

Calorie Restriction For Life Extension: What They Didn't Tell You On Oprah

By Tom Venuto

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On a recent episode of the Oprah show, one of the guests was a 51 year old man with the heart of a 20 year old. He's been following a calorie restriction plan and they said he might be one of the first people to reach 120 years old by following this plan. There have been stories both in the lay press and scientific press about calorie restriction for years and it has been a frequent talk show topic on other many other TV shows. However, before you cut your calories in half in hopes of adding another decade onto your life, you'd better get the other half of the story they didn't talk about on Oprah.

I've seen a lot of strange things in the health field, and although calorie restriction (CR) is the subject of serious and legitimate scientific study, I consider CR to be one of those strange things. Of course, that's because I choose a different lifestyle - the muscle-friendly Burn The fat, Feed The Muscle (<http://steel1658.burnthefat.hop.clickbank.net>) lifestyle - but there's more than one reason why I'm not a CR advocate:

Hunger while dieting is almost always a challenge. There's some hunger even with conservative calorie deficits of 15-20% under maintenance. Prolonged hunger is one of the biggest reasons people fall off the weight loss diet wagon because it's unpleasant and difficult to resist. This is why pharmaceutical and supplement companies spend millions of dollars on researching, developing and marketing appetite suppressants. Yet CR advocates put themselves through 30-50% calorie restriction on a daily basis as a way of life in the hopes of extending life span or health.

Practitioners of CR follow a low-calorie lifestyle, but technically, they are not in a chronic 30% calorie deficit. That would be impossible. What happens is their metabolisms get very slow (that's part of the idea behind CR; if you slow down your metabolism, you allegedly slow down aging). So a 6 foot tall man who would normally require nearly 3,000 calories to maintain his weight, might eventually reach an energy balance at only 1800 or 1900 calories. This is not just due to a 'starvation mode' phenomenon, that's only part of it. It's primarily because he loses weight until he is very thin and his smaller body doesn't need many calories any more.

Does caloric restriction really extend lifespan?

The biological mechanisms of lifespan extension through calorie restriction are not fully understood, but researchers say it may involve alterations in energy metabolism (as mentioned above), reduced oxidative damage, improvements in insulin sensitivity, reduction of glycation, modulation of protein metabolism, downregulation of pro-inflammatory genes and functional changes in both neuroendocrine and autonomic nervous systems.

Mouse studies on CR go back as far as 1935 and monkey studies began in the late 1980's. So far the results are clear on one thing: caloric restriction does increase lifespan in rodents and other lower species (yeast, worms and flies). Studies suggest the life of the laboratory rat is 25% longer with CR (even longer with aggressive CR). Primate studies are still underway and humans have been experimenting with CR for some time. In primates and humans, biomarkers of aging show signs of slower aging with CR. This makes many proponents talk about this CR as if it were a sure-thing, already proven through double-blind randomized clinical human trials.

The truth is, there is NO direct experimental evidence that you will live longer from practicing CR. Due to the length of human lifespans, we will not have the necessary data for at least another

generation and perhaps multiple generations. Even then, it will still be highly speculative whether CR will extend human life at all and if so how much. We can only estimate. I've seen guesses in the scientific literature ranging from 3 to 13 years, if CR is practiced for an entire adult lifetime.

Jay Phelan, a biologist at UCLA is skeptical. He says the potential life extension is on the lower end of that range and the increase is so small that it's not worth the semi-starvation:

"There is no current evidence that lifelong caloric restriction leads to increased lifespan in primates. It's certainly tantalizing that things like blood pressure or heart rate look as though they are a lot healthier and I believe they are. Whether or not this translates to a significantly increased lifespan, I don't know. I predict that it doesn't."

I don't quibble qualitatively with their results. Yes, it will increase lifespan, but it will not increase it by 50% or 60%, it won't increase it by 20% or 10%, it might increase it by 2%. So if you tell me that I have to do something horrible for every day of my life for a 2% benefit - for an extra year of life - I say no thanks."

Is prolonged caloric restriction unhealthy?

When caloric restriction is practiced with optimal nutrition (CRON), it is not inherently unhealthy. Actually, it appears the reverse is true. First, the weight loss that comes with the low calories produces improvements in the health markers, as you would expect. Second, the meticulous choice of food from CRON practitioners, where they pick high nutrient foods and avoid empty calories means that they are making healthy food choices. Third, advocates say that the CR itself improves health. I wonder, however, how much does CR improve health independent of the weight loss and the optimal nutrition?

By losing fat and maintaining an ideal body composition (the fat to muscle ratio) and eating high nutrient density foods, I propose that even at a more normal caloric intake, you will get very significant health and longevity benefits. I also propose that gaining muscle in a natural way (no steroids) will increase your quality of life today and as you get older.

Aside from the fact that we are not lab rats, the truth is, none of us knows when our day will come. We could get plucked off this physical plane at any moment and have no control over how it happens. My belief is that we should make our lifestyle decisions based on quality of life, not just quantity of life. That includes our quality of life today as well as our anticipated quality of life when we are older. Maybe we ought to be focusing more on "health span" than life span.

Downsides of calorie restriction for life extension

One fact about calorie restriction that they often don't mention on these talk shows is that the benefits of CR decline if you start CR at a later age. This was discussed in a research paper from the Journal of Nutrition called, "Starving for life: what animal studies can and cannot tell us about the use of caloric restriction to prolong human lifespan." The author of the paper, John Speakman from the School of Biological Sciences at the University of Aberdeen in Scotland, said that the later in life you begin to practice CR, the less of an increase in lifespan you will achieve. Even if the CR proponents are right, if you started in your late 40's or mid 50's for example, the benefit would be minimal. If you started in your 60's the effect would be almost nonexistent. Essentially, you have to "starve for life" to get the benefits.

While some CR proponents claim that they aren't hungry and they cite studies suggesting that hunger decreases during starvation, Speakman and other researchers say that hunger remains a big problem during CR - especially in today's modern society where we are surrounded with convenience food and numerous eating cues - and that alone makes CR impractical:

“Neuroendocrine profiles support the idea that animals under CR are continuously hungry. The feasibility of restricting intake in humans for many decades is questionable.”

Let’s suppose for a moment that CR is totally legit and the claims are true. Many of the proposed benefits of CR come at the expense of what many of us are trying to do here: gain and maintain lean body mass. One spokesman for CR is 6 feet tall and 130 pounds. Another poster boy for CR is 6 foot tall and 115 lbs. Measurements of rodents under CR not only show large reductions in skeletal muscle but also bone mass.

I am not suggesting that these CR practitioners are anorexic, a concern that has been raised about CR when practiced aggressively. However, they are losing large amounts of fat-free tissue and that is plainly obvious for all to see when you look at their bony physiques. I am not imposing my body standards on others, but 115 to 130 lbs at 6 foot tall is underweight for a man by any standard. Furthermore, researchers say that at the body mass indices sustained by most voluntary CR practitioners, we would expect females to become amenorrheic. “One thing that is completely incompatible with a CR lifestyle is reproduction” says Speakman.

With that kind of atrophy, I have to wonder what their quality of life will be like in old age. While many people struggle with body fat for most of their adult lives, I’m sure almost everyone knows an elderly person who wrestles with the opposite problem: they are seriously underweight and they struggle to eat enough and maintain lean body mass.

My grandmother, before she passed away, was under 80 lbs. We could not get her to eat. She was weak and very frail. I have reported many times about the research showing how most overweight people underestimate calorie intake and eat more than they think or admit. In elder care homes, the research has often showed the opposite - the patients over estimate how much they eat. They swear they are eating enough, but they aren’t and they keep losing dangerous amounts of weight. With underweight, atrophied seniors, weakness means less functionality and lower quality of life and a fall can mean more than broken bones, it can be life-threatening.

Life extension with more muscle

While there is a commonality between CRON and the way I recommend eating (high nutrient density, low calorie density foods), in most regards, CR is the opposite of my approach. In my Burn The Fat, Feed The Muscle program (<http://steel1658.burnthefat.hop.clickbank.net>), we go for a higher energy flux nutrition program, which means that because we are weight training and doing cardio and leading a very active lifestyle, we get to eat more. Because we are so active and well-trained, the eating more does not have a negative effect as it would on a sedentary person, who might get sick and fat from the additional calories. We active folks take those calories, burn them for energy, partition them into lean muscle tissue and we enjoy a faster metabolism and extremely high quality of life.

As a bodybuilder, CR is not compatible with my priorities, but hypothetically speaking, if I were to practice a lower calorie lifestyle, I wouldn’t follow an aggressive CR approach. I’d probably do as the Okinawans do. They have a very simple philosophy: hari hachi bu: eat until you are only 80% full. While this does not mean there is a carefully measured 20% calorie deficit, it’s consistent with what we practice in the Burn The Fat, Feed The Muscle (<http://steel1658.burnthefat.hop.clickbank.net>) lifestyle for a fat loss phase, and avoiding overeating is certainly a smart way to avoid obesity and health problems. Incidentally, the Okinawans eat about 40% less than Americans, and 11% less than they should, according to standard caloric intake guidelines, and they live 4 years longer than Americans.

If someone is being “sold” on CR by an enthusiastic CR spokesperson, or simply curious after watching the latest TV talk show (where they are looking for controversial stories), it’s important to know that there is more than one side to the story. If you carefully read the entire body of research on CR, you will see that the experts are split right down the middle in their opinions about whether CR will really work. CR for humans remains highly controversial and there are no guarantees that this will extend your life.

Researchers at the National Institutes of Health in Baltimore, MD put it this way:

“Because it is unlikely that an experimental study will ever be designed to address this question in humans, we respond that “we think we will never know for sure.” We suggest that debate of this question is clearly an academic exercise.”

In closing, let me go back to one of the original questions I was asked: “Can the BFFM food plan also be thought as a longevity lifestyle, but with more muscle mass?” Absolutely beautifully said! That’s precisely what Burn The Fat, Feed The Muscle (<http://steel1658.burnthefat.hop.clickbank.net>) is.

I believe that by making healthy food choices but doing so at a higher level of calorie intake and expenditure, that we can fend off sarcopenia - the age related decline in muscle mass that debilitates many seniors - while enjoying a more muscular physique, greater strength, and a less restrictive lifestyle. Most gerontologists agree - by making simple lifestyle changes that include strength training and good nutrition, you can easily turn back the biological clock 10 years without going hungry.

For more information about Burn The Fat, Feed The Muscle, the “longevity lifestyle with more muscle”, visit: <http://steel1658.burnthefat.hop.clickbank.net>.

Train hard and expect success,

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Tom Venuto is a fat loss expert, lifetime natural (steroid-free) bodybuilder, independent nutrition researcher, freelance writer, and author of the #1 best selling diet e-book, **Burn The Fat, Feed The Muscle: Fat-Burning Secrets of The World’s Best Bodybuilders & Fitness Models (e-book)** which teaches you how to get lean without drugs or supplements using secrets of the world's best bodybuilders and fitness models. Learn how to get rid of stubborn fat and increase your metabolism by visiting: <http://steel1658.burnthefat.hop.clickbank.net>.

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