

# Protoporphyrin (Blood)



## Does this test have other names?

Protoporphyrin, ZPP, zinc protoporphyrin test, erythrocyte protoporphyrin test

## What is this test?

The protoporphyrin test is used to diagnose blood problems caused by lead. The test can show lead exposure or lead poisoning. Lead poisoning is extremely dangerous because lead can damage organs throughout the body.

Lead poisoning does not always cause symptoms, so a blood test may be the only way to confirm lead exposure or poisoning. (Healthcare providers usually order a protoporphyrin test after a simple blood screening shows higher levels of lead.) The test can also find an iron deficiency anemia or other types of anemia.

The protoporphyrin test doesn't measure the levels of lead in the blood. Instead it measures how the blood has been affected by lead. Lead can harm the blood's ability to make new blood cells. The protoporphyrin test measures the effects of lead exposure that have happened over the past 2 to 3 months.

## Why do I need this test?

You may need this test if you have symptoms of iron deficiency or lead poisoning. These include:

- Repeated miscarriages or fertility problems
- Digestive problems, such as nausea, vomiting, or constipation
- High blood pressure
- Fatigue
- Weakness
- Hearing problems
- Headaches
- Difficulty concentrating
- Seizures
- Nerve damage
- Anemia
- Metallic taste in the mouth

You may need this test if the result from your blood lead screening is 25 micrograms per deciliter (mcg/dL) or higher. Children may have the protoporphyrin test to confirm lead poisoning, but other tests are used for screening or diagnosing lead poisoning in children. You may need this test if you have been exposed to lead or if your healthcare provider suspects that you have lead poisoning or an iron deficiency. It is important to find out if you have toxic levels of lead in your body, because the complications can be permanent.

## What other tests might I have along with this test?

You may need a number of other tests along with a protoporphyrin test, including:

- Complete blood count
- Blood erythrocyte protoporphyrin test
- Reticulocyte count, or a count of young red blood cells
- Serum iron, iron binding capacity, ferritin levels, or other measurements of iron in the blood
- X-rays

## What do my test results mean?

Test results may vary depending on your age, gender, health history, and other things. Your test results may be different depending on the lab used. They may not mean you have a problem. Ask your healthcare provider what your test results mean for you.

Test results showing zinc protoporphyrin levels higher than 35 mcg/dL mean that you have a high level of lead in your blood.

## How is this test done?

The test is done with a blood sample. A needle is used to draw blood from a vein in your arm or hand.

## Does this test pose any risks?

Having a blood test with a needle carries some risks. These include bleeding, infection, bruising, and feeling lightheaded. When the needle pricks your arm or hand, you may feel a slight sting or pain. Afterward, the site may be sore.

## What might affect my test results?

Only exposure to lead should affect your test results. If a fingerstick method is used, contamination of your fingertip can affect the results. If you have a positive result, it should be confirmed before you start treatment.

## How do I get ready for this test?

A blood test rarely needs any preparation. You can probably eat, drink, and take your medicine as usual, but check with your healthcare provider. Be sure your healthcare provider knows about all medicines, herbs, vitamins, and supplements you are taking. This includes medicines that don't need a prescription and any illicit drugs you may use.

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