

Can a diet pill REALLY let you gorge on food and add 30 years to your life?

By Peta Bee

Dr Malcolm Goyns wants to reduce his Body Mass Index (BMI). It sounds like a good idea, given that it's currently 31, which makes him officially obese.

So, like any good dieter, he's cut his calorie intake, giving up full-fat milk, fried foods and the fatty snacks such as crisps and biscuits that he used to enjoy, and replacing them with fruit, yoghurt, muesli and salads.

His plan is to reduce his intake to just 1,300 calories a day - well below the optimum level recommended in the Government's healthy eating guidelines - until he reaches his target (a BMI of 18.5). Then he'll return to his former eating habits.



Diet pill: A supplement may be able to help you keep weight off after a diet and add years to your life

It sounds like a recipe for all those pounds simply to pile straight back on, the classic yo-yo diet. In fact, according to Goyns, he won't regain the weight because he'll be taking a daily supplement called alpha lipoic acid (ALA).

Furthermore, this regimen of severe calorie restriction followed by ALA will provide a far greater reward than inch-loss - he believes it could add 30 years to his life.

Over the past decade, several studies have shown that curbing calories in the extreme increases the lifespan of a range of laboratory animals.

Then last week, Goyns and researchers from the University of Liverpool's school of biological sciences published findings that appeared to confirm that eating less does indeed increase longevity.

In their report in the journal *Mechanisms of Ageing and Development*, they revealed how rats fed a low-calorie diet for six months lived 25 to 40 per cent longer than those with a normal calorie intake.

When the dieting rats resumed a normal diet, however, the anti-ageing benefits were halted. Unless, that is, they were promptly given a supplement of the antioxidant compound ALA.

This is a disease-fighting and anti-ageing substance found naturally in foods such as red meat, spinach, broccoli and yeast.

It is widely available in health food stores as a supplement (costing around £15 to £30 for a month's supply). People take it in the belief it will boost their health, as well as protecting brain and heart function.

It is also sometimes used in the treatment of conditions such as stroke and liver damage, as it helps tissues to recover from stress.

New findings, however, suggest a radical new use for the supplement - helping you keep the weight off *and* increasing your lifespan.

'Our results showed that the weight-loss and life extension effects continued when rats who had previously dieted ate normally, provided they took ALA,' says Goyns.

'It is important to point out that an ALA supplement won't have this effect unless someone has restricted their calories beforehand, but the compound seems to fool the body into behaving like it was still on the calorie-restriction diet.' (If you didn't adopt a strict calorie-restriction diet, but just cut your calories a little to lose weight, taking ALA afterwards would mean the weight would stay off, even if you started eating normally.)

Researchers first stumbled across a longevity link with calorierestricted diets in the 1930s when Professor Clive McCay, a nutritionist at Cornell University, discovered that underfed rats not only maintained a more youthful appearance than those on a regular diet, but lived up to one-third longer.

Similar results have been obtained with monkeys, dogs, guppies and any number of species (except, that is, in humans).

Since then, a growing number of people - many of them members of the American-based Calorie Restriction Society - have adopted the principles of calorie restriction, cutting their food intake by 30 per cent in the belief that it will extend their lives by at least a third.

Quite how calorie restriction might work to increase lifespan is unclear. One theory is that when its energy supplies are limited, the body panics, sending signals to cells telling them to direct energy away from reproductive functions and to focus instead on repair and maintenance.

With less food, metabolism (the rate at which the body burns calories as fuel) also slows down in an attempt to conserve energy.

The theory has some basis - for a fast metabolism can have a destructive effect, says Dr Toni Steer, an independent nutritionist who previously worked at the Medical Research Council's Human Nutrition Laboratory in Cambridge.

'A fast metabolism can lead to a greater production of free radicals, the damaging substances involved in many chronic diseases,' she says.

'Followers of calorie-restriction diets claim that by eating less they are directly reducing the production of free radicals. It is plausible that, up to a point, fewer calories will lower the risk of some diseases. But it has never been categorically proven to prolong human life.'

Indeed, evidence that calorie restriction boosts human lifespan remains highly speculative. Advocates of calorie restriction argue that this is because trials would be too lengthy and difficult to carry out.

Whereas animals have a relatively short lifespan, Goyns says humans live into their 70s and 80s, 'making it harder to study the effects'.

He points to studies, including some at America's prestigious National Institutes of Health, that show how calorie-restricted diets in animals seem to affect molecular pathways likely to be involved in the progression of human conditions, such as heart disease, Alzheimer's, diabetes, Parkinson's disease and some forms of cancer.

More recently, a study published in the Journal of the American Medical Association two years ago revealed that people on a low-calorie diet had lower insulin levels, a marker of longevity, and less of the chromosomal damage typically associated with ageing.

Meanwhile, at the University of Washington researchers have found that calorie-restricted dieters have better-functioning hearts and a lower risk of clogged arteries.

John Holloszy who leads the Washington investigations, says: 'Calorie restriction has a powerful, protective effect against diseases associated with ageing.

'We don't know how long each individual will end up living, but they certainly have a longer life expectancy than average.'

The fact remains that the most convincing evidence for longevity comes from animal studies, but Goyns' view is that if it works for rats, why shouldn't it work for him?

So when he reaches his target BMI he will then take a daily 200mg supplement every day for the final week of the calorie-restriction diet, continue taking it for the first three weeks of 'normal eating' and then once a week thereafter.

He also believes that the latest findings mean that even those who go on less restrictive diets could keep the weight off with ALA (although he adds that people who have been taking this supplement for years without having restricted their calories won't get the life-enhancing benefits - it will work only for first-timers).

But his fellow researchers disagree with his interpretation of their results. Dr Brian Merry from the University of Liverpool believes further studies are necessary.

Meanwhile, for nutritionist Tom Steers the concern is that while most people eat too much, severe calorie restriction is risky.

Without professional guidance, it could result in nutritional deficiencies such as anaemia and low intakes of calcium and vitamin C.

Goyns remains undeterred: 'I love life and would like to be here as long as I can. Who wouldn't?'

• *THE ANTI-AGEING PROTOCOL: How To Live For Up To 30 Years Extra*, by Dr Malcolm H. Goyns, is published by Immorgene (£13.99)