

The baffling case of metabolically healthy obese people: Are they protected from chronic diseases?

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Some studies have demonstrated that a significant number of obese people are metabolically healthy, leading to the contention that one could be healthy at any size. Credit: [Julia Kubow](#), Author provided

There is a growing global body positivity movement to combat the [stigma and prejudice that overweight and obese individuals face](#). Some of this stigma arises from the perception that obese individuals are unhealthy.

However, weight is only one of the metrics that medical professionals use to assess overall health. In fact, some studies have demonstrated that a significant number of obese people are metabolically healthy, leading to the contention that one could be [healthy at any size](#). This phenomenon is referred to as [metabolically healthy obesity](#) (MHO). Research is now starting to explore what this means.

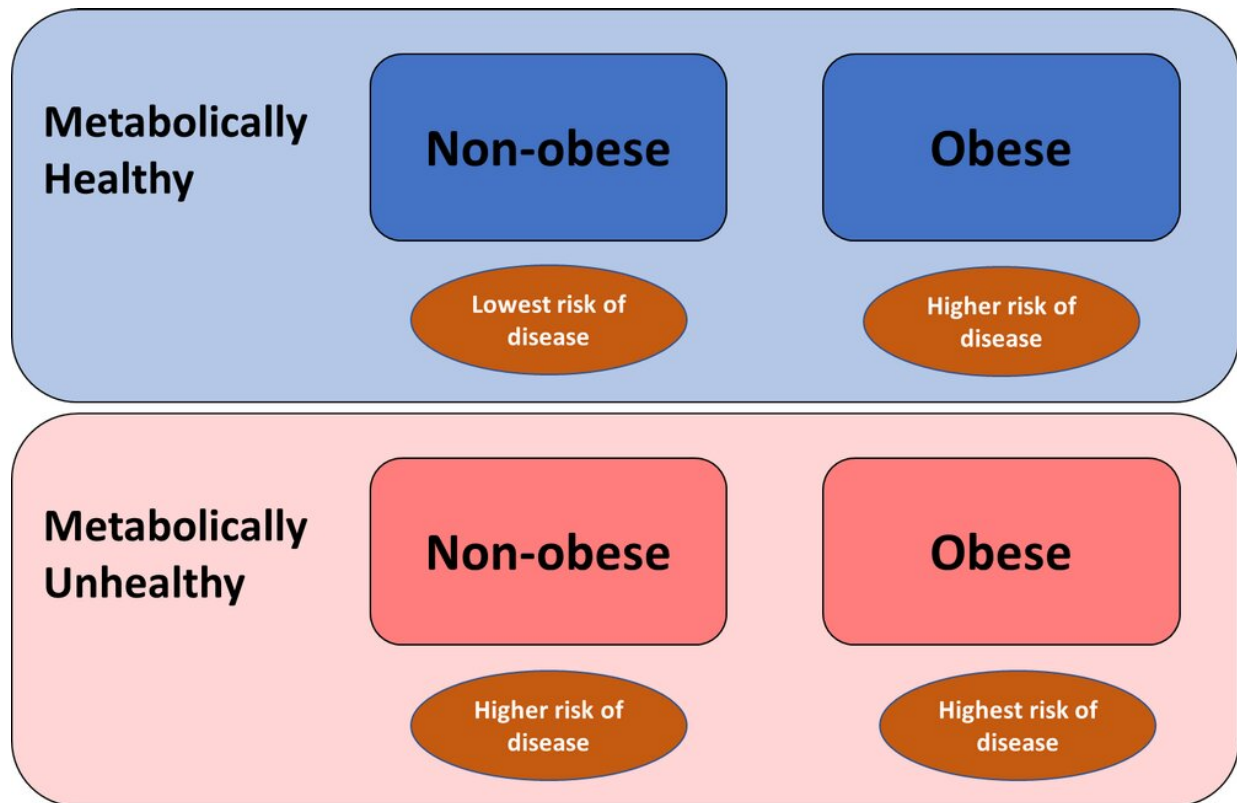
A person who is MHO has healthy blood pressure, normal levels of blood lipids (cholesterol and triglycerides) and normal blood sugar. Having high values of one or more of these measures significantly increases one's risk for cardiovascular disease.

It has been proposed that metabolically healthy obese individuals might be protected against [obesity](#)-related diseases. The extent of this protection has been controversial within the scientific community, and this is partly because we still [don't have a standardized definition of MHO](#).

So, over the past few years, researchers have gone to work to find out who can be defined as MHO, and to what extent people with MHO are protected from chronic disease.

Emerging consensus

Several large population studies have been initiated towards this end. So far, results show that, indeed, more rigorous definitions of MHO are needed. This can be achieved by [including other measures of health](#) such as insulin resistance and blood markers of inflammation. Insulin resistance is when the body does not respond well to the insulin hormone that helps to take up sugar from the bloodstream for use as a fuel for energy. This leads to elevated blood sugar and the consequent health complications.



Individuals with metabolically healthy obesity have lower risk of disease than those with metabolically unhealthy obesity, but still higher risk than non-obese, metabolically healthy individuals. Credit: Kubow/Iskandar, Author provided

An emerging consensus has been that although MHO individuals show some protection from chronic disease, they still seem to be significantly less protected than those who are metabolically healthy and lean.

The fact that people with MHO still have a relatively higher disease risk led some researchers to suggest that the term "metabolically healthy obesity" could be a misnomer. Moreover, [a majority of the MHO population tends to progress towards "metabolically unhealthy obesity" or MUO over a number of years](#), leading to enhanced risk of diabetes,

[cardiovascular disease](#) and other disorders linked with obesity.

This leads to another question: is MHO truly protective over an entire lifetime, or is it just a question of time before MUO sets in, making MHO a transient state?

Protective factors

One factor to consider that might differentiate metabolically healthy versus unhealthy obesity is how fat is distributed in the body. A [genetic predisposition for depositing fat under the skin](#), called subcutaneous fat, seems to play a protective role.

People with this predisposition are mostly premenopausal women who accumulate subcutaneous body fat in the hips rather than the waist (pear-shaped). They are [better protected against diabetes and cardiovascular disease](#) compared to people whose body fat is located more in the abdomen (apple-shaped).

In contrast, [obese individuals](#) with a high waist circumference show excessive fat deposition in the abdomen and a [pro-inflammatory](#) state that leads to insulin resistance, which can be a precursor to Type 2 diabetes.



Credit: AI-generated image ([disclaimer](#))

Researchers have also looked at the lifestyle habits that differentiate MHO from MUO individuals to see if development of metabolically unhealthy obesity can be prevented.

One factor is exercise. People with MHO are involved in [regular physical activity to a greater extent than MUO individuals](#). The other is diet. Although [dietary studies show mixed results](#), it seems that [MHO people consume healthier diets](#) such as the Mediterranean diet, which is rich in fish, fruits, vegetables, whole-grain products, legumes, extra virgin olive oil and nuts.

Healthy diets provide [anti-inflammatory and antioxidant](#) benefits that help achieve a healthy metabolic profile. Indeed, of the MHO population, those who [follow the Mediterranean diet seem to have lower](#)

[mortality rates](#). Adopting these healthy lifestyle habits could help prevent the trajectory of metabolically [healthy obesity](#) moving towards metabolically unhealthy obesity over the course of a lifetime.

Is metabolically healthy obesity real?

So is MHO real and does it protect against disease? There isn't a yes or no answer yet. The more we learn about it, the more nuance is injected into the concept that one can be perfectly healthy at any size. Based on the information we have so far, [only a narrow segment of obese individuals are without risk](#) of developing obesity-related chronic diseases.

We also know a lot more about their characteristics. They have less abdominal fat and more subcutaneous fat. They have less [insulin resistance](#), less inflammation and a metabolically healthy cardiovascular profile. They also have healthy lifestyle habits such as regular exercise and a healthy diet. It seems that genetics play a role as well.

We can expect more insight from major international population studies and clinical trials that are currently underway. But in the meantime, the age-old advice holds truer than ever: [regular physical activity](#) and a healthy diet are crucial to maintain health and longevity.

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