Refined Carbs May Affect Genes That Control How You Burn Fat

2 MIN READ

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A new mouse study explains why refined carbs seem to pack on pounds beyond their calorie count.

You won’t normally read about mouse studies at Super Age, not because the science isn’t good, but because mice are not people, and the findings don’t always translate between species. That said, this particular study caught our eye because it offers the clearest window currently available into a mechanism currently unexplored in people.

A new **animal study** published in the journal *Molecular Nutrition & Food Research* says certain simple carbohydrates lead to more weight gain, not because of extra calories, but because they fundamentally change metabolism and food preferences.

Nutrition experts have long suspected that refined grain foods, muffins, croissants, white bread, and the like, drive weight gain beyond what their calorie counts alone would suggest. The reason has nothing to do with willpower. Strip out the **fiber** found in complex carbohydrates and your body digests these foods almost instantly, sending blood sugar spiking and then crashing, leaving you hungrier than before you ate. One snack becomes two. Two becomes a pattern.

The mouse model doesn’t give us a human answer. But it gives us a credible, well-controlled hypothesis worth paying attention to.

What Refined Carbs Do To Your Metabolism

To understand what wheat does to **metabolism**, a team of researchers at Osaka

Metropolitan University in Japan divided mice into two groups and fed them different diets. One group consumed a high-fat, normal chow diet, while the other followed a high-fat diet with added refined wheat flour and rice flour.

Mice in the refined flour group gained more weight than mice eating at least the same number of calories from other sources. Their metabolism slowed, they stored more fat, and their insulin levels climbed. Blood tests showed their bodies were ramping up fat production while falling short on essential amino acids. They also showed a clear preference for the wheat flour-based foods.

But here's the kicker: that group consumed *fewer* overall calories and less of the high-fat food than the mice in the other group.

"One possibility is that some carbohydrates alter how the body utilizes and stores energy rather than simply increasing calorie intake. In our study, flour-based diets changed the expression of genes involved in metabolism and energy regulation in multiple tissues," **Shigenobu Matsumura, PhD**, lead author of the study and professor at Osaka Metropolitan University, told Super Age in an email.

Interestingly, these effects were not permanent. Once the refined carbs were removed from the diet, the mice's weight and metabolism started returning to normal.

"The results suggest that adjusting overall carbohydrate intake and improving dietary balance may help support metabolic health," Dr. Matsumura said. "That said, we have not tested this concept in humans, so further clinical studies are needed before making specific dietary recommendations."

What Happens If You Unintentionally Gain Weight as You Age?

It's normal and common to gain weight as your metabolism slows with time. We're

not here to tell you what a healthy weight is — that can mean different things for different people.

But here's what you should know, according to **Robert Mankowski, PhD**, associate professor in the Division of Geriatrics, Gerontology and Palliative Care at the University of Alabama at Birmingham. As you age, weight gain often comes with increased visceral fat, reduced muscle quality, and impaired metabolic control, Dr. Mankowski told Super Age in an email. This can add up to a less-than-ideal result: insulin resistance, inflammation, and functional decline.

Weight is one signal among many. What matters more, according to Dr. Mankowski, is whether your body is staying efficient — burning energy well, holding onto muscle, and keeping inflammation in check. Those are the metrics that tend to predict how well you'll function at 70, 80, and beyond.

You Don't Need to Swear Off Carbs

It's too soon to cut and paste these findings into our diets. Human trials will need to confirm the results before we understand exactly how carbs affect our weight and wellbeing.

What we *do* know is that how you eat impacts body weight, and that maintaining a healthy weight plays a vital role in longevity. We also know that a balanced approach tends to be best when it comes to nutrition. In this case, it would be a mistake to cut out carbs altogether.

"Carbohydrates are essential in supporting metabolic health and healthy aging," **Hannah Bills, MS, RDN**, a registered dietitian nutritionist at MemorialCare Saddleback Medical Center, told Super Age. "We can't get the metabolic boosting or anti-aging benefits from blueberries, sweet potatoes, or quinoa without the carbs."

Rather than thinking in terms of deprivation, focus instead on optimizing your overall lifestyle and dietary pattern: “A good place to start is to aim for a moderate amount [of carbs] in a meal and to enjoy it with a protein food and *plenty* of non-starchy vegetables,” Bills said.

It’s also important to zoom out: Yes, weight is important, but it’s just one piece of the puzzle. Sleep, social connections, exercise, and limiting alcohol consumption all shape your lifespan and healthspan. Fretting over the occasional croissant could be missing the forest for the trees.

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