size	1 cup (68g)
Amount per serving	
Calories	370
<small>% Daily Value*</small>	
Total Fat 5g	7%
Saturated Fat 1g	5%
Trans Fat 0g	
Cholesterol 0mg	0%
Sodium 150mg	6%
Total Carbohydrate 48g	15%
Dietary Fiber 5g	14%
Total Sugars 13g	
Includes 10g Added Sugars	20%
Protein 12g	
Vitamin A 10mcg	20%
Vitamin C 1mg	100%
Vitamin D 1mcg	50%
Vitamin E 2mcg	100%
Riboflavin 5mcg	75%
Folic Acid 200mcg	60%
Thiamin 2mcg	35%
Vitamin B12 5mcg	100%
Zinc 7mg	50%
Biotin 300mcg	100%
Calcium 50mcg	25%
Phosphorus 90mcg	90%
Magnesium 400mcg	100%
Chromium 75mcg	80%
Potassium 5g	100%

* The % Daily Value (DV) tells you how much a nutrient in a serving of food contributes to a daily diet. 2,000 calories a day is used for general nutrition advice.

SERVING SIZE AND SERVINGS PER CONTAINER

– This gives you an insight into the food's energy density by offering the weight of a single serving (g) alongside the number of servings in the container. The serving someone may choose to use may not be reflective of the proposed serving size.

Per serving, per 100g and % RI

All nutrition information is provided per 100 grams of the product and often, it will also be presented per portion of the food product too. It is generally best to calculate the macro nutrient percentages using the per 100 grams values as the suggested portion may not be reflective of the serving size you choose, and you may end up consuming more than you had planned or realised.

‘ENERGY’ – the amount of energy in a food or drink is measured in calories. On food labels, the calorie content is given in kcals and kJ, which are short for kilocalories and kilojoules. Kilojoules are the metric measurement of calories. 1 kcal = 4.18kJ

‘CARBOHYDRATES’ – Carbohydrates are made up of three components: fibre, starch, and sugar. This statistic is inclusive of all three types. Fibre and starch are complex carbs, while sugar is a simple carb. Depending on how much of each of these is found in a food determines its nutrient quality and nutrient density. Look for foods with more starch and more fibre.

‘SUGARS’ – ‘OF WHICH SUGARS’ refers to how much of the carbohydrate content of the food or drink comes from sugars (the rest being from starch). ‘Total sugars’ is declared on food labels this could include both the sugars naturally present in whole fruit and milk. This requires a look at the ingredient list to help ascertain if this is added or part of a component ingredient.

‘FAT’ – this includes different kinds of fat - both saturated fat and unsaturated fat. By looking at ‘of which saturates’ you can calculate how much of both make up the total. Most solid fats are high in saturated fats and/or trans fats and have less monounsaturated or polyunsaturated fats.

‘PROTEIN’ – this is the total protein content of the food. Not only is protein hugely satiating and thermogenic, but the body needs protein to grow and repair itself.

‘SALT’ – The term ‘salt’ on food labels includes all the sodium in a food. While most sodium comes from salt (sodium chloride), some can be naturally occurring in food. It can also come from raising agents and additives.

OTHER USEFUL INFORMATION YOU MIGHT NEED

Above are the values that are legally required. You may also find useful values for:

FIBRE

Fibre helps to keep our digestive system healthy and helps to prevent constipation.

Your daily target is 30g of fibre per day. Remember that nutrient dense and filling foods have loads of fibre typically. Starch

Starchy foods are a good source of energy and the main source of a range of nutrients in our diet. As well as starch, they contain fibre, calcium, iron and B vitamins. Wholegrain varieties of starchy foods and potatoes – particularly when eaten with their skins on – are good sources of fibre.

MONO/POLY-UNSATURATED FATS

These are what are deemed as ‘healthier’ fats and should be incorporated into your daily eating patterns.

Monounsaturated Fat

- Sources of monounsaturated fat include:
- Avocados
- Almonds, cashews and peanuts
- Cooking oils made from plants or seeds like canola, olive, peanut, soybean, rice bran, sesame and sunflower oils.
- Polyunsaturated fat

Sources of polyunsaturated fat

(both omega-3 and omega-6)

- Fish
- Tahini (sesame seed spread)
- Linseed (flaxseed) and chia seeds
- Soybean, sunflower, safflower, and canola oil, and margarine spreads made from these oils
- Pine nuts, walnuts and Brazil nuts.

POLYOLS

Polyols, also called sugar alcohols, are used as food ingredients to replace sugar in many sugar-free and reduced-calorie foods and beverages. In some people, excessive consumption of polyols may cause gastrointestinal distress.

VITAMINS OR MINERALS.

If the food has what would be deemed as a significant contribution of vitamins or minerals it can be listed and if the food is fortified (extra nutrients added) these also need to be listed.

INGREDIENT LISTS

Food labels will also have a list of ingredients found in the product. Ingredients are listed from greatest to smallest by weight, so the main ingredients in the packaged food will always be listed first.

Using the first three ingredients gives us a good idea of the constituents of a product but in many cases you will need to understand some of the names better:

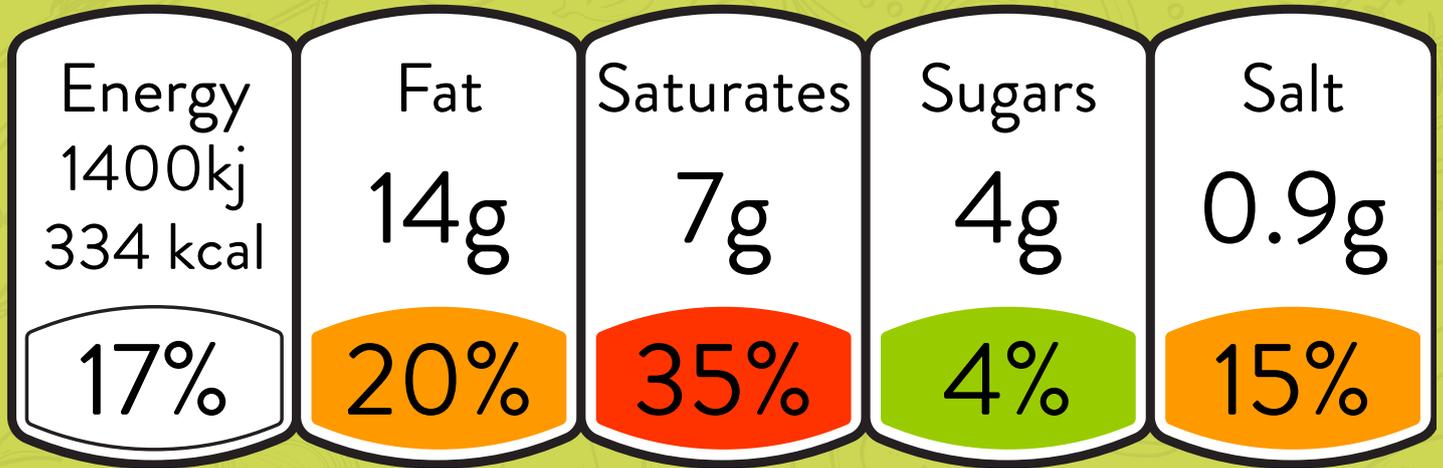
These are other names you may find for added fats and sugars:

Animal fat/oil, beef fat, butter, chocolate, milk solids, coconut, coconut oil/milk/cream, cophera, cream, ghee, dripping, lard, suet, palm oil, sour cream, vegetable shortening.

Other names for added sugar:

Dextrose, fructose, glucose, golden syrup, honey, maple syrup, sucrose, malt, maltose, lactose, brown sugar, caster

THE TRAFFIC LIGHT SYSTEM



Found on the front of products, the traffic light system is a voluntary government scheme. Using a combination of colour coding and nutritional information it enables the consumer, at a glance, to see whether it is high (red), medium (amber) or low (green) in fat, saturated fat, salt and sugars, and how much energy (calories and kilojoules) it provides.

It also provides a percentage of an adults average reference intake.

This information will be written per 100g/100ml, perportion or both.

When comparing foods, selecting a majority of amber and green in your diet typically (but not always) means that nutrient density and satiety are both increased per unit of consumed energy.

Pay close attention to the serving size as it can be misleading in some cases.

*These are however very loose government guidelines - to get a more accurate idea of your targets please ask me.

FAT

High in fat: more than 17.5g of fat per 100g
Low in fat: 3g of fat or less per 100g

SATURATED FAT (SATURATES)

High in saturates: more than 5g of saturates per 100g
Low in saturates: 1.5g of saturates or less per 100g

SUGARS

High in sugars: more than 22.5g of total sugars per 100g
Low in sugars: 5g of total sugars or less per 100g

SALT

High in salt: more than 1.5g of salt per 100g
Low in salt: 0.3g of salt or less per 100g

HOW CAN I HELP YOU ?

HOW MANY CALORIES DO YOU NEED?

Calculating your energy requirements, especially when you are trying to lose or maintain weight, is extremely important. I will more than happily assist you with ascertaining your daily/weekly energy requirements for your desired goals.

ACQUISITION & CREATION OF FOOD

For many people food will be acquired in different ways. Statistics tell us that if you were born after 1976 there is a high likelihood you don't cook much. Presenting you with an array of recipes and combinations of food to create yourself could be only part of a solution.

Not only do you perhaps lack the skills to create it but also the skills to make what you prepare tasty and therefore part of a sustainable plan.

If you do possess those skills, great, I will happily provide you with ideas and recipes to make your diet more satiating, nutritionally dense and in alignment with your goals. I have a library of over 250 carefully calorie and macronutrient counted recipes for you to choose from, to help fit your exact needs.

If you don't possess those skills, I will also assist you with the acquisition of food. Taking into consideration where you eat, when you eat, who you eat with, the time you have to eat, your budget and where you get your food from.

I will help you with the planning and logistics of whichever approach or approaches you choose to adopt.

Contact me for more details.

P.S. I would love to send you some FREE 'Nutritional Survival Guides' to your favourite restaurants all with colour coded calorie/macronutrient content for every meal on their menu, just ask!

markworswick.com





**YOU DON'T
CREATE HABITS
FROM STOPPING
DOING THINGS.**

**YOU
CREATE
HABITS
BY
STARTING
DOING
THINGS!**



#ActChangeSustain



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