

Limited data suggest possible association between Agent Orange exposure

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A new report from the Institute of Medicine finds suggestive but limited evidence that exposure to Agent Orange and other herbicides used during the Vietnam War is associated with an increased chance of developing ischemic heart disease and Parkinson's disease for Vietnam veterans. The report is the latest in a congressionally mandated series by the IOM that every two years reviews the evidence about the health effects of these herbicides and a type of dioxin -- TCDD -- that contaminated some of the defoliants.

A finding of "limited or suggestive evidence of an association" means that the evidence indicates there could be a link between exposure to a chemical and increased risk for a particular health effect, though conflicting results from studies, problems with how the studies were conducted, or other confounding factors limit the certainty of the evidence. Until now, the cumulative evidence had been inadequate to draw conclusions about whether these two conditions may be associated with veterans' exposures to herbicides or TCDD.

Ischemic heart disease -- a condition characterized by reduced [blood supply](#) to the heart, which can lead to heart attack and stroke -- is the foremost cause of death among people in industrialized countries. Major risk factors include buildup of cholesterol in the arteries, age, smoking, [high blood pressure](#), and diabetes. The committee that wrote the report reviewed several studies investigating TCDD exposure and heart disease, many of which showed that higher TCDD exposure correlated with greater incidence of disease. The studies had weaknesses; for instance, it

is difficult to adjust entirely for the impact of smoking, age, weight, and other common risk factors. But based on the preponderance of the evidence as well as biologic data beginning to show how TCDD can cause this toxic effect, the committee concluded that the evidence suggests that veterans exposed to defoliants contaminated with TCDD during the war may face a higher risk for developing ischemic heart disease.

The committee's conclusion that there may be a relationship between Parkinson's disease and Agent Orange exposure stems from its review of 16 studies that looked at herbicide exposures among people with Parkinson's disease or Parkinson's-like symptoms. The finding was bolstered by several studies that have identified exposure to certain compounds similar to those in the herbicides used in the war as potential risk factors for the development of Parkinson's. The committee's review was hampered by the lack of studies investigating the occurrence of Parkinson's disease in Vietnam veterans specifically and the lack of animal studies testing the chemical components of Agent Orange for their potential to cause Parkinson's-like symptoms. The report strongly recommends that studies examining the relationship between Parkinson's incidence and exposures in the veteran population be performed. Parkinson's disease affects approximately 1 percent of people over age 60 -- some 5 million people worldwide.

In response to a request for clarification by the U.S. Department of Veterans Affairs, the committee also affirmed that hairy cell leukemia is in the same category as chronic lymphocytic leukemia (CLL) and lymphomas. Previous reviews in the series found sufficient evidence to state that there is an association between herbicide exposure and increased risk for CLL and lymphomas.

The report presents scientific data only and does not suggest or intend to imply policy decisions that the U.S. Department of Veterans Affairs

might make. Also, the findings relate to exposures and outcomes in broad populations; researchers' abilities to pinpoint the health risks faced by any individual veteran are hindered by inadequate information about military personnel's exposure levels during service in Vietnam.

U.S. forces sprayed [Agent Orange](#) and other defoliants over parts of southern Vietnam and surrounding areas from 1962 to 1970. Most large-scale sprayings were conducted from airplanes and helicopters, but herbicides were also dispersed from boats and ground vehicles and by soldiers wearing back-mounted equipment.

Source: National Academy of Sciences ([news](#) : [web](#))

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