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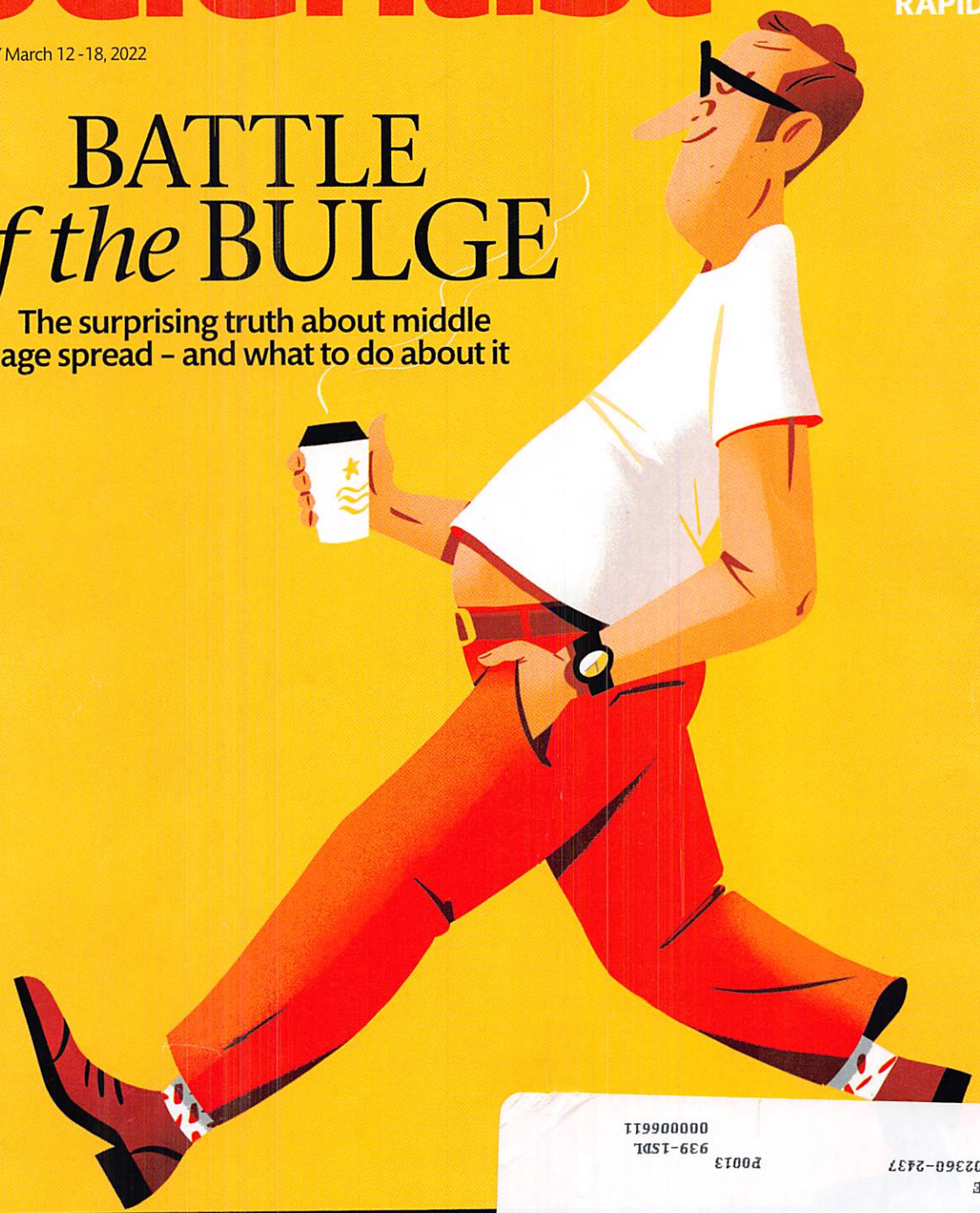
BATTLE *of the* BULGE

The surprising truth about middle age spread – and what to do about it



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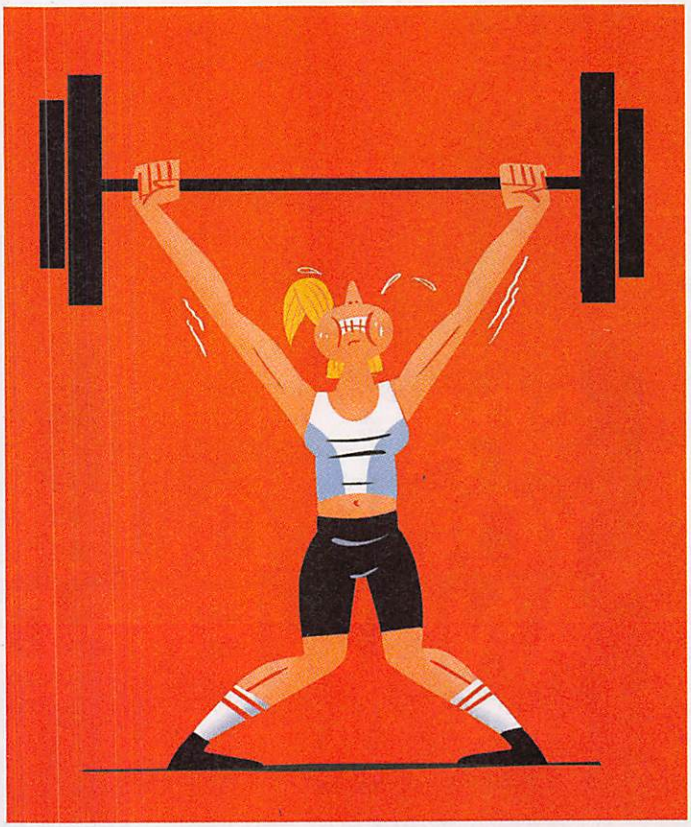

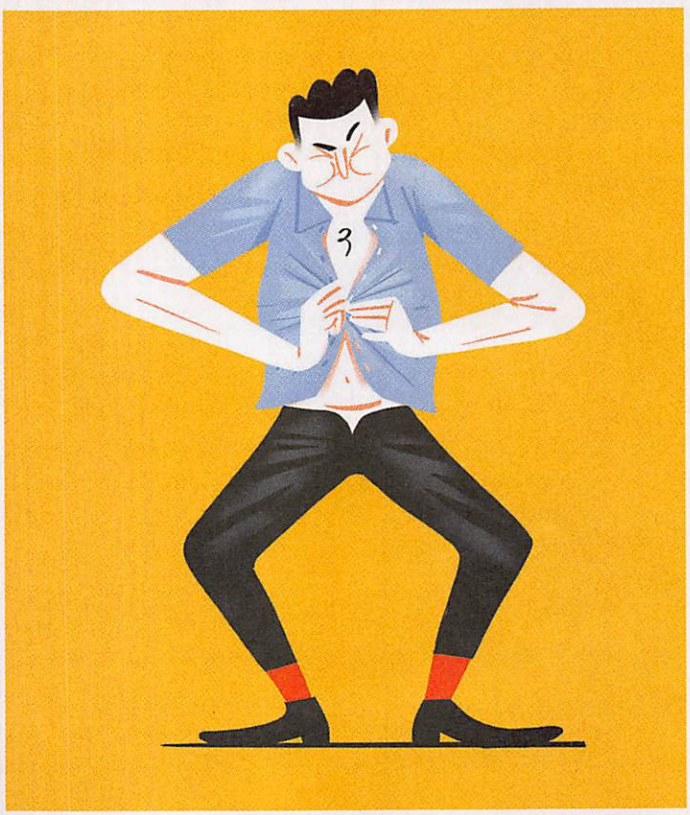

ANTONIO SORTINO

Battle of the mid-life bulge

It is a myth that extra belly fat in middle age is due to a slowing metabolism. So what does cause the dreaded spread and what can we do about it, asks **Sara Novak**

FEW of life's milestones are as unappealing and unceremonious as arrival in middle age. Our skin becomes noticeably looser, grey hairs more numerous and, of course, our clothes typically start to feel a bit tighter – especially around the waist.

The last of these is known as middle-aged spread, the commonly accepted idea that we start to pack on the pounds around the abdomen as we get older. This excess weight is said to be easy to put on and harder to shift than when we were younger, the thinking being that our once-perky metabolism gets sluggish with age. We can no longer get away with as much, and our efforts to ditch the belly with diet or exercise become a losing battle.

So far, so miserable. But then, last July, a study of over 6000 people around the world blew the idea out of the water. It showed that metabolism stays remarkably stable as we age, at least until our 60s. "The amount of calories you burn per day from age 20 to 60 remains about the same," says Herman Pontzer at Duke University in North Carolina. "We've shown that you have much less control over metabolism than we thought." The idea that your metabolism is just as active as you approach your 60s as it was in your 20s should be welcome news for anyone nearing middle age – usually defined as the period from 45 to 65 years of age – and facing the dreaded spread. But it leaves a burning question: if metabolism isn't to blame, then what is? And what can be done?

Middle-aged spread is more than just folklore. Studies consistently show an insidious uptick in body weight at this time of life, with most of us putting on the best part of a kilogram each year. For instance, one estimate of weight gain in people in the US put that figure at between 0.5 and 1 kg per year between the ages of 21 and 55. A different study showed that women gain on average 0.7 kg per year between the ages of 40 and 60, regardless of their initial body size, race or ethnicity.

This is contributing to a major problem, of course. Over 300,000 people in the US die prematurely each year as a result of obesity-related diseases. That the weight gain is concentrated around the abdomen is particularly bad news. Increased abdominal fat is strongly correlated with high amounts of visceral fat, which surrounds the body's internal organs. This dangerous variety of fat

"Metabolism doesn't diminish – or increase – with age"

is made of particularly active cells that produce hormone-altering signals that disrupt the body's sensitivity to insulin. Visceral fat also pumps proteins called cytokines into the body, affecting the immune system and causing inflammation. All of this means that too much visceral fat greatly increases your risk of chronic conditions, such as type 2 diabetes, cardiovascular disease and cancer as well as heart attacks. Those with just 10 centimetres of extra belly fat, as measured by their waist circumference, have been shown to be at an 11 per cent higher risk of early death, and this increased exponentially as waistlines grew.

All of this makes it imperative that we take middle-aged weight gain seriously and understand the causes in order to tackle it head-on. But one thing now seems clear: metabolism isn't to blame. According to Pontzer, metabolism doesn't change from age 20 to age 60 because the body is always working to keep itself within a narrow calorific range. His previous work has also shown that our bodies seem to adapt to exercise, burning similar amounts of calories whether we live very active lifestyles or not. It turns out that our bodies are well-oiled machines, perfectly honed for survival and designed to self-regulate the number of calories we burn every day. Metabolism doesn't diminish with age, but it doesn't increase either.

While metabolism remains a constant, middle age is a time when other things change, offering clues as to the cause of the weight gain. The most obvious shift is in hormones.

Women tend to have more subcutaneous adipose tissue, or general body fat, than men and it is usually distributed more evenly over the body, whereas men are more naturally prone to have visceral fat. During the female menopause, the amount of oestradiol, the main oestrogen steroid hormone, decreases at the same time that visceral fat increases. While this is often termed a "fat reshuffle", it is an inaccurate description, says endocrinologist Eve Bloomgarden at Northwestern University's Feinberg School of Medicine in Chicago. "It's not like fat that started at a woman's hips and thighs gets on the adipose bus and heads to the belly," she says.

Rather, fat becomes less pronounced in other parts of the body such as the hips and thighs at the same time as visceral fat begins ›

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expanding. We are born with all the visceral fat cells we will ever have and genetics, along with lifestyle choices like sleep, diet and exercise, influences whether those cells expand into tiny balloons filled with cholesterol and lipids. The jury is still out as to why this switch occurs, but oestrogen probably plays an important role – it seems to inhibit the growth of visceral fat, but how remains elusive.

As well as directly influencing fat cells, a drop in oestrogen in middle age can also exacerbate other conditions that affect weight. Crucially, the drop in the hormone during the menopause, and the changes this brings, can have an impact on sleep. Hot flushes, for instance, can lead to serious insomnia. During the menopause, women are at higher risk of depression and anxiety, two conditions that also interfere with sleep, and medications for which can lead to weight gain.

You snooze, you lose

The impact of sleep problems on body weight shouldn't be underestimated, for both men and women. For a start, sleep loss affects our decision-making, and has been repeatedly shown to weaken resolve, leading to poor food choices and less exercise, both of which can result in weight gain.

This is compounded by the fact that not getting enough sleep has been associated with depleted stores of leptin, a hormone made in our fat cells that inhibits hunger and influences calorie regulation in the body. Simultaneously, a lack of sleep increases levels of ghrelin, also known as the hunger hormone. Poor sleep can interfere with other hormones that cause people to put on fat and lose muscle mass too.

On top of all this, sleep deprivation has been shown to trigger higher levels of endocannabinoids, lipids involved in signalling that turbocharge the satisfaction gained from food, a phenomenon that has been compared with the "marijuana munchies" – a term for hunger provoked by using cannabis.

As for the influence of sex hormones around middle age, men too are affected, although it isn't universal. A deficiency in testosterone, or "low-T", occurs in upwards of 24 per cent of men over the age of 45, although estimates vary. It has a number of causes, from trauma or injury to alcohol misuse, renal failure, cancer, medication use, obesity, diabetes, obstructive sleep apnoea and plain ageing. Those who experience low-T are more likely to see a loss of muscle mass and bulk (see "Muscle vs fat", opposite), which can lead to increases in fat accumulation around their middle. This is because low testosterone usually also means low oestrogen in men. While oestrogen is less abundant in men, it is still necessary and a drop can cause an increase in visceral fat, as it does for women.

Men generally also seem to consume more dietary fat than women, but testosterone appears to play a role in their visceral fat too. "This is an area of very active research," says Bloomgarden. "We know that when testosterone is supplemented in men with low-T, muscle mass increases and fat accumulation decreases. But we're not sure why." Low testosterone is easily treatable by taking testosterone supplements. But for men with normal levels of the hormone, any weight gain is unrelated, and they should refrain from trying to boost their testosterone. Taking these

AKABERKA/ALAMY

A lack of sleep can lead to the munchies and poor decision-making

Blame your hormones?

Aside from hormone changes that happen naturally at middle age, there are some more extreme cases in which hormones can exert a strong influence on weight. Around 5 per cent of people experience hypothyroidism, which means the thyroid, a gland in the neck, is underactive. This condition can lead to weight gain. This is also true of Cushing's syndrome, a rare illness that causes the extreme overproduction of the stress hormone cortisol. This results in weight gain around your middle, but only when levels far exceed what is normal. Both conditions are easy to treat.

supplements if you don't need them causes what doctors call a testosterone trap. The body stops making the hormone itself and coming off the supplements causes a noticeable dip in levels until natural production resumes. This can lead to depression, fat accumulation and further loss of muscle mass.

Hormones and other substances in our bodies, then, can play a part in mid-life visceral weight gain, but apart from a few exceptions (see "Blame your hormones?", opposite page), these chemical messengers don't directly cause us to gain fat, instead indirectly affecting our behaviour. "It's easier to say that it's a hormone thing because we can easily fix it, but that's not usually the case," says Bloomgarden.

Middle age brings with it another enemy of the waistline: stress. The hormone cortisol is produced when the body perceives a physical or mental threat. In those who are constantly stressed, the body makes too much of the stuff, which some research has shown can boost our appetite. Some people respond to stress by eating more, choosing unhealthy foods and making other lifestyle choices that lead to weight gain. And stress can cause insomnia, with all the problems that brings for weight.

Last year, David Almeida at Pennsylvania State University and his colleagues looked into the question of stress in middle age and were shocked to discover how stressed middle-aged people are compared with this age decades ago. Using a long-running survey, his team compared 1500 people in the US of all ages in the late 1990s with another group of the same size two decades later. During each day of the survey, participants were asked how many stressful events they had encountered as well as the positive or negative emotions associated with their experiences. While stress remained largely the same in the younger and older age groups as it had in the 1990s, those in middle age in the more recent cohort experienced a 50 per cent rise in daily negative emotions and two to three more daily stress factors.

Almeida isn't completely sure what is causing stress to skyrocket in this group, but has a few suggestions. Mid-lifers, he says, are often having to contend with taking care of children and parents at the same time. And because so many of us can access work from home, there is less separation between work and home life than in previous generations. "We're just being pulled in too many directions, which is having an impact on our overall health," say Almeida.

The causes of middle-age spread are clearly a complex interplay between biology, behaviour and environment. So if we aren't focusing on outrunning a slow metabolism, what should we be doing to stay trim? The place to start, says Bloomgarden, is one of the most overlooked and important aspects of weight loss. "I always tell my patients if you're not getting at least seven to eight hours of sleep per night, don't bother dieting," she says. "That's not a place where you can make healthy life choices."

Getting enough sleep starts with a good routine – simple things like going to bed at a regular time and avoiding using screens emitting blue light in the bedroom. For those who experience insomnia, it is better to try cognitive behavioural therapy, which has been shown to help target the underlying issue, rather than simply taking a sleeping pill.

Diet is second to sleep in staving off the spread. "The one thing we do know is that it's calories going in that are causing the weight gain, not calories going out, as we may have formerly thought," says Pontzer, though exercise is still important to health, he adds. During middle age, food consumption tends to be more inconsistent and unstable, leading to unhealthy dietary decisions. According to the American Psychological Association, 38 per cent of adults admit to having overeaten or eaten unhealthily because of stress in the past month. Bloomgarden suggests choosing fresh produce over processed foods, which can be packed with sugar, and taking note of calories in alcohol and other beverages.

Even if its impact on metabolism is limited, exercise is still important for weight maintenance and is the next step after sleep and diet. It has been shown to help lower the production of stress hormones, which in turn makes it easier to sleep and avoid stress eating. Exercise also helps to maintain muscle mass, which keeps us mobile as we age and improves metabolic health. So it might not be the weight-loss wonder we previously thought, but exercise is the ultimate health stabiliser.

The good news in all of this is that we aren't fighting a hardwired metabolic slowdown as we age, but that even in middle age, metabolism is on our side, meaning tackling the bulge is often within our control. At a time when stress is apparently the mortal enemy, this, at least, is one less thing to fret about. ■

Sara Novak is a freelance writer based in South Carolina

Muscle vs fat

Metabolism stays fairly stable until 60 (see main article). Then what? First, muscle begins to fade. Lean muscle mass makes up half of the total body weight in young adults, but drops to a quarter by age 75. And because muscle burns more energy than fat, this transition causes metabolism to become sluggish. With a slower metabolism, fat starts to accumulate. Muscle loss is due to a host of age-related changes, but the main factors are a decrease in the body's ability to turn over and repair muscle tissue at the same time as we are decreasing physical exertion. This double blow is hard to counter and is one of the reasons why muscle-building weight training is recommended for older people.

Exercise like resistance training becomes more important as we age

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