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Agent Orange and Cancer Risk

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What is Agent Orange?

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

Exposure to Agent Orange could have occurred when the chemicals were breathed in, ingested in contaminated food or drinks, or absorbed through the skin. Exposure might 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 determining how much an individual was exposed to (or even what they were exposed to). Very little information on this 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)

The [International Agency for Research on Cancer \(IARC\)](#)¹ is part of the World Health Organization. One of its major goals is to identify causes of cancer.

IARC has classified one of the chemicals in Agent Orange (2,3,7,8-TCDD, also sometimes referred to as “dioxin”) as **“known to be carcinogenic to humans.”**

US National Toxicology Program (NTP)

The [US National Toxicology Program \(NTP\)](#)² is an interagency program that includes the National Institutes of Health (NIH), the Centers for Disease Control and Prevention (CDC), and the Food and Drug Administration (FDA).

The NTP has classified one chemical in Agent Orange (2,3,7,8-TCDD, also sometimes referred to as “dioxin”) as **“known to be a human carcinogen.”**

To learn more about how these organizations study and classify cancer causes, see [Determining if Something Is a Carcinogen](#)³ and [Known and Probable Human Carcinogens](#)⁴.

US National Academies of Sciences, Engineering, and Medicine (NASEM)

The [US National Academies of Sciences, Engineering, and Medicine \(NASEM\)](#)⁵ has linked exposure to Agent Orange (and some other herbicides) to certain cancers and cancer precursors in its most recent report, *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

- Cancers of the lung, bronchus, and trachea (windpipe)
- Cancer of the larynx (voice box)
- Prostate cancer
- Multiple myeloma
- Bladder cancer

These categories provide a framework for US government policy decisions regarding compensation for US Vietnam veterans (see below).

- [Non-Hodgkin lymphoma](#)⁷
- [Multiple myeloma](#)⁸
- [Prostate cancer](#)⁹
- [Bladder cancer](#)¹⁰
- [Cancer of the lung](#)¹¹, bronchus, [larynx](#)¹² (voice box), or trachea (windpipe)
- [Soft tissue sarcoma](#)¹³ (other than osteosarcoma, chondrosarcoma, Kaposi sarcoma, or mesothelioma)
- [Chronic lymphocytic leukemia](#)¹⁴ (CLL), hairy cell leukemia, and other chronic B-cell leukemias

Veterans with cancers not on this list can still file for disability benefits, although they'll need to submit more supporting evidence for the claim.

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

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/agentorange²¹

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-orange²²

National Academies of Sciences, Engineering, and Medicine Veterans and Agent Orange - Update 11 (2018): nap.nationalacademies.org/catalog/25137/veterans-and-agent-orange-update-11-2018²³

Hyperlinks

1. www.iarc.fr/index.php
2. ntp.niehs.nih.gov/
3. www.cancer.org/cancer/risk-prevention/understanding-cancer-risk/determining-if-something-is-a-carcinogen.html
4. www.cancer.org/cancer/risk-prevention/understanding-cancer-risk/known-and-probable-human-carcinogens.html
5. www.nationalacademies.org/
6. www.cancer.org/cancer/types/hodgkin-lymphoma.html
7. www.cancer.org/cancer/types/non-hodgkin-lymphoma.html
8. www.cancer.org/cancer/types/multiple-myeloma.html
9. www.cancer.org/cancer/types/pituitary-tumors.html
10. www.cancer.org/cancer/types/bladder-cancer.html
11. www.cancer.org/cancer/types/lung-cancer.html
12. www.cancer.org/cancer/types/laryngeal-and-hypopharyngeal-cancer.html
13. www.cancer.org/cancer/types/soft-tissue-sarcoma.html
14. www.cancer.org/cancer/types/chronic-lymphocytic-leukemia.html
15. www.publichealth.va.gov/exposures/agentorange/
16. www.cancer.org/cancer/screening.html
17. www.cancer.org/cancer/risk-prevention/tobacco.html

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