

The pill that lets dieters eat what they like

By **Jeremy Laurance**
Health Editor

A PILL which may "lock in" the benefits of dieting, allowing dieters to return to normal eating without putting on weight, has been discovered by scientists.

The inventors also claim that the pill, a dietary supplement called alpha-lipoic acid and widely sold in health food shops, also slows ageing, which is a known effect of low-calorie diets.

But the finding has triggered a dispute between two of the scientists who carried out the research, conducted in rats, over whether it can be applied to humans.

Malcolm Goyns, director of Immorgene Concepts, a scientific research company in Stockton-on-Tees, who led the research, said he was sufficiently convinced to follow the approach himself.

Evidence from the tropical Okinawan islands in Japan's extreme south-west, which has the highest proportion of centenarians in the world, demonstrated the life-prolonging effects of calorie restriction, he said.

Their traditional diet is high in vegetables and fish and low in fat, but they also have a cultural habit known as *hara hachi bu* - or "eat until you are 80 per cent full".

This is based on the notion that it takes the stomach's stretch receptors 20 minutes to tell the brain how full it really is, preventing overeating - and Okinawans are among the leanest and fittest people in Japan as a result.

Dr Goyns said: "While calorie restriction diets are followed as a matter of course in communities like Okinawa, the diet can be difficult to follow for most people. Our discovery indicates that by following a calorie restriction diet for six months and then taking alpha-lipoic acid while eating normally, the same life extension effects will be experienced."

He added: "Simply adding the supplement to the diet has no effect. It seems that alpha-lipoic acid fools the body into behaving as if it was still on whatever

diet it was following before the supplement was added. We found there was an anti-obesity effect as well. Although weight does rise when you come off the restricted diet, if you take alpha-lipoic acid, even though you are eating normally again you still have a reduced weight."

The study, published in *Mechanisms of Ageing and Development*, was carried out by Dr Goyns with colleagues from the University of Liverpool. The researchers investigated the effect of alpha-lipoic acid when given to rats on normal and low calorie diets.

Experiments have shown that curbing the amount of food rats eat can extend their lives by 25 to 40 per cent. However, anti-ageing benefits are lost when the rats return to a normal diet. In the study, researchers found the benefits of the low calorie diet were extended by giving the rats the supplement when they returned to normal eating.

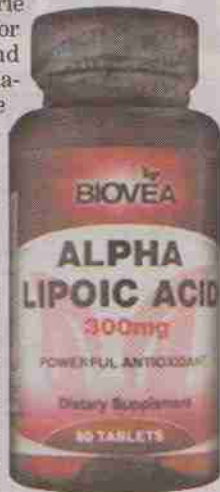
Brian Merry of the School of Biological Sciences at the University of Liverpool, who carried out the study, said: "If you put the animals on to a restricted diet they would normally go on to an extended survival trajectory. When they were switched to a normal diet, this compound seemed to lock them into the benefits of their pre-existing diet."

"It is an unusual and interesting finding and it needs repeating in further research. That was as far as I was prepared to go, but Malcolm [Goyns] wanted to apply it to humans. I said I didn't agree with his interpretation and we had to wait for further studies."

He added: "People have been buying this stuff and taking it for years as a dietary supplement. I don't think anyone knows what its effect is. There have only been two studies in rats and mice [before our study]."

"It is also sometimes used in stroke patients to treat re-perfusion injury. What happens as the blood supply is restored after a stroke is oxidative damage to the cells. Alpha-lipoic acid is an antioxidant and can help reduce the damage. It is also used to treat diabetics and oxidative damage to the liver in people who have eaten poisoned mushrooms."

Alpha-lipoic acid is sold as an antioxidant supplement and is also used in the treatment of certain conditions including stroke and liver damage.



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