

The Four Pillars of Pulse Controlled Laser Acupuncture Concept: TCM, RAC Pulse Control, Ear Acupuncture and Low Level Laser Therapy

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Summary

The *Pulse Controlled Laser Acupuncture Concept (PCLAC)* is a modern form therapy, where acupuncture is combined with *Low Level Laser Therapy (LLLT)*, to use the synergic effects of both therapies. Beside the therapeutic impact of LLLT in tissue, the laser light also can be used for stimulation of acupuncture points. A huge range of acute and chronic disease can be treated very effectively. By use of vegetative reflexes, which emerge from stimulation of active acupuncture points, has been developed beside treatment also a very sensitive diagnostic system.

Introduction

After acupuncture in human medicine has developed itself from outsider medicine to a recognized high effective therapy we can recognize acupuncture in veterinary medicine in the same way. As hardly any other treatment acupuncture seems not only to treat symptoms rather it's always tries to find the root of the disease and use it as a central element of its treatment. Only through this really causal treatment the impressive successful outcome in so many previously not treatable diseases is to explain.

Controlled acupuncture is a further development of traditional acupuncture and far more than just the treatment of points with a mild laser light instead of needles. This medicine is a synthesis of two each for its own very effective therapies: acupuncture and LLLT (Low Level Laser Therapy) that means local laser treatment of diseased tissue.

In addition a vegetative Reflex in the patient helps the therapist with the choice of the points to be treated. This reflex gives information on whether the point gives a strong therapeutic response. Controlled acupuncture in this way can also be used as an excellent diagnostic tool.

To go at the root of the disease and not just dealing with a symptom is the particular concern of controlled acupuncture. Thus especially for chronic illnesses, it is essential to uncover underlying causes. For this just ear acupuncture is very useful, because the ear provides us with a small-scale representation of the physical discomfort of the patient and makes

acupuncture diagnostics so much easier. We only have to scan this small area at the ear which represents the whole.

All the relevant points are lying close to each other and are thus easily to check in a few seconds. The hereby with the above mentioned Reflex found active ear points give us both possibilities as well in orthopedics (lameness), as well as in internal disorders: diagnostic *and* treatment. This kind of diagnostic gives us a far-reaching assessment of all thinkable disorders in the body. Very often I am absolutely surprised what I find, but in the same moment I wonder why I didn't see this connection between symptoms and the underlying illness before acupuncture diagnostic, because it is always logic and understandable.

The active ear points evaluated by RAC control are also very competent acupuncture points for treatment.

Not only veterinary acupuncturists but also interested horses- or dog- clients will be surprised at the diagnostic and therapeutic possibilities arising from this form of modern kind of medicine.

PCLAC rests on four pillars

The main pillar is traditional acupuncture

The **main pillar** clearly is traditional body acupuncture, based in a centuries-old tradition and experience.

Here the function circles or meridians play a fundamental role. They are responsible for a smooth transport of Qi, the individual force of life. A modern part of this life force is the ATP, within the Mitochondria of the body cells, where the aerobic respiration takes place that provides the body with energy for all life processes from synthesis of enzymes to the relaxation of muscles, which means for all energy consuming processes in the body

In any disease of the organism we have a disturbance of the optimum flow of the Qi, what has the consequence, that the balance in the traditional sense between Yin and Yang, in the medical sense between parasympathic and sympathetic nervous system, is disturbed. An example may clarify this.

In case of a blockage in the upper thoracic spinal column we have an irritation of the roots of the efferent nerves. This leads to a contraction of the back muscles and also simultaneously the blood vessels in the concerning body segment. On one hand, this contracture of the muscles solidifies the resulting blockage. On the other hand the contraction of the muscles results in a poor blood perfusion. This simultaneously is strengthened by a contraction of the

blood vessels in this segment by the same process arising from the irritated nerve. The supply of oxygen and nutrients is reduced. The provision with ATP, what the muscle cells need for relaxation, stagnates. The muscles indurate more and more and a vicious circle of clamping and occlusive disease has its beginning. The production of ATP and so flow of Qi is disturbed. We have Qi stagnation

In addition, if this affected segment possibly is responsible for the vegetative control of cardiac function, the growing irritation of the nerve root will influence vegetative regulation of the heart. The result is autonomic disorders of cardiac function with under certain circumstances life-threatening consequences, as the following case study from a circulatory collapse in a ten-year-old Hanoverian mare during riding shows.

I was called to a 10 years old Hanoverian mare that was collapsed while riding under its rider and no longer able to stand. When I arrived the patient was laying flat on the ground, completely wet from sweating and still not able to stand up. The pulse was hardly to feel and extremely uncoordinated. The pulse was in spite of many breaks and extra systoles at a frequency of more than 80/min.

The horse had enormous pain. It was in panic fear that the shoulder area was touched. The point of the main pain was the acupuncture point BL 15 behind the blade bone, the influence point of the heart meridian which has a strong influence on cardiac regulation

This point was treated together with analgesic- and circulatory stabilizing- points with the Laser (one might have the same effect also with needles in the selected acupuncture points). The extreme pain had instantly disappeared. After a few minutes the horse was able to stand up and about 15 minutes after the treatment, the movement of the horse was back safe and it started drying.

After the acute situation had been overcome the preliminary report has now been delivered. This now 10- year-old horse had been taken out of sport since three years, since it was no longer rideable. Several former treatments had had no success at all. From time to time the animal was tried at least to be ridden on a hobby level once again, but the horse was due to the pain very intolerant. Half a year ago the horse had had a similar but less violent attack. At that time it got infusions for several days which helped to stabilize the circulatory system, but the severe back problems remained.

After the first laser acupuncture treatment the horse was treated in the same matter on the next day and still 3 more times with an interim from 4-5 days at the same points discussed

above. After that the horse was also free from back pain and could be ridden even on smaller competitions.

In this patient we had obviously an acute blockage of chronic harmed thoracic vertebra in the field of BL15 which led to the fatal vegetative setting the cardiac activity.

At this point it should be noted that in my experience in many horses and dogs which suffer from heart disease a significant proportion in similar incidents is based in such failures of vegetative control. This mutual influencing of organ function and back pain in a segment is obviously not only for the heart problems but also for all other organ- and many, especially chronic orthopedic disease.

The second pillar of controlled acupuncture is ear acupuncture

A second pillar of controlled acupuncture is ear acupuncture. An important aspect of ear acupuncture is its ease clarity for western trained physicians, since this kind of acupuncture originates in western thinking. Its inventor, the French acupuncturist Dr. Paul Nogier empirically found out that the ear reflex points have a direct impact on diseased structures of the spinal column and the whole limbs. These new points on the ear at that time had not any connection with traditional acupuncture points. When he started to pierce these points, as usual in body acupuncture, with needles, ear acupuncture was born. In the course of his following work and experience he established a complete image of the whole body on the ear, at first for the orthopedic points, thus spinal column and joints and the accompanying muscles and tendons, and even subsequently for organs. These points follow its sphere of influence, named: *knee point, elbow point, hip point, point of 2. neck vertebra*, but also *lung point vegetative heart point, kidneys point*, etc.

The neurological connections of ear points with the central nervous system and the periphery can now be shown by fMRI (functional magnetic resonance imaging). In continuation of Nogiers idea ear acupuncture was explored and developed further in the German Academy for Acupuncture (DAA) under the leadership of Prof. Bahr.

There were found points for nerves, ganglia, the spinal cord, endocrine and exocrine glands and various parts of the brain. Also points with super ordinate influences were found: Endorphin point, Histamine point, Prostaglandin point, β -adrenergic point, ACTH point etc., just some to mention.

In the last twenty years I have, more or less in lockstep with human medicine, found almost all of these localizations also at the ear of dogs and horses with clear determinations

and could summarize these points to ear maps. All these points can be combined for modern medical aspects for therapeutic purposes with outstanding therapeutic success.

If ear acupuncture is combined with RAC controlled acupuncture, the finding of the active points open the patient's medical history with (almost) all its causal relationships to the investigator.

In orthopedic diseases “controlled acupuncture” can be used as a thorough lameness diagnostic. The same goes for diagnostic of internal disorders. The system is very reliable and in some cases, even more sensitive than clinical diagnostics, laboratory diagnostics and diagnostic with the help from image giving procedures.

So we can uncover and treat disturbances in a preventative way already before clinical manifestations achieves. The combination with clinical diagnostics to mutual verification and supplementation has been extremely well-proven. With the finding of active points at the ear, I have beside diagnosis also very important acupuncture points for treatment of these ailments. By needling or by lasering these points I can balance vegetative regulation, and thus set the Qi flow in motion again.

In the meantime, the meridians and all traditional acupuncture points are also transposed from the body to the ear. Thus we have the complete meridian system not only on the body but also on the ear. This has the advantage that we can combine the modern ear- points of the joints or the organ points at the ear in a traditional aspect with all thinkable acupuncture points without switching for and back between body- and ear- acupuncture. E.g. in a case of a lung infection we can treat the lung point at the ear and we combine it, according to the Mid-day-Midnight rule (traditional acupuncture rule), with the two “anti infective” Luo points SP 4 and TH 5 on the ear.

Still much more interesting seems to me the aspect that, because knowing the locations of all meridian points at the ear, the traditional and modern concept directly can be compared. Almost naturally it showed itself as a complete balanced coverage of TCM (Traditional Chinese Medicine) with western medicine. So, when we transposed the Lung meridian to the ear we found the point Lu 7 in the same place, as the ear point (the organ point) of the lungs. The same happened when transferring the other meridians. The Kidneys point is identical to the point KID 7, the Liver point to LIV 8, the Stomach point to ST 41, the Uterus point to SP 6, are just a few examples. This is not surprising; finally modern medicine and TCM describe the same facts only from different angles and with different cultural back-

ground. Nowhere else as in this aspect of ear acupuncture is so clearly to see, how well TCM and modern medicine are in harmony with each other.

Twenty years ago I started to develop ear maps with the orthopedic localizations and the organ points, first for horses, later for dogs. Finally 2006 for my ear acupuncture book I could finish even the maps for the entire meridian system at the ear in horses and dogs (Figure 1: e.g. Heart meridian at the ear), another map of psychic points at the ear and some other maps with points with special actions. So now we have almost the whole range of acupuncture diagnostic, as described above available for horses and dogs.

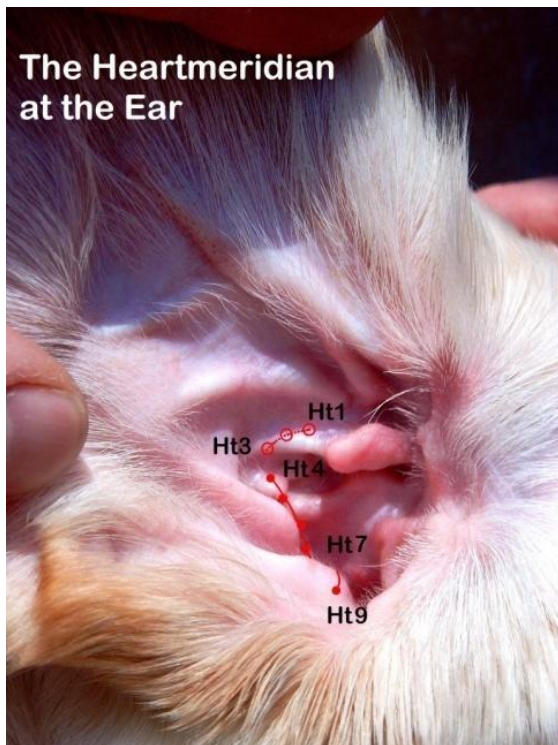


Figure 1 Pathway of the Heart meridian on the ear

After so-called "Gold Bead Implantation" became more and more important to treat chronic degenerative joint diseases and spondylarthrosis, an interesting application of ear acupuncture is also the implantation of gold beads into the ear points. This is a very simple applied but nevertheless very effective alternative to the conventional method.

A few years ago ear acupuncture became more recognized also outside Europe, especially in the United States, when Dr. Richard C. Niemtzw from the US Navy took up the idea of ear acupuncture and developed a special very simplified pain acupuncture for the army, called "battlefield acupuncture" where soldiers apply semi permanent ear needles to

their comrades when hurt in the battlefield. This simplified ear acupuncture is established in army now and one of the “first aid” treatment concepts there.

The third pillar of controlled acupuncture is the so-called RAC- control

The third pillar of controlled acupuncture is the so-called *RAC- control*. *RAC* means “**R**eflex **A**uriculo **C**ardial” and is also attributed to the genius of Dr. Nogier. He watched as he initially by chance felt the pulse of a patient, while he was setting an acupuncture needle, that the sting of the needle spontaneously evocated a marked change in the pulse quality.

Because, as it was his nature, he challenged all things, he found out that this happens quite often, but not in all cases and not always in the same clarity. He could finally see that only points, which also show a strong *therapeutic reaction* in the patients, showed this *strong pulse reaction*. His next step was to find a tool for getting better provocation results that means stronger RAC reactions to active acupuncture points. Because Dr. Nogier knew that acupuncture points have different electric potentials to the surrounding tissue, he tried to provoke the RAC reaction with electric fields of different voltage he approached to the certain point. He found out that the best result was to achieve with a voltage of 3 Volt. Now he built a diagnostic tool called *3 Volt- hammer*” (Figure 2: approaching the ear with a 3 Volt- hammer).



Figure 2 3 -Volt hammer in action

After this knowledge, he tried to find relationships between known orthopedic disorders and active points at the ear. With help of his observation of the RAC he could develop an ever more complete map of the joint localizations and even the organ localizations at the ear.

The points of the spine are on the so-called Anthelix in the ear, the limbs are represented in the Scapha and the organ points in Concha of the ear (Figure 3: comparing anatomy of the ear). From this resulted an image of a curled-up embryo lying in the ear (Figure 4: embryo projection). With help of the RAC one can now search systematically for active, vegetatively troubled points using these points for assistance in diagnosis of lameness or diagnosis of inner disorders.

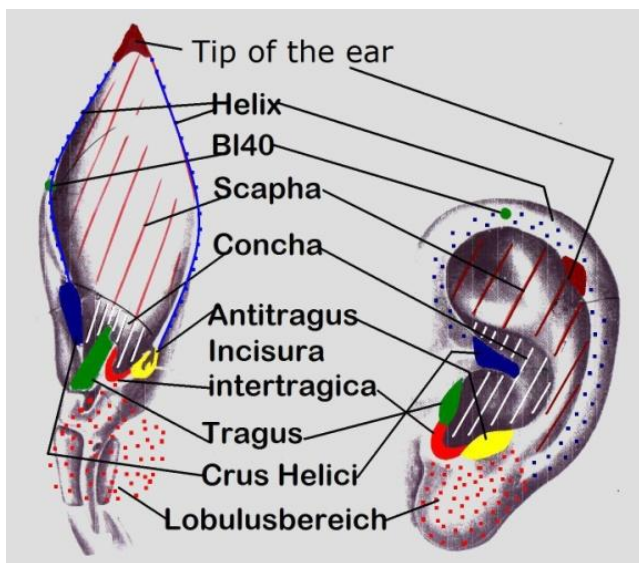


Figure 3 Mutual ear anatomy of men and horses

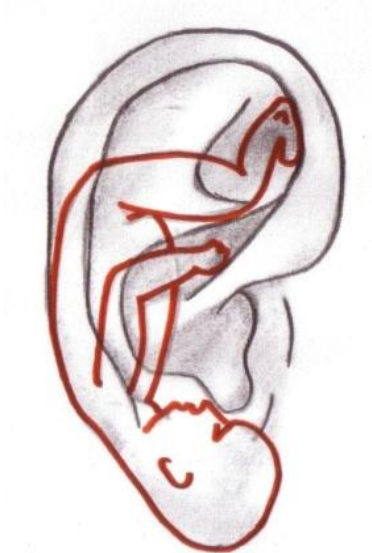


Figure 4: Ear projection of the embryo

Thus if we find the hip point at the ear as an active point, we know that the hip in its function is disturbed, if we find the point of the 4. Lumbar vertebra, we know that this also is disrupted and very likely is involved of mutual causal link with the hip problem.

Or if we have an active pituitary gland-, liver-, kidney- or pancreas- point at the ear we can act on the assumption of a troubled pituitary-, liver-, kidney- or pancreas- function. As mentioned, the retrieved active points are also responsible for treatment.

The RAC diagnosis is not only possible in ear acupuncture but also in the body. A very simple way to get an overview of the pathology of a patient is to make a segmental RAC check, passing along the spine with the 3 Volt hammer and looking for active Shu points.

These have importance in orthopedic disease as vertebra points in connection with back pain but importance as well in internal medicine in connection with the segmental assigned organs. Here we see another holistic aspect of acupuncture. Each orthopedic disease also has an influence on the inner organs and vice versa.

In acupuncture we consider both of these connections automatically. But even though I intend to operate with quite traditional aspects of acupuncture, I can prove my concept with the RAC check and check out whether the selected points are effective or not. Finally RAC helps us to locate the acupuncture point very simply and exactly.

The fourth pillar is local laser therapy.

As the fourth pillar, will be amended local laser therapy. Originally, this therapy has nothing to do with acupuncture but it has proved that these two therapies support each other excellently. It is important to stress out that laser acupuncture not only means the stimulation of acupuncture points by the laser beam instead of the needle, but that the application of local laser light is added as an essential component of curative effects to acupuncture treatment, or vice versa, acupuncture as a vegetatively therapy supports the local regulatory impact of the laser. Acupuncture and Local Laser Therapy, also called *Low Level Laser Therapy (LLLT)*, are two therapies of same value, each for its own very effective, but only in its combination in laser acupuncture came together to this holistic approach.

It was once again Dr. Nogier who discovered the capabilities of the laser for acupuncture and again it was the RAC that helped him to optimize the use of lasers in therapy and for the acupuncture point stimulation. After *Mester*, the pioneer of medical laser therapy could demonstrate already 1969 the effect of the laser light to support wound healing, Nogier came to the idea that laser, basing on its way it works in tissue, could be useful to stimulate acu-

puncture points. The first results were successful but not comparable with needle stimulation. His next idea was that the stimulation of acupuncture points (and even tissue) could not only depend on the wavelength of laser light, e.g. blue or red light, as well as different wavelengths in the infrared spectrum and is of importance for the absorption of light in tissues and thus for the effect, but also the frequency of the light pulses at pulsed lasers or a frequency which is modulated on the continuous basic beam at continuously emitting lasers (where the power of the laser beam will alter in the modulated frequency in the form a sine wave).

He experimented with is continually changing frequencies and watched with help of the RAC, in which frequencies the strongest reactions had been to achieve. He developed a row of frequencies, called Nogier- frequencies that also in clinical experiment as being proven as very efficient later on.

These frequencies were characterized by special resonance to certain tissues but also to certain tissue conditions. The frequency A is particularly useful for treating inflammation, frequency B has special affinity to ligaments and tendons, frequency C to the bones and joints, the frequency E is stimulating function on the nervous tissue and the frequency F and G on the lower or higher areas of the brain. With these resonance frequencies the point stimulation was much stronger now. A little advantage regarding needle acupuncture is the short stimulation time of only 20 sec and painless or even contactless treatment.

A little later was found another very important row of frequencies from *Bahr* also by the help of the RAC. These *Bahr*- frequencies, which mainly led to the present possibility of a very differential diagnosis in acupuncture, are also very effective therapeutic frequencies. As the last row of frequencies the still relatively new "Meridian frequencies" according to *Reininger* must be mentioned.

Reininger could also find with help of the RAC-diagnostic resonant frequencies to all the known meridians, which are in the meantime also proved as important therapeutic frequencies not only to stimulate the respective Meridian points in the sense of acupuncture but also for local tissue therapies, for example, treating the liver with the frequency of the Liver meridians, of the stomach with the frequency of the Stomach meridian, etc. .

Even if I basically will not miss local laser therapy in any treatment any more, there are some examples where local laser therapy is of a very special importance. This is the therapy of infected joints and tendon sheets, tissue infection especially with multi resistant germs

including MRSA-infections, in wound healing, especially with wound healing disturbances, tendonitis of the horse, nerve lesions and paralysis.

By means of 3 examples I will demonstrate the options of laser acupuncture.

Case studies

Case 1

A 10 years old thoroughbred mare had cut the superficial flexor tendon by a fence wire. It was operated by a veterinary clinic, but did not heal. Half a year after surgery the wound and the tendon still fistulated and yellow pus came out of the 6 cm sized swollen wound. The horse was walking on three legs and should be put down.

I started laser acupuncture in the way described below. Local LLLT plays an important role in the treatment of tendonitis, because of its positive effect on regeneration and reconstruction of soft connecting tissue as well as regrowth of collagen fibres. Beside the LLLT I treated the TMM (Tendo Muscular Meridian). TMM is a special superficial pathway of each meridian. As the name already tells, it is a course of the meridian through tendons and muscles in the pathway of the meridian. These special courses of the corresponding meridians through tendons and muscles I activated with their Ting points (end points at the hoof from the Lung-, Pericardium- and Heart- meridian, their Tonification points and the Reunion point for the Yin- TMMs of the front leg, GB 22. The centre of the tendonitis was treated 5 minutes with a 90 watt impulse laser and frequency “B” according to Nogier. The “Anabolic Master point”, the Tonification point of the Spleen that is responsible for the so called building energy of muscles and tendons, SP 2, was added.

4 weeks later (Figure 5) after 4 treatments, once a week, the wound was closed and the tendon seemed to heal. The horse walked properly and could trot with a slight lameness. Another 4 weeks, 4 treatments, later the swelling of the tendon had decreased very clear (Figure 6) and the horse trotted without lameness. We finished treatment and started increasing training. 3 month later I saw the horse again. It was in full exercise without any problem. The tendon had healed completely and showed no more any difference to the sound tendon in ultrasound and in palpation.



Figure 5 Healed wound with big connecting tissue repair after 14 days of treatment



Figure 6 Significant reduction of connection tissue 3 weeks later

Case 2

A six year old male Scotch terrier was bitten by a male Doberman. Three-quarters of the skin circumference around the neck was lacerated. Picture 1 shows the dog one week after the wound was stitched in a veterinary clinic. In spite of wound drainage and giving antibiotics to the dog one sees that a complete wound dehiscence starts to occur (Figure 7, see the black gangrenous tissue). Two days later the dog came to me with a complete dehiscence and the wound was as big as the size of the whole hand. Over the course of 12 days four laser acupuncture treatments were needed to close the wound completely (Figure 8) without any other surgery and without any further antibiotics or other drugs. For each treatment we did LLLT of the wound with 5x 30 Watt laser shower for ten minutes and TH 5 for wound demarcation, SP 4 for treating wound infection and SP 2 for wound repair were treated with 90 Watt pulse laser for 30 sec each, nothing else!



Figure 7 Necrotic wound edge before complete dehiscence



Figure 8 Complete healing without surgery within 2 weeks

Case 3

A chip in the right ankle joint was noticed during a preventive radiographic examination of a two-year-old crossbred stallion. Following endoscopic removal of the fragment, an infectious tarsitis developed. This was first treated by the clinic where the operation had taken place. Intensive treatment followed at three other clinics. Six months after the operation I examined the horse. The horse could not set the diseased limb down and only with great effort could it move forward with three legs. The circumference of the joint was 61 cm; the healthy tarsal joint measured 42 cm (Figure 9).

The following treatment was carried out each time: LLLT of the joint with a laser shower 5 x 30 Watt Impulse lasers, dorsal, medial and lateral for 5 minutes each fr. A. The minimal invasive surgery channels were treated additionally each for one minute with fr. 5, 90 Watt impulse point laser. Then was treated the TMM of Liver and Gallbladder: GB 44 and 43, LIV 1, SI 18 with frequency D, LIV 8 and CV 23 with Frequency B. GB 41 and TH 5 as Cardinal (Opening) point pair with fr. 5, all for 30 sec with a 90 Watt impulse laser. To prevent back pain active Back Shu points were treated from case to case as well with frequency C for 30 seconds. After fourteen days with seven treatments, the circumference of the joint had been reduced to 47 cm, and the horse could be walked and also be exercised at a trot for about

5 minutes. After trotting for approximately one minute, the horse was able to move without lameness. After the third day of exercise, a new feverish inflammation of the joint appeared spontaneously, with over 41°C body temperature and pronounced swelling of the joint. Also during the acute phase the inflammation was not treated with antibiotics or any else drugs, but the Interferon point SP 4 was added against the inflammation for 4 treatments. After approximately four weeks with twelve additional treatments, the patient was released (Figure 10) and gradually began training to full capacity at home in the following 3 months.



Figure 9 and 10 Tarsal joint before and after treatment

Overview of indications in horses and dogs

Indications in Horses

Where can laser acupuncture be helpful?

- Acute bronchitis
- Chronic bronchitis
- Pneumonia
- Liver disease
- Colic
- Kidney disease
- Heart disease
- Ovary disease
- Acute and chronic lameness
- Strain
- Pulled muscle
- Contusion
- Arthrosis
- Back problems incl. "Kissing Spines"
- Ataxia
- acute-, chronic laminitis
- Hoof ulcer
- Paralysis
- Teeth cysts
- Sinusitis
- Eye injuries
- Cornea cloudiness
- Woundhealing
- postoperative woundhealing
- Birth assistance
- hemiplegia
- convalescence
- postoperative convalescence
- Abscess maturation

Indications in Dogs

Where can laser acupuncture be helpful?

- Acute bronchitis
- Chronic bronchitis
- Pneumonia
- Liver disease
- Kidney disease
- Heart disease
- Ovary disease
- Incontinentia
- Acute and chronic lameness
- Discopathia
- Strain
- Contusion
- Arthrosis
- Hip dysplasia
- Ellbow dysplasia OCD
- Paralysis
- Teeth cysts
- Sinusitis
- Eye injuries
- Woundhealing
- postoperative woundhealing
- postoperativeconvalescence
- Abszess maturation

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