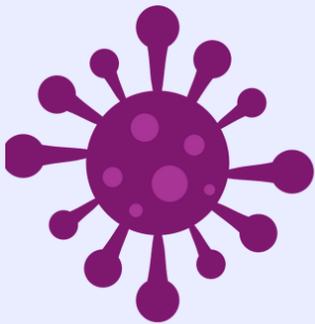


# Epstein-Barr virus

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When you think of risk factors for cancer, infections probably aren't top of mind. Yet, infections were responsible for 2.2 million cancers diagnosed in 2018, representing 13% of all cancers diagnosed that year (1). One important and often overlooked infectious cause of cancer is the Epstein-Barr virus (EBV). Most individuals have EBV infection, and in a select few, this virus leads to cancer (2).



## What is EBV ?

The EBV is a member of the herpesvirus family, a family of over 100 viruses which include herpes simplex virus types 1 and 2 and varicella-zoster virus (3). In 1964, the EBV became the first virus to be identified in cancer (5).

## How is EBV transmitted?

EBV infection frequently occurs in childhood. Although EBV can be transmitted in a variety of ways, oral transmission via saliva is most common, which can involve sharing drinks and kissing (4).

## What can it cause?

Infectious mononucleosis, also known as mono or the kissing disease, is caused by EBV (2,4). Certain cancers are also caused by EBV, including Burkitt lymphoma (an aggressive non-Hodgkin lymphoma), Hodgkin lymphoma, nasopharyngeal carcinoma, and several other types of non-Hodgkin lymphomas – particularly those diagnosed in immunosuppressed populations (2). In fact, EBV is the major cause of Burkitt and Hodgkin lymphomas occurring in children (2).

## How is it diagnosed?



This infection is not routinely screened for; however, if an individual presents with symptoms of EBV infection (fever, swollen glands in the neck, etc.), a blood test may be ordered (6). A blood test is used to detect antibodies and provide information on the timing and progress of infection (2,4,6).

## How common is it and where does it occur?

Globally, EBV is one of the most prevalent viruses, with approximately 95% of people infected by adulthood (2,6). Despite how widespread EBV infection is, the occurrence of EBV-associated cancers varies based on geographic region due to the distribution of cofactors (e.g., HIV and malaria) that increase the risk of cancer development. For example, EBV-associated cancers tend to be more common in Asia and Sub-Saharan Africa where HIV and malaria are relatively more prevalent (6).

## Can it be prevented?



Researchers are working towards developing a vaccine to prevent EBV infections and ultimately its associated diseases (7,8). If a safe and effective vaccine were developed, there is the potential to prevent approximately 150,000 cancer cases per year (1).

## References

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