

Fasting has gained significant attention for its potential health benefits. After decades of research on both people and animals, Dr Valter Longo, director of the

Longevity Institute at the University of Southern California, has made some significant discoveries. He has found that following a specific protocol could promote regeneration and rejuvenation in multiple organs and activate stem cells to reduce the risk for heart disease, diabetes, cancer, Alzheimer's and other diseases associated with ageing.

WHAT IS THE FASTING-MIMICKING DIET?

The fasting-mimicking diet (often referred to as FMD or Prolon) involves a low-calorie, plant-based diet designed to trick your body into thinking it's fasting. This diet, structured over five days, should have the benefits of fasting without complete food abstinence.

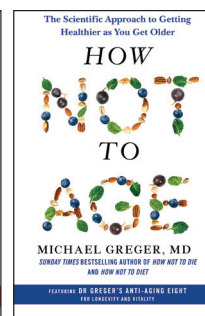
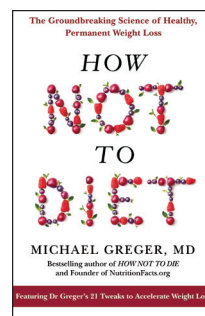
In an interview with the UK's *The Times*, Dr Longo describes this five-day diet as "the ultimate medicine", since he discovered through numerous clinical trials conducted in his own laboratory that by depriving the body of food in this way, its cells begin to regenerate. When normal cells are starved, Longo found that they shift into survival mode and start to repair themselves. This effect can be seen even when you are still consuming 800 calories a day. Furthermore, Longo has shown that fasting can kill cancer cells, reverse autoimmune disorders and significantly reduce the risk of Alzheimer's.

For the five days of the diet, you eat low-calorie, plant-based food structured to include specific proportions of macronutrients – a low amount of protein, moderate carbohydrates and high unsaturated fats – designed to reduce insulin levels and promote cellular regeneration.

'By making it plant-based, he was hoping to lower the level of the cancer-promoting growth hormone IGF-1 – which he indeed accomplished, along with a drop in markers of inflammation, after three cycles of his five-days-a-month programme,' says wellness expert Dr Michael Greger, *New York Times* best-selling author of *How Not to Diet* and *How Not to Age*.

On the first day of the diet, you eat approximately 1 100 calories, followed by around 725–800 calories per day for the remaining four days. According to Dr Longo, 'the fasting-mimicking diet tricks your body into thinking it is fasting but, at the same time, it allows some food intake.'

Dr Valter Longo, the biogerontologist behind the fasting-mimicking diet.



Dr Michael Greger is an American doctor, author of books such as *How Not to Diet*, and an advocate for a plant-based diet.

WHICH IS BEST, IF OR FMD?

While both intermittent fasting (IF) and FMD involve periods of reduced food intake, they differ in execution. Nicky Pryor, a dietician at Netcare Park Lane Hospital in Johannesburg, elaborates: 'Intermittent fasting is

a diet that focuses more on when to eat, than what to eat.' IF typically involves fasting for a set number of hours each day (e.g., 16 hours of fasting with an eight-hour eating window) or fasting on specific days of the week. In contrast, the FMD allows limited caloric intake from specific food sources, which helps maintain some level of nutrition while achieving fasting benefits.

LET'S BREAK IT DOWN

Pryor explains that the original Valter Longo method is based on several key principles:

Diet composition: The diet emphasises mostly vegan foods, with fish two to three times per week, particularly fish rich in omega-3 fatty acids, such as salmon, anchovies, sardines and trout. Protein intake should be kept low (below 0.7–0.8 g/kg of body mass) for those under 65 and slightly increased for those over 65 to preserve muscle mass.

Healthy fats and carbs: FMD minimises saturated fats and sugars while encouraging good fats, such as olive oil and nuts. The diet includes complex carbs from wholegrains and vegetables, such as legumes, broccoli, tomatoes and carrots.

Nutrient density: The diet is high in vitamins and minerals, supplemented with a multivitamin buffer every three days.

Meal frequency: Depending on their weight, age and abdominal

circumference, individuals decide whether to have two or three meals daily. People who are overweight are recommended to have two meals, plus two low-calorie, low-sugar snacks, while those at a normal weight or over 65 and at a normal weight should eat three meals per day and one low-calorie, low-sugar snack.

Eating window: All your eating should be done within a 12-hour period, with no food intake for three to four hours before bed.

After the five days, you have a 25-day period where you can return to your normal eating habits and regular exercise routine. According to *The Longevity Diet* by Dr Longo, overweight or obese adults with at least two risk factors for diabetes, cancer, cardiovascular or neurodegenerative disease should do the fasting diet once a month. Average-weight adults with at least two risk factors should fast once every two months, while those with at least one risk factor should do so once every three months. Healthy adults with a normal diet, who are not physically active, should fast once every four months, and those with an ideal diet and regular physical activity should fast once every six months.



The LONGEVITY DIET

Dr Longo gives examples of foods you could eat (using strict portion control) during the five days of 'fasting':

DAY ONE: 1 100 CALORIES

- 500 calories from complex carbohydrates (vegetables such as broccoli, tomatoes, carrots, pumpkin and mushrooms)
- 500 calories from healthy fats (nuts and olive oil)
- 1 multivitamin and mineral supplement
- 1 omega-3/omega-6 supplement
- sugarless tea (3 to 4 cups a day)
- 25 grams plant-based protein, mainly from nuts
- unlimited water

DAYS TWO TO FIVE: 800 CALORIES

- 400 calories from complex carbohydrates (vegetables such as broccoli, tomatoes, carrots, pumpkin and mushrooms)
- 400 calories from healthy fats (nuts and olive oil)
- 1 multivitamin and mineral supplement
- 1 omega-3/omega-6 supplement
- sugarless tea (3 to 4 cups a day)
- unlimited water

AFTER THE FAST: 24-HOUR TRANSITION

- For 24 hours after the end of the five-day fast, follow a diet based on complex carbohydrates (vegetables, cereals, pasta, rice, bread and fruit), and minimise the consumption of fish, meat, saturated fats, pastries, cheeses and milk.

– Adapted from *The Longevity Diet*



HEALTH BENEFITS

The fasting-mimicking diet offers a range of health benefits.

Reducing biological age

One of the most interesting aspects of the FMD is its potential to reduce biological age. Research shows that following the FMD can lower biological age by an average of 2.5 years. This reduction is measured through various biomarkers that assess cellular health and function. 'These observations may perhaps be indicative that this type of dietary intervention may one day become helpful in the prevention of chronic disease utilising diet alone, without other lifestyle modifications such as physical activity,' explains nutrition expert Lena Bakovic.

Weight loss

The strict calorie restriction over five days can lead to weight loss. One hundred men and women were randomised to do Dr Longo's fasting-mimicking diet for five consecutive days per month, or to maintain their regular diet the whole time. 'After three months, the FMD group (the fasting-mimicking diet group) was down about six pounds [2.7 kg] compared to control, with significant drops in body fat and waist circumference, accompanied by a drop in blood pressures,' Dr Greger notes. 'Those who were the worst off accrued

the most dramatic benefits. What's even crazier is that three further months after completion, some of the benefits appeared to persist, suggesting the effects may last for several months.

ENHANCING IMMUNE FUNCTION

The FMD has also shown promise in rejuvenating the immune system. Studies conducted by Dr Longo and his team appear to show that cycles of fasting, followed by resuming a normal diet, promote stem cell-dependent regeneration of the immune system. This process involves the removal of older white blood cells during the fasting phase and the regeneration of new immune cells during the refeeding phase. Dr Longo is also investigating whether the FMD has any impact on vaccine efficacy in older adults and on resistance to viral infections.

Reducing risk factors for chronic diseases

Clinical trials have highlighted several other health benefits of the FMD, including reducing risk factors for diabetes, cardiovascular disease, and metabolic syndrome. Participants experienced lower insulin resistance, reduced abdominal fat and decreased levels of inflammation markers, such as C-reactive protein. Additionally, the FMD has been linked to improvements in cholesterol and blood pressure.

FINAL THOUGHTS

The FMD – with its regular fasting intervals to foster cellular regeneration and diminish risks of various chronic illnesses, as well as its emphasis on nutrient-rich,



plant-based foods – holds promise for enhancing longevity and overall health.

For people who don't feel confident about adopting the protocol on their own, Dr Longo offers his own programme, The Prolon 5-Day Fasting Mimicking Diet programme, which offers pre-packaged meals for a five-day kit starting from \$195 (about R3 500). Of course, it helps that Dr Longo donates 100% of these profits to charity, but still it's a financial commitment that many of us can't make. In any case, Dr Greger questions the value of buying the prepackaged meals, saying, 'Why spend \$50 a day on processed snacks when you could eat real vegetables?'

Pryor recommends integrating portion control and focusing on the types of foods included in the diet. 'Combining intermittent fasting with principles such as the glycaemic index or Mediterranean Diet, emphasising foods high in fibre, low in saturated fat and low in sugar, can help yield better results regarding weight loss and overall health.'

We can't emphasise enough the importance of working with healthcare professionals to ensure the diet meets your individual needs. 'FMD may not be suitable for everyone, including type-1 diabetics, individuals under 18, pregnant or breastfeeding women, and those with kidney stones or renal failure,' Pryor says. 'Different approaches work for different individuals and in different disease conditions. Meal plans need to be tailor-made for the specific individual.' ♦