



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.



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**

Arteries

- 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.

Veins

- 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.

A three minute cardiovascular assessment will provide valuable information to determine your risk for cardiovascular related disease. Make an appointment with your doctor today.

CARDIOVASCULAR ASSESSMENT

ITEM	VALUE	SUB-OPTIMAL (BELOW 30)	NORMAL (30-70)	OPTIMAL (ABOVE 70)
DPI	81.25			
EC	83.25			
AE	73.56			
RBV	60.72			

HEART RATE VARIABILITY (HRV)

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.

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 your arteries can harden.

WAVEFORM PATTERNS & WHAT THEY MEAN FOR YOU

WAVE TYPE 1

Blood circulation & artery state is great.

WAVE TYPE 2

Circulation good, slight build up starting.

WAVE TYPES 3 & 4

Circulation poor, build up starting.

WAVE TYPE 5

Circulation bad, build up increasing.

WAVE TYPES 6 & 7

Circulation very bad, build up serious.

AUTONOMIC NERVOUS SYSTEM:

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

THE MAJOR ENDOCRINE GLANDS ARE:

- **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.
- **Hypothalamus:** produces hormones that regulate body temperature, appetite and weight, mood, sex drive, sleep, and thirst.
- **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.
- **Pancreas:** produces insulin, glucagon and other hormones but primarily responsible for controlling blood sugar levels.
- **Parathyroid:** controls the amount of calcium in our bones and blood.
- **Pineal Gland:** produces melatonin, which is important for sleep cycles.
- **Pituitary Gland:** the “master control gland” makes hormones that control growth, reproduction, lactation, and the activity of other glands.
- **Testes:** male reproductive glands produce sperm and secretes testosterone.
- **Thymus:** active until puberty, produces cells crucial to the immune system that protect the body from threats such as viruses and infections.
- **Thyroid:** produces hormones that control the rate at which the body burns calories and how fast the heart beats.