

Review

Auricular Medicine in Horses and Dogs: A Review and Technique Update

Uwe Petermann*

ABSTRACT

Auricular acupuncture is a method for diagnosing and treating physical and visceral dysfunctions by stimulating a specific point on the ear. It is a biomedical approach to acupuncture based on the theory that the auricle or outer portion of the ear is a microsystem of acupuncture points arranged in a somatotopic pattern. These points have reflex connections to specific areas of the body representing distant neural reflex zones which a veterinary practitioner can effectively use for clinical diagnosis and therapy (auricular medicine). The ear points can be stimulated by a variety of techniques including manual pressure, acupuncture needles, beads, and low level laser. Although different from a traditional Chinese medicine approach, in recent years auricular medicine has increasingly integrated the traditional approach with the biomedical approach for an even broader approach to auriculotherapy. There is now nearly 70 years of experience with ear acupuncture in humans and nearly 40 years of experience in animals. This article outlines the ease at which laser auricular acupuncture can be used to diagnose and treat orthopedic and internal medicine diseases with introduction of the newest canine and equine ear acupuncture maps of organ and orthopedic auricular points.

Keywords: auricular medicine, dog, ear acupuncture, horse, laser, Nogier, traditional Chinese medicine

ABBREVIATIONS: AA: auricular acupuncture; ABVN: auricular branch vagus nerve; Bfr: Bahr laser frequency; COPD: chronic obstructive pulmonary disease; LAP: laser acupuncture; LLL: low level laser; Nfr: Nogier laser frequency; NTS: nucleus of the solitary tract; RAC: Reflexe Auriculocardiaque; Rfr: Reininger laser frequency; TCM: traditional Chinese medicine; TCVM: traditional Chinese veterinary medicine; VAS: vascular autonomic sign

Auricular acupuncture is a diagnostic and treatment system based on normalizing the body's dysfunction through stimulation of points on the external ear (i.e. auricle). It is based on the idea that the ear is a microsystem with different external auricular regions corresponding to particular somatotopic areas of the body.^{1,2} With extensive connections to visceral organs and higher centers of the brain, ear stimulation involves a neurological reflex with modulation of neurotransmitters, cytokines, the immune system and inflammation. In associated regions of the central nervous system, these auricular pathways interface with other neural signal trafficking.¹⁻⁵ By virtue of this interfacing, a modulation of neural trafficking occurs by which physiological effects influencing homeostasis of the brain and body occur, and consequently enables auriculoacupuncture to treat pain as well as a wide variety of clinical disorders.^{4,6,7}

Auricular acupuncture points can be stimulated by a variety of methods, some of which include manual pressure, insertion of acupuncture needles, electro-acupuncture and imbedding of semi-permanent beads for long term stimulation.² Additionally low-intensity (level) lasers (LLL), which are the most commonly used lasers in body acupuncture, are used as well for auricular acupuncture.²

Although different from a traditional Chinese medicine (TCM) approach, in recent years auricular medicine has increasingly integrated the traditional approach with the biomedical approach for an even broader approach to auriculotherapy. There is nearly 70 years of experience with ear acupuncture in humans and nearly 40 years of experience in animals.¹ This article reviews the historical background, auricular innervation, and reports some of the scientific studies investigating its physiological effects. In addition, the development of veterinary auricular acupoint maps and use of laser auricular acupuncture to diagnose and treat musculoskeletal and internal medicine diseases is discussed. Several clinical cases are presented to illustrate clinical application of auricular acupuncture in both small animal and equine veterinary practice along with presentation of canine and equine ear acupoint maps of organ and orthopedic auricular acupoints.

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HISTORY OF AURICULAR ACUPUNCTURE

Ancient

Auricular acupuncture has a history dating back several thousand years. The 2,100-year old classic traditional Chinese medicine (TCM) text, *Huang Di Nei Jing* (Yellow Emperor's Classic of Internal Medicine), describes the connection of the auricle (ear) to organs of the body.¹⁻⁴ The text also describes the ear as directly connected to all *Yang* Meridians and indirectly to *Yin* Meridians through their *Yang* Meridian.³ Different authors added to the technique and in 1888AD Zhang Di-Shan divided the auricle into 5 regions with each respectively targeting the Heart, Lung, Liver, Spleen, and Kidney.³ Medical records from ancient Greece and Rome describe treatment of the ear for reproductive disorders, while ancient Persian medical texts describe treatment of sciatic pain by cauterization of points on the ear.^{4,5}

Modern

Auriculotherapy based on treatment of the ear as a somatotopic microsystem was first theorized by Dr. Paul Nogier of France in the 1950's.⁴ Dr. Nogier had noted that patients from North Africa presenting with hip pain had similar small, cauterized areas on the external ear and concluded that the cauterized points had likely been used by their North African doctors to treat their pain.⁴ He stimulated these points with acupuncture needles in other patients and successfully relieved hip pain in these individuals. With his knowledge of traditional Chinese medicine (TCM), Nogier knew that TCM did not include specific points on the ears but more commonly used the ears as Meridian treatment targets.⁵ He then began research into the utility of treatment of specific points on the ear. He continued to investigate the connection between specific places on the human ear and how they appeared to consistently correlate with certain regions of the human body, developing the concept of an inverted fetus map on the external ear.⁵ Without discarding traditional acupuncture, the attempt was made to locate exact cutaneous ear acupuncture points that correlated to specific regions of the body, internally and externally.

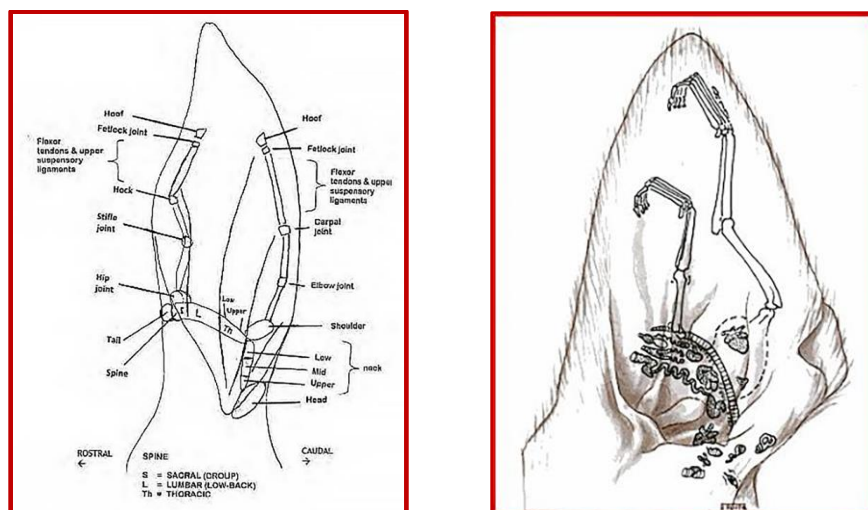
Nogier's findings were introduced in 1956 at the 1st Congress of French Acupuncturists by Dr. Niboyet.⁸ His discovery was then published in the *German Journal for Acupuncture* (1957), which led to worldwide spread. The discovery came to the attention of Dr. Hsiao Lin from Shanghai, who was responsible for acupuncture publications outside of China. He read about and reported on Nogier's ear acupuncture in the *Shanghai Chinese Medicine Journal*.⁸ The Chinese acupuncturists, through their own independent research in over 2000 patients, confirmed the efficacy of auricular acupuncture and developed their own ear point cartographies similar to Nogier's points, with new points added to Nogier's findings.⁴ The body of knowledge for auricular acupuncture (AA) introduced by Nogier has expanded worldwide with more than 1000 AA points identified. In 1990, AA was validated, and standardization introduced by the World Health Organization.^{3,4}

Dr. Frank Bahr, a German medical doctor and acupuncturist, further developed auricular acupuncture with the German Academy for Acupuncture in the decades following Nogier's findings.⁹ He described auricular points that correlated with nerves, endocrine/exocrine glands, vertebrae, spinal cord, and all sympathetic nervous system ganglions. He also described AA points with special systemic effects (i.e. superordinated points) that affect production of adrenocorticotrophic hormone (ACTH point), endorphins (Endorphin point), histamines (Histamine point), and prostaglandins (Prostaglandin point). These findings were published in 2010.⁹ In 2001, Colonel Richard Niemtzwow, a human physician and acupuncturist, applied Dr. Bahr's principles to develop an auriculotherapy protocol for use on the battlefield to control pain. Niemtzwow's protocol called for stimulation of auricular points with semi-permanent needles that could be left in place for longer periods of time to treat pain and injuries faced by military medical personnel in both clinical and operational settings (i.e. Battlefield Acupuncture).¹⁰⁻¹²

Veterinary Medicine and Auricular Acupuncture

Auricular acupuncture first found its way into veterinary medicine 30 years after Nogier's discovery. Artmeier, König, and Lambart began using ear acupuncture in dogs in the late 1970's.^{13,14} This was followed in the late 1980's by an interesting group of clinical studies conducted and published by Dr. Jan Still from South Africa. Dr. Still had noted localized tender points on the concave surface of the external auricle of dogs and horses. These points appeared to be associated with localized somatic pain in affected individuals, but no similar sensitivity was found in healthy dogs or horses. Still's clinical studies started with each animal receiving palpation of the concave surface of the external ear with either the medial or lateral edge of the thumb. The results were recorded with comparison of auricular and conventional exams. The findings suggested that auricular diagnosis was a useful tool in clinical practice and supported the theory that there was an association between auricular points and specific somatic areas (Figure 1a).^{9,15-17}

As interest increased in veterinary ear acupuncture, Krüger et al. introduced a canine musculoskeletal auricular point map in 1987 (Figure 1b).^{18,19} Further development continued as Dr. Uwe Peterman (author) studied with Dr. Bahr and began formulating auricular maps in horses and dogs in 1989. This resulted in the first modern equine ear acupoint chart which was followed by a textbook (2001) on AA in veterinary medicine (Figure 2).²⁰⁻²² Nearly all of Nogier's and Bahr's human points have now been identified by the author on the ears of dogs and horses with use of these points for diagnosis and treatment of musculoskeletal and internal medicine disorders. The author has also transposed the equine and canine Meridians and traditional acupuncture points to the ear. A subsequent textbook (2007) published more extensive clinical indications and maps of all ear Meridian pathways.²³⁻²⁵



Figures 1a and 1b: Early ear chart of the horse (1a) with proposed locations of equine auricular diagnostic acupoints created by Dr. Jan Still in the 1980's, based on examination of >400 horses and (1b) an ear chart in dogs created in 1987 by Dr. Kruger.^{17,19}

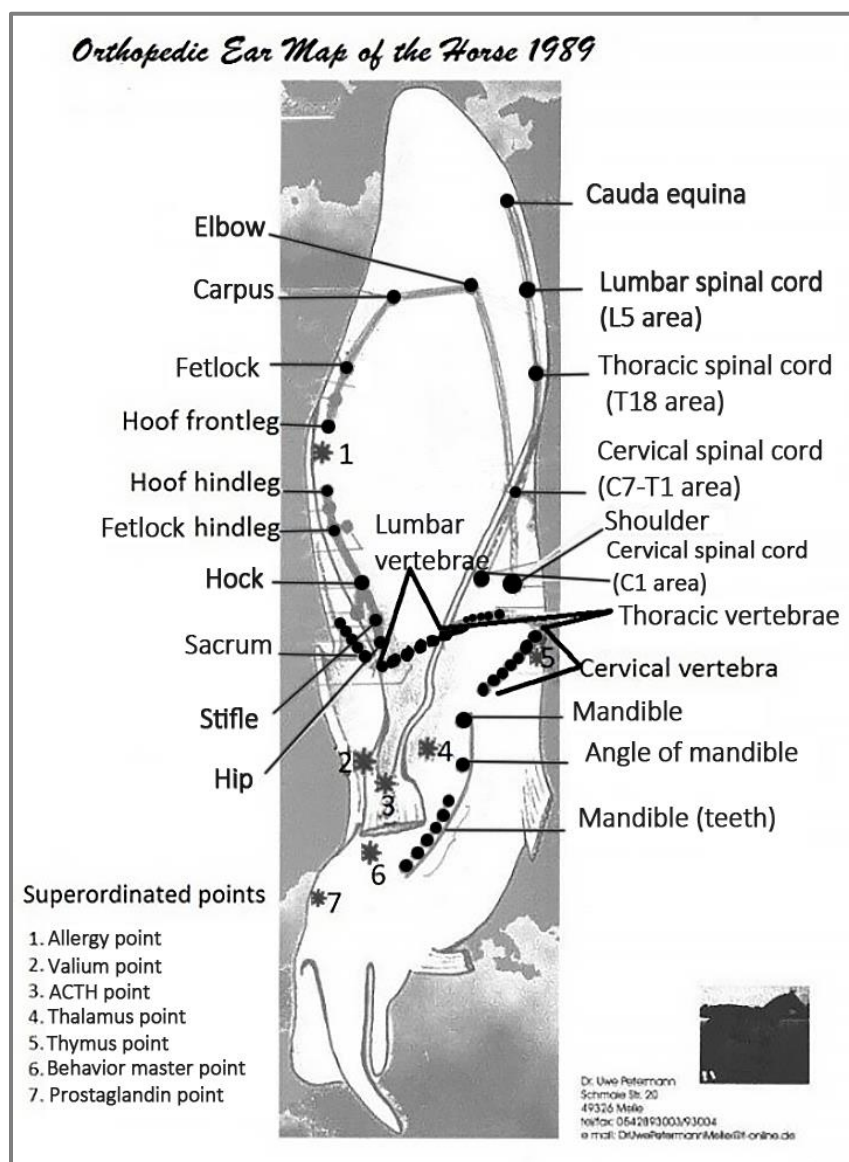


Figure 2: An auricular map of equine skeletal structures and superordinate points (numbered 1-7) with special effects, identified by Dr. Uwe Petermann and created in 1989. [Reprint with English translation by permission from Petermann U. www.akupunkturtierarzt.de]²⁵

MECHANISM OF AURICULAR MEDICINE

Auricular Innervation

The efficacy of auriculotherapy may be explained by the ear's complex innervation which is provided by cranial and spinal nerves. These are divided into motor (CN VII), and sensory which includes: auricular branches of the vagus (CN X), auriculotemporal nerve (CN V), sensory facial nerve (CN VII), glossopharyngeal nerve (CN IX), lesser occipital nerve (cervical plexus) and greater auricle nerve (cervical plexus).³⁻⁵ These auricular neuropathways interface with and modulate other neural trafficking including in the higher centers of the brain.

Mechanism of Action and Evidence-based Studies

The mechanism of action and validation by evidence-based studies of AA and its associated clinical effects (analgesia, anti-inflammatory, visceral diseases) have been investigated. A reflex connection between stimulation of the external ear and a cough reflex was noted in 1832 by a German professor of anatomy (Arnold's Reflex).⁵ This effect was later documented to be related to stimulation of the auricular branch of the vagus nerve (ABVN) and indicated there was a relationship between the auricle and the autonomic nervous system (somato-parasympathetic reflex).⁵ This relationship was further explored with findings documenting cranial nerves innervating the ear deliver fibers to the nucleus of the solitary tract (NTS) which also receives afferents from visceral organs.²⁶ The NTS outputs include the reticular formation, parasympathetic preganglionic neurons to viscera, the paraventricular nucleus of the hypothalamus, the thalamus (visceromotor center) and amygdala.³ The extensive neural trafficking of the NTS allows coordination of a number of clinical effects due to AA stimulation, including regulation of the cardiovascular, respiratory, gastrointestinal (GI) and endocrine systems.⁵ Stimulating the heart acupoint of the ear of rats was found to significantly lower arterial pressure and heart rate.⁶ Other research studies have documented a wide array of positive AA stimulation effects. These include respiratory sinus arrhythmia, motility of the GI tract and various reflexes (e.g. carotid sinus, aortic, gastroauricular, pulmonoauricular, oculocardiac, auriculogenital).^{3,5}

Auricular acupuncture is frequently used to manage pain with studies documenting analgesic effects for post-surgical, dental and musculoskeletal pain in humans.³ Auricular acupuncture does this through activation of the descending pain inhibitory pathway which modulates the ascending pain pathways.⁷ Additionally, it provides higher-center analgesic effects through the subcortical thalamus with a stimulation-induced analgesic effect which increases the concentration of beta-endorphins. This mechanism was investigated in a study producing dental analgesia with auricular electrical stimulation (AES). The AES treated patients had an elevated pain threshold of over 23% when compared to controls, however, that was reduced to less than 12% when given naloxone (opiate antagonist). These findings supported an endogenous opioid system as another mechanism for AES analgesia.²⁷

Several studies have shown increased pain thresholds in humans associated with auricular transcutaneous electrical nerve stimulation (TENS) at low frequency (1 Hz) with high intensity (1000µA). Additional AA clinical research in humans has documented improved post-surgical pain relief, AES reduced anaesthetic requirement during surgery and improved pain relief for the low back and migraines.³ Alimi et al. found the level of cancer pain decreased 36% in their AA study group.²⁸ Along with pain reduction, an anti-inflammatory effect of AA was shown to be via the cholinergic anti-inflammatory pathway and produced serum reduction of proinflammatory cytokines. Of interest, the investigators noted that electrical stimulation of the ear increased the pain threshold for the entire body and not just the somatotopic zone of the stimulated auricular point.²⁹

Functional Magnetic Resonance Imaging (fMRI)

The neurological connections of AA points to the central nervous system have been shown in studies using functional magnetic resonance imaging (fMRI). In one study, Alimi et al. demonstrated that acupuncture at the ear point for the hand leads to fMRI changes in the somatosensory cortex for the hand.²⁰ Romoli employed fMRI to verify AA point specificity³⁰, and in 2014 additional work by Alimi used fMRI to further investigate auricular point topography.³¹

AURICULAR ACUPUNCTURE

Biomedical Compared to Chinese Medicine Approach

Auricular acupuncture can be approached 2 different ways: 1) Nogier's biomedical approach, or 2) TCM approach. Nogier's biomedical approach is based on the theory that the auricle or outer portion of the ear is a microsystem of acupuncture points arranged in a somatotopic pattern. These points have reflex connections to specific areas of the body representing distant neural reflex zones which are useful for clinical diagnosis and therapy.^{15,32} The second approach, through TCM, places an emphasis on acupuncture of the ear to influence bodily functions based on moderation of Qi flow through the Meridians and TCM theory (e.g. Yin, Yang, Qi, Five Elements). The diagnostic and treatment approaches differ between the biomedical approach using ear acupuncture only, or TCM which uses acupuncture points located on Meridians coursing across the body and TCM theory. In contemporary auricular acupuncture practice, auricular medicine has increasingly integrated the TCM approach with the biomedical approach, emphasizing the parallels between auricular and traditional acupuncture, for a broader approach to auriculotherapy.¹⁰

Detection of Auricular Points

French and Chinese physicians determined that in addition to the ear being used for treatment of medical disorders, the auricle could also be used for diagnosis of body dysfunctions.² The auricular points are normally "electrically silent".² That is stimulation by various means (e.g. mechanical, acupuncture needle, laser, 3-volt hammer)

does not produce a detectable reaction. When there is a pathological condition, however, these silent points become “electrically active”.² This could be considered similar to an equine acupuncture point sensitivity scan. Mechanical stimulation along a Meridian with an object (i.e. needle cap) detects reactive acupuncture points (flinching/pain reaction) while acupuncture points without pathology remain silent (i.e. no pain).

Dr. Nogier first detected reactive auricular points when he noticed momentary alternations in the radial pulses of his patients when some points were stimulated with acupuncture needles. He assumed initially that it was a cardiac reflex that changed the pulsation and named this reaction “Reflexe Auriculocardiaque” (RAC).³ Nogier later realized the momentary pulse changes resulted from stimulation of autonomic nerves associated with the arterio-venous shunts and thus changed the name to vascular autonomic sign (VAS).^{9,33} Further, he found that there was directionality to the VAS. A “positive VAS,” was defined as instances when the pulse became fuller, vibrant, bulging or harder when an ear point was stimulated and a “negative VAS” was when the pulse became weakened, soft, hollow, or duller when a point was stimulated.^{9,34}

Nogier’s VAS/RAC diagnostic technique consisted of the practitioner stimulating an acupoint on a patient’s external ear and simultaneously palpating the patient’s radial pulse to detect pulse changes. As reactive points were stimulated, the amplitude of the patient’s pulse changed momentarily (stronger versus weaker), enabling Nogier to identify reactive areas of the ear (i.e. reactive auricular points). He then used this pulse change to more accurately pinpoint areas of pathology. Since Nogier’s first use of the radial artery, the detection of VAS has broadened to using carotid, femoral or surrogate pulse changes when acupoints

are stimulated. Additionally, stimulation of ear “reactive points” has broadened from the initial use of acupuncture needles to the use of lasers or a 3-volt hammer. Dr. Nogier realized that acupoints which induced a strong VAS (RAC) were not only useful for diagnosis, but also had the best therapeutic effect for his patients when treated.⁹

Dr. Nogier developed a 3-volt device with a positive and negative pole that would consistently induce positive or negative pulse changes (VAS) from “active” points. The diagnostic tool became known as the 3-volt hammer^a. For example, if the auricular hip point evoked a VAS change, then that AA point should be treated as hip function was abnormal. Using the 3-volt hammer to detect “active” points in patients with various diseases, Dr. Nogier was able to develop more detailed maps of the joint and organ auricular points and a sensitive diagnostic system useful for musculoskeletal and internal medicine disorders.

The same response/effect was found in dogs and horses by this author. The auricular points can be scanned with one of these diagnostic devices (i.e. 3-volt hammer or laser) to detect “active” points. The corresponding body acupoints can also be evaluated to confirm the findings. A technique often used by the author is to hold the detection device (laser or 3-volt hammer) to test the auricular point (or reactive body acupoint) with the right hand and to feel one’s own left temporal or carotid artery pulse (surrogate pulse) with the fingers of the left hand to detect a VAS/RAC change in the author’s pulse (Figure 3). In the author’s experience, the result has been the same as palpating the patient’s carotid or femoral pulses directly to detect a VAS. “Pulse controlled” therapy then refers to treatment guidance provided by monitoring the pulse changes at different auricular points and body acupoints through evaluation of VAS with the 3-volt hammer or the laser device.



Figure 3: The author is sweeping a 3-volt hammer (3-V) along the ear with the right hand, while the left hand is on the author’s temporal pulse (left picture) or the author’s carotid pulse (right picture) to detect changes in the author’s pulse as the 3-V device passes over a reactive ear point. This surrogate method (author’s pulse change) is used to diagnose “active” auricular points (i.e. vascular autonomic sign/VAS) in the horse’s ear.

VETERINARY AURICULAR ACUPUNCTURE

Transposition of Body Acupuncture Points to the Ear

Colleagues in the European Acupuncture Association working with Dr. Bahr investigated the correlation between auricular and body acupoints. They found a method that connected ear points to each body acupuncture point. The transposition of all Meridian/Channel acupoints was carried out by activating each individual body acupuncture point with a laser frequency specific to the individual Meridian and simultaneously searching for the corresponding ear point with the same Meridian frequency on the ear. These were known as the Bahr laser frequencies (Bfr). Using the auricular and acupoint VAS/RAC pulse diagnostic system, Dr. Manfred Reininger, an Austrian human physician and acupuncturist developed a range of laser frequencies known as the Reininger frequencies (Rfr). These could be used to treat acupoints of specific Channels and organs.⁹ He documented each Meridian only resonates with a specific laser frequency. For example, the acupoint LIV-8 on the body is irradiated with the frequency of the Liver Meridian (442 Hz, Rfr-LIV), and only the corresponding ear point (i.e. LIV-8) is reactive on the ear. The Reininger frequencies provided specific and effective stimulation of acupoints. With the work of Nogier, Bahr and Reininger, three laser frequencies (bearing their names) were identified and organized for use in the practice of auriculotherapy (Table 1).

Since the ear maps for the organs were already known, it was now possible to exactly compare the location of the exact body acupoint with the ear point. Thus, the

acupoint LIV-8 that correlated with a point on the ear was found to be the identical location of the already known organ-point for the Liver. In the same way, acupoint SP-6 was found on the ear (i.e. same as previously identified Uterus point on ear) and thus indicated a dysfunction of the uterus, such as pyometra or endometritis, which could also be treated via this point. Other examples included the ear Ovarian point corresponded to SP-5, and the auricular Pituitary point corresponded to LIV-13.

Following this detailed work, clinicians using auricular diagnosis for humans, could conveniently just test the ear for VAS rebounds and be able to locate internal disease (e.g. “Liver”, “Heart”, “Lung”) or anatomic sites of pain/inflammation (e.g. “shoulder”, “elbow”, “carpus”). These locations on the ear could then be treated to resolve clinical disorders (Figure 4).

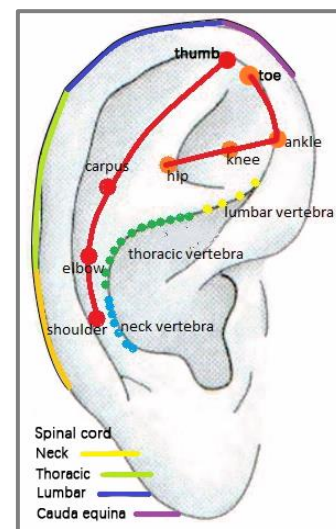


Figure 4: Orthopedic auricular points on the human ear; map created by Dr. Uwe Petermann

Table 1: Comparison of indications and attributes of the Nogier, Bahr and Reininger frequencies used for laser acupuncture

Nogier Frequencies																									
Frequency		A'/A''		B'		C'		D'		E'		F'		G'											
Hz		292/37,376		584		1,168		2,336		4,672		9,344		18,688											
Indications		- Wounds, inflammation, - Irritable foci in body and teeth		- Tendonitis, arthritis, fractures, - Organ acupoints		- Tendonitis, arthritis, fractures, - All body acupoints except feet		Acupoints of the feet		Nerve and spinal cord diseases		- Mandibular joint - Subcortical brain disorders		- Cerebral cortex - Mental disorders											
Bahr Frequencies																									
Frequency		1		2		3		4		5		6		7											
Hz		599.5		1,199		2,398		4,796		9,592		19,184		38,368											
Indications and Attributes		- Deep tissue layer, - “Deep” points (source of illness, related to the sympathetic system)		- Central tissue layer, - Middle points (related to parasympathetic system)		- Surface tissue structures, - Omega Ren Channel		Omega Du Channel		Opening acupoints of the Eight Extraordinary Channels		Governing Vessel		- Conception Vessel, - “Hidden” foci in teeth											
Reininger* Frequencies (Meridian frequencies)																									
Channel		LIV		ST		HT		PC		LI		GB		KID		BL		SP		TH		SI		LU	
Hz		442		471		497		530		553		583		611		667		702		732		791		834	

* Used for treatment of acupoints on specific Channels/Meridians and topical treatment of related organs; LIV=Liver, ST=Stomach, HT=Heart, PC=Pericardium, LI=Large Intestine, GB=Gallbladder, KID=Kidney, BL=Bladder, SP=Spleen, TH=Triple Heater, SI=Small Intestine, LU=Lung Channels

Methodology of Mapping and Creating Charts for Veterinary Musculoskeletal Auricular Points

The author studied the techniques developed for humans and then applied these to map out veterinary anatomic locations of interest in the late 1980's into the 1990's. Three dogs (1-year-old and 3-year-old female Labrador Retrievers, 11-year-old terrier) and 2 horses (13-year-old Welsh pony, 5-year-old Hanoverian, geldings) were used for chart development. Using a "double laser" technique, the animal was irradiated with a 90W (watts), 904nm pulsed laser^b (Nogier C frequency [Nfr-C]) at an anatomic location on the body. At the same time, a second person searched for a reactive ear point using VAS resonance with a 2nd pulsed laser also set at Nfr-C (laser frequency for musculoskeletal). A corresponding point on the ear was clearly found for each vertebra and joint, as

well as for each single tooth. All points were marked directly on the ear of the dogs and at the same time drawn on an ear chart mapping the points. (Figures 5 and 6, orthopedic points). The same method was used to determine the ear points on the horses (Figure 7, orthopedic points). The VAS response at the ear was found to consistently repeat to the same irradiated anatomic site on each of the animals.

The mapping of these points was based on the mechanism that irradiating a point on the body with a laser, creates a neuro-reflex, which activates an ear point which is not normally active. This same mechanism is observed when an injury happens to an area of the body (i.e. stifle trauma); there is an immediate corresponding ear point that becomes reactive due to this neural reflex.

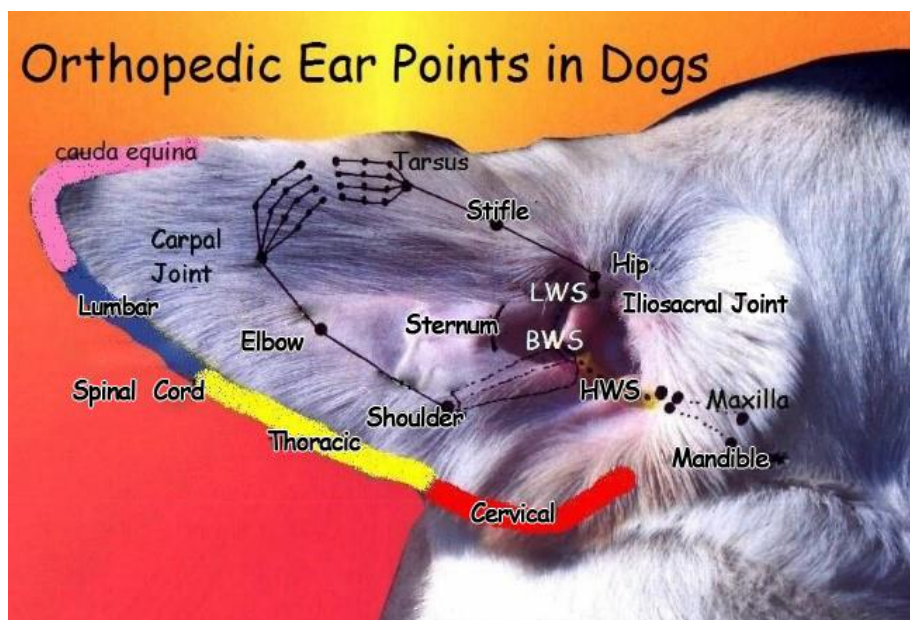


Figure 5: Skeletal structures and teeth identified by the author and an auricular map of these created in 2006; Spinal cord points (red, yellow, blue, pink areas, on outer edge of the pinna), HWS= neck vertebrae, BWS= thoracic vertebrae, LWS= lumbar vertebrae (Reprinted with English translation by permission from Petermann U.)³⁴

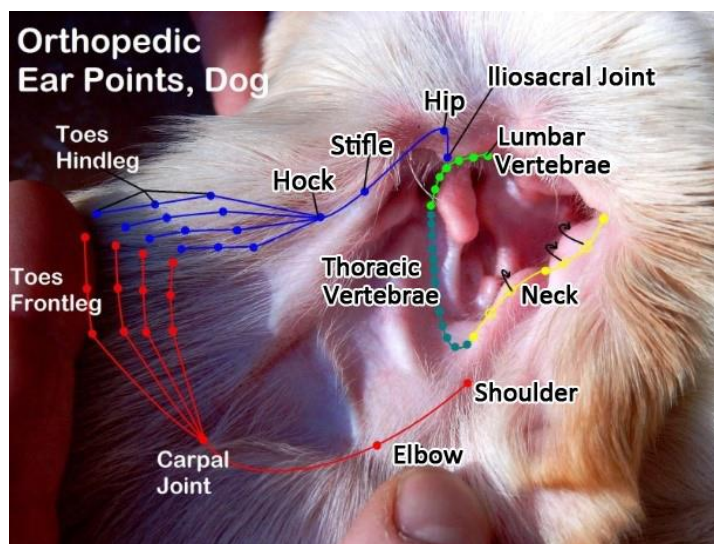


Figure 6: Locations of joints and vertebra auricular points [Reprinted with permission from Petermann U.]²⁵

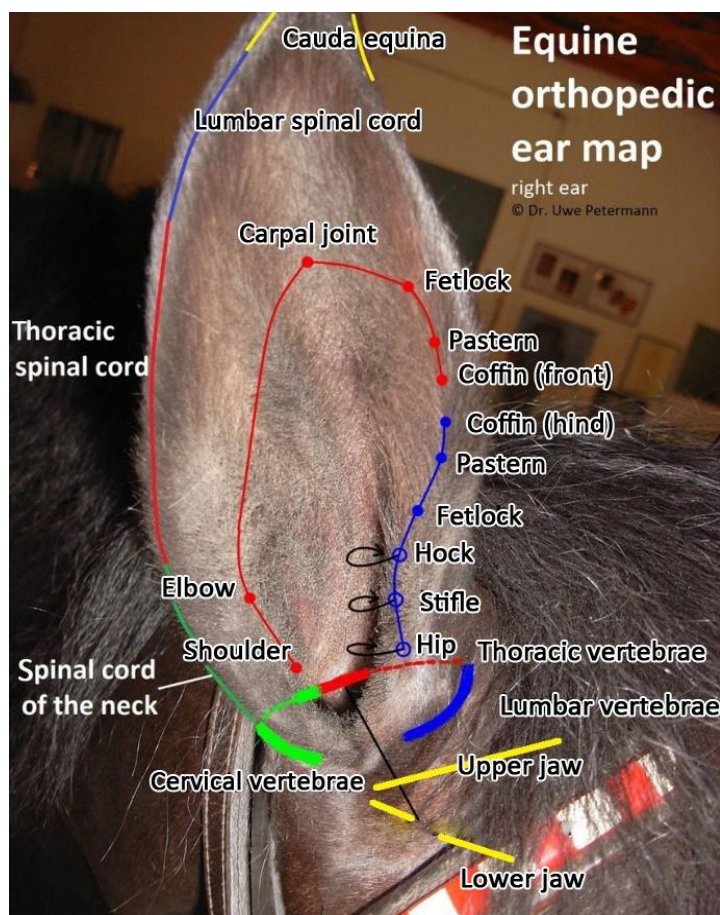


Figure 7: Equine orthopedic ear map; thick green line (cervical vertebrae), thick red with dots (thoracic vertebrae), thick blue line (lumbar vertebrae); [Reprinted with permission from Petermann U.]³⁴



Figure 8: Heart Meridian pathway demonstrating auricular acupuncture points on the canine ear that reflect these same acupuncture points on the body.

Meridian Mapping of Veterinary Auricular Points

Point identification was started with the vertebral bodies of the spinal column, joints, and each tooth in the upper and lower jaw of all 3 dogs and 2 horses. Over time, all Meridians/Channels with important acupoints have been transposed to the canine and equine ears; thus, an acupuncture point can be treated either on the ear or at its location on the body (Figure 8, Heart Meridian example). Using auricular points, diagnosis of internal diseases or a specific lameness diagnosis can be made within a few minutes and then treated on the ear, body or at both locations (Table 2).³⁴

INDICATIONS FOR VETERINARY AURICULAR ACUPUNCTURE

Musculoskeletal

Auricular acupuncture is useful for musculoskeletal disease and is particularly good for spinal disorders (Figures 5, 6 and 7). The use of the laser set at the Nogier musculoskeletal frequency (Nfr-C) is for joint points such as hip or elbow as well as for the vertebrae of the whole spinal column (Table 1). In addition to ear points used for musculoskeletal conditions (e.g. affected joint, vertebrae), supplemental points are added to optimize treatment such as: Thalamus point (LI-4) and Prostaglandin point (GB-41) for inflammation, Anabolic-Master point (SP-2) for tissue regeneration, and Celiac Plexus (SI-3) in cases with muscle spasms, especially if the whole back is affected with muscle tension/rigidity.

Lameness Diagnosis

Auriculo-diagnosis is effective in diagnosing lameness in horses and dogs. The accuracy of lameness diagnosis using VAS localization of reactive joint points in the ears of dogs and horses was investigated by the author. Over a 10-year period, lameness diagnosis using conventional diagnostics (e.g. nerve block aesthesia, ultrasound, radiographs) was compared to using auricular VAS diagnosis of reactive points by the author. These points were used to identify pathology at specific anatomic sites with auricular points on the left ear usually correlating with the left limb and reactive right auricular points with the right limb. Radiographs and any other diagnostics from the previous treating clinics were not reviewed until after the auriculo-diagnosis was made in order to prevent bias. When comparing the results, the author found a high level of agreement between auriculo-diagnosis and conventional diagnostics.

Other benefits to identifying reactive points on the ear for an affected joint, is the ability to find associated vertebral blockage (i.e. chiropractic restriction/irritated nerve segment) or a connected *Zang-fu* organ weakness (e.g. “deep-” or “middle-” point) which was predisposing the patient to the current lameness. For example, if the hip point of the

ear evoked a strong VAS, then the hip was abnormal. Additionally, if the auricular Liver point was reactive, an underlying imbalance in the Liver was present. Added to this could be a scan of the Bladder Channel along the back with the 3-volt hammer; or better, a laser set at Nogier “C” frequency to detect active Back-*shu* Association points indicating local blockage and/or organ involvement.

Internal Medicine

Diseases of organs and organ systems may be diagnosed by finding reactive points (VAS approach) in the ear and then treated with auricular acupuncture. A wide variety of disorders may be treated with the auricular organ points such as: Liver (Liver ear point), Kidney

(Kidney ear point), Cushing Disease (Pituitary point), Chronic Obstructive Pulmonary Disease [COPD] (Lung point). For example, finding reactive Kidney and Lung points would indicate a Lung disorder complicated by Kidney, such as found in allergic lung disease (Figures 9, 10a and 10b). A reactive Thymus point and reactive tooth/jaw point, may reveal an underlying etiology of allergic lung disease associated with pathology in the tooth (Figures 2, 5 and 7). The treatment of the VAS found ear points with the laser or with acupuncture needles has been found to be effective for internal medicine issues in the author’s experience. Additionally, the practitioner may combine conventional or TCVM approach to treat these conditions.

Table 2: Summary list of ear points with their corresponding body points and their anatomical or functional areas of influence as determined by VAS/RAC investigation. For example, the Liver point of the ear (identical with body point LIV-8) supports the Liver. The Lung point of the ear (corresponding body acupoint LU-7) supports and regulates the function of the Lung. The Uterus point of the ear (corresponding body acupoint SP-6) supports the uterus.

Auricular Points (Organ Points/Functional Points)	Corresponding Acupuncture Points	Actions
Lung Point	LU-7	Lung point of the ear, supports and regulates function of the Lung
Larynx Point	LU-11	Laryngitis, tonsillitis, acute/early respiratory infection
Thalamus Point	LI-4	Reduces acute and chronic pain
Nose Point	LI-20	Treat sinusitis
Spleen Point (left side) Pancreas (right side)	SP-2	Spleen issues Pancreatitis, anabolic Master point, tissue generation
Interferon Point	SP-4	Immunomodulatory – boosts immune system
Ovary/Testis Point	SP-5	Ovary/testis/breeding problems
Uterus Point	SP-6	Uterus point – supports the uterus
Heart Point (muscle)	HT-3	Motor muscle heart point (for heart-muscle-disease)
Heart Point (autonomous function)	HT-4	Autonomic control of heart function
Happiness-Point, Anti-depression Point	HT-9	Treatment point for shock, magnesium point, psychic disorders
Small Intestine	SI-3	Autonomic nerve function/cealic plexus, intestine spasm relief/spasmodic Master point
Histamine Point	BL-40	Allergy
Diazepam Point	KID-6	Calm down; decrease sympathetic nervous system stimulation
Kidney Point	KID-7	Kidney disease and weakness
Stellate Ganglion Point	PC-6	Collection sympathetic nerves (C6, C7) supplying face and front legs, heart function
Adrenalin Point	PC-9	Treat Shock (like HT-9)
Cortisol Point	TH-3	Adrenal gland treatment
Insulin Point	TH-4	Secretory pancreas, diabetes mellitus
Thymus Point	TH-5	Disturbing foci, immune stimulation, Master point against infection (with SP-4), midday-midnight connection, tissue demarcation in wound conditions
Eye Point	GB-1	Eye conditions
Prostaglandin E1 (PE1)-Point	GB-41	Chronic pain, anti-inflammatory (particularly good for chronic degenerative joint disease)
Pituitary Point	LIV-13	For ACTH-prolactin-stimulation, Equine Cushing’s Disease
Liver Point	LIV-8	Liver disease/weakness

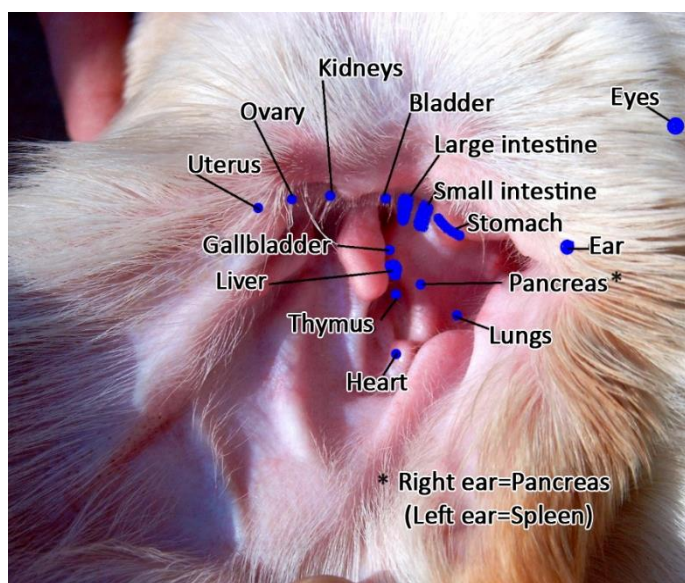


Figure 9: Ear Chart of the "Organ Points", dogs (Reprinted with English translation by permission from Petermann U.)³⁵

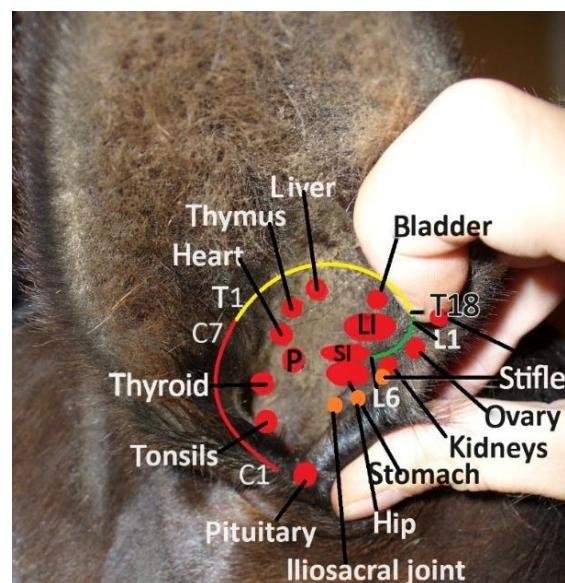


Figure 10b: Magnified detail of Figure 10a (inside right ear) showing location of equine auricular organ points; Red = C1-C7 cervical vertebrae; Yellow = T1-T18 thoracic vertebrae; Green = L1-L6 lumbar vertebrae; P = pancreas right ear, spleen left ear; SI = small intestine; LI = large intestine (Reprinted with English translation by permission from Petermann U.)³⁵

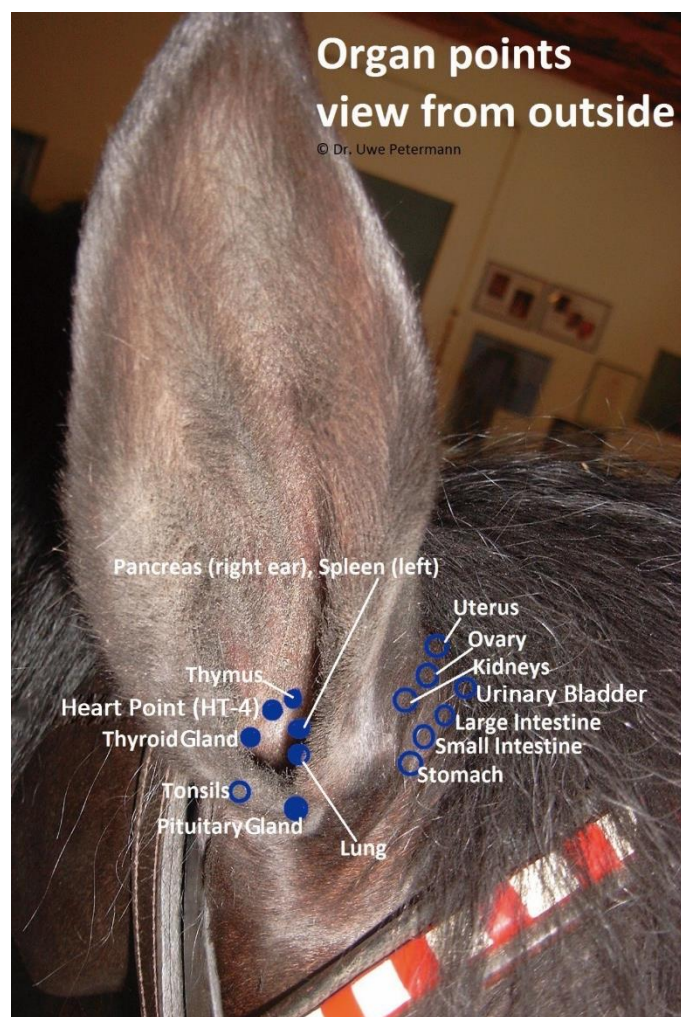


Figure 10a: Ear Chart of the "Organ Points", view inside right ear, horse (Reprinted with English translation by permission from Petermann U.)³⁵

Neurology

One of the most common neurological clinical presentations in dogs is ataxia associated with intervertebral disc disease or trauma. These neurological deficits are very often curable and may preclude the need for surgery. Auricular acupuncture points in these patients are individual to the case as it is important to select acupoints in the ear local to the area of pathology. The acupuncture points treated are mainly in the area of the spinal cord AA points with Nfr-E (neurological frequency) and the connected vertebra or Back-shu point with musculoskeletal Nfr-C frequency. General AA points to augment specific local treatment include SI-3 (celiac plexus), Master point of neural disease on the ear (KID-4), Prostaglandin E1 point (GB-41) and Thymus point (TH-5). These AA points are illustrated in the figures presented with clinical cases 1-5.

Wound Healing

Local laser treatment along with auricular medicine are good supplemental therapy to address wound healing complications. The auricular points for wounds are Thymus point (TH-5) and Interferon point (SP-4), and used as Master points against infection. These 2 points are both Opening (Cardinal) points and Luo-Connecting points. As Cardinal points they show stronger VAS reactions with laser frequency setting of Bfr 5. As Luo-Connecting points, however, they show strongest VAS-reaction on the Reninger frequency (Rfr) organ points of Spleen and Triple Heater (TH). In the combination as Master points against infection they are combined by the midday-midnight rule (circadian rhythm of internal organs influence their paired organs according to time of

day) and detected and treated with the Rfr. The Pancreas point (SP-2) for support of wound healing is treated with Rfr Spleen. If it is found to be the “deep” or “middle” point with Bfr 1 or 2, it can be treated with the Bahr frequencies (refer to diagnosis and treatment techniques next section). The corresponding ear point of the wound location will be found with Nfr-A’ or A” and can be treated at the ear with the same frequency. For even better treatment, the AA can be stimulated by placement of a semi-permanent needle for about 8 days (if needle will stay in place that long). The infected wound itself has to be treated by local laser therapy with Nfr-A” for about 3 minutes until VAS signal disappears.

DIAGNOSIS AND TREATMENT TECHNIQUES FOR AURICULAR ACUPUNCTURE

Basic Auriculotherapy Technique

There is a simple protocol which can be followed for AA diagnosis in clinical cases that does not require a specialized laser. This protocol is more effective for acute cases, but may be applied to any case.

1. Identify reactive “organ” auricular points for internal disease or weakness in an organ. Even in musculoskeletal cases, there will many times be a reactive organ point. One searches for a VAS response at the “organ area” of the ear with a 3-volt hammer or any therapeutic laser (even without special frequencies). One can also use the body acupoints that are identical to the ear-point (e.g. LIV-8 on the body and Liver point on the ear). The VAS reaction with a non-specific therapeutic laser, however, is less strong than with a laser set at the correct frequency.
2. Scan the area of the spinal column/vertebra on the ear with the 3-volt-hammer for reactive points. In a 2nd step you can check the corresponding vertebra on the animal’s back with the 3-volt-hammer as well, to find which vertebra(e) are blocked.
3. In case of lameness, scan both ears at the area of joint points (front and hindleg areas) to identify which joints are affected. For any lameness, additionally check the vertebra area and the spinal cord area because joint problems are nearly always connected to vertebra blocks.
4. Finally, scan acupoints which might be considered helpful to treat this individual and check it by VAS to see if it is an “active” point.
5. All active points can be treated by a needle at the ear or the corresponding body acupoint. The effect of placing an ear needle in a vertebra or joint point can be immediate and can lead to immediate cessation of pain.

Advanced Auriculotherapy Technique with Specialized Laser Equipment

The advanced auricular diagnosis/treatment protocol is effective for chronic clinical cases that are presented to a clinician. This protocol covers auricular diagnosis with lasers that can be set to the Nogier, Bahr, Reininger frequencies (Table 1).

1. Search for a “hidden” disturbing focus in the teeth that may be causing a patient’s chronic problems (web video^c). Using Bahr 7 (Bfr) laser frequency, search both the right and left ear in the teeth/jaw area for a VAS positive reaction to Bfr 7. If there is a resonance on the right or the left ear, scan the jaw adjacent to the teeth on the same side of the body and find a tooth which demonstrates a VAS reaction with that same frequency. The jaw at the base of that tooth is treated with Bfr 7 until there is no VAS reaction (about 1-2 minutes).
2. Search for the primary *Zang-fu* “Organ” point that is out of balance using Bfr 1. In every patient there is one “Deep point” where the illness starts (Sympathetic point). Even in musculoskeletal cases when a *Zang-fu* organ seems not to be the main problem of an individual, a problem organ point can be found. There is only one problem organ point on the ear which matches the body. Both the body and ear will react to Bfr 1 (e.g. Liver point on the ear and LIV-8 acupoint on the body are identical and react to Bfr 1). It can be unilateral, on the right or left side, and should be treated with the Bfr 1 frequency.
3. Search for the 2nd most important “Organ” point that is out of balance using Bfr 2. This is called the “Middle point” (Parasympathetic point). There again, only one point on the ear matches the body and it should be treated with Bfr 2 frequency.
4. Next point of the protocol is the *Qi* Stagnation point. The frequency for this point on the author’s laser^b is identified as “Master *Qi*”. Again, only one point (the same point location) on the right and left ears should be treated with the frequency it was found with “*Qi* movement” or “Master *Qi*” (7,695 Hz).
5. The next point of the protocol is the “Selfheal-point”. This is found with the laser frequency on the author’s laser “Selfheal”. Again, only one point is found (the same point) on each ear. This should be treated with the frequency it was found which is “Selfheal” (4,625 Hz).
6. Searching for “normal” disturbing foci anywhere on the whole body can be done with Nogier A’ (292 Hz) or A” (37,376 Hz) frequency along the ears. These are areas that appear normal but are disturbing foci (e.g. teeth, scars). If when scanning the ear, the practitioner identifies a disturbing focus location, then the corresponding body area should be searched, where the focus should be located (e.g. molar tooth, right front fetlock area); the scar or tooth can be treated with Nogier A” frequency until the VAS signal disappears.
7. The next step is to look for problems in the spinal column and identify which vertebra may be affected (blocked). In case of a lameness, identify which joints are problematic or what “organ” in addition to those already found may be affected in case of internal disease. The musculoskeletal frequency, Nfr-C, is for joint points (e.g. hip, elbow), as well as for the vertebra in the entire spinal column. The neuro frequency (Nfr-E) may be used for spinal cord problems and each segmental spinal nerve.

8. Finally, one can add acupoints to the treatment protocol, determined to be needed by TCVM assessment of an individual, and check them by VAS to see if they are still an “active” point, which should be treated. Frequently, acupoints thought to need treatment have already been balanced by the foregoing protocol and do not require treatment.
9. A note to the clinician on disturbing foci: “hidden” disturbing foci are special disturbing foci found only at the teeth with Bfr 7. They are called “hidden” because clinicians suspected their existence for years but could’t detect them. These points were later detected by using Bahr frequency 7. The “normal” disturbing foci (e.g. teeth, scars) can be detected with Nogier laser frequencies A’ or A”.

CLINICAL CASE EXAMPLES

Clinical Case 1: Musculoskeletal Case Example

A 6.5-year-old intact male Newfoundland dog had been suffering from progressive polyarthritis for 6 years. The disease began at the age of 6 months and rapidly progressed such that conventional pain medications and physiotherapy were not adequate in managing his pain. Treatment started early (at 6 months old), initially with small doses of cortisone and later with increasing doses as the condition worsened. Attempts to reduce the cortisone dose (due to adverse side effects) had led to severe clinical deterioration of the dog. The patient, therefore, had been treated with cortisone for approximately 6 years, however, pain and mobility had continued to worsen on this therapy.

At initial examination, the dog was emaciated with pronounced generalized muscle atrophy and with severe diffuse alopecia. He was almost immobile, with any movement associated with obvious pain. Both elbow and tarsal joints were markedly thickened (Figure 11). Due to the extremely poor clinical presentation, it was agreed that only a short treatment attempt would be made. Continued treatment would be based on whether the situation was still acceptable for the animal.

When laser acupuncture treatment began, all pharmaceuticals, including cortisone, non-steroidal anti-inflammatories (NSAIDs), and antibiotics were discontinued. Auricular diagnosis and treatment used the same laser frequencies and consisted of the following treatment steps:

- 1) Laser treatment with Nfr-A” of the affected joints for

4 min each (20-30 joules); 2) auricular acupuncture using the laser was performed at the Thymus point/TH-5 and Prostaglandin E1 point/GB-41 (Bfr 5 frequency) to treat pain and inflammation. The Adrenal Gland point/TH-3 (Rfr-TH) and ACTH/Pituitary point/LIV-13 (Rfr-LIV) were treated for cortisol regulation (Figure 12). Each point was treated with the selected frequency for 30 seconds (common duration for laser acupoint stimulation). Teeth foci found by VAS/RAC diagnosis at the tooth roots of M1 upper jaw (both sides) were treated with Nfr-A” laser frequency setting for 2 min each side.

After the first treatment, the owners confirmed a significant reduction in pain for the patient. At the second treatment a week later, they stated that the dog had more energy and continued pain reduction (web video^d). After 14 days, hair regrowth had started along the dog’s back and the marked muscle atrophy was improving (Figure 11). The swelling in the joints had decreased significantly along with improved mobility. The dog had begun to encourage people to play with him again, which was a behavior that had not been seen in years. During the following 6 treatments, over 10 weeks, a continuous improvement in the overall condition was observed. At the conclusion of therapy, 3 months after clinical presentation, the dog was healthy, able to walk, trot and gallop normally with only a small amount of clumsiness/ataxia. Without further treatment, he was pain-free until he died 4 years later (cause of death unknown) at the age of 10-years.

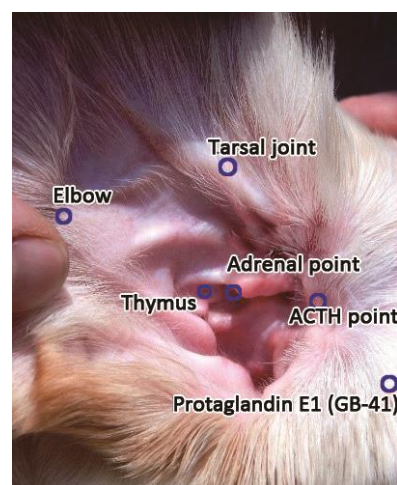


Figure 12: Auricular points used for treatment of a Newfoundland dog with chronic progressive arthritis



Figure 11: Left picture, Newfoundland dog at time of medical presentation for treatment of 6-year duration of progressive polyarthritis; Right picture, patient after auricular/laser acupuncture therapy.

Clinical Case 2: Neurology

A 6-year-old intact female French bulldog with acute hindquarter paralysis (Grade 5 paraplegia, modified Frankel score) was presented for evaluation after 4 days of conventional therapy. Diagnosis included: 1) auricular scan with laser frequency for nerves (Nfr-E'), which showed a strong VAS/RAC reaction at the spinal cord area of the lumbar region and the cauda equina. Both areas also reacted to Nfr-A'' (Nogier frequency for inflammation) which demonstrated this area was acting as a disturbing focus; 2) going to the body, the Back-shu points along the lumbar vertebrae yielded a positive reaction on Nfr-C' (musculoskeletal frequency); 3) local diagnostics in this area with the laser using Nfr-E' and Nfr-A'' identified the area of trauma at L4 with additional involvement of the cauda equina (Figure 13). Treatment included auriculo-acupuncture: 1) laser set at frequencies Nfr-E' and Nfr-A'' for 40 seconds at each reactive point; 2) body laser acupuncture (LAP) on the found areas of the lumbar spine and cauda equina for 2 minutes each point and 3) laser treatment of either the auricular or body acupuncture points at Celiac Plexus point/SI-3 (autonomic nerve function), Master point for neurological disease at the ear/KID-4, Prostaglandin E1 point/GB-41 and Thymus point/TH-5. Each point was irradiated for 30 seconds.

The second treatment used the same protocol 6 days later. At this session, the dog demonstrated return of deep pain and weak motor function (Grade 3). After another 4 days, during the 3rd treatment, she was able to walk a few steps and get up again with light support after falling. After 1 month, which included 5 treatment sessions, the dog was walking almost normally and had slowly increased to 20-minute walks daily with her owner. The frequency of the sessions was decreased to every six months for follow-up and LAP treatment. The dog was able to maintain normal mobility and return to normal activities such as playing with the owners.

Clinical Case 3: Internal Medicine - Equine

A 27-year-old Friesian gelding diagnosed with pituitary pars intermedia dysfunction (PPID, equine Cushing's disease) and had been treated with pergolide^e (4 mcg/kg) for 3 years was presented for evaluation. At the time of presentation, the horse was lethargic and in very poor condition (body condition score 3/9). He suffered from severe loss of muscle (particularly the topline) and the back was sunken (Figure 14). The skin was characterized by multifocal hyperkeratotic plaques, a long shaggy hair coat and areas of marked alopecia. The horse also had severe unilateral necrotic hemorrhagic sinusitis (left side of the head). The sinusitis had previously been treated for over 1 year with various antibiotic combinations. Using the diagnostic protocol described previously, the P4 and M1 teeth were identified as "disturbing foci" on both sides of the jaw. The purulent sinusitis present on the left side of the head appeared to be associated with the teeth.

Auricular points or the corresponding body acupuncture points can be used with the same effectiveness. All points were treated with a 90W/904nm pulsed laser^b for 30 seconds: Thymus point or TH-5, Thyroid point or TH-7, Spleen point or SP-2, Kidney point or KID-7, Liver point or LIV-8, Prostaglandin E1 point or GB-41, Pituitary point or LIV-13; all with the Reininger frequency for the treated Meridian (Figure 15). In addition to treating the ear at the Pituitary point, the body treatment for pituitary disease consisted of low level laser therapy (LLLT) applied between the eye and mandibular joint using the frequencies Nfr-A'' and the Reininger Liver frequency for 1 min each on both sides. Liver frequency was selected because the corresponding body point is a Liver point (LIV-13). Additionally, the teeth inflammatory foci of all 4 affected teeth and the sinusitis were treated topically with LLLT (Nfr-A'', 1-2 minutes, 20-40 Joules). To support the Kidney, the acupoint KID-3 on the body was treated with Bfr 5 for 30 seconds.

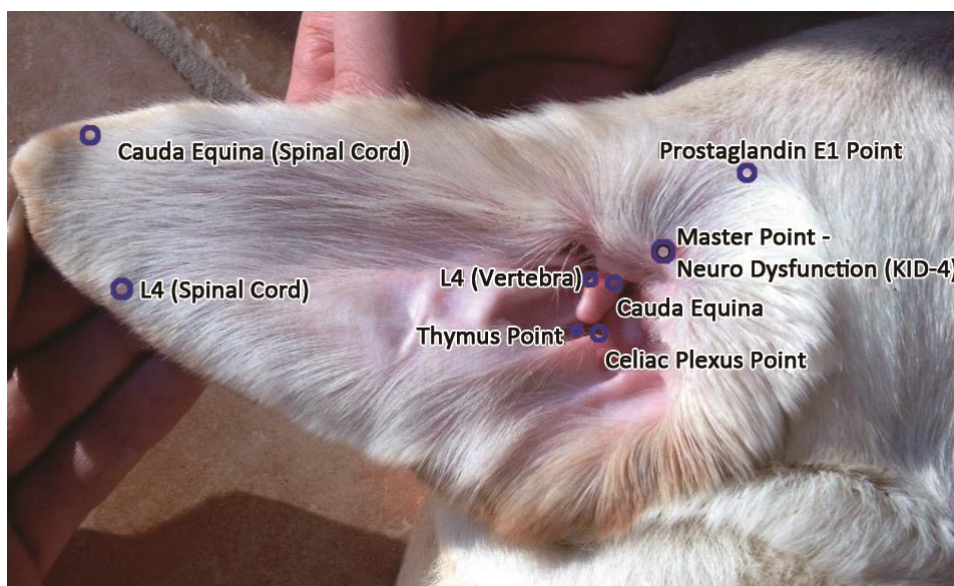


Figure 13: This canine ear demonstrates the auricular points used for the neurology clinical case study; note KID-4 is considered a Master point on the ear for detecting neurological dysfunction, spinal cord injury, paresis/paralysis and uses Nfr-E laser frequency for active point detection and treatment.

The general condition of the patient steadily improved during treatment over the next 6 weeks with 1-2 treatments per week. Improvement was reflected in normalizing skin, haircoat and improved topline as muscle mass returned and ACTH-values normalized. Although there was some improvement in the purulent sinusitis (necrotic pungent smell had abated), the general symptoms of sinusitis continued, therefore, it was decided to extract the M1 tooth based on positive VAS still present.

During the tooth extraction, it was discovered that there was foreign body (plum core) which had been chronically lodged at the tooth root between P4 and M1 creating a root infection for years. After extraction, the same laser acupuncture therapy was then continued at home by the owner for 8 weeks. The horse's clinical condition continued to improve with the tooth root inflammation and sinusitis resolved, normal skin, short/shiny normal haircoat and good musculature. The topline filled out and straightened with the horse able to return to being ridden again despite his age (Figure 14). The ACTH-values remained normal without further treatment until the horse was 30 years old and lost to follow-up.

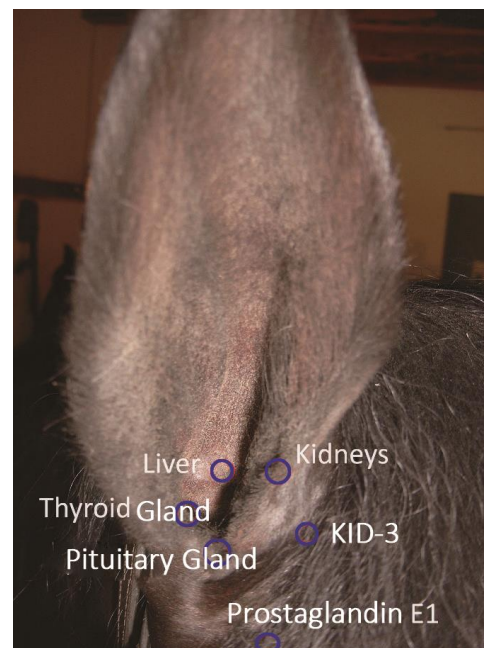


Figure 15: Auricular acupoints used to treat Cushing disease



Figure 14: Left picture, equine patient 1-year before starting laser acupuncture for Cushing's disease; Right picture, patient improvement at end of laser acupuncture therapy

Clinical Case 4: Internal Medicine - Equine

A 15-year-old Westphalian mare diagnosed with severe chronic obstructive pulmonary disease (COPD) was presented in mid-July. The respiratory rate was 42 breaths/minute, the nostrils were greatly flared, and loud wheezing was clearly audible from a distance of 3 meters. The mare had first developed symptoms at the beginning of March and had been treated with cortisone, clenbuterol and dembrexine without success. Bronchoscopy showed significant mucosal swelling and abundant viscous mucus in the trachea and bronchi. Acupuncture diagnostics revealed bilateral "normal" disturbing foci located at the maxillary teeth P3 and M2, as well as a scar on the right lateral metatarsus. Each of those was treated with the disturbing focus-frequency Nfr-A". Further points were

found by VAS/RAC ear diagnosis and were treated on the ear at the corresponding body points: auricular Lung point or LU-7, auricular point for the bronchi or LU-9, autonomous Heart point or HT-4, β -mimetic point or ST-40 and KID-7, as well as the Opening/Cardinal points (Extraordinary Vessels) of Prostaglandin E1 or GB-41 and Thymus point or TH-5 (Figure 16).

During the treatment, the mare took several deep breaths which previously was not possible. Her respiratory rate decreased to 28 breaths/min and a soft wheezing could only be detected by auscultation. After a week, the horse was presented again. The owner reported that when they arrived home after a 20-minute drive, there was copious viscous, yellow mucus coming out of both nostrils

(Figure 17). The mare was significantly improved after that and coughed less. The respiratory rate at the start of the 2nd treatment was 30 breaths/min. After a further 5 treatments, once per week, the mare was free of the presenting clinical respiratory signs apart from a few isolated coughs. Over the following year, the mare came for treatment every 2 months for maintenance therapy. One year later, at the end of June, she spontaneously presented again with loud wheezing and a respiratory rate of 38 breaths/min. The same teeth and auricular/acupuncture points were VAS positive again and had to be retreated. This is not unusual as these areas sometimes need to be retreated several times until finally and hopefully, they are cured.

At the following appointment 1 week later, the respiratory rate had decreased to 16 breaths/minute, wheezing was no longer heard on auscultation, although there was copious medium-thick nasal discharge. According to the owner, she could be ridden almost normally, although she had to cough once at the start of work to clear the airways. At the writing of this article

(2 years after presentation) the owner reports the mare maintains excellent condition (web video^f).

Clinical Case 5: Wound Healing

A 2-year-old neutered Bernese Mountain dog was presented with a 15-20 centimeter purulent wound which had developed at the surgical site following castration. Culture of the site was positive for methicillin-resistant *Staphylococcus aureus* (MRSA). A combination of highly effective antibiotics (chosen based on culture and sensitivity) and 2 attempts to surgically remove the infected tissue over a 4-month period were unsuccessful. Three days after the second operation, a bulging, crimson swelling (15×5×5 cm) had developed (Figure 18). The inflammation and swelling of the wound were so severe and painful that euthanasia had been recommended for the dog. Despite the severe pain and poor prognosis, the owners decided to attempt treatment with laser acupuncture. The therapy was started on the condition that if rapid pain relief was not achieved, euthanasia would follow.

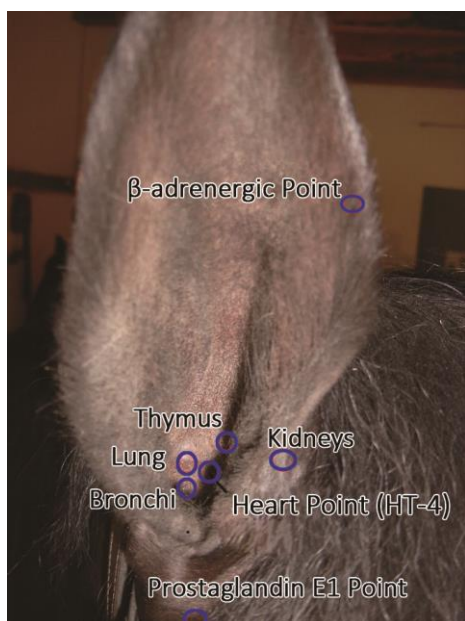


Figure 16: Auricular points used for treatment of clinical case 4 (COPD). The β -adrenergic point has sympathomimetic activity (beta-adrenoceptors); β -adrenergic agonist activity relaxes airway muscle and is used for COPD treatment, or as beta-blocker for heart disease.



Figure 17: Discharge from the nostrils of the COPD clinical case directly after the first treatment session.



Figure 18: Left picture, MRSA-infection in a Bernese Mountain dog after castration and failed revision operations; Right picture, healed castration site after 3 weeks of laser acupuncture.

Using the advanced diagnostic protocol, no “hidden” disturbing foci were found. A “deep” point was found with Bfr 1 which was located at the Pancreas point of the right ear. It was treated with the same frequency for 30 seconds. Thereafter a “middle” point was not found which sometimes happens when the “deep” point is treated. Instead of “Qi Stagnation” and “Selfheal” point settings, the Master points to treat infection, SP-4 and TH-5 were used. A disturbing focus was found on the ear with Nfr-A’ and considered consistent with the wound location (Figure 19). All points were treated with the same frequency that produced VAS reactivity for approximately 30 seconds. The wound was treated with Nfr-A’ for 3-5 minutes until VAS was gone. It is important to remember that the main treatment in wound infections is topical treatment with the laser.

During the first treatment, the dog showed significant relief and was spontaneously more mobile and alert. After instruction, the owners were given a 90 watt laser^b to take home for further treatment and agreed to report how the dog was doing the next day. After their report was satisfactory, home therapy was continued. After 2 days of laser treatment, the wound opened and began to drain. This resulted in almost complete resolution of the pain. At the follow-up examination, 1 week after the initial treatment, the inflammatory swelling had completely subsided, and the dog was no longer in severe pain. At this point, the wound edges showed clear signs of healing. Three weeks after the first treatment, the wound had completely healed using only LLLT and laser acupuncture without further medication or other treatment (Figure 18).



Figure 19: Auricular points used for treatment of the MRSA infected castration site

SUMMARY

Auricular acupuncture is a method for diagnosing and treating physical and visceral dysfunctions by stimulating a specific point on the ear. It is a biomedical approach to acupuncture based on the extensive work of Dr. Paul Nogier demonstrating that the auricle or outer portion of the ear is a microsystem of acupuncture points arranged in a somatotopic pattern. With extensive connections to visceral organs and higher centers of the brain, ear stimulation involves a neurological reflex with modulation of neurotransmitters, cytokines, and the immune system. In associated regions of the central nervous system, these auricular pathways interface with other neural signal trafficking. By virtue of this interfacing of auricular and non-auricular neural activity, modulation of neural trafficking occurs along with physiological effects influencing homeostasis for the brain and body; consequently treating a great variety of clinical disease.

Auricular medicine applied to veterinary cases can be used for identification of the location of musculoskeletal and neurological lesions and to aid in diagnosis of organ dysfunction. The reactive points identified during auricular diagnosis may serve as acupuncture points for treatment on the body and/or ear and can be stimulated by a variety of methods. Advantages to auricular acupuncture is the convenience of disease diagnosis and treatment of the whole body in a relatively small, easily accessible area. It is unique in that it can be used independently or easily combined with other therapies, such as traditional acupuncture to provide an even broader treatment effect.

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The author declares that there is no conflict of interest that could be perceived as prejudicing the impartiality of this paper and the author did not receive any specific grant of funding from any organization in the public, commercial or non-profit sectors.

FOOTNOTES

- ^a 3-volt hammer, Akupunkturbedarf Karl Blum GmbH D-82194 Gröbenzell; <https://blum-akupunktur.de/3-volt-hammerchen-von-sedatelec.html>
- ^b Physiolaser Olympic; 90 W/904nm, super-pulsed laser. Reimers & Janssen, 14057, Berlin, Germany
- ^c Disturbing focus laser treatment for back pain; https://youtu.be/hUbUOVa_n-w
- ^d Case 1 treatment video; <https://youtu.be/nOKUjttCqLM>
- ^e Prascend®, Boehringer Ingelheim Vetmedica Inc, St Joseph, MO, USA
- ^f Case 4 video; https://youtu.be/_al44nwPVoY

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