

Should You Start Chowing Down on Chitin?

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✓ Fact Checked

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STORY AT-A-GLANCE

- › Chitin is a polysaccharide found in the exoskeleton of most arthropods, which include insects, spiders, scorpions and centipedes, as well as crabs, crayfish and lobsters
- › An animal study suggests that when chitin is consumed, it activates the immune system, which in turn may reduce weight gain and body fat while increasing resistance to obesity
- › Chitin is a highly inflammatory and potentially allergy-inducing compound
- › It's possible chitin is involved in triggering "crab asthma" that's prevalent among workers in the shellfish processing industry
- › Building up chitin could be part of the global plan steering the population away from nutritious animal foods and toward insects as a primary protein source

Chitin is a polysaccharide found in the exoskeleton of most arthropods, which include insects, spiders, scorpions and centipedes, as well as crabs, crayfish and lobsters, but not in mammals. While most people discard the shell when dining on crab legs, an article in *Futurity* recently suggested, "Chowing down on crustacean shells may boost metabolism."¹

The statement refers to a study published in the journal *Science*,² which suggests that when chitin is consumed, it activates the immune system, which in turn may reduce weight gain and body fat while increasing resistance to obesity.³ But there's a potential downside to chitin that isn't mentioned, which raises questions about how safe it is for human consumption.

Is Chitin Good for Metabolism?

The potential health benefits of chitin have been played up by entities encouraging the use of insects as food. For instance, Edibleinsects.com, launched in 2022, describes chitin as “a valuable prebiotic fiber”⁴ with antifungal, antiviral and antibacterial properties, and eatcrickster.com claims it can reduce inflammation.⁵ The Science study, meanwhile, suggests:⁶

“The addition of dietary chitin improved metabolic readouts in mice fed a high-fat diet, possibly because activated chief cells produce other digestive enzymes, including lipase. This mammalian adaptation to chitin may therefore serve as a potential therapeutic target for metabolic diseases such as obesity.”

The study involved experiments using mice without intestinal bacteria. When chitin was consumed, it caused “gastric distension and cytokine production.” Futurity explained, “Stomach distention after chitin ingestion activates an innate immune response that triggers stomach cells to ramp up production of enzymes, known as chitinases, that break down chitin.”⁷

Even without bacteria in the intestines, chitin activated immune response in the mice, which surprised the researchers. Study author Steven Van Dyken, an assistant professor of pathology and immunology at Washington University in St. Louis, told Futurity:⁸

“We think chitin digestion mainly relies on the host’s own chitinases. The stomach cells change their enzymatic output through a process we refer to as adaptation. But it is surprising that this process is happening without microbial input, because bacteria in the gastrointestinal tract are also sources of chitinases that degrade chitin.”

When mice with bacteria in their guts consumed chitin, it changed the composition of bacteria in the lower gastrointestinal tract. Not all of the mice were able to break down chitin in the study, which led to different metabolic effects. Futurity reported:⁹

“The mice that ate chitin but couldn’t break it down gained the least amount of weight, had the lowest body fat measurements and resisted obesity, compared with mice that didn’t eat chitin and with those that did but could break it down. If the mice could break down chitin, they still benefited metabolically, but they adapted by overproducing chitinases to extract nutrients from chitin.”

The team intends to test chitin in people next to see if the compound could help with obesity. “We have several ways to inhibit stomach chitinases,” Van Dyken told Futurity. “Pairing those approaches with a chitin-containing food might have a very real metabolic benefit.”¹⁰

Chitin Is Inflammatory and May Cause Allergic Reactions

Chitin is a highly inflammatory and potentially allergy-inducing compound,¹¹ which is one reason for caution when considering it as a food source. Some human tissues do have a chitin-destroying enzyme called chitinase, but it doesn’t always work well, in which case the chitin may trigger an immune response, allergic reactions and inflammation, as it increases inflammatory cytokine production.

According to a review in *Clinical Reviews in Allergy & Immunology*, chitin is expressed by microorganisms involved in many skin allergies.¹² Further:

“Immune recognition of chitin ... involves pattern recognition receptors, mainly via TLR-2 and Dectin-1, to activate immune cells to induce cytokine production and creation of an immune network that results in inflammatory and allergic responses.”

As the second most common polysaccharide after cellulose, chitin is prevalent in nature. Insects and crustaceans depend on it for protection from harsh environmental conditions, parasites and pathogens.

Humans are also likely exposed to it and its derivatives in daily life, researchers wrote in *Current Opinion in Immunology*, as “chitin is also a common component of allergy - triggering antigens including those in shrimp, crab, cockroaches and house dust mite.”¹³

Is Chitin Responsible for Crab Asthma in Shellfish Workers?

In a University of California San Francisco article that's now only available in archived form, research that found chitin triggers an allergic inflammatory response in mice lungs¹⁴ is discussed, including the potential for chitin to be responsible for "crab asthma" among workers in the shellfish processing industry.¹⁵

It's estimated that 18% of fish plant workers have crab asthma, many of them women.^{16,17} However, some estimates suggest it may affect up to 36% of workers in the seafood processing industry.¹⁸ Other research found allergies to snow crab were present in 40% of snow crab industry workers, while 50% reported work-related symptoms of skin rash and allergies.¹⁹

"It's almost as if you have something around your throat, you just can't get enough air in to breathe," one worker at the Ocean Choice International plant in Triton, Newfoundland, told CBC. "By the time the day is over, I don't have enough breath to get up over the stairs or get up to my vehicle."²⁰

A review paper published in the *Annals of Agricultural and Environmental Medicine* also suggested chitin may play a possible role in the development of asthma and allergies, stating, "The high prevalence of asthma among people working with chitinous substances, such as crabs and fungi, supports the hypothesis that chitin might be an allergen playing a role of significance in the development of asthma."²¹

Additional research, published in *Nature*, further pointed the finger at chitin as a potential major allergen:²²

"Mice treated with chitin develop an allergic response, characterized by a build-up of interleukin-4 expressing innate immune cells. Treatment with a chitinase enzyme abolishes the response. Occupations associated with high environmental chitin levels, such as shellfish processors, are prone to high incidences of asthma, suggesting that this pathway may play a role in human allergic disease."

Chitin-binding lectins also share similarities to wheat lectins, many of which are toxic to your cells and nerves and have been linked to autoimmune reactions and inflammation. Because chitins are long polymers of n-acetyl-glucosamine, the primary binding target of wheat lectin, wheat lectin and chitin-binding lectin are functionally identical.

Chitin May Be Part of the Push for an Insect-Based Diet

If you look up chitin online, you'll find many studies and media outlets singing its praises. Could this be part of the global plan steering the population away from nutritious animal foods and toward insects as a primary protein source? Globalists suggest eating bugs will protect the planet by eliminating the need for livestock, cutting down on agricultural land use and protecting the environment.²³

The UN's Food and Agriculture Organization also encourages the consumption of insects and insect-based foods,²⁴ and celebrities like Angelina Jolie may be rolled out to promote it. Research published in Food Quality and Preference even found that celebrity endorsement can be a sound strategy for boosting consumers' willingness to eat insect-based foods.²⁵ As noted by a BI Norwegian Business School news release:²⁶

"Two billion people already consume insects on a regular basis, but it seems like the rest of us struggle to overcome the "yuck factor" of eating bugs. In fact, these negative attitudes are considered one of the most significant obstacles towards promoting the consumption of insect-based foods in the future.

But how can businesses turn a "yuck" into a "yum"? ... our study demonstrates that celebrity-endorsed ads, as compared to an ad without an endorser, significantly increased the consumer's willingness to eat insect-based foods.

Together, these findings demonstrate that celebrity endorsement can be a very effective strategy for practitioners to increase consumer interest in eating more insects, provided that the right celebrity type is used for the right gender."

Ultimately, according to globalists, a traditional whole food diet is not only unsustainable but environmentally destructive and must be replaced with GMOs and protein

alternatives made from insects, plants and synthetic biology.

The idea of eating insect-based foods is cloaked in “sustainable” rhetoric by globalists, which they hope to elevate to foods “the cool kids,” i.e., celebrities, eat. One top player in the cabal, the World Economic Forum, posted an article in June 2021 categorized under “food security” in which they promote the use of insects, writing we “need to give insects the role they deserve in our food systems.”²⁷ They justify this proposal by saying it will address an impending food crisis.

William Chen from Nanyang Technological University notes that while people in Asia are used to insects, eating “whole insects” in restaurants “may still be challenging due to the general negative perception of insects.” Using insect protein is one way around this. Chen continued:²⁸

“One way to integrate insects into our diet would be to add insect proteins into familiar foods such as pasta, with proper labeling. With no sight of the whole insects and no change in the taste – I can safely say this after tasting spaghetti bolognese made with mealworm protein-based pasta – consumers would slowly accept insect-based foods.”

Regardless of acceptance, there’s reason to question the safety of eating insects. As noted in a review in the journal *Foods*, which evaluated whether “animal-origin prebiotics based on chitin” could be an “alternative for the future,” “The use of whole insects or meal, although showing beneficial effects on the modulation of GM [gut microbiota] composition in most cases, also showed some harmful effects on both GM composition and other metabolic parameters.”²⁹

Crustacean Shells Aren’t the Answer

Before we start centering human diets around insects and crustacean shells, keep in mind that viable options exist to address all existing environmental concerns.

Regenerative agriculture – which includes and, indeed, requires livestock – is the way to

go if we really want to clean up the globe, reduce water consumption and normalize weather, along with supporting human health and longevity.

Toward this end, you can use your pocketbook as your voice, supporting only companies that support regenerative agriculture and real food – not insects. “Financing your local farmer or farm distribution service may not look like a great money-maker,” finance guru Catherine Austin Fitts explains, “but it means you will have a better chance of not being cornered into eating insects and lab-grown meat.”³⁰

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