

## Guillermou

Article of relevant interest. Research reports that consuming carbohydrates immediately after exercise, replenishes glycogen stores for future use. Glycogen depletion, when glycogen stores have been depleted, causes gluconeogenesis. When this happens, the body turns to sources such as fats and proteins to meet glucose needs. Protein acts as the last line of defense when energy is required, meaning that energy accessibility is running out. Of the three macronutrients, carbohydrates are the most efficiently metabolized. After exercise or during rest, muscles must repair and rebuild.

Protein and glycogen are needed for muscle repair. The Academy of Nutrition and Dietetics, Dietitians of Canada, and the American College of Sports share the position that high carbohydrate availability is associated with improved performance during high-intensity exercise. A study from the Netherlands compared a low-carb diet to other diets and found that restricting carbohydrates results in protein loss. Muscle strength can be compromised and fatigue increases when glycogen stores are low. Beta-alanine supplementation has demonstrated effectiveness in improving performance in short, high-intensity activities through increasing muscle carnosine levels.

[pubmed.ncbi.nlm.nih.gov/8116550](https://pubmed.ncbi.nlm.nih.gov/8116550) .---- [www.ncbi.nlm.nih.gov/.../PMC3905295](https://www.ncbi.nlm.nih.gov/.../PMC3905295) (2004).--  
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These reviews found that adequate carbohydrate intake, timing, and nutrient composition are critical to maintaining muscle glycogen levels during intense physical activity. Sports nutrition practices, such as high-carbohydrate diets and carbohydrate intake during exercise, have implications for the state of athletes' immune systems. In endurance sports, low-glycemic carbohydrates are also used by promoting fat oxidation and reducing glucose oxidation.

[www.mjssm.me/.../MJSSM\\_Sept\\_2023\\_Dhiman.pdf](http://www.mjssm.me/.../MJSSM_Sept_2023_Dhiman.pdf) (2023) [journals.kmanpub.com/.../1369](http://journals.kmanpub.com/.../1369) (2023).-- Raisins, bananas, and honey can be particularly useful carbohydrate foods to consume during exercise, as they are easily transportable.

Athletes should test carbohydrate food sources before, during and/or after training before implementing them during competition. [www.mdpi.com/.../1367](http://www.mdpi.com/.../1367) (2023).-- In this systematic review with meta-analysis to analyze the effect of carbohydrate (CHO) intake during exercise and some variables that could moderate this effect on endurance performance. The overall effect on performance showed a significant increase after intake of CHO compared to placebo/control groups.

Furthermore, the effectiveness of CHO supplementation was greater the longer the duration of the events. Furthermore, a lower rate of perceived exertion and higher power and heart rate are significantly associated with CHO intake during resistance exercise. These results reinforce that acute CHO feeding is an effective strategy to improve endurance performance, especially in less trained subjects participating in longer duration time-to-exhaustion tests.

[www.tandfonline.com/.../10408398.2023.2233633](http://www.tandfonline.com/.../10408398.2023.2233633) (2023).--

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Gui, the encouraged American tendency is more is better, more yet is better yet, either or, all or nothing. In the search for a basic format for our best health. As an excellent format is developed for most, eventually Doc and those like him will continue to search in deeper corners for the subtilty's and nuances for one's personal best health. While the West has focused on there are three main body types, the Ayurvedic Medicine observations say, yes there are three dominant body types, but along with your dominant type, in descending order the other two types are there too.

It is all influenced by environment, diet, lifestyles, dare I say - the Joy of the Spiritual. For best results all three types need attention. Over decades those who have been around long enough, been put through more than one wringer have witnessed the extreme, disastrous decline from what was once very good health among a general population. This has been a long journey of discovery of why such is so and what could be done attacked and pushed back each step of the way by powerful interest not interested in our health or many of Humanity's needs. While a fairly simple, basic guideline will serve most of the general public, when all of us are ignorant, just ignorant about different things, the average person for whatever reason, financial, situational, their strong points lay in a different area, is often just plain stuck with Monkey See, Monkey do.

The machine plays on this. It is in those areas where there a more focused, individualized program is present is generally where the Machine plays with information to cloud, confuse, misdirect. The Gut is suggesting the best is yet to come, we have to be prepared to protect it when it gets here.

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It is a pleasure to read your interesting reflections, Just. Each person has a biology and a state of health that must be addressed from a perspective of research on dietary approaches and properties of foods that constitute an excellent tool to address adequate personalization of nutrition. Along this path we also have Nutritional Genomics, which focuses on the interaction between the bioactive components of food and the genome. Metabolic adaptation is a path to follow for each person. To promote mitochondrial function and sarcopenia, we must pay attention to certain phytochemicals and possible fasting guidelines.

avoiding the formation of cortisol. Hypovitaminosis D promotes greater cellular senescence and arterial aging, characterized by typical dysfunctions such as a gradual loss of contractility of vascular smooth muscle cells and an increase in arterial permeability and intimal thickness. Vitamin D deficiency is associated with disorders of mitochondrial function, such as dysregulation of the respiratory chain, with a downregulation of mRNA and proteins involved in mitochondrial respiration, inhibition of sirtuin (SIRT) 1, which plays a role.

fundamental role in mitochondrial biogenesis through PGC-1, and, for example, in delaying brain aging. Curcumin has the potential to be used to control muscle atrophy and injury, pending further evidence from carefully planned human clinical trials. Daily administration of hesperidin (HES) for 8 weeks resulted in increased muscle mass and strength and increased fiber size in old mice. HES also restored immune homeostasis that had been altered by aging, such as the imbalance in the M1/M2 macrophage ratio.

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Furthermore, we found that HES ameliorated sarcopenia by regulating AKT/target of rapamycin/hairpin box 3a signaling in mammals through an increase in insulin-like growth factor (IGF)-1 expression in the old mice. . HES represents a promising sarcopenia inhibitor candidate in older people, and its effects are achieved by maintaining immune homeostasis. It has recently been hypothesized that the combination of vitamin D and curcumin, administered as a continuous supplement, counteracts neurodegeneration. SIRT signaling and lifespan appear profoundly affected by dietary nutrient composition and resveratrol, which suppresses oxidative and inflammatory genes, altering promoter epigenetic status [www.mdpi.com/.../4546](http://www.mdpi.com/.../4546) (2023).--- [www.mdpi.com/.../1802](http://www.mdpi.com/.../1802) (2023).-- [www.mdpi.com/.../2526](http://www.mdpi.com/.../2526) (2023).-- [www.mdpi.com/.../2015](http://www.mdpi.com/.../2015) (2023).--.....  
-----Overfeeding and fasting increase circulating free cortisol levels and appear to alter the balance between cortisol and its inactive metabolite, cortisone.

The effect of fasting on free cortisol levels is modified by sex. More studies are needed to determine the mechanisms driving cortisol increases. [mayoclinic.elsevierpure.com/en/publications/changes-in-serum-cortisol-..](http://mayoclinic.elsevierpure.com/en/publications/changes-in-serum-cortisol-..) (2023).--

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To clarify the effects of caloric restriction on plasma cortisol and evaluate cortisol as an indicator of stress during caloric restriction, a systematic review and meta-analysis of published studies in which cortisol was measured after caloric restriction without other manipulations was performed. in humans. Additionally, we compared the effects of fasting, very low calorie diet (VLCD), and other less intense low calorie diets (LCD), as well as the duration of caloric restriction using meta-regression. Overall, calorie restriction significantly increased serum cortisol level in 13 studies (357 participants total). Fasting showed a very strong effect on increasing serum cortisol, while VLCD and LCD did not show significant increases.

Meta-regression analysis showed a negative association between serum cortisol level and duration of caloric restriction, indicating that serum cortisol increases in the initial period of caloric restriction but decreases to the baseline level after several weeks. These results suggest that severe caloric restriction causes activation of the hypothalamic-pituitary-adrenal axis, which may be transient, but results in elevated cortisol that could mediate the effects of starvation on brain and metabolic function, as well as improve weight loss.

[www.tandfonline.com/.../10253890.2015.1121984](http://www.tandfonline.com/.../10253890.2015.1121984) (2015).----- The results of this study obtained during 64 consecutive hours of saliva sampling suggest that one-day fasting can affect three components of the daily rhythm of cortisol and DHEA. Furthermore, no differences were found in the daily rhythm between the morning and evening chronotypes or between women and men. Although aging did not influence the daily rhythm of cortisol, the amplitude of DHEA changed with age. To our knowledge, this is the first presentation of changes in DHEA rhythm during one-day fasting.

[www.frontiersin.org/.../full](http://www.frontiersin.org/.../full) (2023).--

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## MuscleGuy

I'm glad Dr. Mercola is coming around. Bodybuilders have known this since forever. Bro science says, "No carbs, no muscles." The issue is what kind of carbs.

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**drchuck48**

Suggestions ?

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**grulla**

"Dr. Chuck", Weston A. Price Foundation's, (WAPF's) 3rd of ~10 nutritional guidelines for safe carbs:  
[us14.campaign-archive.com/?u=279a95efd611e08240bf6966c&id=e3eb9f95..](https://us14.campaign-archive.com/?u=279a95efd611e08240bf6966c&id=e3eb9f95..)

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**aspenj**

No matter what "new" information comes out, I have always ate a balance of Carbs, Protein and Fat. Most importantly for me is the QUALITY of the food. And I'm sure if you're concious about Health, you know what QUALITY means by now. I did not agree with the "WHITE" Rice though. It is always better to eat food closest to Nature as possible and White Rice, just like White Bread, has gone through a process to remove parts of the complete package.

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## ThePazyryk

That's the crux of the problem; "new" findings. People rely too much reliance on isolated micro, scientific research – essentially seeing the trees for the forest, which are empirical observations, namely those of the "Blue Zones", or places where it's common or not uncommon for folks live well into their 80s, 90s and even 100s, in good health, with hardly any dementia, diabetes, arthritis, or other chronic illness. Such places include Sardinia, Italy; Ikaria, Greece; Okinawa, Japan; Nicoya, Costa Rica – AND Loma Linda, California, USA! While they do eat a "balanced" diet, there's a greater emphasis on vegetables, meat more as a "treat" than a staple, and hardly any processed, junk food.

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## mea18337

It's crazy that we actually have to learn how to eat carbs again! I'm personally relieved because after 11 years of low carb/more protein and trying Keto for 2 years, it was not working for me. I went to more than one functional MD over the years and no one could figure out why I was gaining weight, not losing weight. My blood tests were showing I was optimized but I could show no results. I believe that Dr Mercola has recently found the root cause for me and now have to figure out the right balance of macros in a new program that is effective, for me.

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## stoneharbor

Thanks, mea!! A perfect encapsulation of the dilemma that many, maybe even most of us Dr. Mercola followers have experienced in the years since we first tried to do Ketogenic dieting! It just doesn't work that way. Our bodies don't like being so restricted from carbohydrates that can be changed so easily into glucose. I am happy that the world is turning the other way now and I'm glad you have found out the truth by listening to your best source: your body. Actually, I've found that macronutrient balance is not so important if you just stay from the extremes, as Dr. Mercola now explains in his articles. For me, continuing Intermittent Fasting but without carb restriction is enough to bring on health benefits that we though we might get from being so much in ketosis.

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## ThePazyryk

Keto is a rather artificial concoction. What has gained more traction over the years is the "Mediterranean Diet" (the foods, along with the lifestyle, of certain, isolated communities in southern Europe, like Accaioli, Italy; and the hinterlands of Sardinia and Ikaria. The cuisine there is more diverse than Keto. And they taste great! Best of all, folks in these places tend to live, long, healthy lives – without expensive clinics, hospitals, (oxycodone) pills, medication, doctors, surgeries, Medicare, health insurance, political wrangling . . . But you don't have to look far: the residents of Loma Linda, California have adopted similar foods and lifestyles, and enjoy vibrant lives. Unfortunately, when most people hear that Mediterranean foods are healthy, they simply double down on pizza, spaghetti and macaroni salad/mac and cheese.

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## rrealrose

Ya'll may want to watch this recent video about Oregon shutting down small farms:

[youtu.be/CrW5tJRhHcw](https://youtu.be/CrW5tJRhHcw) - - Water, the green new deal, a market garden being shut down? (This needs verification)

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**jac8120**

You're ability to go back and admit you're approach wasn't the best and to give full details why is very honourable and the reason why I trust no one else other than you for my healthcare advice. If that was a big pharma recommendation it would take 50 years trying to suppress it 50 gradually admitting they was wrong yet trying to blame someone else and another 50 years until change finally happens.

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**JERSEYTONY**

always thought the Keto diet would be good for short term and read many reviews of it curing diseases etc but never for long term in years etc.. Even Dr Atkins I believe said that it is good temporarily to loose weight and to stop it after that. So to celebrate I just ordered an extra extra large Margherita pizza!

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**agapemom**

Is Dr. Mercola going to write a book about how to implement a Ray Peat-like diet? I'd pre-order for sure!

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## billstri

They say a life time of living on a calorie restricted diet increases longevity. I don't think they know why. I wonder if the real true to this is that calorie restriction also decreases both the amount of toxins and PUFA's consumed. Perhaps the way that might lead to increased longevity is to eat more plant based foods and minimal PUFA's and give up on the calorie restriction. Calorie restriction leads to not getting enough vitamins and minerals in your diet. I would guess that eating too much meat compared to organic fruits and vegetables leads to consuming more toxins and PUFA's, even when the meat is organic.

Toxins are everywhere and eating organic reduces, but does not eliminate toxins. Eating excessive meat increases the amount of toxins in the diet as there would always be more toxins in animal meat than in vegetables. Nowadays, it is hard to get organic meat that have not eaten a lot of PUFA's making their fat have a lot of PUFA's. If the movement takes off, low PUFA organic eggs would really be nice. The definition of USDA organic certified food ignores the PUFA content and chickens that are fed a lifetime diet of organic seeds can at the same time be raised and certified USDA organic.

Chickens in the wild find and eat their favorite weed plants and also eat any bugs they find. Some weeds they love and others they won't touch. Birds in the wild only eat seeds when they are readily available like in a human made bird feeder, but normally not their every day diet. Bugs and worms are their favorite diet. Toxic bugs and chemical lawn treatments that are becoming more and more popular in cities are killing birds.

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## Kneecaps

I never believed eating only meat because the biggest guys in bodybuilding where I live were all carb eaters. I also don't believe you lose muscle mass. You only lose it because you don't use it. I'm living proof. I have lifte all my life since my teens and beyond middle aged and have been amazed at my gains in my age. I'm the biggest I have ever been including the hard to develop calves which grew larger past my middle age. I have been searching for the holy grail in muscle mass and I found out it's specific techniques , unique diet, and lots and lots of rest. My chest also expanded in my middle age. Guys look at me astounded how much bigger I got. Seemingly overnight.

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## SomeMo888

Welcome, Kneecaps! Great comment, my 62yo husband is also like this. No reason we all shouldn't be improving with age!

Posted On 03/28/2024

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## sue2613

What I don't understand is how research supported high protein low carb diets for runners. Even articles on Mercola published such research. I have only occasionally done a keto or low carb diet, almost like a carb fast once a month. Sometimes I crave carbs and sometimes I crave protein and fat. I listen to my body. When I crave grains, I include a large portion of vegetables and/or fruit. Muesli with fruit and without the nuts is one of my favorite breakfasts. I am lucky that I have a strong digestion and can eat dairy and organic wheat, especially Einkorn. In the winter when Vitamin D is low, I crave eggs and butter.

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## jamNjim

I've never been able to gain muscle eating low carb. Even as a child, the more carbs I ate, the more muscle I would/could put on. Unfortunately, I also put on more fat. The high protein diet, and the whey protein shakes never worked for building muscle. However, I could maintain muscle I built while eating a high carb diet. It is too rigorous and stressful for me to sustain, but if I were to try to be ripped (6-pack), I would need to strength train on a high-carb diet for 3+ months and follow that up with a high protein/fat diet for about 3 months and then repeat. In about 12 to 18 months I could have 6-pack abbs. At age 58, I have nothing to prove.

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## iro5345

Excellent Production! we are low on chickens right now. I will get some Pullets soon and feed them a low PUFA diet.

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## ambala7

I love that Dr Mercola is always questioning, searching and analysing. He does so with honesty and integrity-so inspiring. He has always said that keto was ONLY for the short term and never for the long term and that it is a means to an end.

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## YHWHreigns

"Because when you understand the three points I discussed above in this article (and understand human physiology and energy metabolism), you understand that carbs are not evil and are not the source of your problems, and instead understand that carbs help support your physiology and improve energy production." For Valerie, as she recounts in the following interview I just watched on YouTube, carbs were her problem. It's worth a listen. This is from the YouTube channel of Shawn Baker, M.D. : 40 Years Of Mental Illness Reversed On A Carnivore Diet | Dr. Shawn Baker & Valerie (03/26/2024)

[www.youtube.com/watch](http://www.youtube.com/watch) .

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## Suzicreamcheese

A related topic...Yes, when decisions come from the heart, from love of where it's taking you, then Joy comes, I've had it, though of course, it's not the only feeling that can be aroused when one takes ones own path. For instance fear may face us sometimes. Depends on the challenges and how one sees, & reacts to those challenges. Despondency? Maybe. Depends on the kind of personality, e.g. Genetic reaction to Belief System one was fed, Decides what One does. It all boils down to Belief...of 'what I can', 'can't', 'I want', 'don't want', & what I'm scared of experiencing'.

What 'I believe I'm allowed' to do, think, or how I must behave'. Most of us will have been fettered or uplifted by what we've experienced or not...Most of us will be a mix. But! To see how this woman trod the path she felt 'Wholeheartedly', & with 'Love' in her heart, gives me incentive to carry on 'preaching', as I have for years, on the importance of teaching children that what they aim their energy at usually comes into being, be it positive or negative.

I would like to see opened up to children at school (at home too!) the doorways to life's abundance and diversity, using the amazing tech we own, full of information. Give children the opportunity to spread the wings of their imagination, & aim in their desired direction. How many more answers might those children find for themselves in adult life, equipped with a broad spectrum of knowledge, to solve whichever challenges they may come across.

To date we in the 'western' or 'civilised' parts of the world, have kept our 'educational' blinkers on & looked to leaders for what we can & can't do,(a leftover from feudalism/kings dictatorships)instead of taking our lives into our own hands; taking Responsibility for what Ones Actions Cause, like handing over responsibility to a third party meaning we have to live with the outcome, which could well be fascism or neo-feudalism, which makes life very tough.

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## Smudge2

Thank goodness for this! Everything is about losing weight, finally an article on how to gain, even if it's muscle. I swear, it's easier to lose than it is to gain.

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**e\_g5680**

I so agree with you. I desperately want to gain 4 kilos. As you say, it seems harder to gain than to lose. If I'm sick or on holidays I always lose 2-3 kilos within a couple of weeks, takes me months to get back. I am a 75yr old European woman (living in Thailand), I do weight training 3/week. I am born skinny (runs in the family) and will say in the last 5 yrs or so I've found it hard maintaining weight. I too eat "healthy" take supplements, but my appetite is not big, so cannot eat American sized dishes. So I'll try to incorporate more carbs and try to find the time and peace of mind to eat them.

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**Mercygrac**

Thanks for all the good information you provide. You all are the best of the best! God bless!

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