

G-6 PD

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Test Overview

Glucose-6-Phosphate Dehydrogenase (G6PD) Deficiency (G6PDD) is an inherited, sex-linked, metabolic disorder characterized by an enzyme defect that leads to the breakdown of red blood cells (hemolysis) upon exposure to stresses associated with some bacterial infections or certain drugs. A deficiency of this enzyme may result in the premature destruction of red blood cells (an acute hemolytic anemia

It is a common inborn error of metabolism among humans. More than 300 variants of the disorder have been identified, resulting from mutations of the Glucose-6-Phosphate Dehydrogenase gene. The severity of symptoms associated with G6PD Deficiency may vary greatly among affected individuals, depending upon the specific form of the disorder that is present.

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Why is it done?

G6PD testing is primarily performed on patients who have had symptoms of anemia (such as fatigue, pallor, a rapid heart rate) and/or jaundice. Their laboratory test results may show increased bilirubin concentrations (bilirubinemia), hemoglobin in the urine (hemoglobinuria), a decreased RBC count, an increased reticulocyte count, and sometimes the presence of Heinz bodies inside the RBCs.

G6PD activity testing is ordered on patients in whom other causes of the anemia and jaundice have been ruled out and is ordered once the acute incident has been resolved.

Genetic G6PD testing may sometimes be done within a family to help identify the relevant mutation in female carriers (such as the mother of an affected son or daughter of an affected father) when one or more male family member has a G6PD deficiency

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How to Prepare

It should not be performed when a patient is having or recovering from a hemolytic episode. This is because the older, more G6PD-deficient RBCs are usually destroyed, leaving younger less deficient RBCs to be tested.

This can make the activity level appear closer to normal than it actually is. If testing is done during this time period, it should be repeated at a later time to confirm the G6PD level.

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How Is It Done?

The health professional (phlebotomist) drawing blood will:

- Wrap an elastic band (tourniquet) around your upper arm to stop the flow of blood. This makes the veins below the band larger so it is easier to put a needle into the vein.
 - Clean the needle site with alcohol.
 - Put the needle into the vein. More than one needle stick may be needed. Attach a tube to the needle to fill it with blood.
 - Remove the band from your arm when enough blood is collected.
 - Apply a gauze pad or cotton ball over the needle site as the needle is removed.
 - Apply pressure to the site and then a bandage.
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Results:

If there is decreased G6PD level, then the more likely the patient is to experience symptoms when exposed to an oxidative stress. The results, however, cannot be used to predict how an affected patient will react in a given set of circumstances. The severity of symptoms will vary from patient to patient and from case to case.

If a G6PD genetic mutation is detected, the patient will likely have some degree of G6PD deficiency. An individual patient may experience symptoms that range from nonexistent to acute and severe to chronic at various times throughout their life. For details pls refer test report.

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Factors That Affect the Test

.Any Hemolytic episode in recent past can affect the result of the Test so if any test is performed during this period it should be repeated for confirmation.