

Glucose Metabolism Interpreter

KLINIKA
DLHOVEKOSTI
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Provides a comprehensive metabolic assessment of blood glucose control and helps distinguish between common glucose metabolism disorders, including type 1, type 2, and type 3 diabetes, pre-diabetes, insulin resistance.

Patient Adherence Checks

The patient needs to be fasted for 10 to 15 hours and not on insulin for this interpretation to work.

✔ Likely Fasted Glucose is 0.86x of eAG of 116.9 mg/dL ⓘ

✔ Likely Not on Insulin C-peptide to insulin molar ratio: 12.2 ⓘ

Diagnosis Summary

Based on standard diagnostic criteria. Diagnosis requires two abnormal screening test results. Only your doctor can make a formal diagnosis.

Condition	Status	
Insulin resistance	Yes	HOMA2-IR $\geq$ 1.2
Pre-diabetes	Yes	Glucose $\geq$ 5.6 mmol/L & HbA1c $\geq$ 5.7%
Diabetes	No	

INTERPRETATION DETAILS

HbA1c: 5.7 • Prediabetes Glucose: 101 • High Triglycerides: 178 • High

Insulin:

14

• Elevated

C-peptide:

3.1

• Elevated

HOMA2 Insulin Resistance: 2.35 f_x

• High

HOMA2-IR provides the best estimate of the gold-standard insulin sensitivity test: euglycemic clamp.



How effectively your body uses insulin:

- 0.4 - 0.6 - Too sensitive (malnutrition, marathon runners...)
- 1.2 - 1.7 - Insulin resistance
- 1.7 - 2.7 - **Pre-diabetes likely**
- > 2.7 - Diabetes likely

RELATED CALCULATIONS

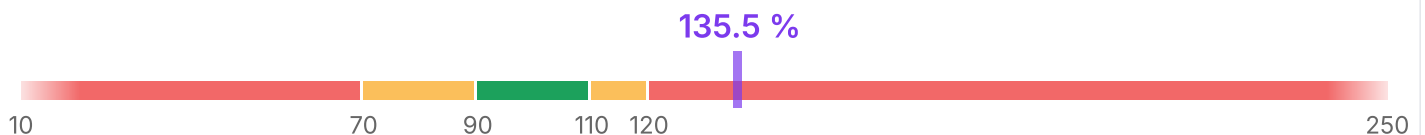
HOMA2 Insulin Sensitivity: 42.6%

HOMA2-%S is the opposite of HOMA2-%IR. How sensitive are you to insulin. 100% means optimal.

HOMA2 Beta Cell Function: 135.5% f_x

• High

HOMA2-%B provides a good estimate of the gold-standard insulin secretion test: hyperglycemic clamp.



How effectively your pancreas produces insulin to manage blood sugar (given as a percentage of expected output).

- Elevated/High (or even normal) during early insulin resistance, when the pancreas can still compensate.
- Decreased once the pancreas fails to compensate (late stage).

LDH: 195 IU/L 0.81× ULN

• Optimal

Lactate dehydrogenase is an intracellular enzyme released into the blood from damaged or stressed cells, most abundantly from muscle, liver, heart, kidneys, lungs, and red blood cells.



LDH is non-specific and can be elevated by intense exercise, muscle injury, or hemolysis, tumor etc. However, **in the context of metabolic syndrome**:

- Elevated serum LDH has been consistently associated with the presence, severity, and prognosis of metabolic disease. [↗](#) [↗](#) [↗](#) [↗](#)
- LDH >200 IU/L correlated strongly with Glycated Albumin (marker of average two week glucose levels) and recent glycemic excursions. [↗](#)

C-peptide/insulin: 12.2 mol/mol f_x

• Optimal



C-peptide to insulin molar ratio is helpful in detecting exogenous insulin use, impaired hepatic insulin clearance and impaired C-peptide clearance by the kidneys.



FOR LOW YOUR INTERPRETATION FOR HIGH

C-peptide/insulin is optimal

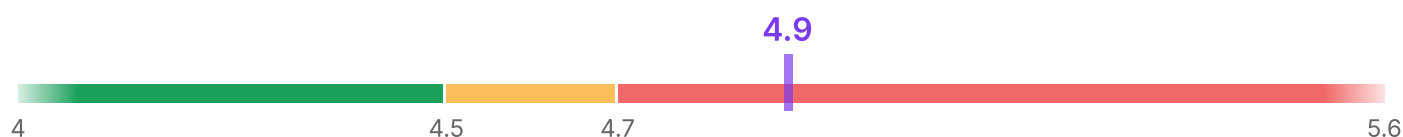
— NON-INSULIN DEPENDENT INDEXES —

TyG: 4.9 f_x

• High



Triglyceride-glucose index is an inexpensive non-insulin surrogate marker of insulin resistance.



Triglyceride/HDL: 4.7 mg/mg *fx*

• High



Triglyceride-to-HDL ratio is a surrogate marker of insulin resistance, NAFLD and atherogenic dyslipidemia.



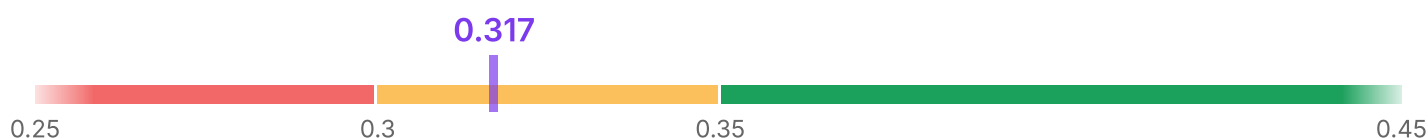
— SIMPLE (LINEAR) INSULIN RESISTANCE INDEXES —

QUICKI: 0.317 *fx*

• Insulin res.



QUICKI correlates well ($r = 0.78$) with the gold standard - Glucose clamp index of insulin sensitivity



- Red - Diabetes likely
- Yellow - **Insulin resistance**

HOMA-IR: 3.5 *fx*

• High



HOMA1-IR has a poor correlation ($r = -0.60$) with the gold standard - Glucose clamp index of insulin sensitivity.



Do not use this (HOMA-IR).

HOMA-IR is frequently reported on laboratory results, but it is relatively imprecise. It is included solely for familiarity. But for accurate assessment, rely on a much better HOMA2-IR or QUICKI.

Other biomarkers used in this tool

Values as entered, the biomarkers interpreted above are not repeated. An arrow marks a value outside the optimal range.

HDL: 38 mg/dL ↓