MERCOLA
Take Control of Your Health

You Need Carbs to Build Muscle

Analysis by Ashley Armstrong | March 26, 2024

STORY AT-A-GLANCE

- Without smart exercise and strong metabolic rates, the slow loss of muscle mass starts at age 30. At age 50, muscle mass decreases at an annual rate of 1% to 2%. After age 60, this reduction increases to 3%. By age 75, some individuals have lost approximately half of their muscle mass
- Carbs will help you build and maintain more muscle by providing the necessary energy for muscle growth and lowering stress hormones
- A single strength training session will decrease muscle glycogen levels by 24% to 40%. One of the main reasons to consume carbs after your workout is to replenish these stores
- Your muscles rebuild when you are in a rest and digest state, not in a state of fight or flight. Consuming carbs as part of your post-workout meal significantly decreases cortisol and helps you recover faster
- Having more muscle will help you burn more fat at rest, boost your metabolic rate, improve your glucose utilization and insulin sensitivity, and reduce your risk of cardiovascular disease

The health benefits of having more muscle mass are now well established in the literature. But unfortunately, humans are really good at losing muscle as we age. (If you don't use it, you lose it!)

And here are just three reasons why carbs will help you build and maintain more muscle. (And to those who think the body can make all the carb it needs through gluconeogenesis — I get it, I used to think that as well. But do you REALLY think that is optimal? This point is addressed in the article).

Without smart exercise and strong metabolic rates, the slow loss of muscle mass starts at age 30[1,2,3] At age 50, muscle mass decreases at an annual rate of 1% - 2%. After age 60, this reduction increases to 3%.[4] By age 75, some individuals have lost approximately 50% of their muscle mass![5]

Health Consequences of Muscle Loss

Why should we care? Well the health consequences of losing muscle include:

Higher insulin resistance[6] **—** The less muscle mass you have, the more insulin resistant you will be. For every 10% increase in skeletal muscle mass, there is an 11% decrease in insulin resistance.[7] Building muscle is the best way to improve your insulin sensitivity

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Lower metabolic rates[8]

Higher susceptibility to falls and getting injured as individuals with age-related muscle loss have a 58% higher risk of fractures[9]

Lower bone density[10]

Less independence and functionality to perform daily activities[11]

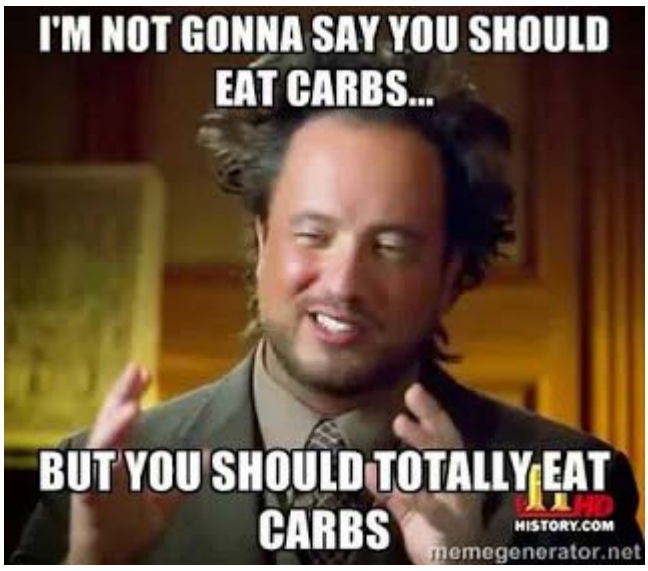
Increased rate of cognitive decline[12]

Higher mortality rate (adults with age-related muscle loss have a 41% higher mortality rate[13])

Increased risk of cardiovascular diseases (some studies show age-related muscle loss comes with a 23% increased risk of cardiovascular diseases)

More muscle =	
more fat burned at rest	higher metabolic rates
improved body composition	improved glucose utilization and insulin sensitivity
improved LDL cholesterol clearing	reduced risk of cardiovascular disease
improved mental health	increased bone mineral density
enhanced physical function	

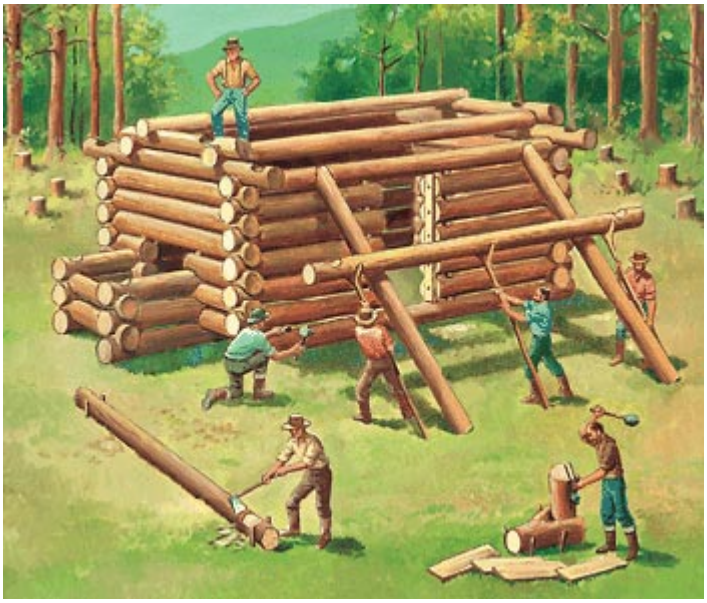
In other words, thriving, not surviving. But here is the good news — there IS something you can do about it. While humans are good at losing muscle, we are also really good at building muscle when we provide our muscles with the right stimulus to elicit a positive change (smart strength training) and support our bodies with the right tools. And here's my case for why I think carbs are an important part of that “tool kit.”



1. Carbs Provide the Body Energy to Build Bigger Muscles

Increasing muscle mass involves adding more contractile units (sarcomeres) to your muscle — increasing muscle length and cross-sectional area. The act of building that muscle tissue after the workout requires rest and food, as the act of building muscle is an energy-intensive process.[14] Building muscle requires energy — our body does not run on thin air.

Eating protein is of course important (almost a no brainer!), as it provides the body the building blocks (amino acids) for the muscle tissue. But just eating protein is like delivering logs to build a log cabin, without any employees to assemble the cabin. Rebuilding something requires TOOLS and ENERGY (carbs).

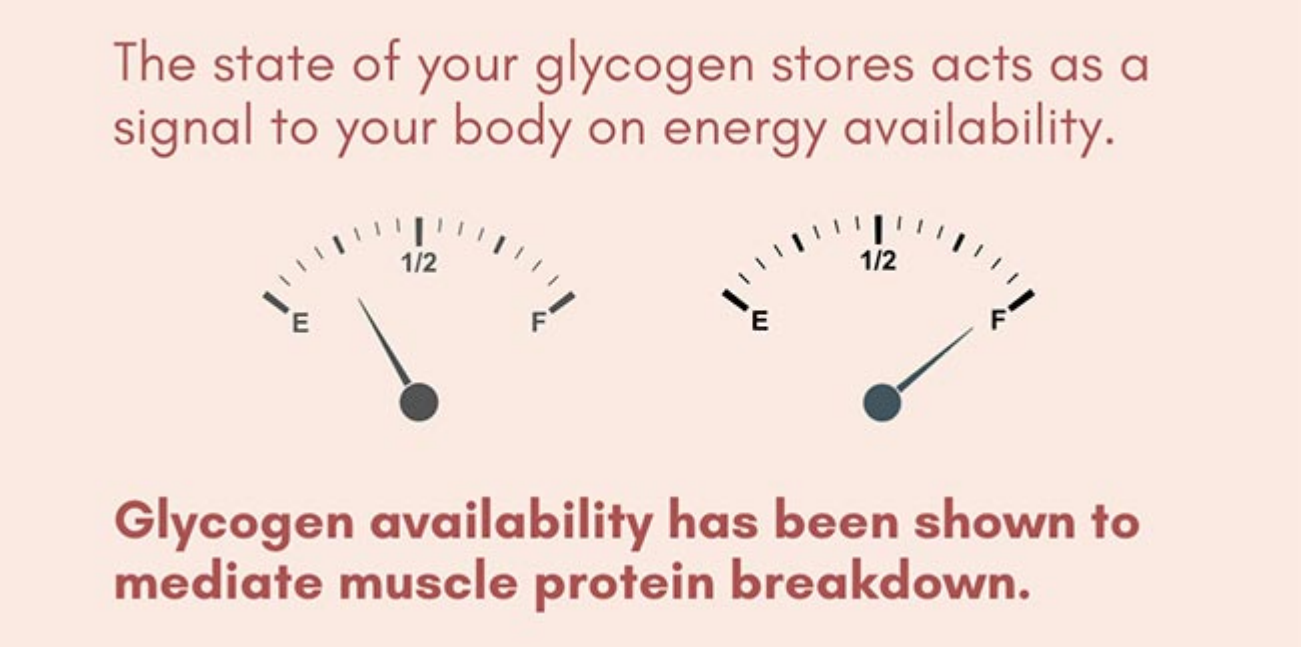


2. Carbs Replenish Muscle Glycogen Levels

Glycogen is a storage form of carbs that is used for energy throughout the body, especially during your strength training sessions since fat is too slow of a fuel source for high power output. (So you use up a lot of these glycogen stores during your training session.)

A recent meta analysis discussed how a single strength workout will decrease muscle glycogen levels by 24% to 40%.[15] And just 3 sets of 12 reps performed to muscular

failure was shown to result in a 26.1% decrease in muscle glycogen levels.[16] So one of the main reasons to consume carbs after your workout is to replenish these stores.



One study showed that muscle breakdown more than doubled in a glycogen-depleted vs. a glycogen-loaded state.[17] This means your body is more likely to spend energy to rebuild that muscle tissue when your stores are full. Muscle is an “expensive” tissue to have — meaning it requires MORE fuel and MORE nutrients for “maintenance and upkeep.”

Why would a body that is already struggling with chronic stress and poor energy production spend valuable (and limited) energy resources on building muscle? That body is just focused on surviving — and building muscle would mean it would need more energy and tools that it is already low in.

Your body is intelligent — it's not going to “waste” energy on something it knows it can't support. That's like buying a new car but not being able to pay for monthly car payments. Full muscle glycogen stores are a signal of safety to your body — that there is enough energy, so it's okay to spend some of it building that muscle tissue back up and 'taking care of it' over the long run.

3. Carbs Lower Stress Hormones

Smart exercise is a good stress that yes, elevates cortisol levels. But we should try to lower that cortisol peak ASAP after the workout. Our muscles rebuild when we are in a rest and digest state, not in a state of fight or flight. Consuming carbs as part of your post workout meal significantly decreases cortisol and helps you recover faster.

One study showed that the inclusion of carbs to a post workout meal decreased cortisol levels by 11% (relative to the cortisol levels measured during the exercise session). The no carb group had a peak cortisol increase of 105%.[18]

Carbs help suppress the exercise-induced cortisol release, so that you can recover faster, keep your hormones balanced, and maintain strong thyroid health and a robust metabolism.

“But our body can make all the carbs it needs” — this is a very common counter argument we receive, largely from men. That we don't need to consume carbs since our body can make its own carbohydrates via a process called gluconeogenesis. We get it fellas, we used to be obsessed with this dogma, and ideology, too.

I will counter and say — well, technically our body can make all the fat it needs if we don't consume dietary fat. But is that optimal? No. Carb restriction and strength training doesn't make sense when you learn human physiology. Not consuming carbs may “work” — but at what cost? What processes and functions get down regulated to allow for this excessive gluconeogenesis?

Your body uses carbs during strength training, full stop. So either you eat some dietarily, or your body makes it. Relying on this pathway will down regulate metabolism and thyroid health over time — you will be simply surviving, not thriving. And being in a low metabolic state leads to more catabolism (breakdown of muscle tissue) — not what we want!

After 1.5 years of taking this approach, we finally 'woke up' that we were driving ourselves into the ground. We were in denial at the time, but our lifting numbers and muscle mass went in the opposite direction.

In Summary

One of the best things you can do for your health is to build, and hold on to, as much muscle as you can. So why wouldn't you want to give your body the best possible chance to build and maintain muscle? (And thus, include carbohydrates in your diet.)

The best types of carbs are ones that you digest well, increase your body temperature (meaning they raise your metabolic rate), and carbs you enjoy! Often, these include ripe fruits and fruit juices, honey and maple syrup, white rice, well-cooked potatoes, and for some, sourdough bread.

Best types of carbs? How many carbs should I consume? How does dietary fat fit into this puzzle? **These are all questions we address in-depth in our courses and free downloads**.

My sister Sarah and I (the 'Strong Sistas') run a **health and wellness website** — focused on providing you metabolism boosting nutrition and exercise information to help you cut through the noise of all the conflicting health information out there (that's likely hindering energy production and lowering metabolic rates). We have been through all the diet fads and extremes out there — and all they did was lower our metabolisms in the long run.

We provide you with the educational tools so that you can have FOOD EDUCATION not FOOD FEAR. 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.

Metabolism Supportive Exercise

Looking for easy-to-follow workouts that help you improve your metabolism and build muscle? (Without spending hours and hours in the gym?)

Our Train2Change membership for both men and women is designed to help you build muscle, improve body composition, lose fat, and boost your metabolism. We have muscle-building workouts ready to go in our custom app where you can seamlessly track your progress, plus educational video modules to help you better understand the why (covering topics like how to build muscle, best exercises, calorie and macro needs, and more). Learn more about Train2Change here.

About Angel Acres Egg Co. and the Nourish Cooperative

The types of fat you eat can impact how you utilize carbs, as PUFAs can hinder proper carb utilization. And when it comes to animal fats, what your food eats, matters. (If their diet is high in PUFAs, the final product will contain more PUFAs). With the current agriculture system, knowing where your food comes from is vital. The article was written by Ashley Armstrong, who is passionate about providing the highest quality food possible.

Armstrong is the cofounder of Angel Acres Egg Co., which specializes in low-PUFA (polyunsaturated fat) eggs. We discussed the importance of low-PUFA eggs in a recent interview, embedded above for your convenience.

Angel Acres Egg Co. ships Low PUFA eggs to all 50 states — but there is currently a waiting list as she slowly increases the number of chickens within the network to fulfill the demand. More egg boxes will be available this spring — join the waitlist for low PUFA egg boxes here.

Armstrong also co-founded Nourish Cooperative which ships the best low PUFA pork, beef, cheese & A2 dairy and traditional sourdough to all 50 states. They are also close to accepting new members to the farm cooperative — join the waitlist here: nourishcooperative.com.

In the video segment above, Ashley reflects on the timeline of her decision to invest her free time into regenerative farming, considering how just a few years ago, her health was far from ideal. She struggled with mitochondrial energy production, and her body

was in a low thyroid state. Your body prioritizes energy for essential tasks, and decision-making requires significant energy.

Your brain consumes about 20% of your body's energy despite being only 2% of its weight. Ashley simply would not have had enough cellular energy to supply her brain to make a decision like she did unless she improved her health. Factors like excess linoleic acid, estrogen and endotoxins were depleting her cellular energy, which is crucial for making energy-intensive decisions.

Her transformation underscores the power of nurturing your health to gain the energy necessary for making significant life changes. Avoiding dietary pitfalls like seed oils played a key role in this journey, enabling her to tap into a newfound capacity for brave decisions — a testament to the profound impact of regaining cellular energy on her ability to navigate life's choices.

It is my sincere desire and hope that you consider her journey to inspire and empower you to make similar choices in your own life and reclaim the Joy that you deserve. Imagine experiencing the nearly limitless Joy that Ashley has with her 1,000 chickens and four livestock guard dogs below.

Sources and References

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