



## Blood Ketones

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**Also known as:** Serum ketone; Plasma ketone; Beta-hydroxybutyrate; Ketone bodies; Beta-hydroxybutyric acid; Acetoacetate; Acetoacetic acid; Acetone

**Formal name:** Blood Ketones

**Related tests:** Urine ketones (see [Urinalysis, chemical exam](#)); [Blood gases](#); [Glucose](#)

*Were you looking for urine ketones? Urine ketone testing is more common than blood ketone testing and may be performed as part of a [urinalysis](#).*

## The Test Sample

### What is being tested?

This test measures the amount of ketones in the blood. Ketones or ketone bodies are byproducts of fat [metabolism](#). They are produced when glucose is not available to the body's cells as an energy source. When fatty acids are metabolized, ketones build up in the blood, causing first ketosis, and then progressing to [ketoacidosis](#), a form of [metabolic acidosis](#). This condition is most frequently seen with uncontrolled [type 1 diabetes](#) and can be a medical emergency.

There are three ketone bodies – acetoacetate, acetone, and beta-hydroxybutyrate, a reduced form of acetoacetate. Beta-hydroxybutyrate is the predominant ketone present in severe diabetic ketoacidosis (DKA). Different ketone tests measure one or more ketone bodies and their results are not interchangeable.

Blood testing gives a snapshot of the status of ketone accumulation at the time that the sample was collected. Urine ketone testing reflects recent rather than current blood ketones. Urine testing is much more common than blood ketones testing. It may be performed by itself, with a [urine glucose test](#), or as part of a [urinalysis](#). The urine methods measure either acetoacetate or acetoacetate and acetone but do not detect beta-hydroxybutyrate.

Blood ketones may be measured in a laboratory or with a handheld monitor. The laboratory test uses serum, the liquid portion of the blood, and typically measures acetoacetate. Beta-hydroxybutyrate can be ordered as a separate blood test.

When whole blood from a fingerstick is tested for ketones using a handheld monitor, the monitor measures beta-hydroxybutyrate. This test may be performed at a person's bedside in a hospital or emergency room, in a doctor's office, or performed by a person at home.

### How is the sample collected for testing?

A blood sample is obtained by inserting a needle into a vein in the arm or by pricking a finger.

*NOTE: If undergoing medical tests makes you or someone you care for anxious, embarrassed, or even difficult to manage, you might consider reading one or more of the following articles: [Coping with Test Pain, Discomfort, and Anxiety](#), [Tips on Blood Testing](#), [Tips to Help Children through Their Medical Tests](#), and [Tips to Help the Elderly through Their Medical Tests](#).*

*Another article, [Follow That Sample](#), provides a glimpse at the collection and processing of a blood sample and throat culture.*

### Is any test preparation needed to ensure the quality of the sample?

No test preparation is needed.

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