**Dr. Vliet’s Health Tip: (needs picture of Endocalyx Pro)**

**EndoCalyx Pro™: A New Tool for a Healthy Microvascular System**

Did you know that organ starvation for oxygen and nutrients is one reason for diseases and declining health to begin in the body? When the capillaries begin to lose their function, vital organs don’t receive the nutrients needed to be healthy… the silent spiral of health decline begins. And that has many ramifications in every organ system throughout the body/

In this health tip I am pleased to introduce a new tool for your “Health Toolbox” - **Endocalyx Pro™**. I think **Endocalyx Pro™** can be a game changer for chronic health conditions, systemic inflammation and oxidative stress by addressing one of the biggest problems we are facing in health care today: **vascular damage**. Whether from viral infections, vaccine damage, environmental assaults, or just aging – vascular damage decreases your circulatory system’s ability to effectively deliver oxygen and nutrients to your cells, tissues and organs as well as carry away toxic waste products.

Your organs are healthy when they are nourished with vital nutrients and oxygen, while waste and carbon dioxide are removed. Every heartbeat is an opportunity for replenishment.

* This replenishment—an exchange of nutrients and waste removal—takes place in the capillaries of your microvascular system.
* The human body’s microvascular system is immense. The endothelial glycocalyx is both the largest surface organ at 10,000 square feet, and the longest organ in the body at 60,000 miles end-to-end.
* With every beat, the heart pumps blood through the microvascular system, which nourishes the trillions of cells that make up your organs. Deterioration in the microvascular system—comprising more than 99% of the contact area between the blood and the organs—has long been overlooked as the starting point of several health conditions, which lead to life-threatening diseases.
* Only recently have we been able to look at the 99%. In the past, science focused on the visible 1% of the total vascular system, the larger blood vessels.
* Without continuous delivery of nutrients and waste removal, organs starve, and you are at greater risk of heart disease, stroke, high blood pressure, diabetes, kidney disease, dementia, inflammatory disorders and cancer metastasis.

One of the reasons I have included **Endocalyx Pro™** in the Truth for Health store is its impressive outcomes in combating vascular damage and improving circulation. Multiple research studies have shown that **Endocalyx Pro™:**

* **Regenerates the Microcirculation System\***
* **The only proprietary, patented anti-aging supplement that has been clinically shown to maintain a healthy glycocalyx, the micro-thin gel layer that lines the inside of all blood vessels throughout the body and all organs.\***
* **Provides the anti-aging building blocks needed for a strong and vital glycocalyx, strengthening this micro-thin shield that protects the heart, arteries, microcirculation and veins.\***
* **Helps keep blood vessels slick, smooth and protected inside, from the largest arteries and veins to the tiniest capillaries.\***
* **This keeps blood flowing freely while optimizing circulation throughout the entire body.\***
* **Allows more efficient delivery of oxygen and nutrients to tissues, organs and for the removal of waste.\***

The ingredients are also quite impressive. **Endocalyx Pro™** contains a patented formulation with three classes of compounds: restorative, regenerative, and protective. The seven ingredients include: a polysaccharide made with a brown seaweed called **Laminaria Japonica** certified to contain a minimum extract rate of 85% **fucoidan sulfate**. Fucoidan helps repair the glycocalyx and prevents breakdown by inhibiting the heparinase activity. Fucoidan sulfate also help provide structural stability and dimension to the glycocalyx. Another restorative polysaccharide enabling repair of the glycocalyx matrix is **hyaluronic acid**. **Glucosamine sulfate** provides the building blocks for glycocalyx synthesis and boosts endothelial cell glycocalyx production. The polyphenol and flavonoids of **Olive (fruit) extract, artichoke (leaf) extract, red and white grapes (fruit) extract, and superoxide dismutase (from bitter melon concentrate**) are potent antioxidants that can survive oral intake and arrive in the vascular compartment at clinically effective dosages.

**Endocalyx Pro™ helps reverse hypoxia – low oxygenation at the cellular level and in that sense – organ starvation.**

I review next the details of specific diseases and conditions that arise from microvascular damage\* an dhelp you understand these connections and how Endocalyx Pro can help repair the damage. So I encourage you to continue reading here: **Erik please post the complete Health tip on website 9separate WORD file attached to EMAIL), then link to that longer version for people to continue reading – I had to keep it shorter for the newsletter – too long as written –**

**Add promotion for newsletter readers of 10% off for this week only**

I hope you will give our newest product, and all our other natural medicines, a try to help you achieve your health loss goals. You may be surprised at the benefits you experience, just as I have!

To Your good health,

Dr. Vliet

**REST OF THE HEALTH TIP FOLLOWS – NOT INCLUDED IN NEWSLETTER – NEEDS TO BE POSTED ON WEBSITE AND THEN LINK TO THE WHOLE HELATH TIP IN NEWSLETTER AT POINT I SHOWED YOU.**

**Diabetes - Caused by High Blood Glucose Level**

* **The Problem:** A healthy microvascular system is important for transport of glucose from blood to organs.
High blood glucose damages (micro) vascular system and causes blindness, kidney failure, heart attack and stroke.
* **The Solution**: High glucose from diabetes can result in capillaries being attacked, resulting in capillaries unable to deliver nutrients like glucose, hormones like insulin, and remove waste from cells. **Endocalyx Pro™** restores and maintains the endothelial glycocalyx lining inside the capillaries and improves capillary density and function\*. **Endocalyx Pro™** also helps protect against damage from high glucose and oxidative stress\*.

**Heart Disease - Loss of Pump Function of Heart**

* **The Problem:** Loss of microvascular density causes heart attack
Insufficient number of capillaries per heart muscle fiber impairs heart pump function (heart failure).
* **The Solution:** Heart attack happens when a blood clot shuts down blood flow in a large artery. When the blood clot is removed blood flow is restored, but damage occurs in the microvessels due to formation of oxygen radicals. **Endocalyx Pro**™ supports the health of the microvessels and limits reperfusion injury.\*
Even in the absence of a large vessel blockage, people can experience chest pain (angina) due to inadequate microvascular blood flow and loss of capillaries. **Endocalyx Pro™** restores the glycocalyx lining inside the microvascular system and increases capillary density\*.
Many people experience loss of cardiac function and suffer from a type of heart failure that is linked to loss of capillaries and increased stiffness of the heart muscle. **Endocalyx Pro™** restores the glycocalyx lining inside the microvessels and increases microvascular blood flow and capillary density that will contribute to improved heart function\*.

**Stroke - Blood Clot in Brain Artery Causing Brain Damage**

* **The Problem**: Damage to vascular wall causes blood clots.
Microvascular damage causes White Matter Lesions with poor neurological prognosis.
* **The Solution:** Hypertension increases risk of stroke and cardiovascular disease and is associated with capillary loss. **Endocalyx Pro**™ restores, regenerates, and protects the glycocalyx lining inside the capillaries so loss can be prevented, and organs including the brain, heart, and kidneys can be better protected\*.

**Septic Shock - Loss of Circulation Blood Volume Causes Drop in Blood Pressure**

* **The Problem**: Can lead to Impaired organ blood flow resulting in acute kidney failure, reduced lung function, heart attack, stroke and brain damage
Leaky microvessels result in loss of blood plasma volume to tissue space.
Damaged vascular wall causes increased blood clotting and inflammation.
* **The Solution:** Septic shock is caused by loss of blood volume due to leakage of fluid from the microvascular system. Acute systemic inflammatory activation of capillary endothelium causes damage to the endothelial glycocalyx and mediates loss of its permeability barrier and impaired osmotic gradient due to leakage of plasma proteins to the interstitial compartment. The resulting low blood pressure and low organ blood flow, combined with reduced numbers of blood perfused capillaries, results in multiple organ failure and high mortality rates. **Endocalyx Pro™** repairs the capillary endothelial glycocalyx and protects the systemic microvascular system against acute inflammatory attack\*.

**Hypertension - Blood Pressure is Higher than Accepted Level**

* **The Problem**: Hypertension is associated with loss of microvascular density.
Hypertension increases cardiovascular risk (heart attack, stroke, kidney failure).
* **The Solution**: Hypertension increases risk of stroke and cardiovascular disease and is associated with capillary loss. **Endocalyx Pro**™ restores, regenerates, and protects the glycocalyx lining inside the capillaries so loss can be prevented, and organs including the brain, heart, and kidneys can be better protected\*.

**Kidney Disease - Impaired Production of Urine Causing Increased Blood Volume and Hypertension**

* **The Problem:** Damage of microvessels causes leakage of blood proteins into urinary space, damage of renal filtration units and kidney failure.
* **The Solution:** Breakdown of kidney capillaries causes loss of its filtering system and impairs production of urine, increasing blood volume and resulting in hypertension. **Endocalyx Pro™** restores the glycocalyx lining inside the capillaries so that kidney function can be optimized and preserved\*.

**Dementia - Early Cognition Impairment: Neurological Complication**

* **The Problem**: Healthy microvascular system is essential to maintain intact neuro-vascular unit and support normal neurological function.
* **The Solution:** Dementia is associated with damage and the loss of capillary density in the brain. When capillaries are damaged, essential nutrients can’t nourish and oxygenate cells in the brain, and just as importantly, waste and carbon dioxide can’t be removed. **Endocalyx Pro**™ restores the glycocalyx lining inside the capillaries so that capillary density can increase, with nutrients delivered to, and waste removed from cells in the brain\*.

**Inflammatory Disorders - Rheumatoid Arthritis, Vasculitis, Allergies, Glomerulonephritis, Autoimmune Diseases, Scleroderma, and Atherosclerosis**

* **The Problem:** Attack of microvascular system by inflammatory cells results in loss of capillaries.
Increased capillary permeability causes tissue edema.
* **The Solution**: Out-of-control activation of the inflammatory system in response to challenges like rheumatoid arthritis, vasculitis, allergies, glomerulonephritis, autoimmune diseases, scleroderma, and atherosclerosis. An attack on capillaries by inflammatory cells results in damage and loss of capillaries. Increased capillary permeability causes tissue edema. **Endocalyx Pro**™ can restore the endothelial glycocalyx lining inside the capillaries, even after damage and the loss of capillary density\*.

**Cancer Metastasis - Uncontrolled Growth of Tumors**

* **The Problem:** Leaky microvessels allow tumor cells to enter the vascular system and redistribute to different parts of our body, causing tumor metastasis (secondary tumors).
* **The Solution:** A leaky microvascular system enables cancer cells to redistribute to different parts of the body. **Endocalyx Pro™** restores the glycocalyx lining of the microvessels to better contain the primary tumor and reduce metastasis\*.

\*From manufacturer website/These statements have not been evaluated by the Food and Drug Administration. This product is not intended to diagnose, treat, cure or prevent any disease.

**Recommended Dose: 4 tablets per day (2 AM and 2 PM)**

**Clinical Applications**

* **Strengthens the micro-thin shield that protects the heart, arteries, microcirculation and veins\***
* **Promotes healthy organs associated with vascular health\***
* **Promotes the bioavailability and bioactivity of nitric oxide\***
* **Helps support nutrient and hormone exchange\***
* **Daily use delivers the building blocks to strengthen the glycocalyx gel barrier\***

(Dr. Vliet you can add some closing thought)

**For those of you interested in exploring more of the fascinating research conducted on this product and its ingredients, check out the white papers listed below.**

**Resources:**

**Glycocalyx-targeted therapy ameliorates age-related arterial dysfunction**

PMCID: PMC10651573  PMID: [36787090](https://pubmed.ncbi.nlm.nih.gov/36787090/)

**Heparan sulfate mimetic fucoidan restores the endothelial glycocalyx and protects against dysfunction induced by serum of COVID-19 patients in the intensive care unit**

ERJ Open Research 2022; 8(2): 00652-2021; DOI: <https://doi.org/10.1183/23120541.00652-2021>

**The Effect of 4-Month Treatment with Glycocalyx Dietary Supplement on Endothelial Glycocalyx Integrity and Vascular Function in Patients with Psoriasis**

PMID: **39125451** PMCID: [PMC11313920](https://pmc.ncbi.nlm.nih.gov/articles/PMC11313920/) DOI: [10.3390/nu16152572](https://doi.org/10.3390/nu16152572)

**Abstract P279: Glycocalyx Restoration Reduces Arterial Stiffness In Diabetic Female Mice**

Hypertension [Volume 78, Number Suppl\_1](https://www.ahajournals.org/toc/hyp/78/Suppl_1)

<https://doi.org/10.1161/hyp.78.suppl_1.P279>

**Effect of glycocalyx-targeted therapy on vascular function in older adults: a randomized controlled trial**

<https://doi.org/10.1152/japplphysiol.00150.2024>

**Role of dietary interventions on microvascular health in South-Asian Surinamese people with type 2 diabetes in the Netherlands: A randomized controlled trial**

[*Nutrition & Diabetes*](https://www.nature.com/nutd) **volume 14**, Article number: 17 (2024) <https://doi.org/10.1038/s41387-024-00275-5>

**Dietary Glycocalyx Precursor Supplementation Ameliorates Age-Related Vascular Dysfunction**

<https://doi.org/10.1096/fasebj.2019.33.1_supplement.828.1>

**Ways and Means of Cellular Reconditioning for Kidney Regeneration**

Subject Area: [Nephrology](https://karger.com/ajn/collection/34/Nephrology)

*Am J Nephrol* (2022) 53 (2-3): 96–107.

<https://doi.org/10.1159/000522050>

PubMed:[35259745](https://pubmed.ncbi.nlm.nih.gov/35259745)