



It's big bucks time for the weight-loss industry again, so **Alice Ball** looks at whether, when it comes to trying to watch our weight, one size can really fit all

As the last of the seasonal decorations are taken down and those of us in colder countries settle into the January gloom, some of us may now be feeling the effect of one mince pie too many. But before we start scrolling through social media or lingering over the lists of best-selling diets, should we take it for granted that what worked for some slimmed-down celeb (who's now pushing their new diet book/workout) will really work for us too?

The diet industry has become increasingly saturated, making the task of selecting a weight-loss plan overwhelming to say the least. When it comes to the basics, however, many modern commercial diets can be categorised by different characteristics: calorie counting; low-carb or low-glycaemic index (GI) — which is, essentially, low-carb; and fasting diets.

According to Public Health England's Eatwell Guidelines, we should look to consume approximately 2,000-2,500 calories per day depending on whether we're female or male. But Linia Patel, a registered dietitian from the British Dietetic Association tells us to remember that these numbers are guidelines for the general public and may not be suitable for everyone.

"The key with weight-loss is that you create an energy deficit from your daily caloric intake that results in sustained weight-loss," she says. "Science suggests that creating a calorie deficit of +/- 500 calories per day from your usual intake will result in a sustainable weight-loss of 0.5 kg per week."

In scientific terms, your 'usual intake' is known as your total daily energy expenditure (TDEE) — the amount of calories your body expends in 24 hours, taking into account all physical activity. According to Patel, your TDEE is determined by several factors including age, sex and activity level. "That is why you can't just follow any diet plan you find on the internet or see in a magazine," she says.

Louise Robertson, a specialist dietitian working with inherited metabolic disorders, also explains how the minimum amount of energy our body needs to keep

us alive decreases with age. “Muscle is more metabolically active than fat tissues and requires more energy,” she says. “As we age, we tend to lose muscle mass and increase our fat mass. If you lose muscle mass, then your body will require less energy. Therefore, if you continue to eat the same amount as you age, you will gain weight.” Robertson also says that people who are physically active burn more calories throughout the day, so need to eat more to maintain their body weight.

Metabolic disorders and lifestyle

We might assume that once we’ve calculated our usual intake that we can plug the numbers into any weight-loss strategy. Wrong — this is where lifestyle factors and even disease factors come in.

“Some people will find that cutting carbs down is an easy way to help with weight-loss and it may be beneficial for people with or at risk of developing type 2 diabetes,” says Robertson.

“On the other hand, a low-carb, high-protein diet could be dangerous for certain rare metabolic disorders such as urea cycle disorder. In people with this disorder, the body cannot get rid of ammonia from protein breakdown, so the build-up of toxic ammonia can lead to coma and death.”

Likewise, Robertson says that fasting diets work well for people who are motivated to undertake the fast days but aren’t suitable for shift workers or people with certain health conditions.

“It wouldn’t be recommended for people that need to keep their calorie intake stable such as people with diabetes on regular insulin, pregnant ladies, or people who have a history of eating disorders.”

Being balanced

It is equally important that whatever diet you follow provides adequate levels of essential nutrients. Low-carb diets often limit intake of wholegrains, carbohydrate-dense fruits and starchy vegetables — all key sources of fibre which is essential in maintaining bowel movement and digestion. So it is important to ensure intake of fibre from vegetables and fruits such as berries, which are low in sugar.

Diets high in protein have also been linked to an increased risk of certain cancers, including cancer of the breast and colon; although it is important to bear in mind that overall diet and lifestyle are also important factors.

It’s in your genes

Life can seem very unfair if you have a

“As we age, we tend to lose muscle and increase our fat mass. If you lose muscle mass, then your body will require less energy...”

friend who is the proverbial dustbin and yet you only have to look at a slice of bread to feel your waistline expanding. So it may be some small comfort to know that research has revealed that our genetics can play an important role in how we respond to certain foods.

Dr Giles Yeo, a geneticist at the University of Cambridge and a regular presenter on the BBC series *Trust Me I’m a Doctor*, has spent 20 years studying severe obesity and identifying the role of genetics in controlling food intake.

Yeo explains that the brain needs to sense two signals to control what we eat. “First, it needs to know how much fat you have because this determines how long you’ll last without food in the wild,” he says. “Then, it needs to know what you have just eaten and what you are currently eating — these are short-term signals that come from the gut.”

Both your fat and gut do this by releasing hormones which your brain interprets to control your food intake. People who are severely obese have genetic mutations in the fat-signalling hormone known as leptin.

“What happens is the brain thinks these people have either no fat at all or the mutation makes the brain less sensitive to signals from fat and the gut,” Yeo explains. “As a result, the brain thinks ‘I didn’t eat enough today’, making you eat more and therefore causing you to gain weight.”

But how can research into severe obesity help people who are just slightly overweight?

“Rather than being broken, the pathways in some people are slightly less sensitive to signals coming from fat and the gut,” says Yeo. “If you have someone who’s feeling five per cent hungrier all the time, they’ll end up eating five per cent more all the time and then they’ll gain weight.”

The “million-dollar question” according to Yeo, is how we can use this research to change the way we approach weight-loss. “There’s never going to be a one size fits all approach because those of us who are overweight or obese have got to this place for very different reasons,” he says. “You could have people who eat more because they’re emotional eaters; some

people who eat when they’re stressed — or some people who don’t; and some who have a more sensitive reward element to the brain and get a bigger high from food.”

So understanding our own behaviour and motivation around food is important if we want to find solutions to over-eating.

“We first need to understand our personal biology and behaviour around food before we can select the right strategy for weight-loss,” says Yeo. This could be as simple as identifying the types of food that we crave most and removing them from our environments.

Yeo hopes that in the near future, GPs will be able to carry out gene tests to create personalised diet plans for patients, based on the balance of macronutrients their body responds to best.

Traditional approaches

Yet the concept of individualised eating has been around for probably longer than we think.

Originating in ancient India, Ayurveda is a traditional system of medicine that deals with wellness and longevity. It is founded on the idea that each of us has a unique combination of three ‘doshas’ — energies that describe everything in and around us. Dr Anil Alexander, a qualified Ayurvedic doctor practising in London, explains that our makeup of doshas determines our mind-body type — known as our ‘prakriti’.

“Doshas are physical entities responsible for the functionalities that regulate all physiological, psychological and spiritual facets of a person,” he says. “There are three types: vata, pitta and kapha.”

According to Alexander, we are at our best health when our doshas are in perfect order, and this is affected by what we eat. “There are four properties in every food which determine whether that food will augment or pacify our doshas. These are rasa (taste), virya (hot or cold), vipaka (result of digestion) and prabhava (action).” Someone who is predominately pitta, for example, would benefit from consuming cool foods with sweet and bitter tastes, while someone who is predominately vata will thrive on warm, moist foods that are sour and salty in flavour.

But Ayurveda is not the only medicinal system that favours a personalised approach to diet. In Japan, blood group is considered to be important in determining health and even personality; an approach that was popularised in *Eat Right For Your Blood Type* by Dr Peter D’Adamo, a naturopathic physician and director of



Physiological differences in how we approach weight-loss have also been hypothesised for many years. The concept of 'body type' was first introduced in the 1940s by psychologist William Sheldon

LOW-CARB

Because protein and fat break down more slowly, a low-carb diet can be effective for weight-loss because the longer food takes to digest, the further down the gut it travels and the fuller you'll feel. Carbohydrates are quickest to digest, followed by fats and lastly by protein. This is why protein and fat should make you feel full for longer, which can help reduce overall caloric intake, resulting in weight-loss — although excess calories from fat and protein will also lead to weight-gain!

However, low-carb diets are not suitable for all. Recently, it was reported that Anna Boniface, 2017's London Marathon's fastest amateur female runner, was diagnosed with a condition called relative energy deficiency in sport (Red-S) as a result of restricting foods such as carbohydrates to lose weight before races. Red-S can cause a range of health problems, including loss of bone density.

Registered nutritional therapist Kate Delmar-Morgan says that someone who is training for a sporting event may need the additional carbs. She also would not recommend a low-carb diet for children, teenagers, anyone who is pregnant or breastfeeding, or who is underweight.

INTERMITTENT FASTING

Fasting diets can work by limiting calories to a shorter time window or reducing calories on certain days. There have been claims that fasting can increase metabolism, but current research hasn't demonstrated that alternate-day fasting regimens produce superior weight-loss in comparison to standard, continuous calorie restricted plans.¹

Delmar-Morgan does not advise fasting for people with adrenal fatigue, diabetes or eating disorders, anyone who is underweight, or for children, teenagers, pregnant or breastfeeding women. She also cautions for anyone with a thyroid issue. If you are considering a fasting diet and have a medical condition, it is recommended to seek advice from a GP, registered nutritional therapist or dietitian.

the Centre of Excellence in Generative Medicine at the University of Bridgeport.

"Research dating back to the 1960s shows that there are fundamental differences in the way that blood types respond to certain dietary choices," says D'Adamo.

"All of the recommendations made by the blood type diet stem from research on the physiological differences between each blood type."

According to D'Adamo, depending on your type — A, B, AB or O — the cells in your digestive tract will bind and react to foods differently. He also suggests that there are fundamental differences in the quantity of intestinal enzymes and stomach acid present in each blood type.

"Blood type O and B appear to derive significant benefit from diets including healthy fats and lean animal proteins because they have much higher levels of an intestinal enzyme called IAP (intestinal alkaline phosphatase)," he says. "This is a critical enzyme involved in the digestion of proteins and fats."

Evidence to support the concept of a blood group diet, however, is limited. Whilst research in the 1960s did indicate that different blood groups were associated with varying amounts of stomach acid,² a 2014 study from the University of Toronto concluded that the benefits of particular blood group eating patterns were independent of an individual's ABO genotype.³

Nevertheless, D'Adamo does agree that "personalised nutrition is critical" when it comes to dietary change. "Beyond the individual foods recommended, even the carbohydrate, protein and fat ratios along with lifestyle recommendations are completely different for everyone," he says.

Physiological differences in how we approach weight-loss have also been hypothesised for many years. The concept of 'body type' was first introduced in the 1940s by psychologist William Sheldon. Called somatotypes, these are divided into three categories: mesomorphs, ectomorphs and endomorphs. Ectomorphs are described as people

with a small frame and little body fat, who have problems gaining weight and muscle no matter what they eat or how they exercise. The mesomorph tends to have a medium frame and develops muscle easily, while the endomorph is characterised by higher body fat and less muscle — these individuals are thought to gain weight more easily than other somatotypes.

It's a theory that was investigated by researchers at the University of Novi Sad in Serbia, to discover whether there were somatotype differences between metabolically healthy non-obese and metabolically healthy obese individuals.⁴ The team concluded that metabolically healthy non-obese women had significantly lower endomorphy and higher ectomorphy traits compared to metabolically healthy but obese women, who had higher values of ectomorphy; suggesting that some people are genetically and physiologically predisposed to gaining weight.

So back to us; if the best-sellers list doesn't have the answers to weight-loss, what does? One approach is to speak to a GP, registered nutritional therapist, or dietitian for advice on losing weight in a safe and sustainable way.

And as there is no one size fits all way to successful dieting, if we do find that we are struggling with our weight, we shouldn't compare ourselves with others who appear to maintain theirs without any effort at all — because what works for their biology may simply not work for yours. And there is no shame in that.

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