

What is your MicroVascular Health Score™ and why do you need to know it?

A healthy microvascular system is important to provide nutrients and oxygen to all the cells in our body and remove waste products away from our organs.

Nutrients and oxygen enter the blood via the intestinal system and lungs respectively and are distributed to our organs via the large arterial blood vessels. Inside the organs, delivery of nutrients and oxygen from blood to tissue cells occurs in the smallest blood vessels that are very close to individual tissue cells. These microvessels are imaged by the GlycoCheck system and several important parameters are measured to be able to determine the health of the microvascular system.

Researchers and physicians can now quantify capillary density, capillary blood volume, blood flow and red cell velocity, and endothelial glycocalyx function with non-invasive technology. A healthy microvascular system should have a sufficient number of microvessels that facilitate nutrient exchange to the tissue cells.

To maintain a healthy microvascular system and to prevent loss of microvessels, the microvascular system is coated on the inside of each individual microvessel with a protective gel-lining, called the GLYCOCALYX. This protective coating prevents blood cells from sticking to the wall and fluid from leaking through the walls of microvessels. The GlycoCheck system measures how deep red blood cells can penetrate into the protective glycocalyx coating, which is reflected in the PBR value. A high value means deeper penetration and more damage of the glycocalyx lining.

Overall health of the microvascular system is represented by the MVHS Score (MicroVascular Health Score™) that is calculated from capillary blood volume, recruitment capacity, and PBR.

GlycoCheck is the only automated imaging device that measures the health of *microcirculation* and produces a MicroVascular Health Score. The small vessels of *microcirculation* makeup 99% of the contact surface area of the vascular system. This is where the exchange of nutrients, oxygen, hormones, and waste and carbon dioxide removal, takes place. Until now, current medical technology is only able to measure the *macrocirculation*—arteries and veins—representing only 1% of all circulation.

GlycoCheck measures and analyzes microvascular health and objectively reports your systemic MicroVascular Health Score. In just minutes, 100,000 vessels are measured, with 1,000 measurements calculated per vessel. The result: over 100 million calculations.

What is the GlycoCheck test?

GlycoCheck is a non-invasive test, using a video microscope camera placed under the tongue. It evaluates your microvascular system down to the smallest capillaries and reflects your entire body's health. The video microscope shows live movement of your red blood cells as they travel through your microvessels.

Research confirms that under-the-tongue measurements are indicative of the health of the entire vascular system which supplies nutrients and oxygen to organs such as the brain, eyes, heart, kidneys, and all others.

Guidelines for the 24 hours before your test

- **Do not eat for 4 hours** prior to testing.
- **Do not exercise for 12 hours** prior to testing.
- **Do not consume alcohol for 24 hours** prior to testing.
- **Drink at least 1 quart of water** 1 hour before your test.
- **Do not drink caffeine** the day of your test.
- **Have 15–20 minutes of rest** to reduce level of stress before your test.

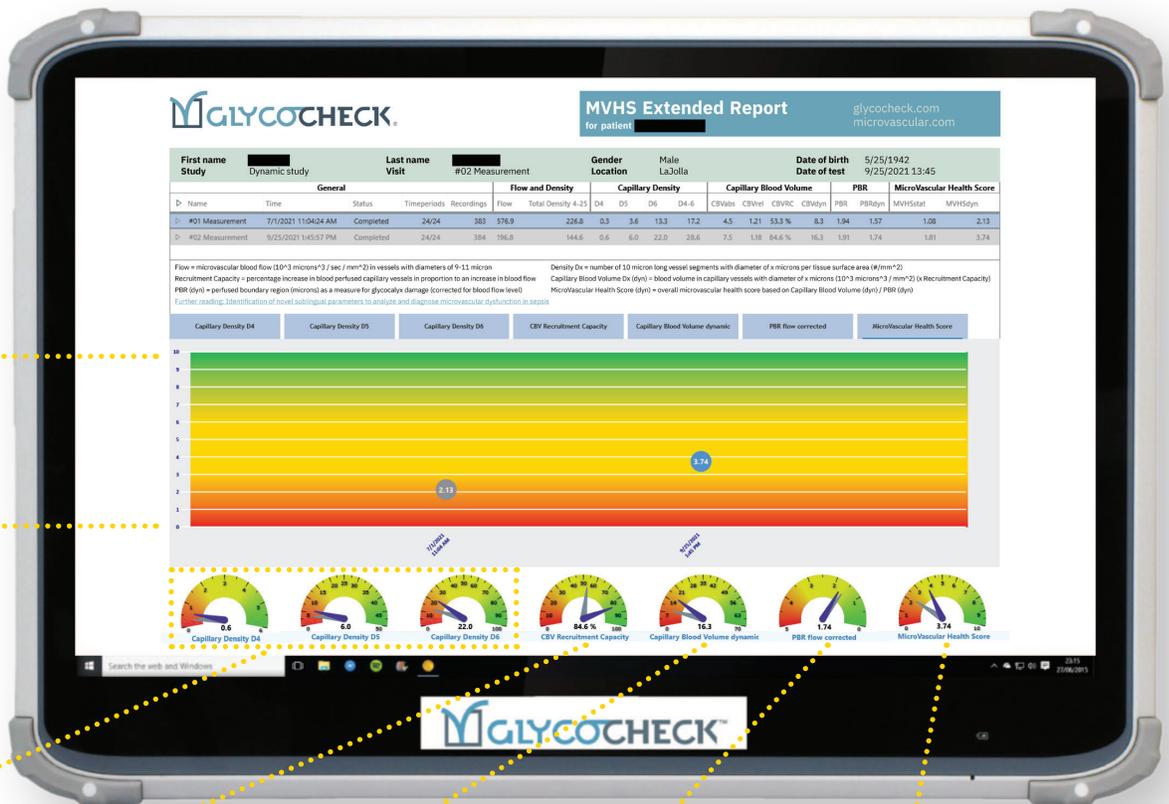
When you return for subsequent tests, make sure you

- **follow the same guidelines above** and
- **are tested at the same time of day** as before.

What your report evaluates

As your scores are measured over time, they are shown on the main chart

The dials at the bottom of the screen indicate these readings:



Capillary Density D4-D6
The number of capillary blood vessels with a diameter of 4 to 6 microns. This number tells you the capacity of your capillary network to get nutrients to organs and tissue cells. A higher number is better. Average normal ranges are in the yellow area.

CBV (Capillary Blood Volume) Recruitment Capacity
Reserve capacity that shows the additional number of functional capillary blood vessels that can be engaged when blood flow goes up. This is important to know if capillary blood vessels can increase the supply of nutrients to tissues when organs need more nutrients and oxygen (for example, during exercise). Higher is better, but average normal ranges are in the yellow area.

Capillary Blood Volume Dynamic
The maximum capillary blood volume when all available capillary blood vessels are engaged at high blood flow levels. This tells the maximum functional capacity of the capillary network. Higher is better, but average normal ranges are in the yellow area.

PBR (Perfused Boundary Region) Flow Corrected
The level of damage to the endothelial glycocalyx. A lower number means a healthier glycocalyx. The functional implication: you need a healthy glycocalyx to protect the capillaries and keep the recruitment capacity high. A lower number is better and implies a thicker systemic glycocalyx.

MicroVascular Health Score (MVHS)
An overall score based on capillary density, recruitment capacity, and glycocalyx health to report the health of the microvascular system. A higher MVHS score means better microvascular health, enabling delivery of nutrients and oxygen to, and removal of waste and carbon dioxide from, organs and tissues. Scores of most healthy people range between 3.0 and 7.0.

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Note: Results will vary based on each individual patient. GlycoCheck is a monitoring device and is not intended to diagnose any disease. © Microvascular Health Solutions. 2201