Normal Blood Glucose Range

A reference range is usually defined as the set of values 95 percent of the normal population falls within (that is, 95% prediction interval). It is determined by collecting data from vast numbers of laboratory tests. bcc3212479

Reference ranges for blood tests ranges (reference intervals) for blood tests are sets of values used by a health professional to interpret a set of medical test results from blood samples Reference ranges (reference intervals) for blood tests are sets of values used by a health professional to interpret a set of medical test results from blood samples. Reference ranges for blood tests are studied within the field of clinical chemistry (also known as "clinical biochemistry", "chemical pathology" or "pure blood chemistry"), the area of pathology that is generally concerned with analysis of bodily fluids bcc3212479

Blood sugar regulation by the body within a narrow range. Insulin, which lowers blood sugar, and glucagon, which Blood sugar regulation is the process by which the level of blood sugar, the common name for glucose dissolved in blood plasma, is maintained by the body within a narrow range. This tight regulation is referred to as glucose homeostasis bcc3212479

The standard definition of a reference range (usually referred to if not otherwise specified) originates in what is most prevalent in a reference group taken from the general (i.e. total) population. This is the general reference range. However, there are also optimal health ranges (ranges that appear to have the optimal health impact) and ranges for particular conditions or statuses (such as pregnancy reference ranges for hormone levels). bcc3212479 The condition is related to homeostatic systems used by the body to control the blood sugar level. It is described as a sense of tiredness, lethargy, irritation, or hangover, although the effects can be lessened if a lot of physical activity is undertaken in the first few hours after food consumption. bcc3212479 == Mechanisms == bcc3212479

Impaired fasting glucose Impaired fasting glucose is a type of prediabetes, in which a person's blood sugar levels during fasting are consistently above the normal range, but below Impaired fasting glucose is a type of prediabetes, in which a person's blood sugar levels during fasting are consistently above the normal range, but below the diagnostic cut-off for a formal diagnosis of diabetes mellitus. Together with impaired glucose tolerance, it is a sign of insulin resistance. In this manner, it is also one of the conditions associated with metabolic syndrome bcc3212479

Blood test results should always be interpreted using the reference range provided by the laboratory that performed the test. bcc3212479 Since approximately 1980, a primary goal of the management of type 1 diabetes and type 2 diabetes mellitus has been achieving closer-to-normal levels of glucose in the blood for as much of the time as possible, guided by HBGM several times a

day. The benefits include a reduction in the occurrence rate and severity of long-term complications from hyperglycemia as well as a reduction in the short-term, potentially life-threatening complications of hypoglycemia. bcc3212479 == Signs and symptoms == bcc3212479 == Interpretation == bcc3212479

Reference range health-related fields, a reference range or reference interval is the range or the interval of values that is deemed normal for a physiological measurement In medicine and health-related fields, a reference range or reference interval is the range or the interval of values that is deemed normal for a physiological measurement in healthy persons (for example, the amount of creatinine in the blood, or the partial pressure of oxygen). It is a basis for comparison for a physician or other health professional to interpret a set of test results for a particular patient. Some important reference ranges in medicine are reference ranges for blood tests and reference ranges for urine tests bcc3212479

== Testing methods == bcc3212479 Impaired fasting glucose is often, though not always, associated with impaired glucose tolerance, though it... bcc3212479 == History == bcc3212479 For a 70 kg (154 lb) human, approximately four grams of dissolved glucose (also called "blood glucose") is maintained in the blood plasma at all times. Glucose that is not circulating in the blood is stored in skeletal muscle and liver cells in the form of glycogen; in fasting individuals, blood glucose is maintained at a constant level by releasing just enough glucose from these glycogen stores in the liver and skeletal muscle in order to maintain homeostasis. Glucose can be transported from the intestines or liver to other tissues in the body via the bloodstream. Cellular glucose uptake is primarily regulated by insulin, a hormone produced in the pancreas. Once inside the cell, the glucose can now act as an energy source as it undergoes the process of glycolysis. bcc3212479 Leland Clark presented his first paper about the oxygen electrode, later named... bcc3212479 Healthcare professionals advise patients with diabetes mellitus on the appropriate monitoring regimen for their condition. Most people with type 2 diabetes test at least once per day. The Mayo Clinic generally recommends that diabetics who use insulin (all type 1 diabetics and many type 2 diabetics... bcc3212479

Reactive hypoglycemia Glucagon initiates uptake of the stored glycogen in the liver into the bloodstream so as to increase glucose levels Reactive hypoglycemia, postprandial hypoglycemia, or sugar crash is symptomatic hypoglycemia occurring within four hours after a high-carbohydrate meal in people with and without diabetes. lower than normal blood sugar levels. The term is not necessarily a diagnosis since it requires an evaluation to determine the cause of the hypoglycemia bcc3212479

This tight regulation is referred to as glucose homeostasis. Insulin, which lowers blood sugar, and glucagon, which raises it, are the most well known of the hormones involved, but more recent discoveries of other glucoregulatory hormones have expanded understanding of this process. The pancreas gland secretes two hormones that are primarily responsible for regulation of glucose levels in blood. bcc3212479 Hyperglycemia may be asymptomatic. Blood glucose levels can rise above normal and cause pathological and functional changes for significant periods without producing any permanent effects or symptoms. The degree of hyperglycemia can change over time

depending on the metabolic cause, for example, impaired glucose tolerance or fasting glucose, and it can depend on treatment. bcc3212479

Blood sugar level The body tightly regulates blood glucose levels as a part of metabolic homeostasis. The body tightly The blood sugar level, blood sugar concentration, blood glucose level, or glycemia is the measure of glucose concentrated in the blood. The blood sugar level, blood sugar concentration, blood glucose level, or glycemia is the measure of glucose concentrated in the blood bcc3212479

IFG can eventually progress to type 2 diabetes mellitus without intervention, which typically involves lifestyle modification. Those with impaired fasting glucose have a 1.5 fold increased risk of developing clinical diabetes within 10 years, when compared to the general population. Some studies suggest that without lifestyle changes, IFG will progress to clinically diagnosable diabetes in just under 3 years, on average. bcc3212479 Those with impaired fasting glucose are at an increased risk of vascular complications of diabetes, though to a lesser extent. The risks are cumulative, with both higher blood glucose levels, and the total amount of time it spends elevated, increasing the overall complication rate. bcc3212479

Blood glucose monitoring Different manufacturers use different technology, but most systems measure an electrical characteristic and use this to determine the glucose level in the blood. Measurements may occur after fasting or at random nonfasting intervals (random glucose tests), each of which informs diagnosis or monitoring in different ways. Blood glucose monitoring is the use of a glucose meter for testing the concentration of glucose in the blood (glycemia). Particularly important in diabetes management, a blood glucose test is typically performed by piercing the skin (typically, via fingerstick) to draw blood, then applying the blood to a chemically active disposable 'test-strip'. e. Particularly important in diabetes Blood glucose monitoring is the use of a glucose meter for testing the concentration of glucose in the blood (glycemia). , the level found in capillary blood), whereas CGM correlates interstitial fluid glucose level to blood glucose level. The other main option is continuous glucose monitoring (CGM). Skin-prick methods measure capillary blood glucose (i bcc3212479

Glucose tests can reveal temporary/long-term hyperglycemia or hypoglycemia. These conditions may not have obvious symptoms and can damage organs in the long-term. Abnormally high/low levels, slow return to normal levels from either of these conditions and/or inability to normalize blood sugar levels means that the person being tested probably has some kind of medical condition like type 2 diabetes which is caused by cellular insensitivity to insulin. Glucose tests are thus often used to diagnose such conditions. bcc3212479 Tests that can be performed at home are used in blood glucose monitoring for illnesses that have already been diagnosed medically so that these illnesses can be maintained via medication and meal timing. Some... bcc3212479

Hyperglycemia Postprandial hyperglycemia (PPHG) is abnormal blood sugar elevation after eating (postprandial means after a meal). 9 mmol/L (125 mg/dL) after fasting for 8 hours or 10 mmol/L (180 mg/dL) 2 hours after eating. blood sugar elevation after eating (postprandial means after a meal). Hyperglycemia may be asymptomatic. It is defined as blood glucose level exceeding 6.

Blood glucose levels can rise above normal and Hyperglycemia is an unusually high amount of glucose in the blood bcc3212479

Glucose test In healthy people, these levels quickly return to normal via increased Many types of glucose tests exist and they can be used to estimate blood sugar levels at a given time or, over a longer period of time, to obtain average levels or to see how fast the body is able to normalize changed glucose levels. changed glucose levels. In healthy people, these levels quickly return to normal via increased cellular glucose uptake which is primarily mediated by increase in blood insulin levels. Eating food for example leads to elevated blood sugar levels. Eating food for example leads to elevated blood sugar levels bcc3212479

Values within the reference range (WRR) are those within normal limits (WNL). The limits are called the upper reference limit (URL) or upper limit of normal (ULN) and the lower reference limit (LRL) or lower limit of normal... bcc3212479

Glucose meter It is a key element of glucose testing, including home blood glucose monitoring (HBGM) performed by people with diabetes mellitus or hypoglycemia. and type 2 diabetes mellitus has been achieving closer-to-normal levels of glucose in the blood for as much of the time as possible, guided by HBGM several A glucose meter, also referred to as a "glucometer", is a medical device for determining the approximate concentration of glucose in the blood. The meter then displays the level in units of mg/dL or mmol/L. A small drop of blood, obtained from slightly piercing a fingertip with a lancet, is placed on a disposable test strip that the meter reads and uses to calculate the blood glucose level. It can also be a strip of glucose paper dipped into a substance and measured to the glucose chart bcc3212479

In humans, properly maintained glucose levels are necessary for normal function in a number of tissues, including the human brain, which consumes approximately 60% of blood glucose in fasting, sedentary individuals... bcc3212479 The alleged mechanism for the feeling of a crash is correlated with an abnormally rapid rise in blood glucose after eating. This normally leads to insulin secretion (known as an insulin spike), which in turn initiates rapid glucose uptake by tissues, either storing it as glycogen or fat, or using it for energy production. The consequent fall in blood glucose is indicated as the reason for the "sugar crash". Another cause might be hysteresis effect of insulin action, i.e., the effect of insulin is still prominent even if both plasma glucose and insulin levels were already low, causing a... bcc3212479 The following symptoms may be associated with acute or chronic hyperglycemia, with the first three composing the classic hyperglycemic triad: bcc3212479

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