

WHAT IS METABOLIC DYSFUNCTION?

NORMAL METABOLIC FUNCTION

The metabolic system is the set of processes that keep your body running. It turns the food you eat into the energy you need to move, breathe, think, and repair your body. A healthy metabolism is characterized by:

- stable weight
- consistent energy levels
- the ability to use both fats and carbohydrates as fuel sources
- lack of excessive inflammation
- normal blood pressure, glucose and lipids

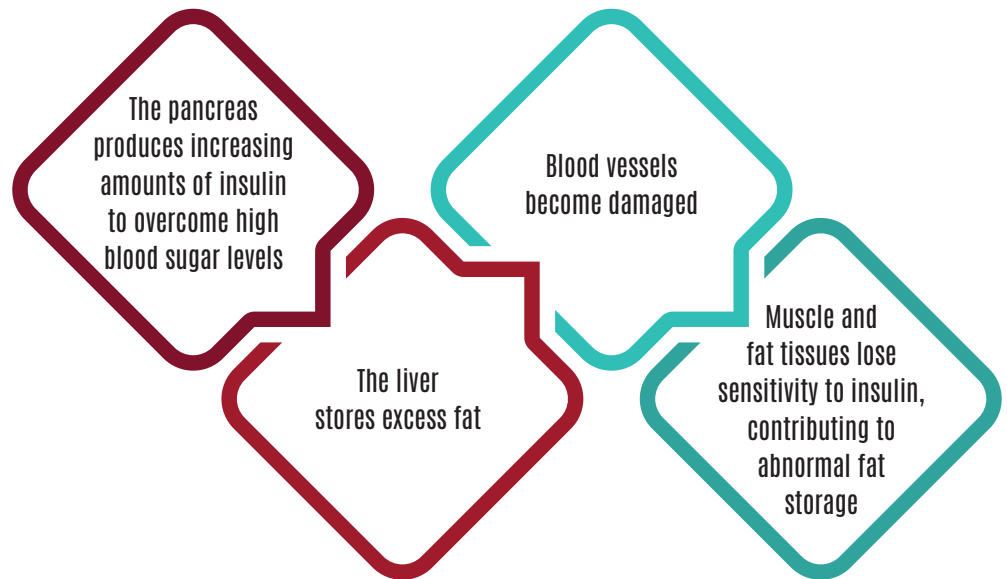
METABOLIC DYSFUNCTION

Dysfunction occurs when the body's normal processes of energy production and use, fat storage, sugar handling, and lipid regulation are disrupted.

HOW DOES METABOLIC DYSFUNCTION HAPPEN?

One of the most significant contributors to metabolic dysfunction is insulin resistance. This occurs when our pancreas must secrete more insulin to allow our cells to perform their functions.

WHAT HAPPENS WHEN METABOLIC DYSFUNCTION OCCURS?



HOW IS METABOLIC DYSFUNCTION DIAGNOSED?

Identification of Metabolic Syndrome is the most common way metabolic dysfunction is diagnosed. Metabolic syndrome is typically diagnosed if a patient has 3 or more of the following:

WAIST CIRCUMFERENCE
greater than
40 inches for men and
35 inches for women

BLOOD PRESSURE
greater than **130/85**
or on blood pressure
medication

FASTING BLOOD SUGAR
greater than **100 mg/dL**
or on diabetes
medication

TRIGLYCERIDES
greater than
150 mg/dL

LOW HDL
less than **40 mg/dL** for men
and **50 mg/dL** for women

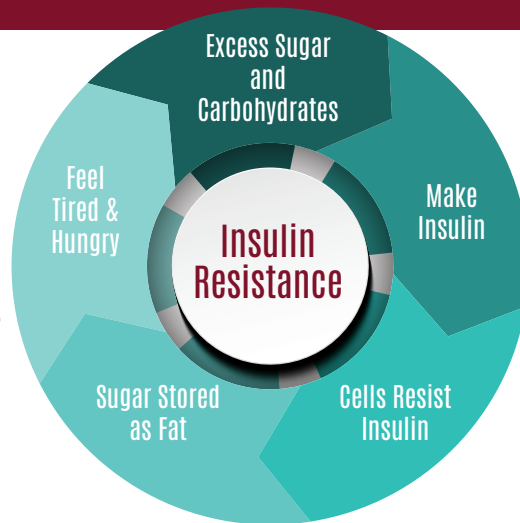
The HOMA-IR (Homeostatic Model Assessment of Insulin Resistance), based on fasting glucose and insulin levels, may detect insulin resistance at a much earlier stage, before Metabolic Syndrome Occurs.



WHAT IS INSULIN RESISTANCE?

INSULIN RESISTANCE

- When excessive sugar enters the blood stream, the pancreas makes insulin to reduce blood sugar levels.
- Insulin helps blood sugar enter the body's cells to be used as energy.
- Excess starch and sugar consumption causes cells to become resistant to insulin, and sugar stays in the bloodstream, remaining elevated and contributing to weight gain and metabolic dysfunction.
- The fructose also promotes fatty liver and insulin resistance.



Common Causes of Insulin Resistance Include:



Excess carbohydrate consumption



Excess added fructose consumption



Chronic inflammation typically from inflamed dysfunctional fat cells



Lack of physical activity



Age and genetics

Emerging Trends/Relationships



Poor sleep



Air pollution and other toxins



Chronic stress

MEDICAL CONDITIONS MOST COMMONLY ASSOCIATED WITH INSULIN RESISTANCE

Obesity

Metabolic Syndrome

Type 2 Diabetes

Cardiovascular Conditions

Chronic Kidney Disease

Dyslipidemia

Sleep Apnea

Cancers

Polycystic Ovary Syndrome (PCOS)

Gout

Reproduction and Hormonal Difficulties

