

The Secret to Maintaining Cardiovascular Health

Three 1998 Nobel Laureates, building on decades of scientific research, have identified the endothelium factor and linked it to the health and vascular age of your arteries, veins and capillaries.

What is the Endothelium?

It is a single layer of selectively permeable cells that line the entire cardiovascular system and exerts tremendous control over the flow of blood. Lumped together, the endothelium is the largest organ of the body, weighing as much as the liver. Extraordinary new studies clearly indicate that endothelial damage is the trigger of current markers of vascular dysfunction, including plaque formation and inflammation.

The endothelium protects the integrity of the vascular system, providing a **teflon lining** that prevents cells from sticking to our vascular walls. It accomplishes this through the production of Nitric Oxide (NO).

The Role of Nitric Oxide (NO)

As NO levels declines, so does endothelial function. As endothelial function declines, so does the elasticity and integrity of our vascular system. This continuous breakdown of the vascular system has tremendous ramifications on your health.

Just think about the capabilities of large arteries, medium sized arteries and our peripheral veins, the capillaries that carry nutrients to the furthest extremities of the body:

- Every 60 seconds, our vascular system distributes no less than 5 quarts of life sustaining blood, an extraordinary 1800 gallons per day.
- The vascular system also distributes oxygen from the lungs, nutrients from the intestines, hormones from the brain and glands and white blood cells, the foundation of the body's ever-vigilant immune system.
- All waste is removed from the body and delivered to the liver and kidneys for breakdown and excretion.
- The vascular system can signal the blood to clot when there is a cut. It can control the diameter of the smallest capillary, increasing flow to muscles during exercise and decreasing flow to the skin when the body reacts to fear.
- The small vessels dilate and constrict to direct the flow. The large arteries respond to the hearts rhythm, expanding with each beat and relaxing between beats.

Arteriosclerosis

Under microscopic observation, our vascular system reveals the effect of plaque in the arteries - quite literally blemishes that have earned the name **arteriolosclerosis**.

- A rupture or damage to the endothelium attracts the "bad cholesterol" (LDL-C) which sticks and oxidizes. . .and attracts white blood cells. This powerful army generated by the immune system engulfs oxidized cholesterol until, engorged, they swell into foam cells.

- If the endothelium does not recover, LDL-C and Foam Cells form a pustule, much like a pimple, which signals for more white blood cells and a powerful antioxidant, super oxide ion.
- When the abscess pops, it releases puss and causes a blood clot that can lead to heart attack or stroke.
- An aging vessel wall looks like skin scarred with acne!

Nobel Prize winning research shows us how we can restore endothelial function by boosting NO production.

- NO slows plaque growth and suppresses arteriosclerosis, keeping vessels pliable and elastic.
- NO reduces the stickiness of the endothelium and prevents white blood cells and platelets from clinging to the vessel wall.
- NO calms the cells flowing through the vessel and, thereby protects the vessel wall. Even when blood cholesterol is high, if the vessel is producing sufficient amounts of NO, the vessel will be protected from the development of plaque.
- NO melts away or shrinks plaque that is already there!
- NO regulates oxidative enzymes (ADMA) in the cell, preventing oxidation and the free radical damage it generates.
- NO has been shown to relax blood vessels and lower blood pressure.

This research notable of the coveted Nobel Prize in Medicine (1998) is changing the landscape of cardiovascular health and adding credibility to the right mix of nutritional supplements.

Are You At Risk?

With the availability of nutritional tools to stop and even reverse the progression of arteriosclerosis, how can you assess the current health of your vascular system and, just as important, evaluate the effectiveness of your lifestyle changes?

This is the role of the *Digital Pulsewave Analyzer*. This exciting non-invasive, FDA approved technology is now available in an affordable, portable model and allows you to quickly and inexpensively take a snapshot of the cardiovascular system, evaluating:

- Pulsewave & Pulse Height
- Vascular Flexibility & Elasticity
- Hydration Levels
- Vascular Aging
- Response to lifestyle changes, including diet, dietary supplements and exercise

The Digital Pulsewave Analyzer is FDA Approved and can provide early screening for key cardiovascular risk factors that can be evaluated by your physician.