

Did you know

**THAT THE HEART DOES NOT
PUMP THE BLOOD**

OR/and

WHAT THE ELEMENT OF LIFE IS?

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1. PHENOMENA OF THE HEART AND THE CIRCULATION OF BLOOD

THE CONNECTION BETWEEN BREATHING AND THE HEART AND THE CIRCULATION OF BLOOD, AND ITS IMPACT ON THEM

The researchers, whose daily work is exploring the heart and the circulatory system, themselves claim that it is a MYSTERIOUS and unknown world full of paradoxes. On the other hand, there are no secrets for weight watching and aerobics trainers or the instructors of other aerobic workouts – everything is ABSOLUTELY familiar and very simple.

But let's see what scientists really KNOW about this subject.

The phenomenon of the AMOUNT of blood, as we all have learned, is that there are 5-6 litres of blood in the human body. For some reason, no one teaches us another number – the capacity of the system of blood vessels is 25 to 30 litres. How can such a small amount of blood fill such a great network and reach everywhere at the same time, and furthermore, to be able to cause HIGH blood pressure?

Already in 1953, the physiologist Pappenheimer found that in order to guarantee normal blood supply for one minute, the human body should have no less than 45 litres of blood.

It is known that the blood is composed of plasma and the red blood cells floating in it, along with leukocytes, platelets and the mass of micelles (colloid particles); and that the main function of blood is transporting and distributing gases, nutrients and cellular elements in the body. It is also claimed that the blood moves in the vessels due to pinch force caused by the contractions of the cardiac muscles.

Yet, by now we know several interesting facts that prove that the blood expands and contracts SPONTANEOUSLY in the body without its quantity increasing or decreasing. When a person becomes physically active, their blood amount increases an average of 15 litres and even up to 45 litres with intensive loads.

A marathon runner may lose 4 kg of fluid during the run, while the quantity of blood may increase by 6-8% by the end of the distance. Rapid breathing, massage, stress and emotions increase the amount of blood by 1.5-2 times. Incredibly rapid increases in the quantity of blood have been observed in pregnant women – up to 50% merely from changing position, e.g. from lying on one side to standing upright.

The blood increase is largest and quickest in the heart – while only 40 ml of blood enters the left ventricle, 130 ml exits it a moment later.

However, the opposite effect that may decrease the quantity of blood to its original 5-6 litres, also takes place within the body. It happens in all cases of shock and anaemia, when the heart's contraction functions are limited, in case of an acute myocardial infarction, etc. The state of anxiety a patient experiences before a surgery decreases blood capacity, while its quantity increase after the surgery, regardless of blood loss.

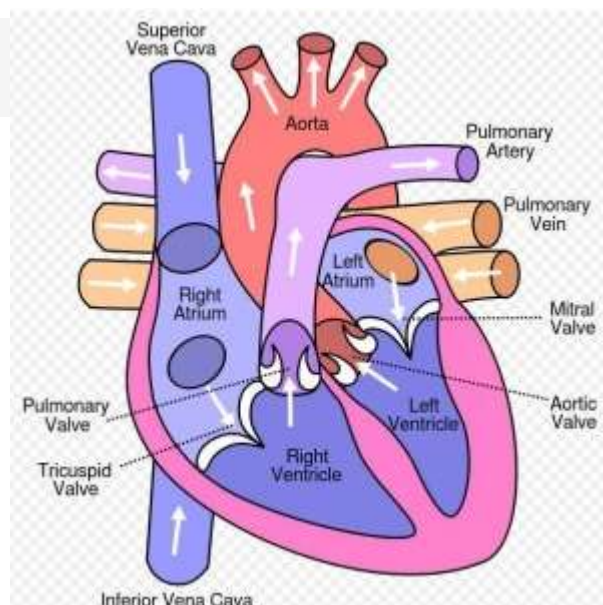
Interesting experiments have been conducted with volunteers – for instance, the volunteers were lifted up without having to make any effort or move a muscle themselves after having lain down for several hours – blood pressure decreased for all volunteers, as did the quantity of their blood (by up to 66%), however, the initial amount of blood was restored within 5-8 minutes.

Cases where reanimation patients have been given 1.5-2 litres of blood but instead of increasing, the amount of blood in the patient's body decreases seems unbelievable and improbable. Knowing this, the surgeons give the patient an additional 7-15 or more litres of donor blood in an attempt to avoid damage to their organs.

The spontaneous decrease of donor blood in hermetically sealed containers has baffled many blood bank managers or caused them worry, because one can never be sure, how much blood they ACTUALLY got, as it is always LESS than what was taken from the donor.

The Second Phenomenon - The Mysterious Heart

A picture of the heart



Hindus and Yogis have worshipped the heart as the cradle of the SOUL for thousands of years. Our fundamental medicine, on the other hand, states that “the heart consists of two separate „pumps“– the left and right heart. The heart on the right side pumps the blood through the lungs, while the one on the left pumps it through the peripheral organs“. The blood that enters the ventricles mixes within them and the same amounts of blood is pushed into the vessels of the large and small circulation with one momentary contraction of the muscles; the distribution of the blood volume depends on the diameter of the blood vessels leading to the organ and the laws of hydrodynamics influencing them.

The heart-as-pump theory began with William Harvey in around 1627, when he came up with the theory that the reason the blood circulates is that the heart pumps it through the vessels; he has been known as the Father of Cardiology ever since.

Think for a minute. We have a heart and there is blood passing through it, going down the arteries, slowing down all along the way, and ending up in all the capillaries; then the blood has to travel back through the veins, and up again to the heart.

If you put all the blood vessels end to end, you would get thousands of miles of veins and further thousands of miles to get back up to the heart again. We are talking about a very sticky fluid traveling through thousands of miles of really tiny pipes. **So are we really saying that the heart can push the fluid all the way** from San Francisco to NYC, then have it stop for a while, once it reaches the capillaries; and then reverse itself to push the fluid all the way back to San Francisco? And this several times a day, for maybe eighty or more years?

On the other hand, contemporary knowledge claims that the movement of the blood is simultaneously subject to three different forces (or modes) – turbulent, laminar and cavitational.

Turbulent: (powerful and erratic – a form of liquid or gas movement, where its elements make erratic movements along complex trajectories);

Laminar: (the liquid or gas particles move in an organized manner, forming layers that do not mix);

Cavitational (lat. *cavitas* — emptiness) — formation of gaps within the liquids (cavitation bubbles or caverns) that are filled with gas, vapour or the mixture of both. Cavitation occurs in the fluid as a result of an increase in local pressure. Hydrodynamic and acoustic cavitation can be distinguished.

It has been revealed through studying the workings of the heart and the movements of the blood that the contractions of the heart muscles only provide 1/6 of the force driving the blood, and that the rest is made up of the ponderomotive force (a nonlinear force that a charged particle experiences in an inhomogeneous oscillating electromagnetic field; it affects the blood by magnetizing the erythrocytes) of cavitation. This spontaneous movement of the blood occurs because the increase in its volume creates forces (130 ml instead of 40 ml) that ANTICIPATE the contraction of the muscle by approx. 0.02 to 0.04 seconds.

Thus, it can be confirmed that the heart has another important function: stimulating cavitation that is actually the MAIN DRIVING FORCE OF THE BLOOD in the body.

Cavitation also revealed how the blood in the body has the ability to change its volume and fill all the organs and vessels that exceed its volume 5-6 times. Due to that, our body does not need to store an additional 25-30 kg of blood anywhere. The cavitation effect of the blood allows to explain many thus far incomprehensible cardiovascular diseases (e.g. muscle and vessel ruptures) that were explained through an inadequate increase in blood volume.

Plasma consists of 90% water, which constitutes about 4.5 litres and thus, it would seem logical that hydrodynamic cavitation takes place in the water. The water in the plasma is special, because the 4.5 litres of it are located suspended in the middle of the scattered lamellar (layered) particles (suspended solids) of electrically charged billions of red and white blood

cells, and trillions of protein and fat micelles that have a total area of more than 1,000 m². As a result, the water is distributed there similarly to a two-dimensional film that, in addition to everything else, is also filled with dozens of salts and the gases O₂, CO₂, H₂, N₂, NO₂, and is located there both dissolved and in the form of micro-bubbles, subject to about 100 mm (column of mercury) of pressure, which in turn induces massive osmotic pressure in the blood – 7.6 atm. Furthermore, the three dimensional network of molecular bonds that the water consists of is in a constant state of complexly changing oscillations at a rate of 10-11 seconds. The movement and vibrations of such bubbles in turn generate new bubbles. The amount of bubbles grows and their increased volume is what creates the ponderomotive (mechanic-magnetic) force, which in turn produces the SELF-PROPELLED MOVEMENT.

If there is little gas in the water but the pressure changes periodically, the generated bubbles will disappear quickly and rapidly, creating cumulative currents and pressure that exceeds thousands of atmospheres. Such powerful energy is accompanied by acoustic, electromagnetic, luminescent, thermal and kinetic effects.

If there are large amounts of gases in the dissolved water, the bubbles will not burst suddenly, but will instead persist for a long period of time and will increase in volume due to their quantity, thus forming the basis for the ponderomotive force that is what ACTUALLY propels the blood.

According to the laws of hydrodynamics, at the moment, when blood is pushed into the aorta by the left ventricle, the pressure of the pulse (heartbeat) should be greater than in the peripheral artery, but it is the exact opposite and the movement of blood takes place TOWARDS GREATER PRESSURE!

Occasionally, even with any normally functioning heart, blood does not reach some of the major arteries for some UNKNOWN REASON and empty systoles get registered, even though, following the laws of hydrodynamics, blood should be distributed EVENLY.

To this day, local blood flow mechanisms are not fully understood. The reason is that regardless of the general blood pressure in the body, the speed and content of the blood flowing through a single vessel or organ may SUDDENLY increase or decrease tens of times, while at the same time, blood flow to a neighbouring organ remains unchanged. For instance, the amount of blood passing through one renal artery increases 14 times, while at the same instant, it remains unchanged in the other renal artery with the exact same diameter.

The phenomenon of venous blood

Considering the laws of hydrodynamics, the behaviour of venous blood yet again seems strange. It moves from lower pressure towards higher pressure. This paradox has been known for centuries and in Latin is called *vis a tergo* (movement against gravity). It means the following: there is an indifferent point at the height of the navel of an upright person, where their blood pressure equals the atmosphere, or exceeds it slightly. Theoretically, as the hollow vein above it already contains up to 500 ml of blood that has the pressure of up to 10 mmHg; blood should not rise higher than that point. According to the laws of hydraulic, this blood should have no chance of reaching the heart, yet blood flow cares little for our mathematic calculations and every second fills the right side of the heart with the necessary amount of blood.

The phenomenon of the capillaries

It is incomprehensible, why the speed at which the blood flows changes 5 or more times in the capillaries of relaxed muscles, especially in a situation, where the capillaries themselves are unable to contract, as they have no nerve endings, and the pressure in the entering small arteries remains stable the entire time.

The phenomenon of oxygen

The phenomenon of how the amount of oxygen increases in small veins AFTER passing through the capillaries is also illogical – there should logically be virtually no oxygen left at all.

The phenomenon of selective choice

The selective choice of single blood cells from ONE blood vessel and their GOAL oriented movement into certain directions also seems completely unrealistic. For instance, large, old erythrocytes with a diameter between 16 to 20 microns selectively turn from the GENERAL flow and ONLY enter the spleen, while younger and smaller erythrocytes with a large quantity of oxygen and glucose, and also more warmth, move into the brain. Blood plasma going into a fertilized uterus contains much more protein micelles than in the neighbouring arteries. There is more haemoglobin and oxygen in an intensively working hand than in a non-active hand.

These facts prove that the different elements of blood are not mixed in a “single pot”, but that cells are distributed into different directions purposefully, in specific doses and according to the destination, thus corresponding to the specific needs of each organ.

If the heart is, as we are taught, a soulless mechanical pump, how can these paradoxical phenomena be taking place?

It has become clear that all these paradoxes and phenomena are in fact part of **our normal blood supply**. This however means that there are some unknown mechanisms within us causing problems for those that are stuck in the old views prescribed by fundamental physiology, which are used to guide us towards “better health”, and also for those attempting to follow such guidelines.

The phenomenon of the heart-organ connection

A phenomenon has been found in the body that has the characteristics of strong chemodynamic connections near the areas of organs that have a lot of blood vessels, or between body parts and their specific projection areas on the inner surface of the heart. This takes place independent of the nervous system and continues to function when the nerves have been made inactive. Research has shown that traumas to the different branches of the coronary arteries induce response-damage in the peripheral organs or body parts connected to them.

Thus, there is a two-way connection between the heart’s blood vessels and the vessels of all the organs of the body. If we obstruct blood flow in the artery of a specific organ, bruises will undoubtedly appear in certain places on all other organs. The first place this happens, is in the heart’s local area, and as some time goes by similar effect will undeniably take place in the connected areas of the lungs, the adrenal glands, the thyroid, the brain, etc. This, however, shows that single organs are not SEPARATE clusters of cells and functions, instead ALL of

them are tightly INTERCONNECTED via blood vessels, and furthermore, they are not only coordinated by the brain that has a specific area designated for each organ, but just as much by the heart.

All this led to the unexpected discovery that it is the HEART that directs blood flow, selecting and directing it to specific organs and body parts! The inner surface of the ventricles has special tools for these tasks – trabecular cavities (sinuses and nests) that are covered with a shiny endocardial layer that appears in certain muscles; some vessels equipped with valves can be found at the bottom of these cavities. Circular muscles that can change the configuration of the entrance or close it altogether, surround these nests.

The heart – a SUPER COMPUTER equivalent to the brain

There are 5,000,000 erythrocytes in one mm³ of blood, which means that there are more than 5,000,000,000 of them in one cm³. The capacity of the heart's left ventricle is 80 cm³, which means that the ventricle is filled with 400,000,000,000 erythrocytes. In addition to that, each erythrocyte carries a minimum of 5,000 information units. When we multiply this information amount with the number of erythrocytes, we get that in EACH SECOND, the heart processes 2,000,000,000,000,000 units of information, which means that it takes about half a femtosecond (10^{-15}) to transfer one unit of that information. But as the erythrocytes that form solitons are located millimetres, sometimes several centimetres away from each other, we must divide this distance over the aforementioned time in order to get the speed at which the solitons form in the heart – this number exceeds the speed of light.

Our ability to survive depends on these super speeds. The heart becomes aware of ionising, electromagnetic, gravitational and thermal radiations, changes in pressure and gas composition way before you sense or feel anything, and prepares your homeostasis (*homeostasis refers to maintaining the body's internal stability; even an extremely small chemical or physical change in the characteristics that surround a cell may interrupt the biochemical processes of the cell and in extreme cases even kill it*) for meeting the expected influences.

In conclusion:

- 1. When reading about cavitation, you must understand that the MAIN gases responsible for making it possible are carbon dioxide and oxygen. When you do your “aerobic” exercises at the hand of a trainer, mainly qualified in choosing sports shoes or clothes and who ONLY talks about pulse rates and losing weight, or when you go to yoga courses, where the instructor speaks of the Divine element, the ONLY thing you achieve is decreasing the amount of the aforementioned gases in your blood, thus disrupting your blood supply – the blood is unable to increase to the necessary 25 – 30 litres. **The only thing that keeps those gases in the correct amount and balance in the blood is correct breathing.****
- 2. When you read the above paragraph on the phenomenon of venous blood, you will understand how important it is to allow the blood to rise to the heart with the help of DIAPHRAGM BREATHING. In practice, the **diaphragm – the human's second****

heart, is the only thing capable of pumping venous blood and is the **ONLY** organ that makes the lymph move. To put it simply – while the heart pumps arterial blood to the capillaries, bringing the now venous blood back to the heart is the task of the diaphragm.

3. There are many more phenomena that take place in the activities of the heart and blood circulation, but the ones brought above should be enough to **UNDERSTAND** that the state of these organs is tightly connected to the **QUALITY** of breathing and that this extremely complicated system cannot be viewed in **PRIMITIVE MEDIEVAL** terms – the heart beats, let it, I'm going to go do some "aerobic" exercises now.

2. WHAT IS THE LYMPH?

Lymph is formed from the tissue fluid within human tissues; moving along the lymphatic vessels, it passes through the lymph nodes, where shape providing elements, lymphocytes are added to it.

The main functions of lymph are:

1. Guaranteeing that the composition and volume of the tissue fluid remain the same.
2. Returning proteins from the inter-cell environment back into the blood circulation.
3. Participation in the relocation of fluid in the body.
4. Ensuring a humoral connection between tissues and organs, and also between the lymph system and blood.
5. Absorbing the products of food hydrolysis, especially fats, and transporting them from the stomach's gastrointestinal tract into the blood.
6. Ensuring a functioning mechanism of immunity.

The average amount of circulating lymph is between 1.5 and 2 litres, but combined with tissue fluid, it exceeds the amount of blood several times. Lymph consists of lymph plasma and shape providing elements – lymphocytes (i.e. white blood cells that are formed in the body's lymphoid tissue) and thrombocytes (i.e. platelets that are necessary for normal blood clotting), while erythrocytes (i.e. red blood cells that transport oxygen and carbon dioxide) are absent from a healthy person's lymph.

The composition of peripheral lymph in the different lymph vessels of various organs may significantly vary. For instance, lymph flowing away from the intestines is rich in fats, while the lymph that flows away from the liver has a high consistency of proteins and carbohydrates. The changes in lymph consistency are connected to the changes in the consistency of blood plasma and peculiarities of the tissues' metabolisms.

Lymph and its role in cleansing the body

The primary function of the lymph circulation is to cleanse the body from decomposition products. We are all aware (or should be aware) of the arterial and venous blood circulations,

but few have an understanding of the lymph circulation. It is nearly impossible to exaggerate the importance of the lymph system with regard to health and physical well-being, both in connection to vitality and also for maintaining a good figure. Although the lymph circulation is tightly connected to the blood circulation, it exists as a separate system; one of its functions is to participate in maintaining the cells' microcirculation.

Lymph – the liquid that surrounds and “washes” all of the body's cells by creating an internal surrounding environment for them. Similarly to how people are unable to survive in the suffocating atmosphere, our body's cells need a healthy internal environment in order to function normally.

The lymph system cleans the body in the following manner: the lymph collects excessive fluid, decomposition products and other substances from the area between the cells and takes them to the “filtration stations”, i.e. the lymph nodes located all over the human body. As a result, the lymph vessels connect to the two major veins slightly before the heart. This is how lymph returns to the blood stream where it is later processed and transported further into the excretion and secretion organs. This should also explain why the lymph system is sometimes called the waste utilization system. Of course, this is only one of lymph's tasks; protection is another – lymph acts as a special kind of barrier that keeps diseases and infections away from the body. But first, let us concentrate only on the questions regarding the circulation of the lymph fluid. Unlike the blood system, where the heart was long ago distinguished as the central pump that makes arterial blood move, it was thought that no such central “pump” exists for the lymph system. Until 1981, medical scientists believed that the lymph moves with the help of skeletal and respiratory muscles (many aerobics trainers continue to believe this). However, in 1981 a group of scientist in Italy led by Dr Arthur Guyton came to the surprising discovery that the lymph system does have such a pump – it is none other than the diaphragm. **In fact, they discovered, it is the ONLY thing that makes lymph move.** Theoreticians do speak of another method, but let them deal with that.

Thus, the following fact seems strange: try finding a picture of the diaphragm on the internet indicating the lymph vessel that heads towards the heart passing through the diaphragm. I will tell you in advance that that is VERY difficult to find. For some reason the doctors and scientists supposedly taking care of people DO NOT want to indicate three vessels, the aorta, vein and lymph vessel on the same picture, as then they would have to explain WHY the lymph vessel and aorta pass through the diaphragm's muscle section, while the INFERIOR VENA CAVA passes through the diaphragm's TENDON ZONE. Then people might realise that the diaphragm is NOT ONLY a respiratory muscle but an EXTREMELY IMPORTANT PUMP.

It must be repeated time and again that **the work distribution of the central “pumps” is as follows:**

- **The heart pumps arterial blood to the capillaries/cells;**
- **The diaphragm pumps lymph and also venous blood back to the heart.**

Lymph moves relatively slowly, nearly 4 times slower than blood, and in the majority of the body this takes place against gravity; lymph surrounds an enormous network of extremely narrow capillaries called lymphatic capillaries. These narrow vessels that have

extremely thin walls pass through the entire human body, but they are most plentiful in the dermis.

The fluid that is located in the area between the cells, i.e. intercellular fluid, is constantly renewed due to the lymphatic circulation. First it reaches the lymphatic capillaries and from there moves on to the lymph stream. In order for cells to acquire nutrition but tissues to remain healthy, smooth and elastic, the exchange of nutrients and decomposition products must take place uninterrupted, without a single deviation or obstacle. Cells will function effectively only if harmful substances are removed in time and there is no excessive build-up of fluid.

If the speed of the lymph circulation has slowed down for some reason (**insufficient diaphragm activity**), intercellular fluid accumulates within the cells and comes to a halt. In areas, where lymph fluid moves especially slowly (mostly due to the gravity of the fluid itself), this stalling is what results in the formation of cellulite. However, bad lymph circulation usually primarily results in fatigue and the languor of vital processes, which in turn create preconditions for many diseases, and the aging and extinction of cells.

Lymph and its role in the defence of the body

This process primarily takes place within the lymph nodes. The lymph nodes are round or oval shaped formations around 1 mm to 2 cm in size. Lymph nodes are the barriers that obstruct infections, but also cancer cells from spreading. Lymphocytes, our defence cells, are formed in the lymph nodes. They destroy microorganisms and dead cells (or their parts) that have entered the lymph; they also stop solid particles, for instance tobacco pitch. Due to these connections, the lymph that joins the blood has been purified from external particles.

The blood cells that destroy microorganisms and extraneous particles continue to develop within the lymph nodes. These blood cells get there via the red bone marrow, having passed through blood vessels, tissue fluid and lymph. Having reached the necessary state of development in the lymph nodes, they enter the blood stream along with the lymph.

The lymphatic system also participates actively in the work of the immune system. There are several groups of lymph nodes that are situated so as to obstruct infections and the spreading of cancer cells. The lymph nodes on the neck have to guarantee protection against infections and tumours for the organs located near the head and neck.

A large amount of lymph nodes are located in the stomach and chest region. There are also several lymph nodes located along the movement directions of blood vessels. In essence, they all fulfil the same functions.

The human body is an absolutely unique phenomenon. No other mechanism, not one modern computer is capable of working as precisely and with such determination as does the human body. Moreover, it functions 24 hours a day, while awake and asleep, during the person's entire life. And all that is required from a human is to provide their body with sufficient nutrition and proper CARE.

Second in importance after healthy breathing is the effective circulation of lymphatic fluid that combined guarantee the NORMAL FUNCTIONING OF THE ENTIRE BODY.

3. THE SYSTEM OF GAS TRANSPORTATION

All blood passes through the blood vessels located within the lungs. Oxygen enters the blood from the capillaries that cover the alveoli. A very small amount of oxygen is contained within the blood plasma in dissolved form; however, the majority of the oxygen enters the erythrocytes. The erythrocyte is specialised in transporting oxygen; for that purpose, the erythrocytes contain the special protein, haemoglobin. Oxygen molecules join the haemoglobin when they pass through the lungs.

Four oxygen molecules join each haemoglobin molecule, thus creating oxyhaemoglobin. In this “packaged” form, oxygen is transported along the vessels to the places, where it is required – the cells. In the lungs’ vessels, the blood becomes maximally enriched with oxygen – this is arterial blood. The first organ this oxygen enriched blood reaches is the heart. From the heart, the oxygen enriched blood moves along the network of blood vessels; however, in order for it to be used by the cells, oxygen is only released in the narrowest vessels, the capillaries.

Supplying the cells with oxygen and releasing the oxygen from haemoglobin depends primarily on two factors. **It was discovered that the carbon dioxide content directly influences oxygen release from haemoglobin. Thus, if the blood contains a normal amount of carbon dioxide, our cells will receive enough oxygen from the blood. This is another breathing paradox. If there is not enough carbon dioxide, the cells will starve regardless of a high concentration of oxygen in the blood, suffering from an oxygen deficit, which may develop into a hypoxic condition in the cells.** Is the situation not strange – the erythrocyte is filled with oxygen, there is enough oxygen in the blood but the cells hardly receive any? And the less carbon dioxide there is, the worse the oxygen is released from the haemoglobin and the less of it reaches the cells. If one tries breathing a lot, very actively, energetically and deeply, one might faint or feel light headed. However, the explanation is simple – the carbon dioxide content in the blood decreases with strong breathing and as a result, oxygen release worsens and the amount of it that reaches the cells also decreases. **Thus, carbon dioxide is the first factor affecting the transfer of oxygen from the blood to the cells.**

The erythrocyte passes the lungs in less than one second, yet, it manages to obtain an incredibly large amount of oxygen during the time. **Attention!** In thicker vessels, the erythrocytes keep the oxygen tight within themselves. It is only in the thinner vessels, the capillaries, that the oxygen is actively released from the haemoglobin. However, you should understand that merely releasing the oxygen from the haemoglobin is not enough, it is also necessary for the oxygen to exit the erythrocyte and go through its membrane. The membrane’s ability to let molecules pass through is called permeability. Depending on the permeability of the membrane, it will either let the molecule pass through or not. In certain situation the erythrocytes’ membranes may develop holes that the oxygen uses to exit the erythrocyte. However, if these pores are closed, it is said that the “oxygen is tightened”, i.e. there is much of it in the erythrocyte but almost none of it exits.

Scientists have been researching the processes of how erythrocytes transfer oxygen and it has become clear that once the erythrocyte exits the capillaries of the lungs and continues in the bloodstream, its membrane’s permeability decreases by 10,000 times! This

also causes the opening in the erythrocyte's membrane to close. It is in this closed state that the erythrocyte transports the oxygen to the tissues. Oxygen requirements vary for different tissues and in different situations. This is why the capillaries in different tissues are slightly differently built and have differing density. However, it is especially surprising that the diameter of the capillaries is significantly narrower than the diameter of the erythrocyte – at times up to 2.5 times narrower.

Thus, the erythrocytes actually have to “crawl”, push and squeeze through the capillaries. The walls of the capillaries push and squeeze the erythrocytes. It became apparent that the greater the pressure, the more oxygen the erythrocyte gives away. The secret behind this trick is that the erythrocyte's permeability, the number of the openings that open up, depends entirely on the voltage of the electric field around the erythrocyte. The voltage of the field is decreased upon strong pressure and the tight contact between the erythrocyte and the capillary walls, and as a result the membrane's permeability improves – the sufficient amount of holes open and the erythrocyte gives away a certain amount of oxygen. **The permeability of the erythrocyte's membrane is the second factor regulating the process during which oxygen exits the erythrocyte and enters the cell.**

As it became apparent, tissue cells also have openings in their membranes to receive the oxygen; and what's more, tissue cells are also capable of changing the permeability of the membranes according to how much oxygen they actually need. There are also certain differences in the densities of the capillaries of various tissues. For instance, only one capillary enters each muscle fibre in the cardiac muscle; the average distance between the cardiac capillaries is 25 micrometres (μm). The distance in the cerebral cortex is 40 μm and approximately 80 μm in the skeletal muscles.

Once the oxygen enters the cell from the haemoglobin, carbon dioxide molecules join the haemoglobin. On the way back along the venous blood stream, the blood flows back to the lung. Carbon dioxide content in venous blood is relatively high, while oxygen content is relatively low. Arterial blood is enriched with 95-98% oxygen, while venous blood has 71-75%. As you see, there is enough oxygen in venous blood and the cells should not experience oxygen deficiency... And yet they do! As you should know, the gas composition of the blood is renewed in the lungs' capillaries. The erythrocytes give away carbon dioxide, it goes into the alveoli and new oxygen can take its place and join the haemoglobin. The heart contracts yet again and oxygen begins a new travel cycle within the erythrocyte.

Thus, the blood circulation and the respiratory organs combined create a unified cardiorespiratory system. This is why hyperventilation is often among the first signs of heart disease. The heart is incapable of pumping the necessary amount of blood through the lungs; gas exchange gets disrupted and hyperventilation is proof of falling irreversibly ill.

However, if people with such illnesses would begin doing the breathing exercises in these materials, such problems as hyperventilation (even after suffering a heart attack) can be overcome.

Here the “queen of breathing”, the diaphragm, our second heart that effectively improves blood circulation by taking on the task of pumping venous blood, must again be mentioned. Thus, if you use diaphragm breathing appropriately and consciously, you will guarantee yourself excellent blood circulation and also the normal ventilation of alveoli.

Our vessels have a control system that monitors the gas composition of the blood. Each of us has specialised cells, chemoreceptors that react to oxygen and carbon dioxide changes in the blood. The main centres of chemoreceptors are located in the walls of the aorta's arch, where the aorta descends (behind the sternum) and where the common carotid artery divides into the external and internal carotid artery. The bed of the vessels also has baroreceptors that control the arterial pressure level.

The respiration of tissues

Our grand and beautiful, our beloved body that many either adore or despise standing in front of a mirror or on a scale days on end, actually consists of billions of cells. The cell is the main form of biological life on earth. Practically every cell in our body breathes, i.e. uses oxygen to oxidise nutrients. These types of breathing and oxidation processes form the basis of the metabolism. Thus, breathing exercises or regulating the breathing in any way inevitably affects the metabolism.

In its essence, the breathing that takes place in the cells of our body is the chemical decomposition reaction of food molecules, which uses oxygen (oxidation) and as a result of which carbon dioxide and water molecules (endogenous water) are formed. However, carbon dioxide is also used by the cells. Breathing (oxidation) is the most important part and obligatory precondition of the metabolism. Breathing and nutrition are interrelated in the cells and comprise a continuous metabolic process; to be more precise, they comprise a uniform metabolic and energy process.

Thus, cellular breathing begins with an oxygen molecule that, once it has separated from the haemoglobin, goes through the membrane of an erythrocyte, through the capillary wall, and the cell's membrane to reach the inside of the cell, its special structure, the mitochondrion. The mitochondrion forms the inner structure of the cell – similar to a boiler plant located near a house or a company. The complicated nutrient molecules break into simpler molecules that are synthesised into the necessary substances. The surplus of the molecules may however be stored (deposited) in the form of several complicated compounds. For instance glucose surplus may gather in the muscles or liver in the form of glycogen (to be deposited in concentrated form).

With the help of haemoglobin, approximately 600 litres of oxygen are brought into the cells in the span of 24 hours. Approximately 500 litres of carbon dioxide are formed as a result of cellular breathing – this process, life's conveyer belt, our main gas pipe, our unified energy system works ceaselessly both day and night, regardless of whether we are sleeping or awake.

Thus, the postulation that breathing is energy does have a scientific explanation: energy is processed in the mitochondria through the merger of oxygen and hydrogen as part of cellular breathing. Cellular breathing and the oxidation processes are tightly connected to the formation of ATP (**adenosine tri phosphate acid**). ATP functions as the transmitter of phosphate groups from high energy molecules to other molecules. Once these molecules receive the phosphate groups from ATP, they become active and guarantee that the functions of the cells are fulfilled. While ATP molecules are constantly formed in our cells in the course of cellular breathing, they also constantly decompose, thus providing various processes in the organs and tissues with the necessary energy. This is why a single ATP

molecule never lives for more than 1 minute, and during 24 hours, the body manages to make and use approximately 62 kilos of ATP! Take note, there are basically no ATP supplies in the cells. There is a special mechanism that regulates ATP levels in the cells – the regulation of cellular breathing, which connects and balances the speed of the breathing processes, and the activity level of the oxidation reactions to the formation and decomposition of ATP.

The metabolic process that uses oxygen is called aerobic metabolism. The chemical reactions that take place without the use of oxygen are called anaerobic (without oxygen). According to research, the organs (tissues) with the cells that actively use the largest amount of oxygen are the brain (cortex of the large cerebral hemispheres), the heart, the kidneys, the liver, and the eye retina. For example, it takes up to 20% of the oxygen that enters the body to aerobically break down the glucose in the brain in its restful state (but the mass of the brain is just 2% of the total body mass). Now it should be clear, why even minor disturbances in breathing can bring forth changes in how the nervous system functions and why breathing exercises can even help older people achieve a vast improvement in their physical condition (sleep, memory, attention, mood) and also hearing and vision.

The aerobic processes are central, leading processes, while anaerobic ones are the additional, reserve or auxiliary processes. But this reserve is extremely important. For example, even if there is enough oxygen to break down the glucose during the aerobic process of intensive muscle work, the anaerobic process will also be triggered. When the skeletal muscles are used intensively, the aerobic processes increase by tens, but the anaerobic processes by hundreds of times! This is our truly evolutionary, natural and strategic reserve.

One of the paradoxes concerning breathing has to do with the fact that *not a single one of us actually needed oxygen at the beginning of our existence*. When was this? At **the moment of conceiving and during the first hours, even the first days, the fertilized egg cell is in a comparatively oxygen free environment**. In addition to that, oxygen might even be harmful to a foetus. Only after further development, once the placenta and a primitive circulatory system have formed, were the conditions for oxygen dependent processes created. Even in this case, the oxygen supply to the foetus is limited and in reality we develop in limited oxygen conditions.

It seems that during pregnancy, the foetus is “trained” and forced to cope with limited oxygen and fluctuating levels of oxygen in the blood and tissues. This is how the cells maintain their ability to carry out anaerobic processes. This is also the reason, why it is possible to give birth under water and why an infant can calmly sit in the water and play – it has been trained for 9 months to live in the conditions of hypoxia. Research has shown that new-borns can handle oxygen deficiency 8-10 times better than adults. It seems that, when we are born, we are all as strong as alpinists, divers or astronauts!

But to our great grief, this phenomenal innate capacity gradually diminishes with the lack of special training. At the same time, luckily for us, this wonderful capacity has been preserved in the “internal memory” of our body and cells, and can turn on in extreme situations. For example, we can overcome minor exertions – running 200 m in 30 seconds – by only breaking down anaerobic glucose.

Research from the last few decades shows that we can successfully develop, activate and use our natural reserve – the anaerobic processes – with the help of breathing exercises.

By the way, another paradox in connection breathing – erythrocytes, the “carriers” of oxygen do not use any of it at all themselves. The erythrocyte is the “perfect anaerobe”. The etalon of altruism or honesty – filled with oxygen, but gives it all to others!

Thus, the most important function of oxygen in the cells is to take electrons from oxidising molecules, ensuring oxidation processes, and the exchange of energy within the cells. Oxygen is the most important, the most crucial element for sustaining life. But this essential element can also be extremely dangerous, becoming completely opposite to the life giving oxygen, a real threat to life and health – this is called the oxygen paradox.

The oxygen paradox is related to the atomic properties of this element. The atomic nucleus of oxygen is surrounded by 8 electrons. The oxygen atoms are joined into pairs, forming a harmless and even useful molecule. Molecular oxygen in its basic state is able to incorporate one more pair of electrons. With the influence of various factors, the oxygen molecule can release one electron or, vice versa, add one or two excess electrons. This modified form of the oxygen molecule, however, becomes very active, even aggressive. These kinds of altered forms of the oxygen molecule are called “free radicals”, and the free radicals, which are highly active chemical substances, circulating in the body, enter into chemical reactions extremely easily. For example, in order to restore the normal number of electrons and to eliminate the deficit, they are able to "rip off" the necessary electron from a random molecule, causing a chain reaction – the molecules, from which the oxygen ripped off an electron, now change into free radicals themselves. Just like in vampire stories, the person bitten also changes into a vampire. Therefore, oxygen is not only useful (“go breathe as much fresh air as you can”) but it also presents a certain danger. Not only are the active forms of oxygen dangerous, the same holds for the products of the “assault”, “the victims”, which in turn start searching for new victims. If, for example, they react with lipids, they can in turn damage the lipids of cell membranes, which causes damage to organs and tissues. Biochemists have calculated that up to 1 trillion free radicals can form in a single cell of an organism within just one day as the by-products of cell metabolism! Of course, it is only natural that our cells and our body are capable of limiting the formation and the impact of these dangerous and aggressive molecules; however, up to 2% of these dangerous molecules (approx. 20 billion) break through the defences and endanger our health and life, especially, when we act carelessly and stupidly, risking our health. We help the normal “good” oxygen change into our enemy, the free radicals, by smoking or submitting ourselves to excessive UV radiation (tanning salons), etc. This may lead to oxidation stress within the body, which is connected to the majority of diseases, including heart attacks, cancer, cataracts, atherosclerosis and several other diseases – the list goes on.

Thus, our health is most directly dependant on the quality with which our tissues breathe. However, the problem in the fight against free radicals and defence against their toxic impact can still be successfully resolved. To begin with, the paradox of the situation is that a certain amount of free radicals, the active form of oxygen, is vitally necessary. For example, our immune cells, the leucocytes use the active form of oxygen (the free radicals) to destroy bacteria. Normally, 10-15% of the oxygen in our body can be used to create active forms. We

also have enzymes in our cells, substances which stop or slow down the formation of free radicals. From food we acquire substances, antioxidants (for example vitamin E), which “bind” and neutralize the free radicals. We can also consume drinks which contain antioxidants, and at the same time be sure that we are not destroying the necessary free radicals.

On the other hand, nature itself has given us CARBON DIOXIDE to fight against EXCESSIVE free radicals. The role of carbon dioxide in a living organism is one of the mysteries of evolution. Scientists have found that carbon dioxide can determinatively suppress the excessive formation of free radicals – it is the universal inhibitor for generating free radicals in the cells. It has been proven that by slowing down the uncontrollable formation of free radicals, it protects our cells from destruction. However, these qualities are only present in case of A NORMAL CONCENTRATION OF CARBON DIOXIDE IN THE BLOOD.

Thus, breathing exercises that restore the normal level of carbon dioxide in the blood also regulate the formation of free radicals in the cells and thus help maintain our health. Let us once again repeat the previously mentioned extremely important biological role of carbon dioxide for the body: it participates actively in the regulation of breathing, blood circulation, metabolism and the permeability of the cell membranes, in ensuring the balance of acid-alkali and electrolytes, as well as the tone of the smooth muscles tissue in the bronchi, vessels, digestive system etc. Therefore, using the therapeutic effects of carbon dioxide as an example, we can claim without a doubt that breathing exercises promote healing from various diseases and that they are also prophylactic tools for preventing illnesses.

4. WHY DID NATURE CREATE SWEATING?

During evolution, nature developed this interesting and constructive channel for removing “slag” and residues from the body. Nature equipped our entire body with millions of sweat glands and microscopic channels to get rid of sweat and gases. In this way, nature as if partially duplicated our blood circulation and lymph system, creating the SHORTEST and FASTEST road between the places, where these residues form and where they exit the body – through the sweat glands in our skin.

Lick your shoulder once after a workout and you will taste the sharp flavour of a mixture of acid and salt, much more unpleasant than the taste of pure salt. In addition to that – sweat is also TOXIC! Several tests and research has shown that a few small sips of sweat are enough to kill some animals.

Some time ago, experiments were conducted to determine how putting a large group into a small unventilated room affects their well-being; these clearly showed that already after a short period of time people started feeling bad and some even fainted. At first, everybody was convinced that this was caused by an excessive concentration of CO₂, but later and more precise research cleared carbon dioxide of such claims, because the REAL reason behind feeling bad turned out to be the TOXIC SUBSTANCES IN THE GASES secreted by the human BODY (lungs, sweat glands)! As a side note, the human lungs are capable of turning about 600 substances gaseous and leading them out of the body.

As nature realised that it had created an EXCELLENT system, it thought, maybe a system as nice and powerful as this can be implemented for something other than getting rid of residues. It thought and thought, and suddenly realised – well, this is a perfect system for regulating body heat and maintaining the necessary normal body temperature. For example, in the sauna, where the temperature is higher than our skin temperature, the body starts to sweat to avoid overheating; sweat vaporises on the skin and helps it cool down. However, it is VERY IMPORTANT to note that this sweat contains much fewer dissolved residuals, and thus, sweating in a sauna CANNOT REPLACE sweating induced by physical movement.

This is a good time to ask – has any of you ever thought about why nature chose 36-37°C as the body temperature of a healthy person and why not 25 or 45 degrees? Probably not? The real reason is WATER, which is at the centre of all life that takes place in our bodies. WATER is a totally unique and bizarre substance compared to anything else in our world – if it did not exist, all scientists would unanimously claim that it is not possible to create such a substance from two gases using low temperature and low pressure. Another of water's peculiarities is presented in the aforementioned temperature range – this is the temperature at which it requires the minimal amount of calories to heat water by 1° C, i.e. water's specific thermal capacity is at its minimal. Isn't nature's wisdom unique?

So, for cells to live a healthy life, as nature intended, all the residues mentioned before need to be removed from the cells, NOT ONLY through the lymph and venous blood vessels, but also through sweat glands and channels. This is how it has been for millions of years, when our prehistoric ancestors ran around all day searching for food... sweating! But a modern human is lazy and moves little and thus, sweats less. As a result of this – all these TOXINS, which should be discharged with sweat, slowly linger and STAY within the body, poisoning the cells.

This shortest and most effective way for getting rid of toxins now works UNDER CAPACITY because of OUR OWN FAULT, and because of this, blood circulation, the lymphatic system and in relation to these, the heart and the kidneys are forced to work with a significant OVERLOAD. Do not forget that before entering the liver venous blood passes THROUGH THE HEART still carrying all the toxins. And so, while acting against nature, we wonder why, even with all the medical developments, there are increasingly more heart, liver, kidney and even bladder diseases. Why do a growing number of girls/women use increasing quantities and thicker layers of cosmetics or go to tanning salons? – Because otherwise their faces would look sickly grey.

This means that sweating is necessary, in the most direct sense of the word. The most essential procedures for maintaining health are 20-30 minutes of DAILY INTENSIVE physical exercises that induce A LOT OF SWEATING – not hours sitting in front of a mirror!

If you do NOT sweat every day, CANNOT FIND THE TIME to sweat from physical exercises, then you will go to school or work carrying around all the TOXINS that SHOULD have come out with sweat. This puts POINTLESS and EXCESSIVE load on your other internal organs, which are in fact not even capable of removing all of the toxins from the body. Something ALWAYS remains in the body to poison the cells, which makes you more susceptible to illnesses, weakness and will ultimately result in a premature loss of the ability to work.

More facts about sweating:

We start sweating as soon as we are born. Emotions, heat and physical load may all cause sweating. Depending on the person and the season, people sweat differently.

The amount of sweat produced by the entire body can be up to 10 litres a day, whereas the normal amount is 1 litre. From all the sweat the body produces during the day, the armpits transpire 1% - 100 ml. But sometimes we feel like the armpits sweat especially much – this is called secondary sweating. The main reason for this are instances, where the rest of the BODY is not able to let the sweat evaporate (the skin is blocked by cosmetic chemicals, the wrong type of clothing etc.). If you were to ask, why this excessive sweat has to specifically come out from your armpits, I could give you a particularly illustrative explanation: the most important lymph nodes are located under the arms, and in a situation, where the skin is blocked and unable to sweat, but there are toxic residues looking for a way into your lymph nodes or blood circulation, the lymph nodes DO NOT WANT to work overtime and so force the toxins back to the sweat glands in their particular region of influence, the armpits.

The adult person can have up to 5 million sweat glands, which are situated all over the body. The smell of sweat is caused by bacteria that feed off sweat; the odour you sense is that of their metabolic residue. In one square centimetre of the armpit, there could be tens of millions of bacteria.

As the advertisement says: “Don’t be defined by your scent”, you should do something about the UNPLEASANT part of sweat. However, common sense should always come first, and common sense says that 24/7 “protectors” ARE harmful for your health, because you NEED to sweat AT LEAST once a day. The antiperspirants that block the MAJORITY of the sweat; the ones that have active ingredients that dissolve in the sweat ON THE SURFACE OF THE BODY (but do not penetrate the skin) and form a protective, but easily removable layer of gel, effectively decreasing the level of bacterial contamination and changing the unpleasant smell into a pleasant one, are best. The antiperspirant Maxim is sometimes still promoted, its active ingredient is 15% aluminium chloride. Here is another PARADOX of the medical world. In the beauty industry aluminium compounds are considered “safe”, while decades ago aluminium tableware was BANNED across the world as **EXTREMELY DANGEROUS FOR YOUR HEALTH. Which is the truth?**

5. SILICONE (Silicium) – THE ELEMENT OF LIFE

"Not a single organism can exist without silicone..."

said V.I. Vernadski (1863-1945), the acknowledged Russian mineralogist, founder of geochemistry and biogeochemistry, the developer of noosphere teachings, the leader of many self-founded institutes of scientific research (including the Institute of Radium).

Also, already in 1978, the Stockholm Nobel Committee announced that SILICONE is a particularly important element in the human body. Why is it still ignored?

The realms of the stars, sun, moon, and earth – all have similar chemical components. Life has existed on earth for billions of years. There is a constant evolution taking place i.e. the

development from simple towards complex. Life on earth has its individuality that is different from the star systems. Regardless, people understood a long time ago that the cosmos affects our lives. A system and interest in the star signs has existed for a couple of thousand years – so what connects the realm of the stars, sun and earth, as well as the lives of human beings?

Even the chemistry books for school children state that silicone is an especially important semiconductor material that is used in microelectronic devices and for making various microcircuits. It is used in solar batteries because it can turn solar energy into electric energy and for making different screens, monitors etc. Silicone has a special place among the 104 elements of the periodic table – it is a piezo element. It can transform one type of energy into another: mechanic energy into electric, light energy into heat, etc."

Silicone is the basis for the exchange of energetic information both in the cosmos and on earth. If we look at the chemical components of the stars, moon or earth, the most common element is oxygen (47%), while silicone takes the second place with 29.5%; the role of the other elements is significantly smaller. Since humans are a part of nature, the question, how much silicone should there be in the human body, is justified.

According to data from spectral analysis, there is 4.77% silicone in the everyday excretions of a healthy person. As silicone takes an eight time part in processes of the human body then this hidden involvement process gives: $4.7 \times 8 = 37.6\%$ i.e. almost 38% of our health or lively activities is directly based on silicone. If there is a lack of silicone, the metabolic process will be disturbed as the accumulation of over 70 elements is energetically unregulated.

Silica is the most common silicone compound found in nature; it is called silicone dioxide, or SiO_2 . In pure form it is black, but with the help of various metals (iron, copper, chloride, etc.) the colour can go up to light yellow. It forms a whole row of minerals and semiprecious stones: rock crystal, chalcedony, agate, jasper, firestone, amethyst, citrine, topaz, etc.

Black silica was already formed in Cretaceous, when the colonies of living organisms died, preserving their skeletons and shells. It was born in warm waters, during the epoch of big changes, when the ancestors of the organisms known to us were born. From there on the living substance of earth formed tempestuously.

Black silica has retained its original forms even nowadays and brings to us the memory of the water of this epoch. Stone is capable of giving homeopathic silicone dioxide and the dosages of water compounds to water, creating the conditions that are needed to guarantee the processes necessary for staying alive. Nowadays this water is called silicone water.

Scientists ascertain that this organic residue in silicone is a unique biocatalyst that is capable of transforming light energy and ten times hastening the oxidation-recovering reactions in the water solvates of our body. Those biological substances are the bases for building complex organic compounds – the groundwork of the human body – chlorophyll and haemoglobin. Those water solvates that form around silicone play an important role in the development of all living things and are good for the body. Structural water systems with the electrical network of liquid silicone crystals form within silicone water so that there is no room for pathogenic, non-symbiotic microorganisms and strange chemical elements. Those strange substances and mixtures are forced to exit the water. This water is different from

regular tap water because its components are balanced. According to hydrogen indicators and other parameters, it is similar to blood plasma and intercellular fluid.

Silicone water links the taste and freshness of the spring water flowing through silicone layers, the purity and structure of melting water and the bactericidal qualities of silver water. People drank such water from springs and natural water bodies or even from vessels made of silica. The tradition of covering well bottoms with silica is still kept alive in many places.

Why are we, people, so careless towards ourselves – why don't we research or consider the knowledge collected about the life substance silica over hundreds of years? Why don't we consider its existence and use in water, nature and our body? Maybe there has been no fundamental research about silica. Maybe no one has bothered to evaluate the importance of silica as a factor that has an enormous effect on human health.

In fact, some time ago during the Soviet Union, a group of scientists conducted fundamental research about Si and its role for the human body creating an entire field of science that gave direct answers to questions. But questions were about concrete and severe illnesses that are common in the modern world. The work of Soviet scientists has found confirmation among the scientists of other countries – silicone is the element of life. Its normal consistency in the human body is the natural key to good health.

Let us briefly look at the history of silicone. Already in 1912, a German doctor named Kuhn identified that silicone compounds are capable of preventing the development of atherosclerosis. In 1957 two French scientists described the facts that confirmed that people suffering from atherosclerosis usually had a smaller amount of silicone in the walls of blood vessels compared to healthy people. They also confirmed through experiments that leading silicone compounds into human body would stop the development of atherosclerosis and help restore the normal functioning of the walls of blood vessel. When investigating the blood vessel walls of atherosclerosis patients, Russian scientists M.G. Voronkov and I.G. Kuznetsov came to a surprising conclusion – if there is silicone deficiency in the blood, the silicone consistency in the walls of the blood vessel immediately decreased. But silicone guarantees the flexibility of the walls of the blood vessel and only silicone is capable of receiving the command from the brain to expand or contract blood vessels. As soon as there is not enough silicone, it is replaced by calcium, and while calcium does what it can, it makes the walls of the blood vessel stiff. Additionally, calcium is "deaf and mute" – it does not "hear" the commands given by the brain via electric impulses, not to mention fulfilling these orders. The only piezoelectric element in the human body capable of this is silicone. Calcium does not only make the walls of the blood vessels stiff but also rough, which causes cholesterol to begin to accumulate on those harsh spikes. The excessive amount of cholesterol is caused by the fact that without the necessary silicone, the body is unable to assimilate it and does not use it to create new cells. But with all this, the amount of fat acids in the blood begins to increase. If silicone is completely gone from the walls of the blood vessels, the vessels will become uncontrollable; they lose the control that comes from the control centre – the brain. If silicone compounds are preventively inserted into the body, the amount of cholesterol does not decrease but the cholesterol now takes part in the normal process of cell regeneration. If one starts to consume silicone compounds when the process of atherosclerosis has already begun, the amount of fat acids in the blood stream will sharply decrease – the process of atherosclerosis is stopped.

It is common to determine someone's age based on the condition of the walls of their blood vessel. Thus, it would seem that the expression that "one is so old that the sand is already dropping" has a biochemical point to it – the body is losing silicone. According to the conclusions of biochemists, silicone is used eight times in the human body, as it takes part in different reactions as a catalyst; it is the energy giver that guarantees life. After using it eight times the body dumps silicone. If the silicone consistency is not constantly supported with the help of food and water, life will leave the body. Silicone deficiency from food and water is a serious factor in developing many illnesses. First of all, these include vessel illnesses, such as atherosclerosis, which means that atherosclerosis, and as a result strokes, are the natural consequence of silicone deficiency in the human body. But as people age, the silicone consistency can often decrease as a result of the wrong diet – drinking milk!

The greatest destroyers of silicone in the human body are lamblia and fungus. Multiplying in large amounts, they practically exist in all cells. They use our organs and blood as a living environment and buffet table. To give their offspring information about themselves and their qualities, the parasites also need silicone, which is an energy converter and piezo element. If there are too many parasites they start eating excess amounts of silicone causing a sharp deficiency of silicone in our body – the pattern of the brain giving energy to the body is ruined and the control over lively processes is lost. Healthy processes are replaced by chaos.

The amount of parasites in our body can be so great that our own existence becomes impossible – the worms are eating humans alive. The first object that parasites attack is usually the liver – the organ that filters blood. Blood suckers of vast variety dig their way into the blood filtrating tissues and drink and drink and drink and... multiply and multiply... until finally they close the filtration channels with their bodies. At the same time all the waste that comes from them is channelled into our bloodstream, poisoning it. The consistency of the blood can change so that it becomes poisonous for the brain. Yet another disease forms – epilepsy. Bilirubin is no longer filtered out of the liver because of the sudden changes in the quality of blood, which will in turn lead to illnesses. Well, it's not better in the blood either, where small parasites are migrating freely. Those are also terrible bingers of silicone. To conclude, every part of the body that has some type of liquid, be it blood, lymph or plasma, is PERFECT for parasites to live and multiply in.

The connection between parasites and silicone was noticed when fighting against parasites. Numerous test subjects (almost 2,000 participants) ate pumpkin seeds to kill parasites. Already after 4-5 days the parasites started dying in large amounts and the ability of the liver to filtrate blood increased 8-10 times. Clean blood in turn started to kill parasites living in it, and after 7-8 days the blood was completely clean and its SILICONE CONSISTENCY had returned to normal. The results were similar – the parasites were destroyed. There was even a special institute of silicone in Russia.

Silicone – an atomic structural unit in the brain-body relationship. If the amount of silicone is small, the connection develops defects, but the result of a ruined connection is none other than a disease.

It is so simple and understandable – imagine a modern electronic device, for example a TV; its chips have a certain amount of connection elements and transformers, most of them are made of silicone crystals. But now throw some silicone crystals out of the chip – does your TV still work?

How is it then that we do not notice (or do not want to notice) that strokes and heart attacks are common for people whose silicone consistency is only 1.2% instead of the normal 4.7%. Diabetes appears due to many ecological factors in those whose silicone consistency is 1.4% or less; hepatitis develops when the silicone consistency is below 1.6%; cancer, when it is at 1.3%. Such diseases can be listed endlessly because we, the modern people, are used to washing and taking care of ourselves only externally – an endless amount of all kinds of pointless protections 24/7 – but internally we let it rot. We forget that dirty intestines cause about 10 thousand different diseases or disease seeds to appear in the bloodstream. To absorb those diseases we need silicone colloids; but these can only form if there is a certain concentration of silicone in our intestines and blood.

Silicone, thanks to its chemical qualities, creates electrically charged systems. They have the quality to "stick" viruses and microorganisms that cause viruses – those that are not common to the human body and do not live in symbiosis with it. The selective "sticking" ability of silicone colloid systems is absolutely unique. The flu virus and many others, but also yeasts and other microorganisms that induce pathological situation in the body are sucked towards those colloid formations with the help of electric gravitation in both the blood and intestines. This means that all illnesses that are caused by a number of factors could not live and develop in the human body if we had the necessary amount of silicone. Both natural and living conditions on earth are constantly changing. Civilization makes our life easier. However, if we do not consider our body's most important demands (like the necessary amount of silicone) then civilization pointlessly makes our life shorter. Because it is civilization that led us to water cleaned with chloride, dairy products with radionuclide, processed and refined food from which the parts that contain silicone have been carefully removed.

Typical inhabitants of the human organs do not have the ability to stick to silicone colloid systems and they calmly stay within the body. This is very important for the normal functioning of the gastrointestinal tract. When we use antibacterial medicines, we ruin the balance of the human symbiosis – among others we also kill the useful bacteria, and other illnesses may develop.

The first big blow that prevents the formation of normal micro flora can occur when we are born – the child is put into a "sterile nursery" and even when fed "artificial food" on the basis of cow or whoever's milk, this is already the first source of infection, since all these dairy products are certainly enriched with radionuclide, herbicides, pesticides, fertilizers and biological stimulators that animals have consumed with their food.

Pregnant women, women who are breastfeeding and children have an urgent need for silicone. Their need for silicone is many times greater than a regular grownup's, because in a young and growing body the brain-body connection is still being formed. Silicone is the main connective structural element in the human body. Many scientists ascertain that silicone takes part in the metabolism of calcium, chloride, fluoride, sodium, sulphur, aluminium, zinc, molybdenum, manganese, cobalt and other elements. About 70 elements will not assimilate in the body if there is not enough silicone. For children, a slight defect in the metabolism of silicone can induce anaemia, softening of the bone structure, hair loss, joint pains, tuberculosis, diabetes, skin diseases, stones in liver or kidneys – and all this due to fighting bacteria.

The human body is built analogically to the earth living substances – our chemical consistency mainly includes oxygen, followed by silicone and only then by all the other elements. Most research has been conducted regarding carbon, which is why we have most information about it. However, it only composes 10%, while silicone composes 29.5%. When we learn human anatomy and physiology, we turn our attention to calcium. The consistency of calcium in the human body really is great, but is greatly succeeded by silicone by content and qualities – there is only 2.96% of calcium in the human body.

Calcium is the main element in the tough bone structure of the moving apparatus. Silicone is the element that determines the qualities of flexible structures. The most sensitive tissues, flaps, sphincters, the back-flow flaps of the venous system, the heart flaps, etc. – silicone always appears in areas with especially subtle flap automatics. The nails, hair and skin are enriched with silicone. Practically all illnesses of the mentioned organs occur if there is not enough silicone in the body. Calcium and the 74 other elements are simply not recognized by the body if there is a silicone deficiency.

A little more about the consistency of the earth's crust, which contains 29.5% silicone and 2.96% calcium. Silicone is found in sand, clay, water, mud, plants, etc.; silicone is also everywhere in the soil. If there is no silicone in the soil then the land is barren. Such soil cannot accumulate the solar energy and pass it on to growing plants. Only silicone is capable of doing that.

Both common people and specialists alike, service clerks and medics have been told all their lives that in order to stay healthy we need calcium, and that the best place to get it is from milk. But is this really the case? If we think about it, most of us have learned a little bit of chemistry at school. Do you really think that chemistry has only been added to the curriculum to irritate students or was there some other purpose? Maybe to help us understand the processes that surround us? In the line of active elements (electrochemical line) calcium is much further down the line than silicone i.e. it is more active than silicone. In situations, where there is not enough silicone in the body, calcium will take its place. The description of developing atherosclerosis clearly proves it; and not only atherosclerosis but also atony (a lack of density in the organs), osteochondrosis, polyarthritis (severe inflammation in many limbs at the same time), the calcinations of heart flaps etc. To put it short, a number of various diseases with Latin names are formed. There are long descriptions of them – how they form and develop, how to relieve symptoms, etc. – but the cause, silicone deficiency in the body, is never named.

Our time is characterized by another factor that makes silicone deficiency even worse. We live in an atom century and catering specialists with the education of radiologists consider MILK the product with the most blame. This characterization has been given to milk and without exception to all dairy products because they contain the most radionuclides (when compared to other products). The special role of milk in destroying human health is related to a substance that cows produce with milk, called strontium. Nowadays there is no region on earth, where we could find clean and radionuclide free grass or drinking water for a cow, a goat or... How did all this happen? Richer countries built atomic energy plants but also atomic bombs and tested them below ground, under water, but also in the atmosphere. And the result was... (there were in fact many results but we only need to stop on one) that an element known to us, strontium, got a brother - radioactive strontium (Sr-90) that is not found in

nature and the half-life of which is over 20 years. And the small particles circulated in the air surrounding us for decades (maybe even continue to do so nowadays) slowly descending towards the ground. Practically all of dry land has got at least some Sr-90. Once it enters the soil, Sr-90 together with calcium solvate compounds ends up in plants and from there in the cow, then milk, then humans. Once it enters the human body, strontium mainly accumulates in the bones and has a long-term radioactive effect on us. The fact that those particles radiate is only one side of the problem (although a great one) because they are capable of starting the generation of cancer cells. However, Sr-90 has induced another change in nature. Many common weeds that did not notice regular strontium in the soil, have now, as the result of radiation, started taking it into their menu, or in other words, plants have started to use regular strontium, thus significantly increasing the amount of strontium that ends up in milk.

The mechanism of the biological effect of strontium is the fact that strontium ions eliminate calcium ions from the crystal lattice of connective tissue or the structural elements of the bones. But strontium ions do not stay there very long – they exit the human body so that fresh ions could take their place. Strontium does not only eliminate calcium but also zinc. It has been found that strontium can even be bad for the chromosome apparatus and affect hereditary qualities. It is considered that water should not contain more than **7 mg/l** of strontium.

Regular strontium is common in nature: there is 7 to 50 mg/l of it in sea water. High concentrations of it have been noted in many places both on land and in surface water - **tens of milligrams per litre**. Although there is quite a lot of strontium in nature (0.008%), more for instance than copper or zinc, we have not found a special industrial function for it.

As an entr'acte one could mention that America has another problem. In one of the LKA reports to the Congress, regular water was declared the no. 1 threat to national security. All this started from the one time when scientists-chemists found a relatively high concentration of a certain medicine that was difficult to produce and that was meant for decreasing the cholesterol level in blood. To put it short, when investigating the situation, it was found that all medicines, chemical quack remedies and food additives that exit our body in the natural way, make a circle in nature and end up back in our body via drinking water. However, now they are transformed and form a strong poison.

On all continents animal milk contains the substances they have acquired through water and grass. Active radionuclides, including strontium, get into the human body with the help of dairy products. Grains and fruits that grow above the ground contain a minimal amount of radionuclide. Additionally, grains are capable of eliminating those nuclides from the human body. Consequently, porridges and breads are, at least from the point of radionuclides, defence food product. Vegetables that have grown below ground contain hundreds of more times radionuclides than those that grow above ground. However, we clean vegetables, we peel them, wash them, etc. and with that we reduce the level of radionuclide to almost minimal. Similarly, fish meat that we process and consume separated from bones is also mostly radionuclide free.

So there is only one product – milk – that cannot be cleaned from radionuclides. If we make cottage cheese from milk, then the concentration of radionuclides will increase almost three times. However, if we make cheese, it increases even more. The same extends to all dairy products – yogurt, ice-cream, kefir, butterfat etc.

If we line up strontium, calcium and silicone according to their activity and assess their role in connection to the health of the consumers of dairy products, then strontium is the most active element. Its appearance in the human body automatically causes the elimination and substitution reactions of all less active elements. And if there is not enough silicone in the body, the calcium pushed out by strontium will automatically go to the places, where silicone should go. This is a bad option as we already have too much calcium anyway. Many modern medicines are also based on calcium.

The deadly effects of strontium on the human body have been discussed under the name of local illnesses, namely the Urov illness. In the Baikal region, in the valley of the river Urov both animals and people developed an illness, due to which their bones became deformed and fragile. It was found that people living at the upper part of the river had begun digging strontium and some of it ended up in the river water that was used for drinking by the local people. And as they also had a lack of silicone in their body, calcium did not accumulate well and strontium took its space in all bones. Active as it is, the strontium did not stay very long and took the natural way out. However, the destructive effect had already taken place.

Milk and milk rivers are similar to the strontium rich Urov river, but their presence in the region is far more common. However, we do not take any care of the amount of silicone in the human body. On the contrary – we do all that is possible to eliminate it. The processing of fruits and vegetables is aimed at refining, at the so-called ballast separation. Silicone, along with the fruit cells, gets chucked. The technology of grain processing foresees the removal of the grain cell that includes silicone. The fact that the cell containing silicone is particularly carefully cleaned for wheat used for producing manna is especially strange. But who are the main consumers of manna? Children! And they need 3-5 times more silicone than grownups. So there is no silicone in manna, nor in the cream of wheat boiled from it and what do we use to boil it – oh dear – milk. Thus, we force the calcium to go to places, where it should not already in very young bodies. And then we wonder why young people suffer more and more from atherosclerosis and a variety of other diseases common to old people. However, children trying to get away from the harmful effect of strontium and calcium subconsciously refuse dairy products. But we, older and "smarter", try to forcefully declare that children should drink 0.5 to 1.5 litres of milk per day. And as if our own strontium-calcium quantities were not enough – our choices are unlimited – the whole European Union and more are on our store shelves.

Radio physicians wrote about the true effect of milk on growing children already in the 1950s, but became laughingstocks for their views. So think for a moment, what modern school children are like – they are not ready (actually not even capable) of READING or STUDYING themselves. For them, the textbooks that seemed easy to pupils some years ago now seem too difficult. Books have to be made simpler. **To put it short – most modern school children are still capable of receiving information passively, as presented on the radio, television, the internet and even cell phones.**

It should not be hard to understand how much our children lose because of the following claim: "Kids, you have to drink milk to stay healthy!" The bodies of modern children, who have been fed according to official recommendations, have a silicone deficiency of 50% or more. And if we then add the damage caused by various junk foods... On the elementary level of the human body, silicone "hears" the brain and controls the

"technology" of growth and development, from creating the cell membrane to formatting the connective tissue, bones etc. The part of silicone in those synthesis processes has been verified by scientists.

If there is not enough silicone in the diet of a child (which is common nowadays), they develop anaemia. This is expressed by rachitis, illnesses of the lymph system, skin etc. Damaged tissues will also not heal as fast. For example, silicone is especially active in case of bone fractures and the intensive formation of cell tissues - its amount in those areas is almost 50 TIMES GREATER than in regular conditions.

Energy informational exchange in the world surrounding us paints a perfect picture to help us understand what a great mistake it is to not consider the importance of silicone in human health. To understand that, we have to look closely at the formation of the godly intelligence of nature in all its phases – in the world of minerals, planets, animals and the world of humans. By researching all these groups, it is not hard to notice how much space nature has provided in the living substance of the earth specifically for silicone. Thus, researching human life excluding silicone would be totally absurd.

A number of natural compounds form the foundation of the world of minerals, where silicone oxides are most important. Silicone is the main element in the crystal lattice of the minerals that consume solar energy, and with the help of those crystals generate silicone to support the earth's processes. These simple stones are the basis of the mineral world. Stone-kings are at the top of the mineral world. Their ingredients are absolutely different compared to the stones in the foundation. Stone-kings mainly consist of carbon and its compounds, e.g. diamonds, which are all visible, known and famous although their amount is insignificantly smaller.

Energy informational exchange in each group actually has the same proportions. However, humans, when researching the nature of the living substance within the human have preferred carbon (10-20%) and its compounds and have totally ignored silicone (29.5%) that rejuvenates and enlivens the whole living world. "Human beings are the salt of the earth" – they are the products of earth. Earth is our mother and all beings living on it can only live according to the laws that the earth itself lives according to. Fields and expanses that do not include silicone are fruitless.

Life in the human body degenerates if silicone consistency decreases and it cannot be increased with the help of food and water.

6. ZINC (Zn) – THE SECOND ELEMENT OF LIFE

The reasons for this is simple – no cell in the human body can be born, grow up and live or repair itself without zinc.

Zinc is a trace mineral that is essential because we cannot make it ourselves. If we do not eat enough, deficiency signs and symptoms appear. Shockingly, studies have revealed that about 75% of the population in the Western nations have suboptimal zinc intakes. The average intake is about 8-10 mg a day, while, depending on the amount of zinc you are losing

every day through your stool, urine and sweat (a quantity which varies from person to person), the optimal amount should be 15-50 mg. For example, drinking coffee and alcohol, as well as smoking and also excessive exercise and stress are all factors, which increase the excretion of zinc.

Zinc is an essential trace element for humans, animals and plants. It is vital for many biological functions and plays a crucial role in more than 300 enzymes in the human body. The adult body contains about 2-3 grams of zinc. Zinc is found in all parts of the body: it is in organs, tissues, bones, fluids and cells; muscles and bones contain the majority of the body's zinc (90%). Particularly high concentrations of zinc are in the prostate gland and semen.

Benefits of Zinc

Zinc - vital for growth and cell division

Zinc is especially important during pregnancy for the growing foetus, whose cells are rapidly dividing. Zinc also helps avoid congenital abnormalities and pre-term delivery. Zinc is vital in activating growth – height, weight and bone development – in infants, children and teenagers.

It helps build and repair our cells and tissues. Most of the body's zinc is found in muscles, where its cell building and repairing qualities are particularly helpful after a workout.

When we exercise, especially train weights, we put our muscles under strain and in order for them to grow; we literally rip them apart and build new cells in the tears. And voila, a bigger muscle is created. Zinc is needed for cell growth and rip-repairs, and is therefore used as a supplement by some body builders.

Zinc is not only useful in the muscles for its cell building and repairing qualities, but also because it is an antioxidant mineral. Muscle cells create a lot of energy, when they are active; the by-products of this process of energy production are health-damaging free radicals. As an antioxidant mineral, zinc is a free radical antidote, which is helpful in obliterating free radicals and keeping the body healthy.

Zinc – vital for fertility

Zinc plays a vital role in fertility. In males, zinc protects the prostate gland from infection (prostatitis) and ultimately from enlargement (prostatic hypertrophy). Zinc helps maintain sperm count and mobility, and normal levels of the serum testosterone. Not only is zinc important in building reproductive cells for normal sexual function and development, but it is also a part of semen. When semen is lost, so is zinc (**15 mg of zinc lost per ejaculation, to be precise!**) and this must be topped up. This is partly why men need 6-8 times more zinc than women.

In females, zinc can help treat menstrual problems and alleviate symptoms associated with premenstrual syndrome (PMS).

Zinc – vital for the immune system

Zinc shows the strongest effect of all the vitamins and minerals on our all-important immune system and plays a unique role in the T-cells. Low zinc levels lead to reduced and weakened T-cells, which are not able to recognize and fight off certain infections. An increase of the zinc

level has proven effective in fighting pneumonia, diarrhoea and other infections. Zinc can also reduce the duration and severity of a common cold.

Zinc is one of the main nutrients needed when you have a cold or other illness, because your body uses it up very quickly in the process of making immune cells to fight the intruding germs. So taking zinc supplements the next time you have a cold or some other bug will be a good idea! It can also help protect the body from warts and speed up recovery from herpes, and other viruses, bacteria, fungi and baddies. Zinc is useful in all cases, when there are excessive microorganisms in the body, as it rallies the immune system to fight these bugs. Thus, conditions like bad breath, body odour, foot odour, gum disease, tooth decay, and dysbiosis can all be alleviated by zinc supplementation.

Zinc is helpful for all conditions that are associated with an imbalance of immune cells, because zinc can help replace the deficient cells. For example, Th2 dominance disorders, such as asthma, allergies, eczema, hay fever, CFS, Crohn's disease and ulcerative colitis (to name but a few), can all be alleviated with the help of zinc supplementation.

Zinc may be particularly helpful for allergic conditions because it may decrease allergic inflammation by inhibiting histamine release and helping reduce inflammation by promoting the production of anti-inflammatory chemicals (called eicosanoids).

Zinc – vital for taste, smell and appetite

Zinc activates areas in the brain that receive and process information from taste and smell sensors. Levels of zinc in the plasma, and the effect zinc has on other nutrients, like copper and manganese, influence appetite and taste preference. Zinc is also used in the treatment of anorexia.

Zinc helps us digest food

Zinc helps produce stomach acid and some of the digestive enzymes made by the pancreas (e.g. carboxypolypeptidase) – both of these are essential for good digestion.

For this reason, zinc is useful in treating heartburn that is commonly caused by low stomach acid, and a wide range of other conditions caused by low stomach acid.

Zinc – vital for skin, hair and nails

Zinc accelerates the renewal of skin cells. Zinc creams are used on babies to soothe diaper rash and heal cuts and wounds. Zinc has also proven effective in treating acne, a problem that affects especially adolescents; in addition, it has been reported to have a positive effect on psoriasis and neurodermitis. Zinc also plays a role in enabling vitamin A function – another vitamin which keeps skin healthy.

Zinc is also used as an anti-inflammatory agent as it helps soothe skin, particularly in cases of poison ivy, sunburn, blisters and certain gum diseases.

Zinc is important for healthy hair – insufficient zinc levels may result in hair loss, thin and dull hair and prematurely grey hair. A number of shampoos contain zinc to help prevent dandruff.

Because it helps cells grow and because it is needed for the production of keratin, zinc is very helpful in maintaining healthy hair and nails. It can be used on areas, where hair is

falling out or grows poorly, and on unhealthy nails; **although care should be taken because excessively high doses of zinc (usually over 50 mg a day) can also cause hair loss.**

Zinc – vital for vision

High concentrations of zinc are found in the retina. As we age, the retinal zinc declines – this seems to play a role in the development of age-related macular degeneration (AMD), which may lead to partial or complete loss of vision. Zinc may also protect from night blindness and prevent the development of cataracts.

Zinc helps us get rid of all sorts of nasty chemicals

As mentioned above, zinc acts as an antioxidant mineral to fight against damaging free radicals, which we come in contact with every day. Zinc does this by encouraging the production of enzymes that break down free radicals – SOD (super oxide dismutase). Zinc also helps form a molecule called glutathione which helps mop up free radicals by absorbing and thus neutralizing them.

Since zinc is an antioxidant mineral, it helps prevent all sorts of free-radical-driven diseases, including cataracts, ageing, sun-damaged skin, atherosclerosis, age-related macular degeneration and cancer.

Free radicals are not the only baddies that zinc helps the body get rid of. Zinc also helps the body eliminate some heavy metals like arsenic, cadmium, mercury and lead, and also helps the body metabolise and get rid of alcohol. Since a lot of zinc is used up to detox alcohol, it is really important that heavy drinkers top up on zinc.

By protecting the body from all these damaging toxins, zinc also helps protect the liver from problems like cirrhosis and liver damage.

Zinc helps us balance blood sugar levels

Zinc is needed to make insulin, the hormone that helps us regulate blood sugar levels. Among other things, healthy insulin production is incredibly important in maintaining healthy blood sugar levels, keeping good energy levels, and in controlling cravings.

Zinc controls many parts of our nervous system and keeps them functioning optimally

Zinc is responsible for a list of functions, including enabling us to taste, smell, hear, have a good appetite, and have a good libido.

Zinc also plays a role in the production of omega 3 fatty acids in the brain, which are important for brain functioning. For this reason, zinc is useful in treating ADHD, Alzheimer's disease, apathy, autism, dyslexia, depression, schizophrenia, and in boosting attention, learning ability and memory.

Zinc – a real mineral of sobriety!

According to scientists, if the human body has enough zinc, its chances of turning into an alcoholic are greatly reduced.

Where do we get zinc from?

We get zinc primarily from food. The major sources of zinc are (red) meat, poultry, fish and seafood, whole cereals and dairy products. It is easiest for the body to acquire zinc from meat. The bioavailability of plant-based foods is generally lower due to **dietary fibre and phytic acid, which inhibit the absorption of zinc.**

As our daily food only provides us with 50-75% of the necessary daily amount, I **strongly recommend** that you do not immediately start taking zinc supplements but get it from natural food instead.

Oysters contain the most zinc – nearly 50 mg per 100 mg. However, they are not available everywhere. Something that is available everywhere and all year round are **pumpkin seeds**. Do not believe the widespread belief that they contain little zinc. See, there is a difference between a pumpkin and a pumpkin. While flat, oblong pumpkins contain fairly little zinc, round ones contain much more. The same is reflected in the seeds. Light seeds have little zinc, while their dark green shell contains nearly as much zinc as oysters do. The darker the seeds, the more zinc they contain.



Pumpkin seeds have long been valued as a special source of zinc and the World Health Organization recommends their consumption as a good way of obtaining this nutrient. To get the full benefits of zinc from pumpkin seeds, you may want to consume them unshelled. Although recent studies have shown that there is little zinc in the shell itself (the shell is also called the seed coat or husk), there is a very thin layer directly beneath the shell called the endosperm envelope, which is often pressed very tightly against the seed coat. Zinc is especially concentrated in the endosperm envelope.

Pumpkin seeds - a mini pharmacy in your home:

- Pumpkin seeds are high in zinc, which makes them a natural protector against osteoporosis. Low intake of zinc is linked to higher rates of osteoporosis. A study of almost 400 men (aged at 45-92 years) published in the *American Journal of Clinical Nutrition* found a correlation between low dietary intake of zinc, low levels of the trace mineral in the blood and osteoporosis of the hip and spine.
- The seeds are filled with a lot of minerals, including phosphorus, magnesium, manganese, iron and copper.
- They are a good source of vitamin K.
- They contain phytosterols – compounds that have been shown to reduce LDL cholesterol levels.
- They contain L-tryptophan, which promotes good sleep and lowers depression. Tryptophan is converted into serotonin and niacin. Serotonin is also very helpful in giving us a good night's sleep.
- The seeds are a good source vitamin E; they contain about 35.1 mg of tocopherol per 100 g.

- Pumpkin seeds are the most alkaline-forming seed.
- They are an excellent source of group B vitamins (thiamin, riboflavin, niacin, pantothenic acid, vitamin B-6, i.e. pyridoxine, and folates).
- They also contain a lot of proteins – 100 g seeds provide 30 g.
- According to studies, pumpkin seeds prevent calcium oxalate kidney stone formation.
- Pumpkin seeds reduce arthritis inflammation without the side effects of anti-inflammatory drugs.
- They are used in many cultures as a natural treatment for tapeworms and other parasites.
- Also, they are good for prostate health! The oil in pumpkin seeds alleviates difficult urination that accompanies an enlarged prostate.

When you begin consuming pumpkin seeds, do not eat them like seeds. Instead, for instance, make them into flour with a coffee grinder. Since pumpkin seeds have a very mild taste, the flour can be added to different kinds of food – soups, dressings, roasts, etc. By doing so you increase the caloricity and can reduce food quantities (less strain on your stomach); many dishes become tastier, and **all** dishes that you add home-made flour to instantly become much **HEALTHIER!**

However, once you begin using pumpkin seeds as an additional source of zinc, stop using all types of whole grain products during this period, because the fibres in them obstruct zinc absorption.

CONCLUSION

I have mentioned above that the large majority of modern people are capable of receiving information PASSIVELY. This refers to the acquisition of information, where people are SATISFIED with the obtained information and will never ask themselves the IMPORTANT QUESTIONS because their brain is unable to generate them.

You are your own master. Are you one of the people who are satisfied with passive information or **are you still capable of thinking for yourself?**

Let us look at the heart once more:

The view of how the heart and blood circulation work according to academic medicine has been brought below.

The human circulatory system is divided into two parts: the cardiac and pulmonary blood circulations. The large cardiac blood flow or systemic circulatory system begins from the left ventricle, which releases oxygen-rich blood into the aorta. From the aorta the blood moves through the arteries and arterioles into the network of capillaries that reach all tissues, where oxygen is transported into the tissues through the walls of capillaries, which in turn take along carbon dioxide, uric acid and other metabolic residues. Residue-rich venous blood moves from the venous part of the capillaries into the thin venules, which move into the major veins. These, in turn, will join to the superior and inferior vena cava, which drain into the heart's right atrium.

The pulmonary circulation begins from the right ventricle of the heart, from which the carbon dioxide rich blood is pushed into the pulmonary arteries. From there the blood reaches the lungs, where the capillaries release carbon dioxide and the blood becomes saturated with oxygen. The oxygen-rich arterial blood enters the left atrium through the pulmonary veins.

This is a great story, but it lacks substance and thus does not have much practical value – it is not necessarily **informative**. The story lacks one IMPORTANT detail – **how much blood passes through the heart in one heartbeat and why?** You may ask what significance does it have? It is particularly important, because there is something illogical in the working of the heart, something, which PRECLUDES the simple view of the heart as a pump.

Let us look at it more closely:

1. The right atrium into which are draining two vena cava and the muscle veins of heart itself have a **VOLUME of 100-140 ml**.
2. From the right atrium, blood enters the right ventricle; however, the volume of the right ventricle is **150-240 ml**. Ask yourself, WHY should the second level pump be greater than the first level one?
3. From the right ventricle, blood enters the lungs. The lung in itself is large enough to accept that blood (**up to 240 ml**).
4. However, the blood continues from the lung back into the heart, into the left atrium, that has a **capacity** of only **90-135 ml**. The amount has decreased by 100 ml, but where does that amount go? 240 ml **enters** the lungs, but only up to **135 ml exit**.
5. The volume of the left ventricle is larger – **130-220 ml**. WHY does it need to have a volume greater than that of the atrium that it accepts blood from? **This is not how pumps are constructed.**

Here we need to understand that the heart IS NOT A SIMPLE PUMP - it has MORE COMPLEX functions.

If you are not satisfied with this example, perhaps we should touch upon another important issue, NUTRITION.

Have you encountered any great nutritionists speaking/writing about the CONNECTIONS between nutrition and breathing? Sadly this happens very rarely. At the same time, they produce a lot of scientific mumbo-jumbo about basic metabolism, calorie requirements connected to a person's weight and height, etc.

Actually, nutrition is directly related to breathing, since all the calories in food have to be burned off in order to access energy; the calories in food burn just like gas in the engine of a car or wood in a stove. However, ALL burning processes need oxygen. So where does the human body get oxygen from?

Remember, we get it from the lungs and breathing. Thus, our ability to process calories and burn them off is directly related to our lungs' ability to transfer oxygen. However, **the abilities of the lungs are in no way connected to a person's weight or height.**

Scientists have calculated that if the volume of one breathing cycle is 0.5 litres and if the volume of the lungs is approx. 3.5 litres, the lungs produce **2.1 kcal per minute**. The body

(of an 18-29 year old person) usually **needs approx. 3 kcal per minute to maintain its functionality during difficult physical work** (according to theoretical calculations).

Also scientists noted that if the surrounding air had less oxygen than usual, the energy amount per minute would also be lower. It has been calculated mathematically that **IF** air only had 7% oxygen instead of 21%, energy from breathing would be **0.7 kcal per minute**.

However, they have forgotten to consider something – in fact, the human lungs **only consume 7%** of the oxygen air contains, so as much as 14% of oxygen still gets exhaled.

Let us try and think logically, the alveoli and red blood cells in the lungs are only able to absorb 7% of the oxygen – this is the limit of our abilities. If we presume that the air we breathe only contained 7% oxygen, the lungs' alveoli could just use up **all** the oxygen and none would be left in the exhalation. The logical conclusion is – **the body has CHOSEN how much it breathes per minute in calm mode, and this is 7% oxygen, thus 0.7 kcal per minute, instead of the theoretical 2 or 3 kcal per minute.**

Now let us see what we can do with the energy amount of **0.7 kcal per minute**. The day lasts 1,440 minutes, which means we can get **1,008 kcal per day** – this is the energy a person can use for BASIC METABOLISM.

Add physical activity and change the respiration parameters and we can increase the amount of energy. However, this additional energy is also required immediately to compensate the additional load.

People get fuel from food. However, we can only deal with food during daylight hours, for approx. 16 hours a day. The 8 hour night must remain for the body to deal with itself.

In 16 hours, i.e. 960 minutes, the lungs generate $960 \times 0.7 = 672$ kcal. Yet, we must not forget that within those 16 hours the body needs to spend energy on other vital processes, not only food. Thus, no more than 80%, i.e. **538 kcal** of that energy amount should be used on food. **THIS IS OUR ACTUAL DAILY FOOD CALORIE REQUIREMENT, not the 2,000 to 3,000 proposed by nutrition specialists.**

If you find this hard to believe, gather courage and take the excrements of any person with a “normal” diet to a laboratory that measures calories and you will be surprised to see it is FULL of unnecessary calories – the calories the body has not managed to use.

True, in practice we do need to eat and spend a little more food because it is extremely difficult to create a menu using small portions that would also guarantee the body with the necessary vitamins, minerals, etc.

In addition, the construction of the body is also proof of how little food we really need – **a normal human stomach only has a capacity of approx. 50 ml**, not 1 to 3 litres as scientific literature claims. 50 ml is enough to admit food in the amount of 500-600 calories. The capacity of the stomach may be increased by up to 10 times in **extreme conditions** – up to 500 ml, i.e. 0.5 litres. If the stomach is stretched any further, its interior protective layer will stretch thin and is no longer capable of protecting the stomach walls from stomach acid. Thus, the main cause of gastric ulcers is stretching the stomach above the allowed limit.

You would probably like to argue that how could the stomach only be 50 ml, when all literature states a normal empty stomach is 500 ml. Yes, these is true, but continue reading and you will see that an empty stomach is approx. 20 cm long and **its front and back walls**

TOUCH TOGETHER, and that a **full stomach** stretches to up to 24-26 cm and the walls depart to 8-9 cm from each other.

To understand what 500 ml means, imagine any random empty 500 ml bottle; usually this bottle will be longer than 20 cm (maybe even more than 24) and its walls are already approx. 6 cm apart. To see what it means for the walls to touch, put the bottle on the ground and step on it to make the (back and front) walls TRULY touch – do you still see a capacity of 500 ml?

One more thing concerning food – I have always been surprised at the recommendation of nutrition specialists to eat more whole grain products, although not even herbivores, such as horses, can manage digesting whole grains. How could then a human? If we are incapable of digesting the grains to access the useful substances within them, why eat them?

Why then do specialists constantly and reluctantly promote 5-6 meals or 2,000 to 3,000 kilocalories? The reason is simple – food is a commodity, the more is sold, the greater the profit. When money is at stake, the human health concerns no one.

Toivo Räni
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