

Your Vital Age is Your Most Important Age

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Everyone has three distinct personal ages...

First, is your 'chronological age'

This is the age indicated by your birth certificate, but this is not usually the same as the functional age of your mind or body.

Second, is your 'mental age'

This is how old you 'think' you are and the 'sharpness' of your mind. It reflects your zest for living, as well as your mental acuity and ability to focus on tasks.

And third, is your body's 'biological age'

This is indicated by your level of energy, your strength and endurance, joint aches and flexibility, your overall resistance to illness and continued wellness.

What really matters is your 'vital age'

We can't change the date on our birth certificates, however we can make a significant difference in both our mental and biological ages. We call these our 'vital age'.

Your 'vital age' is your daily energy and vitality to live life; your muscle strength, endurance and joint health; the strength of your immune system to remain healthy; plus your mental alertness and ability to focus.

Based on the medical and scientific information now available, the single most important factor that determines your vital age is the health of your circulatory system. More specifically, it is the health and effectiveness of your heart that drives the circulation; plus the effectiveness of your microcirculation through 18,000 miles of capillaries where all the nutrients and oxygen are transferred to your vital organs and living cells.

The goal and path are simple:

To look and feel better, to have more energy and vitality, to be more alert and focused and to live healthier longer... strengthen your heart and enhance your nourishing microcirculation.

Over 50 Trillion Living Cells

The average human body is made-up of over fifty trillion living cells (50,000,000,000,000).

Ongoing cell death is balanced by the regeneration of new living cells.

Your skin replaces itself every five weeks.

Each year 98% of all of your molecules are replaced.

Every five days you create a new stomach lining.

New cell generation is reliant upon delivery of sufficient nutrients and oxygen to the vital organs, muscles, bones and tissue.

It is estimated that no living cell is ever farther away than 50 micrometers from a capillary. (1/500 of an inch).



Electron micrograph of a resin casting of capillaries.

The Circulatory System

Nourishment to cells starts with food from your digestive tract being absorbed into your bloodstream and delivered to your cells via your circulatory system.

Oxygen that enters your lungs permeates the lining of the lungs into the bloodstream.

Your heart is a sophisticated muscle that pumps your nutrient and oxygenated blood throughout your body through your arteries, where it is dispersed through a network of 60,000 miles of blood vessels, including an average of 18,000 miles of capillaries.

It can take up to 10 capillaries to equal the width of a human hair.

Red blood cells typically travel in single file through your capillaries carrying nutrients, antioxidants, and oxygen to all the living cells. White blood cells provide your microbial defenses, including natural killer cells.

The transfer of nutrients and oxygen takes place in the capillaries where the capillary wall is thin enough to allow these to permeate into the surrounding cells.

Metabolic waste, carbon dioxide and environmental toxins also permeate into the bloodstream through the capillary walls, they travel into veins and are cleansed from the system through the liver, kidneys and lungs.

Through aging, capillaries can become narrower, twisted and kinked, while blood viscosity can also become thicker, combining to reduce vital blood flow.

When tens of thousands of living cells become malnourished due to lack of microcirculation you experience decreased energy and premature aging.

Decreased microcirculation reduces the distribution of vital antioxidants, vitamins, minerals and overall nourishment; plus reduces the removal of toxins, contributing to the aging process of the body.

Optimized microcirculation combined with the proper nutrition helps to slow the aging process.

The Incredible Heart

The heart is a vital 'muscle' that is approximately 1.5x the size of your fist. It needs regular aerobic exercise to ensure its' strength and vitality.

The heart is more vascular than skeletal muscle due to the greater demand on the heart. It has 2,500 – 4,000 capillaries per mm³ compared to 300-400 mm³ in skeletal muscles.

The average heart beats 72 times a minute or 103,680 beats per day.

The heart beats an average of 36 million times each year, pumping over 600,000 gallons of blood.

The heart pumps blood through 60,000 miles of blood vessels (average 150 pound person). Each additional pound adds an additional 250 miles of blood vessels – creating further workload and resistance.

Certain organs such as the brain, heart and kidney receive larger portions of blood and therefore more oxygen and nutrients.

The efficiency of the delivery of oxygen and nutrients via blood vessels also determines endurance, stamina and health of bones, joints, and muscles.

Muscle Strength and Development

Exercising skeletal muscles requires up to a 30-fold increase in blood flow. Increased demand by muscle exertion is met by large diameter arteries, smaller arterioles and capillaries.

Individuals committed to maintaining muscle strength should seek to enhance supporting microcirculation.

Bone Health and Density

New bones are constantly regenerating and forming replacement bone cells when older cells die through natural turnover, disease or injury.

Bone regeneration also requires significant micro-circulation and nutrient delivery to fuel the creation of the structural integrity of the human frame.

Maximum bone density occurs from age 16 to 32 years of age, yet it is the constant replacement that prevents osteoporosis. This replacement requires the delivery of

calcium, magnesium, boron, vitamin D and other nutrients to the bone via microcirculation.

Surprisingly, skeletal bones also completely regenerate every three months.

Joint Health

The process of joint degeneration begins with the first step we take each morning. It worsens with the more we weigh, the kind of shoes we wear, our activity levels, our nutritional and supplementation status and prior injuries we have suffered.

The microcirculation delivery of sulfur rich nutrients (i.e. MSM) is of paramount important to joint health.

Joints do not naturally receive tremendous blood supply otherwise every time you walked you would be rupturing blood vessels.

It is constant replenishment through microcirculation that fuels and maintains the joint as a whole and feeds the cells that produce and regenerate cartilage broken down each and every day from daily wear and tear.

Respiratory Health

Powerful and resilient lungs are of critical importance to survival and vital living.

People without good functioning lung health become fatigued, weakened and disabled.

The efficient delivery of oxygen to the trillions of cells in the body is literally a matter of life and death.

It is the 18,000 miles of capillary beds that captures and distributes the oxygen we breathe in and exchanges it with carbon dioxide that we breathe out.

Blood Pressure

At rest, only 5% of the blood within your body is in your capillaries, yet 25% of the resistance that your heart must pump against arises from the pressure required to pump blood through the capillary beds and into the venous system (veins).

As you age, atherosclerosis (hardening of the arteries occurs), and this occurs within the larger vessels such as the aorta (diameter of a garden hose), coronary arteries (size up to the diameter of a pen or pencil) and ultimately the capillaries that are so small that red blood cells can only go single file through them.

As these small vessels become occluded (stenosis), then the peripheral resistance increases leading to blood pressure elevations.

Vasodilation of blood vessels, which is the expansion of blood vessel and capillary diameters are essential to help decrease blood pressure.

The larger the diameter of a blood vessel or capillary, the lower the blood pressure.

Many pharmaceutical drugs endeavor to expand blood vessels to help regulate blood pressure, however these drugs can be accompanied by significant side effects.

Increased blood pressure also raises the risk of certain types of stroke, damage to the kidney and overall wear and tear throughout the circulatory system.

Vital Organs

Every organ in the body is vital to your health and needs sufficient nutrient-rich and oxygen-rich blood to survive.

As you age, your blood vessels can continue to narrow, reducing microcirculation and reducing the flow of the life line of nutrients and oxygen.

The purification and cleansing of the blood is vitally important and is accomplished by the spleen, liver and kidney. The kidney alone filters the blood 400 times per day.

Brain, Memory and Thinking

The average human brain weighs a mere 3 pounds - just 2% of total body weight, yet consumes 20% of the body's oxygen and blood flow.

The brain is comprised of 100 billion neurons, each of which needs oxygen and nourishment to maintain the ability to think, remember and even dream.

To nourish the brain and to protect it from unnecessary cellular death is essential, for it is within the cells of your brain that thoughts and dreams are contained.

The average loss of neurons is 1 per second that is 85,000 per day and 31,000 million per year.

The microcirculation delivery of amino acids, nutrients, oxygen and fluid are all essential for the proper functioning and maintenance of neuro-transmitters and a healthy mind.

The importance of oxygen and circulation to the brain is clearly demonstrated by the fact that loss of consciousness occurs with 8-10 seconds with loss of blood flow to the brain.

A computer working at 400 million calculations per second for 100 years could only accomplish what the human brain can accomplish in 1 minute. This amazing ability is supported by microcirculation that fuel between 100,000 to 1,000,000 chemical reactions at any given moment.

Sexual Vitality

Both male and female reproductive organs are highly vascular, meaning they must be bathed by a rich supply of blood to function properly.

As we age, compromised heart and circulatory health also compromises sexual function.

Reduced sexual performance can serve as a warning indicator of overall reduced circulatory health.

Enhancing microcirculation is the preferred method to improve sexual vitality.

Cholesterol

The human liver produces cholesterol daily to sustain normally healthy functions within the body. It is when cholesterol balance becomes disturbed due to diet, lifestyle or stress that health becomes compromised..

Cholesterol serves many important functions within the body including as a building block for all steroid hormones including estrogen, progesterone, testosterone, cortisol, and vitamin D.

Imbalances of cholesterol ratios serve as a leading cause of compromised microcirculation and taking a proactive stance is essential to maintain a healthy circulatory system.

It is critical to have your total cholesterol, HDL, LDL and VLDL measured along with triglycerides.

Inflammation

Inflammation is an independent contributing risk for heart and circulatory disease.

Controlling inflammation is essential to protecting circulatory health, thus getting a C-reactive protein level measured by your health care provider is crucial.

Inflamed arteries are more prone to forming narrowing areas known as stenosis.

Clots and Strokes

Slowing of circulation can lead to blood clots, which can lead to debilitating strokes or pulmonary emboli.

Maintaining good fluidity and blood thinness is vitally important to help bring protection. Drinking plenty of water, keeping the body moving and the use of medicinal foods can also help keep blood moving.

Metabolic Waste, CO₂ and Toxins

Microcirculation also helps to cleanse the metabolic waste and carbon dioxide produced by your body, allowing oxygen and nourishment to reach the cells.

Environmental toxins ingested through the air, water and foods can also accumulate via the circulatory system and these need to be washed out through efficient microcirculation. Otherwise these toxins can lead to long term health consequences and degenerative diseases.

Summary

The existence of 18,000 miles of capillaries reflects the importance of the delivery of optimal oxygen and nutrients to

each cell. The surface area of an average persons' capillary beds is greater than the surface area of three tennis courts.

Circulatory demand to sustain the trillions of cells is immense and the flow to target tissues vary and change depending on whether your body is in a resting state or exercising.

Blood Flow ml / per minute		
	At Rest	During Strenuous Exercise
Heart	250	750
Kidneys	1,200	600
Skeletal Muscles	1,000	12,500
Skin	400	1,900
Internal Organs	1,400	600
Brain	750	750
Total	5,000	17,100

According to the CDC, heart disease and stroke, the key components of cardiovascular disease, are the first and third leading causes of death in the US, accounting for more than 40% of all deaths. About 950,000 Americans die of cardiovascular disease each year, which amounts to one death every 33 seconds.

Although heart disease and stroke are often thought to affect men and older people primarily, it is also a major killer of women and people in the prime of life.

Recommendations:

1. TCM Herbal Supplements

Chinese Medicinal Mushrooms have been used for centuries and have recently been shown in research studies to help enhance microcirculation and also to help improve the quality of blood.

LingZhi is considered the cornerstone of TCM herbs with over 400 scientific-medical research journal articles. Supports vital microcirculation, possesses protective antioxidants properties, serves as an antioxidant and helps promote immune functions.

YunZhi has traditionally been used to help increase respiratory capacity that is essential for oxygenation of blood and enhancing liver health to cleanse blood. YunZhi also contains antioxidant properties.

Cordyceps has been shown to help boost energy and endurance. It delivers nutrients to help the body manage stress, while supporting adrenal cleansing functions. Also enhances sexual vitality. Cordyceps has antioxidant properties to help slow aging process.

Grape Seed Extract and Vitamin C both possess remarkable antioxidant properties. Researchers have concluded that grape seeds provide superior anti-oxidant protection compared to vitamin C and vitamin E at equal doses by weight. Grape seed extracts contain a number of

polyphenols including procyanidins and proantho-cyanidins and are powerful free radical scavengers. In turn vitamin C helps strengthen and maintaining connective tissue, confers free radical quenching properties, can assist in maintaining healthier blood pressure and overall improved cardiovascular health.

2. Reflective Resonant Energy - RRE

Studies have indicated the ability to enhance micro-circulation by reflecting inner biological energy to specific targeted joint, muscle and tissue areas.

In the 1990's Researchers at the Tsinghua University Nanotechnology Laboratory in Beijing, developed a unique ceramic compound capable of passively reflecting our energy back to targeted tissue.

Independent studies indicated that RRE vasodilates capillaries to help increase healing and life-sustaining blood flow. These findings have been observed in both animal and human research studies.

NanoPro™ RRE Pillows provide proper support of the head, neck and spine, while also helping to increase microcirculation to these areas while sleeping. This passive microcirculation therapy increases restoration and replenishment to vital brain, sight, smell, taste and hearing functions.

NanoPro™ RRE Joint Supports for low back, knees, elbows and wrists helps to increase microcirculation critical to joint health and helping to relieve sore and arthritic joints. Maintaining circulation in the lower limbs is particularly important to help prevent clots and tissue degeneration from lack of sufficient blood flow.

NanoPro™ RRE Shoe Inserts and Sport Socks help increase microcirculation to the foundation of our structural integrity. The lower extremities are particularly susceptible to diminished circulation, which can cause cold feet, numbness, tingling, even painful feet.

These statements have not been evaluated by the Food and Drug Administration. These products are not intended to diagnose, treat, cure or prevent and disease.