How to Use this Factsheet

This risk factor summary was developed to serve as a general fact sheet. It is an overview and should not be considered exhaustive. For more information on other possible risk factors and health effects being researched, please see the References section.

A risk factor is anything that increases a person's chance of developing cancer. Some risk factors can be controlled while others cannot. Risk factors can include *hereditary conditions*, *medical conditions or treatments*, *infections*, *lifestyle factors*, or *environmental exposures*. Although risk factors can influence the development of cancer, most do not directly cause cancer. An individual's risk for developing cancer may change over time due to many factors, and it is likely that multiple risk factors influence the development of most cancers. Knowing the risk factors that apply to specific concerns and discussing them with your health care provider can help to make more informed lifestyle and health care decisions.

For cancer types with environmentally-related risk factors, an important factor in evaluating cancer risk is the route of exposure. This is particularly relevant when considering exposures to chemicals in the environment. For example, a particular chemical may have the potential to cause cancer if it is inhaled, but that same chemical may not increase the risk of cancer through skin contact. In addition, the dose and duration of time one might be exposed to an environmental agent is important in considering whether an adverse health effect could occur.

Gene-environment interactions are another important area of cancer research. An individual's risk of developing cancer may depend on a complex interaction between their genetic make-up and exposure to an environmental agent (for example, a virus or a chemical contaminant). This may explain why some individuals have a fairly low risk of developing cancer as a result of an environmental factor or exposure, while others may be more vulnerable.

Key Statistics

Hodgkin disease is a cancer that occurs in a specific type of white blood cell. The American Cancer Society estimates 9,050 individuals will be diagnosed with Hodgkin disease, also called Hodgkin lymphoma, in the U.S. in 2015: 3,950 women and 5,100 men.[1, 3] In Massachusetts, Hodgkin disease accounted for less than 1% of all cancers diagnosed between 2007 and 2011.[7] It is most common in young adults usually between the ages of 15 to 40 (especially people in their 20s) and in adults aged 55 and over. Overall, men are slightly more likely to develop Hodgkin disease than women. It is most common in the United States, Canada, and northern Europe, and is least common in Asian countries.[3] In general, incidence rates for both the nation and the state of Massachusetts have not changed much over the past few years.[7, 11]

Types of Hodgkin Disease

The term "cancer" is used to describe a variety of diseases associated with abnormal cell and tissue growth. Cancers are classified by the location in the body where the disease originated (the primary site) and the tissue or cell type of the cancer (histology).

Lymphomas are cancers that start in the cells of the lymph system, which is part of the body's immune system. Because lymphoid tissue is found in many parts of the body, Hodgkin disease can start almost anywhere. Common sites include the chest, neck, or under the arms. Hodgkin disease occurs specifically in an abnormal type of B lymphocyte (or white blood cell) called the *Reed-Sternberg* cell, while other lymphomas (non-Hodgkin's types) occur in different cells.[3, 5]

There are two main types of Hodgkin disease: classical Hodgkin disease and nodular lymphocyte predominance Hodgkin disease (NLPHD). About 95% of diagnoses of Hodgkin disease in developed countries are classical Hodgkin disease, of which there are four subtypes: nodular sclerosis Hodgkin disease, mixed cellularity Hodgkin disease, lymphocyte-rich Hodgkin disease, and lymphocyte-depleted Hodgkin disease. Nodular sclerosis Hodgkin disease occurs most often in young adults and is the most common subtype in developed countries, accounting for about 60% to 80% of diagnoses. Mixed cellularity Hodgkin disease occurs mainly in older adults and accounts for 15% to 30% of diagnoses. Lymphocyte-rich Hodgkin disease is more common in men and accounts for about 5% of diagnoses. Lymphocyte-depleted Hodgkin disease is the least common subtype and accounts for only about 1% of all diagnoses.[3] NLPHD makes up 5% of Hodgkin disease cases and is more common in men and younger patients.[3, 5]

Established Risk Factors

Hereditary Conditions

Although the underlying genetic mechanisms are not known, the risk of Hodgkin disease is very high for an identical twin of a person with the disease.[3] In addition, there is a higher risk for Hodgkin disease in siblings of young people with this disease.[3,5] However, a family association is still uncommon.[3]

Infections

Although the overall risk is very small, there is an increased risk of Hodgkin disease in people who have had infectious mononucleosis (often called "mono" for short), which is caused by the Epstein-Barr virus.[3,5] It should be noted that although mono is a very common disease, Hodgkin disease is very uncommon. About 20% to 25% of diagnoses of classical Hodgkin disease in the United States and Western Europe are associated with the Epstein-Barr virus.[5]

Possible Risk Factors

Medical Conditions

The risk of developing Hodgkin disease may be higher in individuals with a weakened immune system such as those with the human immunodeficiency virus (HIV) or those taking immunosuppressant drugs following an organ transplant.[1, 3, 5, 10]

Lifestyle Factors

The risk of Hodgkin disease occurring from early childhood through middle age appears to be greater in individuals with a higher socioeconomic background. This is thought to be due to delayed infectious exposure in early childhood.[3, 10]

Other Risk Factors That Have Been Investigated

Occupational exposures as risk factors for developing Hodgkin disease have been studied extensively and none has emerged as an established risk factor. Likewise, there is very little evidence linking the risk of Hodgkin disease to any environmental exposures.[10]

Hodgkin Disease in Children

Hodgkin disease accounts for 3% to 4% of all childhood cancers. It is rare in children younger than 5 years of age but is the most common cancer in adolescents, accounting for about 15% of cancer diagnoses in teenagers aged 15 to 19. [2, 3, 4, 6]

For More Information / References

Much of the information contained in this summary has been taken directly from the following sources. This material is provided for informational purposes only and should not be considered as medical advice. Persons with questions regarding a specific medical problem or condition should consult their physician.

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