



In 2007, it is estimated that 246 million adults have diabetes, and without intervention, the number will reach more than 350 million in 25 years. Type 2 diabetes (T2D) is strongly associated with excess body fat, especially when concentrated within the abdomen (i.e. visceral fat).

Weight Management Focus On: Type 2 Diabetes

The significant increase in Type 2 diabetes worldwide may be a result of steadily-climbing obesity rates. Today, more than 1.1 billion people are estimated to be overweight, of which around 320 million are obese.

Type 2 diabetes mellitus is a metabolic condition characterized by high blood glucose levels resulting from the body's inability to use insulin. High blood glucose can cause

numerous clinical complications including blindness, poor circulation, heart attack or stroke.

The pathophysiology of the development of T2D is complex and multifactorial. Obesity, sedentary lifestyle, ageing and genetics can lead to insulin resistance and ultimately a loss of blood glucose control.



NRC Research Initiatives

Nestlé research goes beyond simply providing nutritional solutions for diabetes management. NRC scientists want to better understand the mechanisms of Type 2 diabetes development, to further create food solutions that help lower diabetes risk.

The current NRC research axis in the area of insulin resistance and Type 2 diabetes includes:

Control of Post-prandial Glycemia

Nestlé has accumulated extensive knowledge in the role of viscous fibres in the metabolic control of diabetes. Current research focuses on the identification of food components able to slow-down the activity of α -amylase and α -glucosidase, enzymes in the gut responsible for the digestion of dietary carbohydrates.

Normalize Insulin Secretion

Normalizing insulin secretion in T2D patients by direct or indirect action on the pancreas is the aim of more recent trials. NRC has recently shown that in T2D the ingestion of a fast-absorbable protein (from whey) results in a greater post-prandial aminoacidemia and a higher insulin secretion compared to ingestion of a slow protein (from casein).

Improve Insulin Sensitivity

Obesity, especially visceral obesity, is associated with increased systemic inflammation - which may play a role in the development of insulin resistance. Because adipose tissue is involved in this inflammatory process, we are studying food ingredients able to decrease the inflammatory process in adipose tissue, thus improving insulin sensitivity.

Manage Body Weight and Promote Healthy Lifestyle

Diet, exercise, and weight control are major factors for optimal T2D diabetes management and for reducing the risk of complications

associated with diabetes. A 5-10% reduction in body weight significantly improves insulin sensitivity and lowers diabetes risk. NRC manages premier research programs comprised of a wide variety of scientific disciplines to help provide practical weight management solutions.

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