

## How will you know you have Insulin Resistance

The first sign that you are beginning to have Insulin resistance is widening of the waistline. Ideal Waistline measurement is Height in inches divided by two minus 2 inches. So if you are 70 inches tall, the waistline should be 33 inches. However, if you are over 50 years of age; 35 inches (Height in inches divided by two) will be reasonable.

*(Measure waist at narrowest point- Umbilicus)*



### **Ideal waistline**

Half the Height in inches – 2 inches

**OR**

Half the Height in Centimeters (cm) – 5 Cm

Widening of the waistline 4-6 inches above the normal range (as calculated from the above formula) is an indication that there is abdominal obesity. Abdominal obesity indicates there is excess fat in the liver and the abdominal cavity. That abnormal fat collection is the starting point of Insulin resistance-related diseases such as:

- Metabolic Syndrome – It is the first disease to start. Unfortunately, it goes unattended because it may not produce any symptoms except for high blood pressure.
- Polycystic Ovarian Syndrome ( PCOS) in females – It is similar to metabolic syndrome with the additional feature of female hormonal imbalance with menstrual irregularities and infertility. It is currently affecting 50-60% of city-dwelling females in India.
- High Blood Pressure
- Type2 diabetes.
- Heart Disease
- Fatty Liver disease

Laboratory tests for detecting Insulin Resistance:

1. Fasting Blood glucose- 100-125mg/ dl
2. Oral Glucose Tolerance Test- Blood Glucose 140-199mg/ dl

3. Hemoglobin A1 C level-5.7 -6.4
4. Blood Triglyceride level- Higher than 150mg/ dl
5. Low HDL - Cholesterol ( good cholesterol) Level