The Truth About Intermittent Fasting: What Is It, How Does It Work – and Is It Right for You? [C2]

È il metodo che promette di mantenerci in forma, più sani, più intelligenti e persino di rallentare l'invecchiamento. Ma qual è la scienza alla base di questa moda e cosa dicono gli esperti?

Until its recent emergence as a mainstream health **craze**, **fasting** was largely a religious ritual. But then longevity scientists discovered that regularly-fasted bodies lived longer, with better metabolic and cardiovascular health. **Granted** these bodies mostly belonged to **mice**, but now Rishi Sunak, Elon Musk and many others are trying intermittent **fasting** (IF), with influencers **singing its praises** and apps offering to track your fasts and **pepper** you with motivational messages. The logic goes that, back when we were **hunter-gatherers** and our bodily systems evolved to work in balance, the absence of supermarkets and industrially-produced food meant that **fasting** sometimes happened naturally. The IF lifestyle, it is thought, could help us reset these systems, **swerve** disease and live longer. But is it as simple as that? Valter Longo, a biologist at the University of Southern California, has been studying longevity and the effects of **fasting** on organisms from **yeasts** to humans for about thirty years. He has demonstrated that **fasting** can reverse diabetes and increase the effectiveness of cancer therapy (although more research is needed in this area.) But what about the middle-aged seeking healthy old age? "It can make a big difference, but it depends how you do it," he says. Ioannis Nezis, a professor of cell biology at the University of Warwick, studies the cellular effects of **fasting**. He says the answer is "**a hard yes**." "My research is focused on how **fasting** activates a mechanism called autophagy, which is responsible for the recycling of damaged proteins inside the cells," he says. "This is beneficial because your cells are clean and function better." From a public health perspective, Aisling Pigott, a dietitian and **spokesperson** for the British Dietetic Association, is less sure. While the potential is exciting, she says, "it is just another idea or diet packaged up in a slightly different

format. It is another method or tool for restricting calories, but it's not going to be this magic answer."

METABOLIC EFFECTS

Fasting seems to **boost** the body's ability to digest and take nutrients from food, without **spikes** in blood sugar, **blood fat**, inflammation and insulin. "The metabolism changes because your body starts using the fat deposits that you have in order to produce energy," says Nezis. Meanwhile, when the **gut** isn't digesting food, the **all-important** microbiome gets a refresh, resulting in good bacteria flourishing, leading to associated improvements in digestion, immune function, **mood**, blood pressure and more. So, should everyone be doing it? No. Fasting is not healthy for everyone — especially children and those who are pregnant or have an eating disorder. Many medical conditions could make **fasting** risky, he says, including low blood pressure, anaemia, being **immune-compromised** and having problems with your stomach, **bowels** or **gallbladder**. When we eat, our **gallbladder** empties **bile** into the digestive tract; when we fast, it holds **bile** inside for long periods. "It can become concentrated and create **gallbladder sludge** or gallstones, which can block your **bile** duct and cause problems in the **liver** or the pancreas." There is no long-term data on IF, so a lot of it **comes down to** opinion and what works for each individual. But everyone agrees that closing your eating window a good few hours before bedtime will help you sleep **soundly**. That said, while an early dinner may work for many, Pigott says: "In some cultures, the family meal is at 10pm, so we have to fit with everybody's lifestyle." Nezis believes a 16:8 fast, which generally means **skipping** breakfast, gives you all the benefits. He thinks you can safely fast for up to 20 hours, **if it suits you**. Longo, on the other hand, only recommends twelve- or thirteen-hour daily fasts, because we don't have proof of long-term safety. "Skipping breakfast is associated with a shorter **lifespan**, more cardiovascular disease and lots of other problems," he says. "Just because you're doing time-restricted eating, it doesn't mean it's good for you."

FASTING STAGES

IF apps and gurus often list how many hours or days it takes for various benefits **to kick in**, such as autophagy and ketosis — **whereby** you convert fat into energy. But when you talk to the scientists studying this stuff, they are less easily **drawn**. “Most of the information we have about **fasting** and the activation of autophagy is based on animal models,” says Nezis. Plus, we are all physiologically and behaviourally different. “We are different sizes; it depends on your age.” It is thought that autophagy doesn’t fully kick in until around two or three days of **fasting**. Nezis doesn’t dispute this. “However, 16:8 or 18:6 daily **fasting** for a prolonged period is believed to activate autophagy probably by a cumulative manner,” he says. “Overall, more studies in humans are needed to have a clear picture.” Besides, he says, focusing on what is happening hour by hour **is missing the point**. “You can see the effects of IF on overall health after two or three months. If you do a blood test now and then another after three months of IF, all your blood parameters will be better — cholesterol, sugar, everything.” That said, after about sixteen hours, Pigott says, “your body will be producing starvation **ketones**, so you will be starting **to break down** fat and muscle stores. But everybody’s different.” Medically speaking, starvation mode doesn’t mean starving to death. However, she says, it can often “lead to a kind of fluid loss that can cause short-term weight loss. Like anything, if something is a **short-term fix**, as soon as you stop doing the fix, you will see a weight regain.” Like Nezis, Longo thinks getting **hung up on** precise timings and functions is **pointless**. “Autophagy is just one of those things that happens. It may happen in one cell, it may not happen. It is one of the many mechanisms of cellular repair.” In any case, **fasting** isn’t the only way to increase this natural process. Exercise can induce it, too. So how do you get started with IF? Gradually is best, says Longo. Don’t be tempted **to go all-in** for a quick win. “We take two years to convert people into a healthy state,” says Longo of his clinics. “They’re diabetic and have cardiovascular disease and hypertension. Take your time, have some small metabolic benefits, insulin resistance will improve, and eventually the small benefits become big benefits. The important thing is that **you stick with it**.” There is no doubt that if you eat fewer calories as a **by-product** of IF, there can be benefits from that alone. Low-calorie diets extend **lifespan** and improve

cardiovascular health, brain function, mental health and the immune system. “This is 100 per cent verified in animal models and we can see it in several regions of the world where people take fewer calories and live more than a hundred years,” says Nezis. According to Longo’s studies, you will probably lose weight from **fasting** even if you have the same calorie **intake** overall. But he also says: “I don’t think that people should count calories — it is **pointless**. I think people should ask: did I get the right **nourishment**?” Fasting should never be viewed as a way **to enable** **bingeing** on junk food the rest of the time. “That puts you in a potentially dangerous situation, particularly if you’re **skipping** breakfast. Twenty years **down the road**, it could turn out to be a disaster.” As we age, we lose muscle mass, so more care needs to be taken as you get older. “It’s important to have a source of protein in your diet in order to be able to maintain your muscles,” says Nezis. But, as he points out, muscle **wastage** is also mitigated by exercise.

BRAIN POWER

As Nezis says, improved brain function generally comes with better systemic health: “When you have cells that have better metabolic **rates** and less damaged components, they work better, which is especially important for neurons.” This is because we are born with most of our neurons and**barely** make any more once past childhood. Longo, meanwhile, has mouse data that indicates improvements in learning and memory after **fasting**, so he says: “Probably yes, particularly if you now sleep better and if your metabolism is better. Keep in mind that diabetes nearly doubles your risk of Alzheimer’s disease.” He adds that — again in **mice** — **fasting**, or a **fasting**-**mimicking** diet, can also have an effect on neurodegenerative diseases. Look at it like this, says Nezis: “When your overall health is better, you live longer, you live a better life and you feel younger.” **Published in The Guardian on February 12, 2024. Reprinted with permission.**

Glossary

- **Granted** = è vero
- **mice** = topi
- **pepper** = punteggiare
- **blood fat** = grassi nel sangue
- **bile duct** = dotto biliare
- **short-term fix** = rimedio a breve termine
- **nourishment** = alimentazione
- **down the road** = avanti, a distanza
- **yeasts** = lieviti
- **bile** = bile
- **if it suits you** = se ti va bene
- **wastage** = perdita
- **rates** = tassi
- **mimicking** = imitare
- **craze** = moda del momento
- **comes down to** = ridursi a
- **skipping** = saltare
- **lifespan** = durata della vita
- **by-product** = effetto secondario
- **fasting** = digiuno
- **gut** = intestino
- **sludge** = melma, poltiglia
- **liver** = fegato
- **drawn** = attirare
- **ketones** = chetoni
- **hunter-gatherers** = cacciatori-raccoglitori
- **swerve** = evitare
- **boost** = aumentare, stimolare
- **to kick in** = fare effetto
- **you stick with it** = essere costante
- **intake** = consumo
- **singing its praises** = cantare le lodi
- **spikes** = picchi

- **gallbladder** = cistifellea
- **whereby** = per mezzo del quale
- **pointless** = inutile
- **to enable** = consentire
- **a hard yes** = un deciso sì
- **all-important** = importantissimo
- **is missing the point** = mancare il bersaglio
- **to break down** = scomporre
- **spokesperson** = portavoce
- **mood** = umore, animo
- **immune-compromised** = immunocompromesso
- **bowels** = intestino
- **soundly** = profondamente
- **hung up on** = fissarsi
- **to go all-in** = partire in quarta
- **bingeing** = abbuffarsi
- **barely** = a malapena