



Agent Orange and Cancer Risk

What is Agent Orange?

Agent Orange was a mixture of plant-killing chemicals (herbicides) used during the Vietnam War. It was used as a defoliant to remove tree cover, destroy crops, and clear vegetation from the perimeters of US bases. About 3 million Americans served in the armed forces in Vietnam and nearby areas during the time of the Vietnam War. Many of these veterans, as well as other people in the area, were exposed to Agent Orange during this time.

Exposure to Agent Orange varied a great deal. Exposures could have occurred when the chemicals were breathed in, ingested in contaminated food or drinks, or absorbed through the skin. Exposure may have been possible through the eyes or through breaks in the skin, as well.

One of the challenges in assessing the health effects of Agent Orange exposure has been trying to determine how much any individual was exposed to (or even what they were exposed to), as very little information of this type is available.

Does Agent Orange cause cancer?

In general, the American Cancer Society does not determine if something causes cancer (that is, if it is a carcinogen), but we do look to other respected organizations for help with this. Based on current research, some of these organizations have made the following determinations:

- [International Agency for Research on Cancer \(IARC\)](#)¹: IARC has classified one of the chemicals in Agent Orange (dioxin) as “**known to be carcinogenic to humans.**”

- [US National Toxicology Program \(NTP\)](#)²: The NTP has classified one chemical in Agent Orange (dioxin) as “**known to be a human carcinogen.**”

To learn more about how these organizations study and classify cancer causes, see [Known and Probable Human Carcinogens](#)³ and [Does This Cause Cancer?](#)⁴

In addition, the [US National Academies of Sciences, Engineering, and Medicine \(NASEM\)](#)⁵ linked exposure to Agent Orange (and some other herbicides) to certain cancers and cancer precursors in its most recent report, titled *Veterans and Agent Orange: Update 11 (2018)*:

Sufficient evidence of an association:

- Soft tissue sarcoma
- Non-Hodgkin lymphoma (NHL)
- Hodgkin lymphoma
- Chronic lymphocytic leukemia (CLL), including hairy cell leukemia and other chronic B-cell leukemias
- Monoclonal gammopathy of undetermined significance (MGUS), a precursor of multiple myeloma

Limited/suggestive evidence of an association:

- Respiratory cancers (lung, bronchus, trachea, larynx)
- Prostate cancer
- Multiple myeloma
- Bladder cancer

The IOM categories provide a framework for US government policy decisions regarding compensation for US Vietnam veterans.

Can Vietnam veterans be tested for Agent Orange exposure?

No widely available lab tests can show if someone was exposed to Agent Orange in the past. Because of this, the Department of Veterans Affairs (VA) presumes that all veterans who served in certain places at certain times might have been exposed, and therefore might be eligible for certain medical benefits for service-related disabilities.

Benefits for exposed veterans

Vietnam veterans and those who served at certain other locations (such as Thailand or the Korean Demilitarized Zone) who were exposed to Agent Orange or other herbicides may be eligible for 3 kinds of benefits.

Agent Orange Registry health exam: The Agent Orange Registry is a program administered by the VA since 1978. Veterans who qualify and participate in this program receive a free medical exam, lab tests, and specialty referrals if appropriate. Veterans do not need to enroll in the VA health care system to receive the registry exam.

Disability compensation: Disability compensation payments are available for veterans with certain service-related illnesses, including some types of cancer. The amount of the monthly payment is determined by the extent of disability.

The cancers considered by the US government as related to Agent Orange exposure correspond closely to the cancers found by the IOM to have “sufficient” or “limited/suggestive” evidence of an association:

- Hodgkin lymphoma (Hodgkin disease)
- Non-Hodgkin lymphoma
- Multiple myeloma
- Prostate cancer
- Cancer of the lung, bronchus, larynx (voice box), or trachea (windpipe)
- Soft tissue sarcoma (other than osteosarcoma, chondrosarcoma, Kaposi sarcoma, or mesothelioma)
- Chronic lymphocytic leukemia (CLL), hairy cell leukemia, and other chronic B-cell leukemias

Some conditions other than cancer are also considered related to Agent Orange exposure.

Medical benefits: Some veterans qualify for medical care after being exposed to Agent Orange. The VA provides medical care at VA facilities, prescription medicines, and home health and hospice care to veterans with conditions linked with herbicide exposure in Vietnam. These include the cancers presumed to be Agent Orange-related, as listed above.

To learn more about whether you might be eligible for these benefits, call the

Department of Veterans Affairs at 1-800-749-8387 or visit their website at: <https://www.publichealth.va.gov/exposures/agentorange/>⁶.

Other things veterans can do for their health

Be sure your doctor knows if you have a history of Agent Orange exposure. Because of the possibility of increased cancer risk, your doctor might advise you to get [cancer screening tests](#)⁷ and to promptly report any suspicious symptoms.

Of course, veterans are at risk for many types of cancer just like everyone else, even if they haven't been exposed to Agent Orange. You can lower your risk of cancer (and other diseases) by [quitting smoking](#)⁸, [staying at a healthy weight](#)⁹, [getting regular physical activity](#)¹⁰, and [eating a healthy diet](#)¹¹ (including avoiding or limiting alcohol).

If you are concerned about past exposure to Agent Orange, you may want to join a support group online or through your local VA hospital.

To learn more

Along with the American Cancer Society, other sources of information and support include:

Department of Veterans Affairs Toll-free numbers: Special Health Issues: 1-800-749-8387 Benefits (including disability compensation): 1-800-827-1000 Information on Agent Orange: www.publichealth.va.gov/exposures/agentorange¹² www.vets.gov/disability-benefits/conditions/exposure-to-hazardous-materials/agent-orange¹³

Vietnam Veterans of America Toll-free number: 1-800-882-1316 (1-800-VVA-1316) Information on Agent Orange: vva.org/what-we-do/outreach-programs/agent-orange¹⁴

National Academies of Sciences, Engineering, and Medicine Veterans and Agent Orange - Update 11 (2018): nationalacademies.org/hmd/reports/2018/veterans-and-agent-orange-update-2018.aspx¹⁵

Hyperlinks

1. www.iarc.fr/index.php
2. ntp.niehs.nih.gov/
3. www.cancer.org/cancer/cancer-causes/general-info/known-and-probable-human-carcinogens.html

4. www.cancer.org/cancer/cancer-causes/general-info/does-this-cause-cancer.html
5. <http://www.nationalacademies.org/>
6. www.publichealth.va.gov/exposures/agentorange/
7. www.cancer.org/healthy/find-cancer-early.html
8. www.cancer.org/healthy/stay-away-from-tobacco.html
9. www.cancer.org/healthy/eat-healthy-get-active/take-control-your-weight.html
10. www.cancer.org/healthy/eat-healthy-get-active/get-active.html
11. www.cancer.org/healthy/eat-healthy-get-active/eat-healthy.html
12. www.publichealth.va.gov/exposures/agentorange
13. www.vets.gov/disability-benefits/conditions/exposure-to-hazardous-materials/agent-orange
14. vva.org/what-we-do/outreach-programs/agent-orange
15. <http://nationalacademies.org/hmd/reports/2018/veterans-and-agent-orange-update-2018.aspx>

References

Agency for Toxic Substances and Disease Registry. ToxFAQs for Chlorinated Dibenzop-dioxins (CDDs). 2011. Accessed at www.atsdr.cdc.gov/toxfaqs/tf.asp?id=363&tid=63 on October 12, 2018.

Frumkin H. Agent Orange and cancer: An overview for clinicians. *CA Canc J Clin*. 2003;53:245-255. Accessed at <http://onlinelibrary.wiley.com/doi/10.3322/canjclin.53.4.245/full> on November 15, 2018.

National Academies of Sciences, Engineering, and Medicine. *Veterans and Agent Orange: Update 11 (2018)*. Washington, DC: National Academies Press, 2018. Accessed at <http://nationalacademies.org/hmd/reports/2018/veterans-and-agent-orange-update-2018.aspx> on November 15, 2018.

International Agency for Research on Cancer (IARC). *IARC Monographs on the Evaluation of Carcinogenic Risks to Humans. Volume 69: Polychlorinated Dibenzop-para-dioxins and Polychlorinated Dibenzofurans*. 1997. Accessed at <https://monographs.iarc.fr/iarc-monographs-on-the-evaluation-of-carcinogenic-risks-to-humans-52/> on October 12, 2018.

International Agency for Research on Cancer (IARC). *IARC Monographs on the*

Evaluation of Carcinogenic Risks to Humans. Volume 100F. A Review of Human Carcinogens: Chemical Agents and Related Occupations. 2012. Accessed at <https://monographs.iarc.fr/iarc-monographs-on-the-evaluation-of-carcinogenic-risks-to-humans-16/> on October 12, 2018.

US Department of Health and Human Services. Public Health Service, National Toxicology Program. *Report on Carcinogens, Fourteenth Edition.* 2016. Accessed at <https://ntp.niehs.nih.gov/ntp/roc/content/profiles/tetrachlorodibenzodioxin.pdf> on October 12, 2018.

US Department of Veterans Affairs. Facts about Herbicides. Accessed at <https://www.publichealth.va.gov/exposures/agentorange/basics.asp> on October 12, 2018.

Last Medical Review: February 11, 2019 Last Revised: June 9, 2020

Written by

The American Cancer Society medical and editorial content team
(www.cancer.org/cancer/acs-medical-content-and-news-staff.html)

Our team is made up of doctors and oncology certified nurses with deep knowledge of cancer care as well as journalists, editors, and translators with extensive experience in medical writing.

American Cancer Society medical information is copyrighted material. For reprint requests, please see our Content Usage Policy (www.cancer.org/about-us/policies/content-usage.html).

cancer.org | 1.800.227.2345