

HIRUDOTHERAPY



**HIRUDOTHERAPY - HEALING WITH MEDICINAL
LEECHES SIMPLY AND FOR ALL**

2018

1. Medicinal leech therapy – the so-called hirudotherapy - simply and for all

This article explains the basic principles of a unique method of healing with medicinal leeches (*Hirudo medicinalis*).

The importance of blood for human health has been known to the well-informed people since long ago. 600 years ago, **the famous Sheikh Mir-Saïd-Bereke wrote the tractate Omnipotence, in which he described the secrets of blood** and in which he was comparing blood with the source of the existence of the human body. In this tractate, he writes: "**Blood brings diseases, blood brings health, blood gives immortality to the body, blood returns youth to the old, and makes young man an old person.**"

This passage [was used in the video \(turn on the subtitles\)](#), in which, besides interesting questions about blood, other very interesting and little-known facts are explained.

Undermentioned information on leech therapy has been formulated on the basis of available, historical and state-of-the-art knowledge in this field. **Significant knowledge for the creation of this work were brought by: Dr. Konstantin Vasilievich Sukhov, Professor Alber Ivanovich Karsheniuk and Dr. Lidia Antonovna Kuplevska.** These renowned doctors are among the world's leading leech therapists and have been educating thousands of professional hirudotherapists, professionals who use medicinal leeches to heal other people.

A valuable source of further information was represented by the experience of dozens of patients, hirudotherapists and colleagues who shared their knowledge and valuable experience in various ways.

These are all people to whom we are truly grateful for their contribution to medicinal leech therapy.

2. Medicinal leech therapy is still a thing in the 21st century

Every year, tens of millions of leeches, which are applied to patients during their treatment, are bred every year in the world. In Germany and other countries, medicinal leeches (*Hirudo medicinalis*) is officially registered as a remedy, and in Ukraine and Russia it is also commonly sold in pharmacies.

What we know (very briefly):

The saliva of the medicinal leeches contains a large quantity of biochemical substances, which positively influence human health. The substances, which have been described during long-term leech studies are very difficult to be made artificially. This has only been done in individual cases, for example in the case of Hirudin, which is considered to be the ideal and the best medicine against blood clotting. We dare to say that if we were able to artificially produce all the substances that the leeches saliva contains, for example in the form of tablets, next to every leech there would be more than 100 different preparations.

We know that at the blood loss, which occurs when the medicinal leeches are applied, the viscosity of the blood changes. Basically, we can compare this effect to situations where the oil, which is dense, turns into water. It is familiarly said, that the blood of man is dilutes. This terminology is not correct, but it basically describes what happens.

The diluted blood is easier to get into small capillaries and permeates blood cells that float in blood plasma, in comparison with thick blood, which increases pressure, blocks the immune system and creates appropriate conditions for the emergence of various diseases. When blood is lost, there comes to an immediate regeneration and recovery of the amount of blood in the body, which speeds up the natural cycle of blood exchange that is constantly going on in the body according to its own rules.

The information above describes the principles which are practically not used by current medicine, except for a few exceptions, such as infusion and dietology if the patient follows it. It is about the change in the quality of the blood before the healing itself.

The change in blood quality plays an important role in the overall therapeutic effect of medicinal leeches. Loss of blood, along with leeches saliva, is an ideal tool that triggers the self-healing mechanisms of the body. This effect explains why leeches help in a wide range of different diseases, which arise from disturbed nutrition or metabolism at the cellular level of the human body.

There are thousands of documented studies of cured people abroad, who suffered from various diseases ranging from blood circulation problems, joint pains to various eye and breathing problems. There are plenty of described cases when medicinal leeches help in surgery, mostly in plastic surgery. An even greater number is represented by patients to whom leeches help to temporarily improve their health, and who have been returning to leech therapy for many years in the event of a recurrent disease. **These include patients with decubitus, open wounds in lower legs, diabetic foot patients, patients with joint pains due to arthrosis, fluctuating pressure, skin eczema and many other cases.**

Man consists of more than 70% of fluids. Fluids have the main functions of nutrition and cleansing of the body. **By using medicinal leeches, we often positively influence the composition and function of body fluids and their circulation.** This helps us to start or accelerate the body's self-healing and healing functions, which are natural to the human organism.

The chemical composition of medicinal leeches saliva **and the detailed description of the influence of medicinal leeches on the human organism can be found in the book Medicinal leech therapy - a gift of health.** There are many books of foreign literature on this subject available.

Medicinal leech therapy provides broad, but unfortunately little known therapy options. In many countries, only little of that knowledge is often used. Specialists who want to be educated in this area are few, and so many people are left to learn this method themselves. Based on the acquired knowledge, they have chosen themselves whether or not this method is up to them or not.

Let me take a few thoughts on current topics for a common reflection:

1. Can medicinal leech therapy help in difficult times of global changes?
2. How long should medicinal leeches be kept indoors and how to breed them during the crisis?
3. Is it possible to replace some medicines with medicinal leeches if necessary?
4. Can medicinal leeches rescue human life?
5. A few thoughts to conclude.

3. Can medicinal leech therapy help in difficult times of global change?

We now live in times of intense climate changes, which are expected to grow further and will lead to fundamental global changes on our planet. **These changes can lead to a significant narrowing of the living area on Earth and to a migration of billions of people who will run away from their homes to escape their consequences.** So far, people have been evacuated in the cases when they often have place where they can return. With the rise in climate changes and volcanic activity on the planet, people will be more and more likely to no longer have a place to return. These changes will according to the predictions take place in the near future and you can learn more about them [in this video \(turn on the subtitles\)](#), or [use translated version to English language here](#). For many of you, the following lines will be a pure fantasy, but the manifestations of global changes are now a harsh reality in many countries, a reality, which is often unimaginable to us.

Looking at the possibilities offered by the current knowledge in the medicinal leech therapy, we can see that, in the case of absence of health care and modern synthetic preparations, leeches may play a serious role in the potential health preservation and, in some cases, they can even save a human life. We know several cases from the past when leeches saved the lives of people who suffered, for example, from heart attack.

It is necessary to ensure the access to knowledge gained and medicinal leeches to be able to provide hirudotherapy. This is especially important in the cases, when it is not possible for the people to buy leeches and the instructions on the Internet will not be available. For this reason, **we have developed a mobile farming technology that gives everybody the opportunity to store leeches in the long term and at home, free of costs,** to be able to reproduce and safely transport them from one place to another.

In this work we publish simple keys to understand the problems of medicinal leech therapy, while giving everybody the opportunity to practically use medicinal leech therapy. Feel free to share this document if you consider it useful and use the information contained therein at your sole discretion.

Of course, medicinal leech therapy is not a super solution to the expected problems. It's just a small drop to help you if the predicted changes occur.

4. How long should leeches be kept in domestic conditions and how to breed them in the times of crisis?

Despite the fact that virtually all sources mention the water container as the best way to store leeches, this is not entirely true. Leeches are during their life found in water only for a certain time during their annual cycle. The cycle consists of the following parts: feeding, fertilizing, putting down cocoons and hibernations.

If you do not regularly change the water for the leeches, they will die very quickly. If they are in water for long time, they will significantly weaken. However, when placed in wet clay, they can live for months, even when you do not change the water. It is known that the leeches dig into the ground in winter and there they sleep (hibernate) until spring.

New solution in medicinal leech breeding

We will introduce a device to you that is incredibly simple, but despite its simplicity, its development through various experiments, has lasted for years. **The device practically solves all the problems associated with the breeding of medicinal leeches, at all its levels, excluding feeding. This device was given the working name Hirudo house** – it is a leech house. It is a full-fledged closed ecosystem in which leeches can be preserved for a long time and in which they will naturally reproduce. You can make this device anywhere in the world, as shown on the pictures below.

It is possible to store all leeches in this device, including those that will be in the future applied on patients. **In these devices, the leeches will be much stronger, healthier, and more vivid than those leeches, which are placed in water bottles for a long time.**

Before using the leeches, simply put them in a water container to let them awaken, because they often hibernate in the clay. Before application, rinse them well under running chlorine-containing drinking water or treat against bacteria if you have the necessary experience.

Description of Hirudo house

To make hirudo house, we have used eurocontainers that are easily available, have no holes, fit tightly on one another and are sold in different sizes and variants. We used the lower containers as a basement that allows us to control the height of the entire container structure. Above it there is a container that we use as a water tank. It was therefore necessary to drill a hole into which we placed a drain valve which drains the changed water. On the opposite side of this valve we installed a sieve that prevents the leeches from entering the valve itself. This water tank, at the same time, serves as a pool for leeches in case they need to swim or mate. Above the water tank we placed another container in which we made about 10 millimetre holes. The water runs through the holes in the water tank and at the same time they are big enough for the full-grown adult leeches to get through them, the so-called mothers.

We can make several shelves with leeches according to our need. By making holes between the shelves, we can prevent the leeches from sliding through the individual shelves, but if we do not allow them to do so they will not get into the pool that is located below. **The dimensions of the used containers at our Hirudo house are 60 x 40 x 20 and 60 x 40 x 12. The size of the containers can be adjusted to suit your needs.**

Access to the pool is not a necessary condition, but it is a more accurate copy of the natural environment in which the leeches exist. The pool needs to be checked more times for dead leeches. We filled the container placed above the water tank with clean clay. In order to

close the entire system, we used another container to drill 1 to 2 millimetre holes. This hole size is based on the size of the leeches placed in Hirudo house. For small leeches, I recommend drilling smaller holes in the top container. Once in a while, pour the necessary amount of water in this container to irrigate the entire system. This part, except for irrigation and closure of the entire system, has no other purpose and you can use it as a pot, for example for growing herbs. The pool should be checked once every 14 days, and if any leech dies, take it out and then change the water.

We can place up to 250 leeches on one container, a shelf with clay with the dimensions of 60 x 40 x 12. Everybody needs to decide on the amount of leeches and the regularity of irrigation necessary, based on their own experiments. We can also place a few dew-worms into Hirudo house. When we place the leeches in the hirudo house, we can irrigate the entire system by pouring 10 litres of water into the top closure container. If the clay is sufficiently wet, we do not have to do anything anymore. Once a week or once in 10 days, drain the old water through the drain valve and pour over 10 litres of water through the top closure container again. We determine the amount of water as needed to irrigate the system and the size of the bottom water tank. You will need to test it yourself. We repeat this process until we need the leeches again. We check the humidity of the clay with our fingers, so that we rake through the clay in the container. If the clay is not wet enough, the leeches will dry in it. When we open the house, the leeches should be visibly wet, if they are semi-dry, the system needs to be quickly irrigated. You can test different types of clay, but it is important that the pH of the clay is around 7. In our testing, dehydrated peat turned out to be the best option, which after soaking with water, keeps the humidity well and for long.

When the leeches are hungry, we will find them in the lower water tank. When they just “lie on“ and look dead, they hibernate. They do not have to dig into the clay and they often remain on the surface because it's dark there.



You can find more about Hirudo house in our video – [click here](#).

Care of Hirudo house

Disassemble the Hirudo house, if necessary and when possibility **once every 6 to 12 months, rinse with a strong chlorine solution and then with clean water** to disinfect it. Place new clay and then the leeches.

Transport of leeches

If we need to transport the leeches to another place, **pour the water out of the pool, fixate the whole structure, for example with adhesive tape, and transport the leeches to**

where needed. Without water, they can live long time, so do not worry about the leeches during long transport. It is important that the clay in which they are found is wet and does not freeze.

Reproduction of the medicinal leeches

Sexually mature medicinal leeches, that means, those who are at least 9 months old, will naturally begin to breed and multiply in this closed ecosystem. With regard to breeding it is good that they have access to the bottom water tank, which we call the pool.

Leeches breed best in the summer. **If you have sexually mature medicinal leeches, it is good to put them in the glass container for 30 to 60 days and leave them in an illuminated room.** A fertilized leech has a nearly invisible yellow ring formed under the head in the first third of its body, and this area partially grows thick. Then we can put the leeches back to Hirudo house. When we want to breed the leeches in the winter, we need to transport them in a glass container and illuminate it by indirect light at room temperature from 5:00 am to 21:00 pm. **It is likely that most of the leeches will breed directly in Hirudo house, even if we do not manipulate with them.** If the clay in the house is cold, less than 17 degrees, the leeches will hibernate and will not breed.

We can always look in Hirudo house, and **when we see that the medicinal leeches on the surface of the clay began to make cocoons, we know that the breeding process has begun successfully.** We can check these cocoons regularly, and when we see that leeches are trying to get out of it, we can help them by tearing the cocoon and let the leeches come into a water container.

If you tear the cocoon too soon, we will get immature leeches that are weak and can often die. If we use clay that is heavy and wet after soaking, you can be sure that the leeches will make the cocoons on the surface of the clay if the device is properly assembled.



Put the incubated leeches in a bottle of water. They should live for up to 6 months without food, but you can feel free to feed them a few days after birth. **For feeding, use the pork intestine,** soak it before use and purify from salt. **Blood should be ideally obtained from an animal that is herbivorous.** You can also take the blood from living animals, but after taking it, mix it, so that it can precipitate. Then fill the intestine with the diluted fluid. Alternatively, you can apply the leeches on a thin skin, such as that between your fingers where they can pierce the skin even immediately after birth.

Let the leeches in the water container until they reach the desired size. In the quarantine time, a few months before using, place them in Hirudo house. Let them rest and digest so that before use they are hungry.

Have good breeding 😊

5. It is possible to replace some medicines with medicinal leeches if necessary?

In this section we will deliberately not talk about the types of medicines that can be replaced with medicinal leeches, **as the leech saliva contains more than 100 biologically active substances that, when applied, affect the human body.** We will build on what is proven and easily verifiable. Some types of medicines, associated with blood circulation pathologies, which affect the viscosity and blood clotting, are likely to be replaced with medicinal leeches temporarily but also in the long term if such a need arises, for example, due to a natural disaster.

Unfortunately, few people, who use medicinal leeches know that the world's best specialists in the field have been searching for and testing anatomical points on the human body for a maximum stable therapeutic effect. These **points are connected with the body organs or system via vessels, which we try to treat in the therapy.** As we have simplified this work to absolute basics, we look at the point whose surface part is anatomically connected with the heart through blood capillaries and vessels. This is the rectal mucosa.

Thus, we can assume that the substances, which the medicinal leeches release into the area of the rectal mucosa (the dark part around the anal opening) are with the blood flow directly getting to the heart and further into the lungs through which they pass into the oxygenated arterial blood through which they get into the entire body. Unlike the skin, in which, after the application of the medicinal leeches, their saliva gets into a huge network of subcutaneous capillaries, the rectum system is separated and works just like a funnel. **The leech saliva have no place to go, except for the direct path to the heart. This makes the rectum so special.**

On the skin, **there are similar places, which are suitable for the application of medicinal leeches,** so that we achieve a maximally stable central therapeutic effect.

These places are:

- navel - where there is the umbilical vein,
- the angle of the jaw bone - the area behind the ear where there is the inner jugular vein located,
- a nostril - a facial vein with an inlet into the inner jugular vein,
- coccyx area – inferior vena cava,
- pit over the breast bone - inner jugular vein with inlet to the superior vena

However, there is a big difference between skin areas and the rectal area that the skin is less perfused than the mucous membrane, the immune response lasts longer, the passage of substances will vary across the body, the wounds will heal longer, the medicinal leeches will extract the blood longer, and the reactions on the application will be more frequent, which we can describe as an inevitable side effect. Because the saliva spreads into a wide network of subcutaneous capillaries, it is necessary to use more medicinal leeches to achieve a similar effect on the rectum. Local problems cannot be solved via rectum, so it is necessary to know both the principles of the leech effects on skin and rectum. After piercing the skin, the leeches insert maximum saliva concentrate into the area, which significantly

influences the tissue permeability and hence the circulation of the body fluids, which are responsible for the nutrition and purification of the cells of the human body. These include blood, lymph and intercellular fluid. **Thus, the medicinal leeches can be used to treat various surface wounds and pathologies such as amputated body parts, varicose ulcers, leaky legs, and the like.** However, this issue needs to be further studied in more detail.

When we understand these basic principles, we can easily think of when and how to use medicinal leeches. This means that **in the case of chronic diseases and circulatory diseases, we apply the leech to the rectum** in order to achieve a maximally stable overall therapeutic effect, and in the diseases of the skin or subcutaneous tissue, from wounds to burn injuries and pain, we apply more medicinal leeches to the affected area.

Always apply the medicinal leeches only on healthy skin, with no change in pigmentation, or directly on the wound. Please, note that I just describe basic principles here. It is possible [to read much more about medicinal leech therapy](#), but if you need to use the leeches, these basic principles will suffice.

But let's get back to the main topic of this part of the article. If you want to use leeches as substitutes for some medicines, it is necessary to achieve a maximally stable total therapeutic effect (central, that is, affecting the whole human organism). **The maximum stable overall therapeutic effect will be achieved by regularly applying the leeches to one place, which is anatomically directly connected with the heart.** By doing so, we will ensure approximately stable tissue permeability through which the medicinal leech saliva will be absorbed. The tissue's permeability can be different at various parts of the human body and often in some cases blood flows to the heart through other organs such as the liver. This possibility of the direct connection of the particular body point with the heart is given to us by rectal mucosa, on which we can apply the leeches on a daily basis, if necessary.

Two-thirds of the immune system is found in the mucosal area, and it is generally known that the mucous membranes are well perfused. This ensures sufficient protection of the mucous membranes from serious damage and infections as well as rapid regeneration of these surfaces in the event of their damage. You surely know people who suffered from a small haemorrhoid. They occasionally break, begin to bleed, or when the stools are hard, the mucous membrane of the rectum snags, but nothing happens. The leech can quickly extract the blood in the area of rectum, which is a great advantage if you use the medicinal leeches regularly.

What size of the medicinal leeches to choose?

Just as we have medications containing 25 mg, 50 mg and 100 mg of a certain substance, it is also possible to choose the size of leech, which we will apply on the rectum area. **In most cases we will use medicinal leeches with the weight from 0.5 to 1.5 grams.** For most people, the ideal size of the medicinal leeches is about 1 gram, which are known to be the smaller middle-size leeches. The size of the leeches will be selected according to how quickly the rectum regenerates after the leech application. If the rectum is badly regenerated, we can use smaller leeches. If our haemoglobin is low or we want to influence the amount of blood lost when using the medicinal leeches, we can also use smaller ones.

0.5 gram-leech extracts about 0.5 to 1 millilitre of blood, 1 gram-leech extracts about 1 to 1.5 millilitres of blood and 1.5 gram-leech extracts from 1.5 to 3.0 millilitres of blood, an adult leech extracts around 10 millilitres of blood. **Larger 3 gram-leeches are not suitable for rectal applications.** One can safely lose about 150 millilitres of blood every month.

Using the Hirudo house system, which had been described above, everyone can breed the desired leech size in home conditions, if this is really necessary.

The main reasons why hirudotherapists avoid using medicinal leeches on the rectum:

1. Little knowledge – we often have the experience that people, who use medicinal leeches do not understand the basic principle of how this method works in the areas of total and capillary blood circulation, their impact, and their mutual combination. Unfortunately, this issue also affects many professional hirudotherapists. The methods that are currently used often make use of only a small potential of the current knowledge.

2. Own opinion - the rectum, like the genitals, is considered an intimate place, and the thought of working with intimate places, whether own or those of the patients, is not so popular. We often believe in scaring nonsenses about leech therapy and that is why we do not even think about similar applications. One example from practice is described by a therapist who himself thought that none of the patients would ever let the leeches to be applied on the rectum. The opposite was true. Today, the absolute majority of his patients and students regularly apply the leeches to themselves and others on the rectum.

3. The lack of experience - despite the logical assumption, anatomical evidence and years of experience and tens of thousands of applications of leeches on the rectum, that there really is a point through which we can achieve a maximally stable central therapeutic effect, there is a lack of publicly available, necessary knowledge, the so-called shared clinical experience. Many fear that the rectum area is already burden with the stools and therefore there is a danger of a wound infection after the medicinal leeches are applied.

At the same time, however, we do not know what results to expect without experience, and this is the worst. If we even dare, we apply the leeches to the rectum, nothing happens. The leech extracted the blood, dropped, the wound was bleeding for a while, but what next?

It's similar as with medicines. With regular use, the effect will gradually come. Maybe in a few days or in a few weeks. **You need to be patient and remember that this is a little different - a more stable therapeutic method.** As the patient loses a small amount of blood each day, the blood viscosity and clotting will gradually change. **The blood will cleanse, regenerate and change its quality.** At the same time it will activate and shape - upgrade the immune system of the patient on whom we had applied the medicinal leeches. The processes are similar to irregular application, so it's up to everyone what they know. Medicinal leeches can also be applied twice a day if necessary.

4. Missing experience - if a person does not have enough knowledge and experience, they often like to listen to the advice of different authorities, i.e. people whose opinion is for any reason for a questioning person important enough to influence their own opinions and actions in the future. It is the right of everyone to listen to who they want.

6. Can medicinal leeches save human life?

From the folk understanding point of view, we talk about saving someone's life in connection with its preservation, thus preventing the physical death of a person. Even in the 60s of the 20th century, the rescue workers in the Soviet Union always had medical leeches in the emergency vehicle. Several cases have been described in history when managed to human lives were saved thanks to the medicinal leeches for example in patients, who suffered from heart attack.

What we know about the medicinal leeches is that after the application, that is, when the leech pierces the skin and extracts the patient's blood, there are several proven processes that can influence several processes in the human body.

When the blood is lost, the burden on the heart of a person decreases, at the same time the viscosity changes - the permeability of blood and leeches release into the human body substances which, in addition to blood dilution also dissolve blood clots and prevent blood clotting. After the leech drops there remains a wound on the human body, through which the blood can outflow, which further reduces the blood's viscosity and the burden on the heart. Such bleeding also lasts in some cases for 24 hours after the leeches drop. By removing blood and red and white blood cells from the human body, the fluid from the intercellular environment is discharged into the bloodstream, replacing the lost plasma and the human body gradually forms the necessary new red and white blood cells. **The change of blood viscosity changes many processes in the body, for example the blood pressure.**

Does it seem ridiculous? If case of need and in case of lack of health care, you cannot replace medicinal leeches with anything not even with laugh. It was just a rhetorical insertion. 😊

In the previous chapter we have described a maximally stable central therapeutic effect that is suitable for lighter or chronic diseases and in which we regularly work with only one leech. In acute or life-threatening situations, we apply on the patient more leeches at the same time. **For example, in the case of heart attack, we can apply 5 to 9 medicinal leeches to the area of the heart,** (3 leeches in the pit over the breast bone, 3 leeches approximately to the middle of the chest and 3 leeches to the area of the girdle, under the breast-bone), all of which can be applied at once and cover with a cup so that they do not escape and wait until they pierce the skin (we apply the leeches on the chest because the patient will lie further so that the wound heals well and it is easy to bind it over). For acute or post-heart attack conditions, we can apply 3 leeches, first every day and later every other day on the same area. If it goes well, we will also apply the leeches on the rectum. When the patient gets well, we can apply one leech each day as described above.

In the past, several cases have been described, when with the help of small bleeding, they stopped a large one. For example, with intense nose bleeding or limb amputation, they used to apply several leeches (4 to 5) to the rectum area and large bleeding stopped. This phenomenon has not yet been described, but it is possible to assume that just the direct connection of the rectum with the heart hides the answer to this question.

In some patients a large amount of leeches from 10 to 20 can be used and in some cases even more. But this is a chapter that we will not discuss in detail here. If necessary, always keep in mind that it is considered safe to use 12 leeches in a large proportion of the patients.

Two ways of influence on the human body are described above. One is used as medicine with minimal burden on the organism, and the other one is used as an emergency way of fast and intense influence on the internal environment of the human body.

Healing of the wounds

Wound healing is individual. **Generally we can say that the wound heals immediately on the rectum (12 hours and the crust does not develop), it takes longer for the skin (up to 24 hours and the crust heals for about 5 days).** Wound healing depends on the size of leeches, the smaller the leech, the faster the healing. No crust develops after the application of the leeches up to 1 gram. For larger leeches, small subcutaneous peas may remain in some places and altered pigmentation of the skin.

Bacterial medicinal leech microflora and reactions to medicinal leech application

Medicinal leeches are a living organism and contain a variety of bacteria that are not dangerous to the human body if the immune system works more or less well. **In the worst case, there is some swelling, temperature, itching, or altered pigmentation.** It is the immune system's reaction to foreign substances, and people often mistake it for allergies to leeches. **All these reactions will disappear in a few days.** The history of millions of leech applications around the world proves that it is safe to use them.

When the leeches pierce the skin, they break the surface of the skin or mucous membrane. In this way, they begin to insert saliva into the human body, which are foreign to the human body. The non-specific immune system reacts immediately and triggers the immune response chain. Gradually, however, a specific immune system develops, and the patient will adapt to the medicinal leech saliva, which is similar to the principle of vaccination, so the reactions to leech application will not occur again. However, if a new type of bacteria appears on the leeches, the reaction may temporarily occur again. **People who use medicinal leeches regularly will gradually become accustomed to most of their bacteria.** When applied to the rectum and the angle of the jaw bone, often after several applications, the lymph nodes get bigger, which may be painful. The enlargement of the lymph nodes will disappear in a few days.

7. A few thoughts to conclude

Let's go back to saving the human life. When I write these lines, I realize that all the efforts made will help only to a few individuals who will see the essence of this work and the sense of this knowledge. I realize that the only thing we can offer in medicinal leech therapy is a couple of answers to banal questions, but they can serve as a help in keeping good health or prolonging life a little longer. If everyone around us does something to help others, there is a chance that things will change for the better.

Well, what I really want to share with you is the [Allatra](#) **book written by Anastasia Novych, which I really recommend to read to everyone.** In this book, there are the knowledge that were given to people to overcome the difficult times that will come soon. I think one thing is for sure. The mankind will survive only when it will unite in understanding and love.

Medicinal leech therapy, as well as the human life of every human being, has far greater potential than we think nowadays. It is sad that it is necessary for the fire to fall from the sky, and the earth shuddered for a man to think and open their eyes.

Where and what to learn in modern medicinal leech therapy (the main points):

Konstantin Vasilievich Sukhov: using middle amount of medicinal leeches, history of medicinal leech therapy, general medicinal leech therapy, central locations for leech application, work with patients, treatment of various pathologies

Professor Albert Ivanovich Karsheniuk: scientific approach to medicinal leech therapy, using a small amount of leeches in the long term, work with the rectum, phenomenon of biochemical adaptation to leeches, a systematic way of leech therapy and other of his works.

Lidia Antonovna Kuplevska: using a large amount of leeches, treating the reactions to leech application, general medicinal leech therapy, she deals with the major pathologies of all systems of the human body in detail, diet and drinking regimen during the medicinal leech therapy and purification methods of the national medicine.

Association of the medicinal leech therapy specialists in Slovakia: www.uop.sk
breeding of medical leeches, general medicinal leech therapy, overview of different ways and methods of the leech therapy, basic principles of leech therapy, using the medicinal leeches at home and in villages.

Each of the above-mentioned medicinal leech therapy specialists knows a large part of a particular area.