

OVERVIEW
OF
NON-HODGKIN LYMPHOMA (NHL)

BACKGROUND

- NHL is a cancer of lymphocytes. Lymphocytes are a type of white blood cell that is a component of the body's immune system.
- NHL is the most common blood cancer diagnosed in adults in the United States, accounting for about 4% of all cancers.
- There are hundreds of different types of NHL. Some are slow-growing while other are very aggressive.
- It is estimated that more than 80,000 American adults were diagnosed with NHL in 2022.
- Between 2005-2014, 1,000 Department of Defense active duty Service members were diagnosed with NHL, averaging about 100 cases per year.
- The average age at diagnosis for NHL is 66 years old.

RISK FACTORS:

- Increasing age, male gender, Caucasian race, a family history of NHL in a first degree relative.
- Compromised immune system (such as HIV infection or immune suppressing medications), autoimmune diseases, infections (such as HIV, hepatitis C, and Epstein-Barr virus) and obesity.
- Some studies have suggested that chemicals such as benzene and certain herbicides and insecticides may be linked to an increased risk of NHL.
- There may be an increased risk factor for those exposed to higher doses of ionizing radiation such as radiation from atomic bombs, nuclear reactor accidents, and medical radiation therapy.

SYMPTOMS:

- Symptoms can range from no symptoms (asymptomatic) to severe, debilitating symptoms.
- Asymptomatic NHLs are usually detected by chance (when testing for another medical condition) and are most commonly slow-growing.
- Symptomatic NHL can show with enlarged lymph nodes (in the neck, above and beneath the collar bone, in the armpits and groin), enlarged spleen (with a sensation of abdominal fullness), unexplained fevers, chills, drenching night sweats, or unexplained weight loss, fatigue, shortness of breath, bleeding, and getting more infections (due to low blood cell counts).

SCREENING: There are no recommended screening blood tests or procedures that can detect NHL.

DIAGNOSIS: A definitive diagnosis requires lymph node or bone marrow biopsy.

TREATMENT:

- Treatment of NHL depends on the type, stage, and whether the NHL is slow-growing and asymptomatic versus aggressive and symptomatic.
- Slow-growing NHLs can often be managed with observation (“watchful waiting”), whereas more aggressive or symptomatic NHLs often require multi-agent chemotherapy with or without immunotherapy or radiation therapy.

OUTCOMES:

- Long-term outcomes depend on multiple factors, including the type and stage of NHL, a person’s existing medical conditions and general physical health, race, ethnicity, socioeconomic status, and access to care.
- Active duty Service members with slow-growing and aggressive NHLs have significantly superior long-term survival when compared to their matched civilian counterparts.

PREVENTION:

- There is no specific way to completely protect oneself against cancer, including NHL.
- In general, to minimize risk of developing NHL and other cancers, maintain a healthy body weight, engage in regular exercise, eat a healthy diet, participate annual physical exams and complete recommended preventive services.

CONCLUSION:

"Air Force Global Strike Command and our Air Force takes the responsibility to protect Airman and Guardians incredibly seriously, and their safety and health is always my top priority. As soon as I was made aware of the concerns in the Malmstrom Initiative Slide Deck, I as the Global Strike commander, in concert with the Air Force Surgeon General requested U.S. Air Force School of Aerospace Medicine (USAFSAM) conduct a formal assessment. We are working together to create courses of action moving forward. We are committed to remaining transparent during this process and we pledge to maintain an open dialogue with members, their families and stakeholders throughout this process. As we move through the next phases of evaluation, we will continue to provide updates, including pertinent information, as identified. While we continue to work through this process, service members and their dependents as well as former service members who may have concerns or have questions are encouraged to speak with their healthcare providers."

-- Gen Thomas A. Bussiere, Commander, Air Force Global Strike Command