

Optimal Blood Flow Is Essential

To carry oxygen and nutrients to your body's tissues To carry carbon dioxide and waste products away from the tissues. To sustain life and promote the health of all the body's tissues.

There are three main types of blood vessels: Arteries, Veins and Capillaries



- The arteries (red) carry oxygen and nutrients away from your heart, to your body's tissues.
- · Arteries begin with the aorta, the large artery leaving the heart.
- They carry oxygen-rich blood away from the heart to all of the body's tissues.
- They branch several times, becoming smaller and smaller as they carry blood further from the heart.



- The veins (blue) take oxygen-poor blood back to the heart.
- These are blood vessels that take oxygen-poor blood back to the heart.
- Veins become larger and larger as they get closer to the heart.
- The superior vena cava is the large vein that brings blood from the head and arms to the heart, and the inferior vena cava brings blood from the abdomen and legs into the heart.

Capillaries

- · Capillaries are small, thin blood vessels that connect the arteries and the veins.
- Their thin walls allow oxygen, nutrients, carbon dioxide and waste products to pass to and from the tissue cells.

This vast system of blood vessels - arteries, veins, and capillaries - is over 60,000 miles long. Blood flows continuously through your body's blood vessels. Your heart is the pump that makes it all possible.











Shows the progression from normal artery to the narrowing of the artery due to endothelial dysfunction and plague formation.





Risk factors that you can treat or control include:

- High blood pressure (140/90 mm/Hg or higher)
- Uncontrolled diabetes
- Physical inactivity
- Being overweight
- Uncontrolled stress or anger
- Drinking too much alcohol
- · Cigarette smoking or exposure to tobacco smoke
- High blood cholesterol and high triglycerides

The more risk factors you have, the greater your risk of developing coronary artery disease.

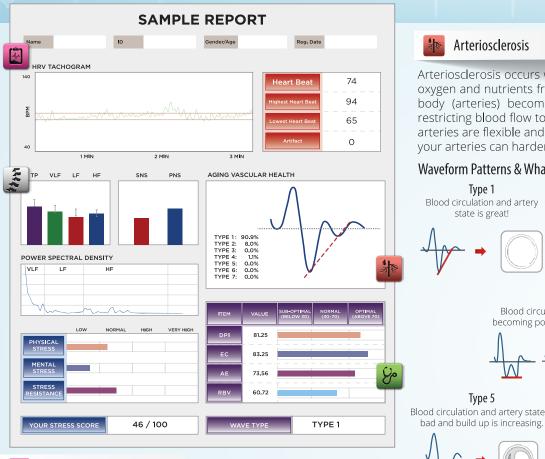


How is Hormone Imbalance associated with Heart Disease?

Hormones are powerful chemical messengers that play a role in virtually all major bodily systems and functions including your cardiovascular system.

A three minute cardiovascular assessment will provide valuable information to determine your risk for cardiovascular related disease.

CARDIOVASCULAR ASSESSMENT

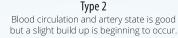


Arteriosclerosis

Arteriosclerosis occurs when the blood vessels that carry oxygen and nutrients from your heart to the rest of your body (arteries) become thick and stiff — sometimes restricting blood flow to your organs and tissues. Healthy arteries are flexible and elastic, but over time, the walls of vour arteries can harden.

Waveform Patterns & What They Mean For You







Type 3 & 4

Blood circulation and artery state is becoming poor and build up is starting



Type 5

Type 6 & 7 Blood circulation and artery state is Blood circulation and artery state is very bad and build up is becoming serious.











Measures the degree of fluctuation in the length of intervals between heart beats. For healthy people, HRV shows a fluctuation in heart rate while unhealthy people have a simple and consistent heart rate.

HRV measures the adaptability of the cardiovascular system and autonomic nervous system, which is composed of the sympathetic nervous system (SNS) and parasympathetic nervous system (PNS). Your SNS plays the role of the accelerator, also known as flight or fight. Your PNS functions as the brake, also known as rest and repair. A healthy person has a balanced autonomic nervous system.



Definitions

DPI - Differential Pulse Wave Index: Represents the overall health of the cardiovascular system. DPI is the main indicator that represents the aging of arteries.

EC - Eccentric Constriction: Represents the contraction power of vessels from the left ventricle.

AE - Arterial Elasticity: Analyzes the blood circulation, the vascular elasticity and resistance of the vessels. It detects early cardiovascular disease like atherosclerosis and peripheral circulation dysfunction.

RBV - Remaining Blood Volume: The remaining blood volume in the vessels after systolic contraction on the heart. If the blood vessels are healthy, there is little remaining blood volume.



Autonomic Nervous System

- Involuntary responses
- Pathways go to the endocrine glands, blood vessels and organs

SYMPATHETIC **NERVOUS SYSTEM**

Fight or Flight

Muscle breakdown (catabolic)

Cortisol, Adrenaline (noradrenaline)

Increased heart rate, blood pressure, sweating, blood vessels and pupils dilate, blood flow to the limbs

> Decrease in digestion and sexual function

PARASYMPATHETIC NERVOUS SYSTEM

Rest and Digest

Muscle building (anabolic)

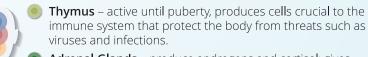
Releases muscle building hormones

Growth hormone. DHEA, Melatonin, Testosterone, Estrogen

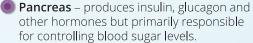
Repairs the body and responsible for sexual arousal

The Major Endocrine Glands Are:

- Pineal Gland produces melatonin, which is important for sleep cycles.
- Hypothalamus produces hormones that regulate body temperature, appetite and weight, mood, sex drive, sleep, and thirst.
- Pituitary Gland the "master control gland" makes hormones that control growth, reproduction, lactation, and the activity of other glands.
- Thyroid produces hormones that control the rate at which the body burns calories and how fast the heart beats.
- Parathyroid controls the amount of calcium in our bones and blood.



Adrenal Glands – produce androgens and cortisol; gives your body odor and pubic hair, helps in how we respond to stress; regulates blood pressure and more.



Ovaries – female reproductive glands that produce eggs and sex hormones – including estrogen, testosterone and progesterone which are vital to reproductive organ development, breast development, bone health, pregnancy, and fertility.

Testes – male reproductive glands produce sperm and secretes testosterone.



