

# BERYLLIUM

## WORKER SAFETY

### **Beryllium Worker Safety – Module 4 Beryllium Lymphocyte Proliferation Test Transcript**

The Beryllium Lymphocyte Proliferation Test — or LPT — is the initial test to find people who are reacting to Beryllium.

Like any blood test, the LPT provides a window into what is happening to the body, and helps to identify a group of people that need to be watched more closely.

The LPT can detect changes in the body much earlier than with breathing tests or x-rays. This is just one test that goes into the final diagnosis of Chronic Beryllium Disease.

When someone goes in for a Beryllium Lymphocyte Proliferation Test, a sample of blood is drawn. The blood is then divided into its different parts. Lymphocytes, contained in the blood sample, are separated from the rest of the blood and then tested.

During this test, the lymphocytes are exposed to beryllium and the increase in the number of lymphocytes is measured.

When the number of lymphocytes stays the same — whether or not beryllium is present — this is a “normal” or “negative” test result. It likely means that the person’s body is not reacting to beryllium.

If, however, after beryllium is introduced the cells begin to grow and divide, the overall number of cells increases. This is an “abnormal” or “positive” test result. It likely means that the person’s body is reacting to beryllium. Another way to describe this reaction is to say a person is “sensitized” to beryllium.

The Beryllium Lymphocyte Proliferation Test is only being done at a few medical labs in the United States. Test results can sometime be unclear.

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Because of this, a second test may be required if the first test:

- shows only a slight reaction to beryllium
- shows a definite reaction to beryllium, or
- there was a technical problem with the test, such as uneven cell growth.

In all of these cases, another blood sample will have to be drawn and tested.

An abnormal test likely means that the person's body is reacting to beryllium. But this alone does not mean that the person is sick or will get sick. It does mean that this person is in a group that needs to be watched more closely.

However, the LPT is only an initial test and the diagnosis of Chronic Beryllium Disease requires further testing. If Chronic Beryllium Disease is diagnosed, doctors will recommend treatments that can control, but not cure, the disease.

If someone has a normal test but has breathing problems that persist, they need to continue working with their doctor to see what the problem might be.

In addition to the Beryllium Lymphocyte Proliferation Test, which is already available, a genetic test is being researched to see if a person's genes might make that person more vulnerable to beryllium.

Genes are the material in our cells that help determine how our bodies look and work. So as with other kinds of diseases, there may be genetic risk factors that contribute to Chronic Beryllium Disease.

People who have these genetic risk factors could be more vulnerable to beryllium than people without these risk factors. This genetic test may be available at Department of Energy sites in the future.