Glossary

A

Abdominal obesity

Refers to a specific form of obesity in which fat cells are regionally located in and around the abdomen. This form of obesity has been identified as being a major risk factor for cardiovascular disease and type 2 diabetes. The most effective and easiest way to measure abdominal obesity is to measure waist circumference. Studies have shown that this measurement predicts risk of diabetes and cardiovascular disease beyond BMI. Other terms used to describe this particular form of obesity are central or upper body obesity.

Adipocytes

Fat cells that contain lipid droplets, these cells make up the adipose tissue.

Adipose tissue

A loose connective tissue made of adipose cells which cushions and insulates the body and plays a role in storing energy for future use in the form of fat. With the discovery of hormones such as leptin, adipose tissue is now recognized as playing the role of an endocrine gland able to secrete hormones involved in numerous body functions including, among others, sexual development, appetite regulation and inflammatory processes.

B

Blood glucose level

Blood glucose refers to the amount of sugar in the blood. A certain amount of sugar is needed at all times in the blood, so it can, with the help of insulin, be absorbed by our cells and allow them to function properly.

Hyperglycemia refers to a high level of glucose which can be a symptom of diabetes and is a leading cause of blindness, renal failure and amputations. Hypoglycemia refers to a low level of glucose that can lead to coma.

Body Mass Index (BMI)

Body mass index (BMI) is a measure of total body fat based on height and weight. It provides a simple numeric measure of a person's "fatness" or "thinness", so that professionals can more rapidly assess over- and under-weight problems more objectively. Thus a BMI below 20 indicates underweight, between 20 and 25, normal weight, between 25 and 30, overweight and above 30, obesity.

C

Cardiometabolic risk

Cardiometabolic risk is a relatively new term to better identify a patient's global risk of developing cardiovascular disease and type 2 diabetes. This risk includes both traditional risk factors such as age, sex, smoking, hypertension, type 2 diabetes (elevated blood sugar), elevated cholesterol along with newer risk factors such as abdominal obesity and insulin resistance which is the most prevalent form of the metabolic syndrome. The metabolic syndrome therefore is one of the components of global cardiometabolic risk and the two terms are not equivalent.

Cardiovascular disease (CVD)

CVD is disease affecting the heart or blood vessels. This may include arteriosclerosis, coronary artery disease, stroke, heart valve disease, arrhythmia, heart failure, hypertension, shock, endocarditis, diseases of the aorta and its branches, disorders of the peripheral vascular system, and congenital heart disease.

Coronary artery disease

Is a disease of the blood vessels that perfuse the heart (coronary arteries).

C-Reactive Protein (CRP)

CRP is a well known marker of inflammation within the body. It is a plasma protein which is produced by the liver. Its levels rise dramatically during inflammatory processes occurring in the body.

D

Diabetes

A metabolic disease characterized by high blood sugar levels. Too much sugar in the blood means that there is insufficient insulin to help push the sugar into the cells and provide cells with the energy they need to function properly. Diabetes can lead to numerous complications relative to the flow of blood in the body and is a leading cause of blindness, renal failure and amputations. Type 2 diabetes is characterized by insulin resistance, in which cells do not respond properly to the insulin signal, and by a deficit in insulin secretion due to the exhaustion of beta cells, the insulin producing cells located in the pancreas.

Dyslipidemia

Dyslipidemia is a disruption in the amount of lipids in the blood, such as an elevation of triglycerides and LDL-cholesterol (the latter being cholesterol) and low levels of good HDL-cholesterol.

E

Endocrine gland — Gland that synthesizes and secretes a substance, such as hormones, directly into the blood.

H

HDL-cholesterol — High Density Lipoprotein-cholesterol is also named "good cholesterol". It is a class of lipoproteins that transports cholesterol from body tissues to the liver, thereby slowing down the build-up of arterial plaque which leads to atherosclerosis. A high level of HDL-cholesterol is known to protect against cardiovascular disease.

Heart Attack/ Myocardial Infarction — Caused by sudden blockage of a heart artery with a blood clot leading to progressive heart muscle injury due to cell death. This is a medical emergency requiring early treatment to minimize heart damage.

Hormone — Chemical messenger produced by endocrine glands that carries a signal from one cell to another.

Hypertension — Hypertension, also called high blood pressure, means high tension in the arteries. This force is exerted by circulating blood on the arterial wall. A certain amount of pressure is needed to help blood circulate through the body and bring the necessary oxygen and food to cells in vital organs. However, when the blood vessels become constricted or when the arterial walls become harder and less flexible, blood circulation becomes more difficult and high blood pressure occurs.

A person is said to have high blood pressure when the systolic blood pressure is at 140 mmHg or more and the diastolic pressure at 90 mmHg or more identified as 140/90. If a person has diabetes, high blood pressure begins at 130/80.

High blood pressure is dangerous. The heart has to work harder to pump the blood so that it can flow from the heart to all tissues and organs of the body. Hypertension is a major risk factor for heart disease and stroke.

I

Inflammation — Inflammation is the biological response of vascular tissues to harmful signals.

Insulin	Insulin is a hormone which is secreted from the beta cells in the pancreas to regulate sugar uptake by cells. When the body produces an insufficient amount of insulin, or when cells do not respond properly to it (insulin resistance), the sugars, from the food we eat, stay within the blood stream and cannot enter the cells to provide them with the energy (or fuel) they need in order to function properly. This in turn causes hyperglycemia which is associated with increased risk of micro and macro cardiovascular complications which can lead to blindness, kidney disease, amputations, heart attack and stroke.

L

LDL-Cholesterol	Low Density Lipoprotein-cholesterol is also named "bad cholesterol". It is a class of lipoproteins that transports cholesterol from the liver to body tissues, in particular to the arteries. A high level of LDL-cholesterol is associated with a higher risk of developing cardiovascular disease. Small LDL particles (which are highly atherogenic) are particularly associated with a faster progression of atherosclerosis and more severe cardiovascular disease events.
Leptin	A protein hormone secreted by adipose cells that plays a key role in regulating energy intake and energy expenditure by decreasing appetite and increasing metabolism.
Lipid	Any fat soluble molecule can be named a lipid. In the body, lipids refer to fatty acids and their derivatives (phospholipids, mono-, di- and triglycerides), as well as cholesterol.

M

Macrophage	Type of white blood cell which plays an active role in the body defence against both internal and external aggressions. Its role is to engulf and digest, through phagocytosis, cellular debris and pathogens, and to stimulate other immunity cells.
Metabolic syndrome	A cluster of risk factors which when present together increases a patient's level of risk for cardiovascular disease and type 2 diabetes. Although several clinical tools have been proposed by various organizations to find individuals likely to have the metabolic syndrome, the components of the metabolic syndrome are:

- Abdominal obesity
- Atherogenic dyslipidemia
- Elevated blood pressure
- Pro-inflammatory state
- Pro-thrombotic state
- Insulin resistance
- Endothelial dysfunction

Myocardial Infarction (MI)	A myocardial infarction is a heart attack. The term "myocardial infarction" focuses on the myocardium (the heart muscle) and the effects of sudden deprivation of circulating blood (and, therefore, oxygen). The main effect is necrosis (death) of myocardial tissue.

O

Obesity	Obesity is defined as an excess of body fat. It is commonly defined by a BMI $\geq$ 30 kg/m².

P

Pandemic	A pandemic is an outbreak of an infectious disease that spreads through human populations across a large region or even worldwide.

S

Stroke	Stroke (or cerebrovascular accident or CVA) is the clinical designation for a rapidly developing loss of brain function due to an interruption in the blood supply to all or part of the brain. This phenomenon can be caused by thrombosis, embolism, or haemorrhage.

T

Triglycerides	Type of lipid made of a molecule of glycerol and three fatty acids. It is the main constituent of animal fats, vegetable oil and adipose tissue.
Thrombosis	Formation of a clot inside a blood vessel, obstructing blood flow through the circulatory system. The clot may become detached and enter the blood circulation as an embolus which can lead to an infarction.

W

Waist circumference	A surrogate measure of abdominal obesity.