



## Endothelial Function Test

*What is it:* Endothelial function testing is an exciting new non-invasive approach to assessing the health of blood vessels. This approach is largely used at research centres and is not yet widely available. However, it will be. I predict that in the next five years, this test will become as common as, and at least as important as blood pressure measurements.

*Why:* Now that we know more about blood vessel and endothelial function, we know how important they are to overall vascular health. There are several ways to assess endothelial function; most involve testing the endothelium's ability to relax the vessel wall or to make the vessel wall more compliant. At Stanford, we use ultrasound to test endothelial function. By imaging the arm arteries, we can see how well they respond to increases in blood flow.

The test is easy and non invasive. Here's how it works: When blood flow increases through a vessel with a healthy endothelium, the vessel opens up wider to accommodate the increase. You can see this flow-mediated vasodilatation, as it's called, by using ultra sound. First we increase blood flow through the arm. We do this by placing a blood pressure cuff around the wrist and inflate it to a pressure high enough to cut off blood flow to the hand. After five minutes, we release the cuff and the blood rushes back to the hand. This sudden increase in blood flow stimulates the endothelium to make NO, and in response, the arm artery increases in diameter for a short period of time. We can see the vessel dilate by using ultrasound device. We know how well your endothelium is functioning by how much your arm artery dilates.

When a patient has an unhealthy endothelium, we try different lifestyle, nutritional, and medication adjustments. The patient then returns in a few weeks; we perform ultrasound test again to see if blood health has improved.

I am convinced that a non invasive and rapid test of endothelial function will become widespread for several reasons:

**It immediately indicates the health of your blood vessels.**

Through repeat tests, we can determine whether nutrition, supplements, or medication changes are improving vessel health, and your medical program can be tailored to your specific needs.

Most important, this test can predict you risk of having a heart attack or stroke. In fact, several studies indicate that endothelial function may be a batter predictor for heart attack and stroke then all others.

*Who needs it:* When a simple non-invasive endothelial test is more widely available, I will recommend it for everyone over the age of 40 and everyone under the age of 40 with risk factors. Children who have risk factors might also benefit from a test.

Taken from "The Cardiovascular Cure" By John P Cooke M.D PhD Page 246-247

