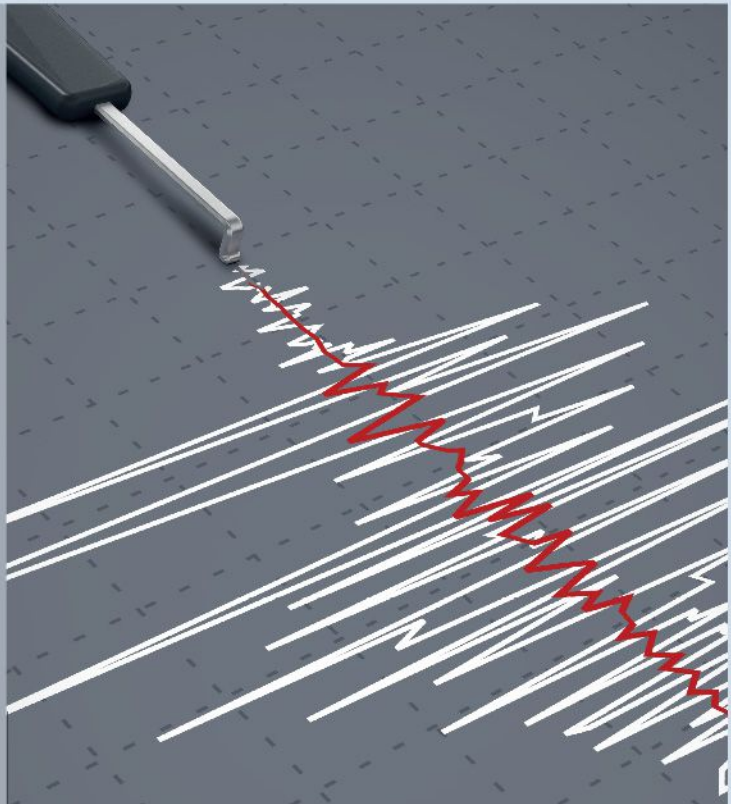

Strike out the adversity before it strikes you.

Dr Lal PathLabs presents

"Homeostasis Model Assessment (HOMA)"

which is an early marker to estimate an individual's degree of Insulin sensitivity (HOMA %S) and level of beta cell function (HOMA %B).

Dr Lal PathLabs

National Customer Care: 011-3988-5050

*Conditions apply

Dr Lal PathLabs

National Customer Care: 011-3988-5050

Corporate Office: 12th Floor, Tower B, SAS Tower, Medicity, Sec- 38, Gurgaon- 122 001, Haryana Tel: 0124- 3016 500 | Fax: 0124- 42344668
National Reference Lab: Sector-18, Block-E, Rohini, New Delhi- 110 085, www.lalpathlabs.com

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doctorfeedback@lalpathlabs.com

HOMA

What is HOMA?

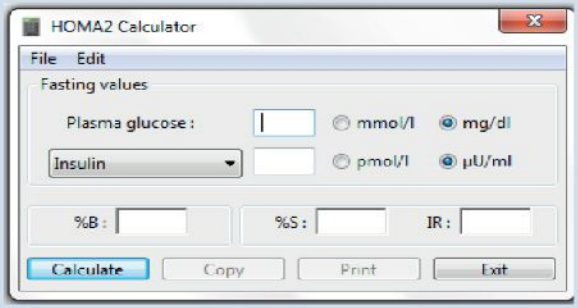
Homeostasis Model Assessment (HOMA) is a mathematical model which can estimate an individual's degree of Insulin sensitivity (HOMA %S) and level of beta cell function (HOMA %B) from simultaneous measurements of fasting plasma glucose and insulin or C-peptide concentration.

How does it work?

- Insulin resistance (IR) is a condition in which cells fail to respond to the normal actions of the hormone insulin, leading to high blood glucose level
- Beta cells in the pancreas subsequently increase production of insulin, further contributing to a high blood insulin level
- This often remains undetected for long time and can contribute to development of Type 2 diabetes or latent autoimmune diabetes of adults
- HOMA can help in the earlier detection of Insulin Resistance and thus prediction of diabetes

The HOMA model

- This model correlates well (r = 0.88) with the gold standard method for IR, i.e., **Euglycemic clamp method**
- This updated HOMA 2 model better reflects human physiology and is recalibrated to modern insulin assays
- The model can also be used in individuals to indicate whether reduced insulin sensitivity or B-cell failure predominates



Clinical Utilities

- **Pre-diabetes :** To assess risk of developing diabetes in normal subjects with a first-degree relative with Type 2 diabetes[1]
- HOMA can be used to assess longitudinal **changes in B cell function and Insulin Resistance** in patients with diabetes to examine the natural history of diabetes[2]
- **Monitoring therapy :** HOMA can be used to assess response to treatment of Diabetes[2]

References

1. Costa A, Rios M et al High prevalence of abnormal glucose tolerance and metabolic disturbances in first degree relatives of NIDDM patients: a study in Catalonia, a Mediterranean community. Diab Res ClinPract41:191–196, 1998
2. Use and Abuse of HOMA Modeling, Tara m Wallace, diabetes care, volume 27, number 6, June 2004