

Nearly a half-million Americans might have tick-borne meat allergy syndrome

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Tick bites can cause crippling infections like Lyme disease in humans,

but new research suggests they can also trigger a serious meat allergy in far more Americans than thought.

Called alpha-gal syndrome, the condition may affect hundreds of thousands of Americans, U.S. health officials announced Thursday, but many doctors are not familiar with the condition, or how to diagnose or treat it.

According to one of two studies from researchers at the U.S. Centers for Disease Control and Prevention, both published in *Morbidity and Mortality Weekly Report*, there were more than 110,000 suspected cases of alpha-gal syndrome reported between 2010 and 2022. But because diagnosis requires a [diagnostic test](#) and a clinical exam, many people may not get tested. On that basis, the CDC researchers estimated that as many as 450,000 Americans might be affected.

In that study, researchers looked at lab results from 2017 to 2022 from a laboratory that—until August 2021—was the primary commercial lab offering such testing in the United States.

More than 300,000 samples were tested, and more than 30% showed AGS infection.

"Alpha-gal syndrome is an important emerging public health problem, with potentially severe health impacts that can last a lifetime for some patients," CDC researcher Dr. Ann Carpenter said in an agency news release. "It's critical for clinicians to be aware of AGS so they can properly evaluate, diagnose and manage their patients, and also educate them on tick bite prevention to protect patients from developing this allergic condition."

Unfortunately, a second study from the same CDC researchers found that many [health care providers](#) are not familiar with the potentially life-

threatening allergic condition, the agency noted.

The survey of 1,500 family doctors, internists, pediatricians, nurse practitioners and physician assistants showed that nearly half (42%) had not heard of AGS, one-third said they were "not too confident" in their ability to diagnose or manage patients with the syndrome, and only 5% felt "very confident" in their ability.

Alpha-gal is a sugar found in meats like pork, beef, rabbit, lamb and venison, along with products made from gelatin, cow's milk, milk products and some pharmaceuticals. AGS is a serious allergic reaction some people get after eating food or products containing alpha-gal.

Evidence suggests that AGS is associated with the bite of a lone star tick, but other types of ticks have not been ruled out, the researchers said.

The Southern, Midwestern and mid-Atlantic regions have seen more people who test positive for AGS, the agency added.

"The burden of alpha-gal syndrome in the United States could be substantial, given the large percentage of cases suspected to be going undiagnosed due to non-specific and inconsistent symptoms, challenges seeking health care, and lack of clinician awareness," said CDC researcher Dr. Johanna Salzer, the senior author on both studies.

"It's important that people who think they may suffer from AGS see their [health care provider](#) or an allergist, provide a detailed history of symptoms, get a [physical examination](#), and a [blood test](#) that looks for specific antibodies [proteins made by your [immune system](#)] to alpha-gal," she said in the release.

Symptoms of AGS can include hives or itchy rash, nausea or vomiting, heartburn or indigestion, diarrhea, cough, shortness of breath or

difficulty breathing, drop in [blood pressure](#), swelling of the lips, throat, tongue, or eyelids, dizziness or faintness, or severe stomach pain. Symptoms usually start two to six hours after eating meat or other exposure to products containing alpha-gal.

More information: For more on alpha-gal syndrome, see the [U.S. Centers for Disease Control and Prevention](#).

Ann Carpenter et al, Health Care Provider Knowledge Regarding Alpha-gal Syndrome—United States, March–May 2022, *MMWR. Morbidity and Mortality Weekly Report* (2023). [DOI: 10.15585/mmwr.mm7230a1](https://doi.org/10.15585/mmwr.mm7230a1)

Julie M. Thompson et al, Geographic Distribution of Suspected Alpha-gal Syndrome Cases—United States, January 2017–December 2022, *MMWR. Morbidity and Mortality Weekly Report* (2023). [DOI: 10.15585/mmwr.mm7230a2](https://doi.org/10.15585/mmwr.mm7230a2)

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