HEALTH BASICS

Epstein-barr virus

Epstein-Barr virus is a common virus that can cause mononucleosis and remains in the body after infection.

WHAT IT IS
A common herpesvirus that remains in the body after infection

WHERE IT COMES UP
Blood tests, mononucleosis, or some cancer evaluations

WHY IT MATTERS
Can cause mononucleosis and contribute to certain cancers

WHAT IT IS NOT
Not itself a diagnosis of mononucleosis or cancer

WHO TO ASK
A primary care clinician or relevant specialist

HOW IT IS CHECKED
Blood antibody tests; PCR in selected specialist settings

Overview

Epstein-Barr virus, often shortened to EBV, is a member of the herpesvirus family. It is a virus, not a disease or a diagnosis.

EBV spreads mainly through saliva. It can pass between people through kissing or sharing items that have fresh saliva on them. It can also spread less commonly through blood, sexual contact, or transplanted organs.

Many people acquire EBV during childhood and have no clear illness. When the first infection happens during adolescence or adulthood, it is more likely to cause infectious mononucleosis. This condition is also called mono or glandular fever.

After infection, EBV stays in the body for life in an inactive, or "latent," state. This is normal for herpesviruses. A past infection does not mean you are currently ill.

EBV can reactivate, meaning it becomes active again. Reactivation often causes no noticeable illness. It is more important in people whose immune systems are severely weakened, such as some transplant recipients.

How it works

EBV mainly infects cells in the throat and B lymphocytes. B lymphocytes are white blood cells that help the immune system make antibodies.

During a first infection, the immune system responds to control the virus. If this response causes infectious mononucleosis, the related condition may involve fever, sore throat, swollen lymph nodes, fatigue, and sometimes an enlarged spleen or liver inflammation. These are features of mononucleosis, not "symptoms of EBV" as a test finding.

Once the initial infection is controlled, a small amount of virus remains inside certain B lymphocytes. The immune system usually keeps these infected cells under control.

EBV may be shed intermittently in saliva, including by people who feel well. This makes it difficult to know exactly when or from whom an infection was acquired.

Blood tests can look for antibodies made in response to different parts of EBV:

A positive antibody result on its own often means past exposure. Interpretation requires the full antibody pattern, the timing of the test, and the reason it was ordered.

A rapid heterophile antibody test, sometimes called a Monospot test, may support a diagnosis of mononucleosis. It can miss early infection and is less reliable in young children. The US Centers for Disease Control and Prevention does not recommend it for general use.

PCR tests look for EBV genetic material. They are mainly used in selected specialist settings, such as monitoring some transplant recipients. Detecting viral material does not always mean that EBV is causing an illness.

- VCA IgM usually suggests a recent infection when found in the right antibody pattern
- VCA IgG appears during infection and usually remains for life
- EBNA antibodies generally appear later and usually indicate past infection
- Early antigen antibodies are harder to interpret because they can persist or appear during reactivation

Why it matters for your health

The main condition linked to a first EBV infection is infectious mononucleosis. Most people recover with supportive care, although tiredness can continue after the other features improve.

An enlarged spleen can occur with mononucleosis. The spleen is an organ under the left ribs that helps filter blood. If it is enlarged, an impact or heavy strain can rarely cause it to rupture.

This is why activity advice matters when mononucleosis is suspected or confirmed.

EBV is also linked to several uncommon cancers, including some Hodgkin lymphomas, Burkitt lymphoma, nasopharyngeal cancer, certain stomach cancers, and lymphoid disorders after transplantation. EBV is only one factor in these conditions. A positive EBV antibody test does not mean that you have cancer or that cancer will develop.

Research has also found a strong association between past EBV infection and multiple sclerosis. EBV exposure alone is not enough to diagnose or predict multiple sclerosis, and routine EBV testing cannot show who will develop it.

What can go wrong

Infectious mononucleosis can sometimes cause complications. These include severe throat swelling, dehydration, liver inflammation, low blood cell counts, or rupture of an enlarged spleen.

Seek emergency care for:

These signs can occur with complications that need immediate assessment. They do not confirm the cause.

Arrange urgent, same-day medical advice if an illness thought to be mononucleosis is worsening, you cannot drink enough fluid, your skin or eyes become yellow, or you develop significant abdominal pain.

Routine follow-up is appropriate if fatigue, swollen glands, fever, or throat problems are not improving as expected. A clinician may reconsider the diagnosis or check for another cause.

In people with a substantially weakened immune system, EBV can contribute to uncontrolled growth of infected lymphocytes. One example is post-transplant lymphoproliferative disorder. This is managed by the relevant transplant, blood-disorder, or cancer team rather than through routine EBV antibody testing.

Rarely, EBV activity persists with ongoing inflammation and organ involvement. This is called chronic active EBV disease. It is different from ordinary tiredness after mononucleosis and requires specialist assessment.

- Sudden or severe pain in the upper-left abdomen or left shoulder
- Fainting, marked weakness, confusion, or pale and clammy skin
- Serious difficulty breathing
- Inability to swallow saliva

What you can do

If an EBV result appears in your medical record, ask which test was performed and what the full pattern means. A single positive IgG result commonly reflects an infection from months or years earlier.

Useful questions include:

Keep a copy of the result with the test date. Antibody patterns are easier to interpret when current and previous results can be compared.

If mononucleosis is suspected or diagnosed, follow the activity advice given by your clinician. Avoid contact sports, heavy lifting, and activities with a risk of abdominal impact until you have been told they are safe. Feeling better does not confirm that an enlarged spleen has returned to normal.

Antibiotics like amoxicillin or doxycycline do not treat EBV. They may still be needed if a separate bacterial infection is found. Amoxicillin and ampicillin can cause a widespread rash in people with mononucleosis, so tell the prescriber if this condition is being considered.

There is no routine treatment to remove latent EBV from the body. If a test only shows past exposure and you feel well, there is usually nothing you need to do. EBV antibody testing is not a general cancer-screening test.

During an illness diagnosed as mononucleosis, avoiding kissing and sharing drinks, utensils, toothbrushes, or other saliva-contaminated items may reduce exposure to others. Because EBV can be shed without symptoms, there is no practical way to prevent every transmission.

- Does this pattern suggest recent infection or past exposure?
- Was the test ordered to investigate mononucleosis or for another reason?
- Do I need a blood count, liver tests, or another test?
- Are there any activity limits because my spleen may be enlarged?
- When should I be reviewed if I am not improving?

Common questions

Does a positive EBV test mean I have mononucleosis?

No. It may show a recent infection, a past infection, or an unclear result. The answer depends on which antibodies were detected, their combination, your symptoms, and when testing occurred.

Can EBV be removed from the body?

There is no treatment that routinely clears latent EBV. The immune system usually keeps it under control. This lifelong inactive state is expected and does not by itself require monitoring.

Does EBV reactivation need treatment?

Not usually when it is only a laboratory finding in an otherwise well person. Treatment decisions are different when reactivation is linked to a defined condition, particularly after transplantation or during major immune suppression. The specialist team manages those situations.

Can an EBV blood test screen for cancer?

No. Standard EBV antibody tests do not diagnose or screen for cancer. Some specialists use EBV testing on tissue or measure viral DNA in narrowly defined clinical settings.

Can someone catch EBV more than once?

The original infection remains in the body, so later detection usually reflects the existing virus rather than a new first infection. Reactivation can occur, often without noticeable illness.

Is EBV the same as glandular fever?

No. EBV is a virus. Glandular fever, or infectious mononucleosis, is a condition that EBV commonly causes. Other infections can sometimes produce a similar illness.

Sources

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