# **Animal Chiropractic**

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#### **Abstract**

#### Introduction:

The purpose of this study is to inform the Doctor of Chiropractic of the need for animal chiropractors and how this is a vast, vital and untapped market in the world of animal health care.

#### **Methods and Materials:**

Findings of this study were carried out by examining the works and theories of pioneer doctors Palmer, Medford, Willoughby-Blake, Kamen, Gleason and Eschbauch and by exploring the history, scope of practice, philosophy, education requirements and political aspects of animal chiropractic.

#### **Results:**

The history of animal chiropractic demonstrated how the young profession persevered with the help of pioneer doctors who laid the groundwork to inspire future animal chiropractors. The laws and scope of practice made it clear who, what and where animal chiropractic is allowed and how brutally limited it is without the connection of a veterinarian. The philosophy behind animal chiropractic exemplified the same theory of sublaxation as in humans. Education requirements disclosed the course of study needed to ultimately take the competency exams by the AVCA and IVCA for entrance in the field.

#### Discussion:

After careful examination of the facts in this research, the most significant finding of this study is that animal chiropractic be given the place it deserves in the animal health care system, according to Dr. Sharon Willoughby-Blake. Extensive damage can be done when an adjustment is administered by an untrained and uneducated laymen or professional. And until the day when chiropractors can legally and independently adjust animals, chiropractors must do whatever necessary to keep healing animals and literally work side by side in cooperation with the veterinarian.

#### **Keywords:**

veterinary chiropractor, equine, canine subluxation, controversial universal theory, D.D. Palmer, Logan Basic Technique

# **Animal Chiropractic**

#### Introduction

"The ART of adjusting vertebral subluxations is so universal it applies equally to ALL vertebrae, from those of a snake to those of an elephant from reptile to mammal and everything in between. Is it a disgrace to acknowledge this fact? Is veterinary for animals different from allopathic with humans? The ONLY difference is that physicians guess WITH the cooperation of the patient – and veterinarians guess WITHOUT the

## WHAT IS ANIMAL CHIROPRACTIC

Chiropractic is an art, science and philosophy, focused on the relationship between the alignment of the spine, the function of the nervous system and the body's innate intelligence to heal itself without the use of drugs or surgery. <sup>2</sup>Animal Chiropractic (AC), also known as Veterinary Chiropractic, is a broadening of human chiropractic with techniques developed to treat animals. The same philosophy, science and art apply to the animal as with the human, with certain modifications in an animal's anatomy. <sup>3</sup>AC is a manual therapy, which can be used for many health and performance problems. It focuses on the biomechanical dysfunction of the spine and its effect on the entire nervous system throughout the body, again, without use of drugs or surgery. <sup>4</sup>

## **Discussion**

The basic idea of chiropractic is to remove an irritating factor, be it chemical, structural or neurological from the body and let the body heal itself. <sup>5</sup> Animal Chiropractic (AC) is the same. It is used to assist and relieve acute and chronic pain and promote healing in any animal with a spine. It is also used to optimize performance, health and general well being. AC is commonly used for performance horses, racehorses, and horses doing competitive dressage or hunter jumping. <sup>6</sup> Show horses are athletes and their owners want to keep them fit and healthy before or after a show. <sup>7</sup> AC also helps with horses with problems stemming from arthritis, injuries, strains from jumping or other performance demands, the trailering for long hours in the stall of a moving vehicle, poor fitting equipment or being ridden all day. With regular maintenance care, Animal Chiropractic provides the happiest, healthiest, most active life an animal can possibly lead. <sup>8</sup>

Some of the maladies corrected by AC are: Pain in the back, legs and neck, hip dysfunction, back/disc injury, gait abnormalities, seizures, chronic vomiting, metabolic dysfunction, asthma, urinary incontinence and the list goes on and on. Most any ailment or malady can be eased with the use of Animal Chiropractic.<sup>9</sup>

AC is also commonly used for older pets that are stiff and sore. Dr. Michael Gleason, a 1984 graduate of Palmer College of Chiropractic West

originally began his practice by treating and adjusting human patients. By 1991 he had graduated from American Veterinary Chiropractic Association and was seeing only animals full time. In an interview he mentioned he sees a lot of older dogs, 10, 12, 13 years old. When dogs get older they have a hard time going up and down stairs or climbing into cars. Dr. Gleason says he often will caution the owner not to expect miracles right away, but typically—the dog will leave the office and jump in the car before the owner can even offer to help them. Some times it takes time, most often the results are immediate. <sup>10</sup>

Some common reasons for canine subluxations include (but are not limited to) improper use of the collar. This is the #1 reason for cervical subluxations in dogs. Diet, Obesity, improper bedding, too small of a cage or pen, fleas, improper and harmful training practices, leash length and mental anxiety are just some of the many causes of misalignment in dogs.<sup>11</sup>

## **History of Animal Chiropractic**

The history of modern chiropractic dates back to 1895 (but the art of adjusting itself dates back some 2000 years to China, with the art of T'UI-NA which consists of spinal, joint and soft tissue adjustments)<sup>12</sup> with pioneer Daniel David (D.D.) Palmer when a thrust on the back of Harvey Lillard (who had not been able to hear in 17 years) brought his hearing back. From this point on, D.D. Palmer reasoned whether adjusting the spine could

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be the key to curing other ailments. <sup>13</sup> As amazing as the discovery of chiropractic was, the profession was not well received by the public in the early days. Many outrageous claims for miracle curing tarnished its credibility. However, the profession continued to build momentum. People wanted an alternative to drugs and surgery. The medical community finally had to acknowledge its validity when the theory of the subluxation was proven. When a animal died, the cause of death would be sought, an autopsy would be performed, the dissection of the spine was made and there often appeared to be a connection between the diseased organ and the corresponding impingement. The Palmer School of Chiropractic was founded the same year. <sup>14</sup>

D.D. Palmer performed the reportedly first chiropractic adjustment on an animal. D.D. and his son, Joshua Bartlett (BJ) Palmer who was also a chiropractor, organized a program within Palmer School of Chiropractic. BJ wanted to prove there was more than a placebo affect as was being charged by the medical community. This subject was debated for quite some time. <sup>15</sup>

Dr. Myles Medford, born in 1926, is recognized as another pioneer in the history of chiropractic. He began adjusting animals in 1954 and developed many of the current adjustments for animals. He made a profound comparison between man and animal and once stated, "Chiropractic adjustments of the animal kingdom can and do release much more nerve force in quadrupeds than in man. This is due to man allowing his educated

intelligence to rule his existence. Educated intelligence in man has all too often overruled the simple rules of innate. Animals don't have to believe in chiropractic in order for it to work.<sup>16</sup>

The most recent mover and shaker in the effort to formalize AC was by Sharon Willoughby-Blake in 1989. Dr Willoughby grew up in Michigan; attended Michigan State University and received her Doctorate in Veterinary Medicine in 1970. In 1983, she attended Palmer College of Chiropractic in Davenport, IA. She graduated in 1986 with her Doctorate of Chiropractic degree. After teaching at Palmer for three years she opened her private practice treating animals full time. Dr. Willoughby founded the AVCA (American Veterinary Chiropractic Association) in 1988 in Port Byron, Illinois. It was the first school of Animal Chiropractic in the world. In 2000 she sold the school to four board members and instructors. Today, it is called "Options for Animals" and is located in Wellsville, Kansas with affiliate campuses in Sittensen, Germany and in East Midlands, England.<sup>17</sup>

In Dr. Willoughby-Blake's own words written over a decade ago:

"We share a vision that animal chiropractic deserves a place in the animal health care system. We will bear the burdens of the pioneer so that the path will be clearer and straighter for those that follow. We make a commitment to study, to research, to teach and to write so that we will inspire future animal chiropractic professionals. We know that the foundations that we create will influence animal chiropractic care for generations of animals and humans to come. We

understand that our time here is but brief, yet the ultimate truth in chiropractic is universal, enduring and significant."<sup>18</sup>

Sharon Willoughby-Blake DVM, DC, 63, died on November 10, 2010 at her Palmer residence from complications of cancer.

Presently, some states allow chiropractors to adjust animals when supervised or referred by a veterinarian, but none allows a chiropractor to practice on animals independently. The future of animal chiropractic depends on the relationship between chiropractor and veterinarian state boards. Veterinary societies are political, but hopefully veterinarians themselves are starting to see the benefits of chiropractic. <sup>19</sup>

The American Veterinary Chiropractic Association (AVCA) offers certification to both chiropractors and veterinarians. However, the certificate awarded does not legally qualify the recipient to practice animal chiropractic. Technically, veterinarians can practice chiropractic on animals even though vet schools do not currently teach spinal manipulation. Chiropractors, on the other hand, are forbidden to practice chiropractic on animals in most states. <sup>20</sup> As mentioned above, some states will allow chiropractors to work on animals under the guidance of a licensed veterinarian. Unfortunately, Chiropractic colleges may not add AC to their curriculum because all the state laws would have to be re-written. And since there is a huge interest from veterinary students to learn animal chiropractic, it is quite possible in the near future we may see chiropractic classes added

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to the veterinary curriculum then animal chiropractic will move to the forefront of veterinary academics. <sup>21</sup>

#### **Philosophy**

**Subluxation Theory** 

A subluxation is a complex of functional, structural, and/or pathological articular changes that compromise neural integrity and may influence organ system function and general health.<sup>22</sup> The pressure that can cause this change only has to be the weight of a quarter.<sup>23</sup>

A subluxation can be caused by numerous situations, including but not limited to: injury, stress, drugs, chemicals, neurological and nutritional deficiencies, and environmental conditions, physical and structural deviations. <sup>24</sup>The vertebral subluxation causes the communication between the brain and the body to break down. This could be likened to the electricity that comes into your home via transmission lines. The electricity starts at the power generating plant where it is fed through wire lines on transmission poles to your home. If there is a break in this line then your home goes dark; there is no more communication between the power plant (your brain) and the home (various parts of the body). This break in the communication line causes the various body parts not to receive their directions from the brain thus causing a body part, like an organ, to be on its own. Take the stomach for example; the stomach's job is to make acid. If there is no oversight from

the brain telling the stomach how much acid it needs to properly digest the food, the stomach just keeps churning out the acid, possibly leading to acid reflux disease or GERD (gastro-esophageal reflux disease). If the communication failure is to a muscle then the muscle could atrophy, and so on with whatever body part might be compromised.

The treatment includes identifying and resolving the vertebral subluxation complexes (the pressure or misalignment of or on the nerve). Spinal adjusting of the articulations of the vertebrae causes the vertebrae to be realigned thus removing the pressure on the nerve. This allows the brain to again communicate with the organ or body part. Chiropractic diagnosis and treatment does not include: surgery, medications or any invasive treatments. This works on humans and non-humans alike.

The Vertebral Subluxation Complex (VSC) is treated by the animal chiropractor utilizing an <u>Adjustment</u> the same way it is when treating their human counterparts. An Adjustment is defined as a very specific, short lever, high velocity controlled thrust, by hand directed at specific articulations to correct vertebral subluxation or other subluxation complexes.<sup>25</sup>

## **Scope of Practice**

Traditionally, the care of all animals fell to the jurisdiction of veterinarians. But with the awareness and success of animal chiropractics becoming more prevalent, both doctors of chiropractic and veterinarians can

take extra training and classes to become certified in veterinary or animal chiropractic. The minimum standard number of hours of study is 210 hours in the US, according to the Animal Chiropractic Accreditation Commission. In Australia, a three-year Masters Degree in Chiropractic Science is offered to licensed chiropractors, veterinarians and osteopathic medicine.<sup>26</sup>

In the United States, according to the AVMA Sate Legislative Resources the following states allow animal chiropractic without the supervision or referral of a veterinarian: <sup>27</sup>

Alabama, Illinois, Iowa, Maine, Missouri, New Jersey, North Dakota and Tennessee.

The following states allow animal chiropractic only under the direct supervision or referral of a veterinarian:

Arkansas, Colorado, Kansas, Michigan, Minnesota, Mississippi, Nevada, New Mexico, Pennsylvania and Utah.

Oklahoma state law allows a licensed chiropractor certified by the Board of Chiropractic Examiners to engage in animal chiropractic diagnosis and treatment—which includes vertebral subluxation complex and spinal manipulation. Non-certified chiropractors may provide chiropractic treatment including vertebral subluxation complex and spinal manipulation to an animal referred by a licensed veterinarian.<sup>28</sup>

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In the state of Minnesota, a licensed chiropractor may engage in the practice of AC diagnosis and treatment if registered by the board of chiropractic examiners and if the animal is referred to the chiropractor by a veterinarian. AC diagnosis and treatment, as defined by the chiropractic practice act. Minnesota Act 148.0 includes identifying and resolving vertebral subluxation complexes, spinal manipulation and manipulation of the extremity articulations of non-human vertebrates. Further, a chiropractor in Minnesota, who treats both human and non-human patients, must post a conspicuous sign in the waiting area to let human patients know that non-human patients are treated on the premises. Also, a separate non-carpeted room for the purpose of adjusting animals is required. The table and equipment shall not be used for human patients.

The chiropractor must complete six hours annually of continuing education in Animal Chiropractic diagnosis and treatment and must be approved by the board prior to attendance. The licensed chiropractor must have completed and passed a course of study from AVCA, (American Veterinary Chiropractic Association) IVCA (International Veterinary Chiropractic Association) or other higher institution-approved program, consisting of no less than 210 hours of education.<sup>30</sup>

States not mentioned above do not allow chiropractors to engage in animal chiropractics.<sup>31</sup>

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## **Education**

A. Eligibility and Pre-requisites:

In the United States and other countries in North America, applicants wanting to study Animal Chiropractics must be a veterinarian or a chiropractor to attend. In Australia, a 3-year Masters of Chiropractic Science Program is offered to anyone holding a degree in chiropractic, osteopathic or veterinary medicine. <sup>32</sup>

#### B. Curriculum

Most programs require a minimum of 210 hours training to receive a certificate and license to practice. Student practitioners will learn to complete a history, physical exam, diagnosis and treatment plan. Common topics taught in a veterinary chiropractic program would be:

- Anatomy, basic and advanced neurology, rehabilitation therapy, complementary and alternative medicine modalities, philosophy, basic and advanced chiropractic manipulative techniques, chiropractic diagnosis, records and treatment notes.<sup>33</sup> Further the criteria must include education and training in the following subjects for licensure in animal chiropractic:
- Anatomy laboratory
- Bio-mechanics and gait
- Chiropractic educational basics
- Animal chiropractic diversified adjusting technique, including lectures on:
  - o Cervical

- Thoracic
- Lumbosacral
- o Pelvic
- Extremities
- Case management and case studies
- Chiropractic philosophy
- Ethics and legalities
- Neurology, microanatomy and neurological condition
- Pathology
- Radiology
- Research in current chiropractic and veterinary topics
- Rehabilitation, current topics, evaluation and assessment
- Normal foot anatomy and normal foot care
- Saddle fit and evaluation, lecture and laboratory
- Veterinary educational basics
- Vertebral subluxation complex
- Zoonotic diseases<sup>34</sup>

A licensed chiropractor requesting registration in animal chiropractic diagnosis and treatment must have completed and passed a course of study from an AVCA or IVCA or higher institution-approval program, consisting of no less than 210 hours of education.<sup>35</sup>

## **Schools in USA**

The American Veterinarian Chiropractic Association offers a postgraduate course of study as continuing education to chiropractors and veterinarians. This college was first opened in 1988, founded by the aforementioned late Sharon Willoughby-Bates in Port Byron, IL. It was the first school totally devoted to animal chiropractics in the world. In 2003, the school was sold and moved to Wellsville, Kansas and was renamed, "Options for Animals. There are two courses of study offered at Options for Animals. They are Basic and Advanced. Basic covers the ABCs of animal chiropractic in 210 hours for approximately \$5400 -\$6000. Advanced is offered to professionals who have already taken Basic. Advanced is covered in six modules, each module equaling 22 hours @ \$825 per module.<sup>36</sup>

Upon completion of the course, a certificate of completion is issued and written exams are administered. The certificate enables the student to register for additional clinical competency examinations by both the AVCA and IVCA. <sup>37</sup> However, there is no guarantee by the school that any graduate will be qualified to take these exams or pass any of these examinations. <sup>38</sup>

Other schools in the offering full curriculum or classes in animal chiropractic are: Palmer College of Chiropractic. Davenport, IA, Healing Oasis, Sturtevant. WI; Parker Chiropractic College, Dallas, TX, McTimoney Chiropractic, England, and RMIT, Melbourne, Australia.

Options for Animals also have two affiliate campuses in Germany and England.<sup>39</sup>

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## **Adjustments**

"I'm amazed at how the animals respond...they'll present themselves to me, they'll back up into me, they'll coming running down the hall," 40

<u>Logan Basic Technique</u> (Developed By Hugh B. Logan) Apex Contact (also known as ligament push). This is not a joint maneuver but a very specific ligament contact point. It is such an effective means of balancing the entire body that Logan College of Chiropractic in St. Louis, Missouri developed a whole teaching system around this procedure. <sup>41</sup>

The contact point is located on the long, sacrotuberous ligament (see illustration below) the point is near the dog's anus, directly below the base of the tail (see illustration pg 15). To determine which will be the side of contact, observe your dog while he/she is standing on all fours. When there is hip pain, a dog's tail will often list to one side. Whichever

## side the tail is pointing to, that is the side of ligament

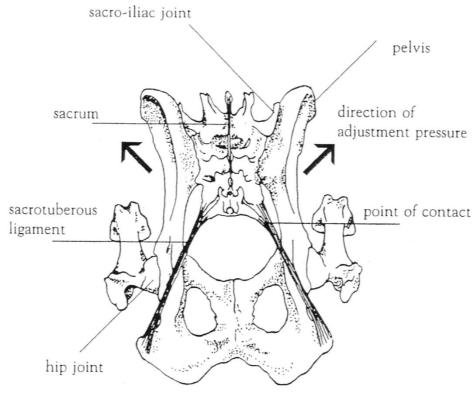


Fig. 12-5.

contact.<sup>42</sup> Sacrotuberous ligament (back view of dog).

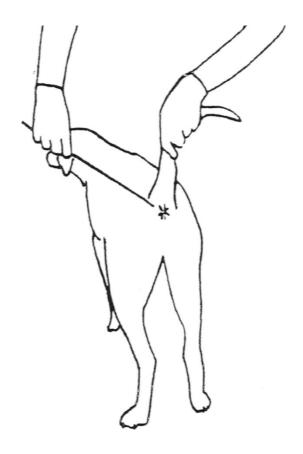


Fig. 12-6.
The stick shown here (not actually used) indicates the ligament push contact point—the point your thumb contacts during the treatment.



Fig. 12-7.

Approximate position of your hand during the ligament push. The rest of your fingers should actually be on the dog's rump.

## An Example of Equine Adjusting

The tail is adjusted by grasping the segment above the fixated tail joint, then, with your other hand, pull on the tail while circumducting (cranking it clockwise) for about ten seconds, and then grasping the tail at the end with both hands and firmly yanking down.<sup>43</sup>(continued pg.18)



Tail Move: Your top hand grasps the bone above the muscle knot while your bottom hand pulls and circumducts the tail.



Snapping the tail down. This is the last step in the tail move.

## **Controversy**

From the very beginning, chiropractic has always been fraught with controversy. After D.D. Palmer's amazing discovery back in 1895,

practitioners came out of the woodwork with stories of outrageous miracle cures and healing while others were jailed for practicing without a license. Throughout history chiropractors have tolerated being called "quacks" and frauds. These were all attempts by the AMA to discredit the profession, tarnish the name and slow the movement. From the beginning of the Wilk Antitrust Case against the AMA in 1976 to it's successful conclusion in 1987 in which Judge Susan Getzendanner found the AMA guilty of an illegal effort to destroy the profession of chiropractic through boycott. <sup>44</sup> Through it all, chiropractic prevailed. Today, chiropractic thrives year after year as more people distance themselves from the medical community and take more responsibility for their own health. In doing so, they find themselves seeking the natural, non-invasive, holistic care of a chiropractor.

Animal chiropractic also has had and continues to have its setbacks. Chiropractors are up against the veterinary profession, which without a doubt has a monopoly on health care for animals. Most US states do not allow chiropractors to adjust animals without a referral or supervision of a veterinarian, yet a veterinarian can adjust an animal without ever taking a class in chiropractic. The legal definition of veterinary medicine includes health care of any kind. 46

In some cases, in the states that it is allowed, the chiropractor must first obtain a veterinarian's referral. The pet owner hires the chiropractor to adjust their pet, then the pet owner must contact the vet and have the vet fax

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them an okay.<sup>47</sup> The animal chiropractor must always work in cooperation with the veterinarian.

Dr. Daniel Kamen is a certified animal chiropractor. Dr. Kamen conducts animal chiropractic seminars around the country to help lay people learn how to make chiropractic adjustments to their pets. His theory is, if animal chiropractors are going to be scarce for the next 20 years or so, why not teach the general public to treat their own pets. He is constantly being hunted down and forbidden to teach anyone---lay people or professionals.<sup>48</sup>

A few years ago he was holding a seminar in Las Vegas NV. The attorney general's office sent an undercover investigator to watch him. The investigator paid the seminar price of \$325 and took part in the seminar. A week after the seminar, he received two letters at his office in Illinois. One letter was charging him with practicing veterinarian medicine without a license and the other was charging him with several counts of criminal activity. One of the offenses had to do with when he was adjusting a horse's shoulder and the horse nipped him. As he lifted the horse's front leg to mobilize the shoulder, a horsefly bit the horse on the back, which caused the horse to jump (everyone else at the seminar saw the horse fly except the investigator). The investigator misread the horse's reaction as pain caused by the adjustment. <sup>49</sup>

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Another offense was when he used the word, "subluxation" when he was describing a pinched nerve. He was then accused of practicing veterinary medicine by using a word that sounded like he was diagnosing the horse with a new disease.<sup>50</sup>

## **Conclusion**

Chiropractic is now 116 years old.<sup>51</sup> It has somehow survived the aggressive attempts from the American Medical Association to be shut down. One theory—it works. When an animal is helped by chiropractic, the old placebo theory doesn't wash. In other words you don't have to believe in chiropractic for it to work. It works for humans and it works for animals. And it works without the use of drugs or surgery.

"As long as sick people and animals continue to get well, chiropractors will be in demand." <sup>52</sup>

<sup>&</sup>lt;sup>50</sup> Kamen, Equine Chiropractic

<sup>&</sup>lt;sup>51</sup> Kamen, 144

<sup>&</sup>lt;sup>52</sup> Kamen, 17

## **Research Articles**

- <sup>1</sup> Dr. Dennis Eschbach, "Animal Chiropractic History and Philosophy"
- <sup>2</sup>Adrian Hill, "A Short History Lesson", Animal Chiropractor,
- http://wwwadrianhitt.com/animal-chiropractor-a-short-history-lesson.com, (June 2011)
- <sup>3</sup> Adrian Hill, "A Short History Lesson"
- <sup>4</sup> Donnerstag, "What is Veterinary Chiropractic?",IVCA,
- 12/9/2010,http://ivca.de/eng/index.php?chiropraktik,June 2011)
- <sup>5</sup> Dr. Daniel Kamen, <u>The Well Adjusted Dog</u>, (Cambridge, MA: Brookline Books, 1996) 24
- <sup>6</sup> Dr. Michael Gleason, "The Wonders of Animal Chiropractic", Dynamic Chiropractic, 8/10/98, pg 5, 6/11/11, <a href="http://www.chroweb.com/archives/16/17/08.html">http://www.chroweb.com/archives/16/17/08.html</a>
- <sup>7</sup> Tracy Hanes, "Dog days at the Clinic":, thestar.com, April 8. 2008, 6/10/11; http://.thestar.com/printaritle/411085
- <sup>8</sup>Tracy Hanes, "Dog days at the Clinic"
- <sup>9</sup> Ava Grick, DVM, "Animal Fitness Center", 2006, http://www.avafrick.com/
- <sup>10</sup>Dr. Michael Gleason, "The Wonders of Animal Chiropractic", Dynamic Chiropractic, 8/10/98, pg 5, 6/11/11, <a href="http://www.chroweb.com/archives/16/17/08.html">http://www.chroweb.com/archives/16/17/08.html</a>
  <sup>11</sup>Kamen, 28
- <sup>12</sup> Dr. Richard D Yennie," Acupuncture Society of America", Kansas City MO. Sec. 9,7
- <sup>13</sup> Kamen, 12
- 14Kamen, 16
- <sup>15</sup> Kamen, 15
- <sup>16</sup> Dr. Daniel Kamen, <u>The Well Adjusted Dog</u>, (Cambridge, MA: Brookline Books, 1996) 18
- $^{17}$  Options College of Animal Chiropractics, 'Options for Animals", Dennis Eschbach, DC, 2007, 6/2/11,  $\underline{www.animalchiro.com}$
- $^{\rm 18}$  Sharon Willoughby-Blake Obituary, Anchorage Daily News, Legacy.com, November 21, 2010,
- 6/2/2011, http://www.legacy.com/obituaries/adn/obituary.aspx?n=sharon-willoughby-blake&pid=146708505&fhid=7240
- <sup>19</sup> Kamen, 142
- <sup>20</sup> Kamen. 143
- <sup>21</sup> Kamen, 143
- <sup>22</sup> Daniel Redwood & Carl S. Cleveland 3<sup>rd</sup> <u>"Fundamentals of Chiropractic"</u> Mosby 2003 23
- <sup>23</sup> Logan College of Chiropractic Health Awareness Workshop 2010
- <sup>24</sup> Daniel Redwood & Carl S. Cleveland 3<sup>rd</sup>, ";Fundamentals of Chiropractic"
- <sup>25</sup> Kamen, 19
- <sup>26</sup> "Veterinary chiropractic," <u>Veterinary chiropractic</u>, 2000, Wikipedia, 03/17/2011, 06/11/11, http://wikipedia.org/wiki/Veterinary chiropractic
- <sup>27</sup> State Legislative Resources, <u>AVMA</u>, Tara Southwell, State Legislative and Regulatory Dept.:
- June, 2011, 6/11/11/http://www.avma.org/advocacy/state/issues/sr\_cavm

<sup>28</sup> State Legislative Resources, <u>AVMA</u>, Tara Southwell, State Legislative and Regulatory Dept.:

June, 2011, 6/11/11/http://www.avma.org/advocacy/state/issues/sr\_cavm\_29Chiropractic Practice Act-Minnesota Statutes, Rev Nov 2010, 6/10/11www.mn-chiroboard.state.mn.us

30 Chiropractic Practice Act, Minnesota Statutes, (Rev. November 2010) www.mn-chiroboard.state.mn.us/

- <sup>31</sup> State Legislative Resources, <u>AVMA</u>, Tara Southwell, State Legislative and Regulatory Dept.: June, 2011,
- 6/11/11/http//www.avma.org/advocacy/state/issues/sr\_cavm
- <sup>32</sup> "Veterinary chiropractic," <u>Veterinary chiropractic</u>
- <sup>33</sup> "Veterinary Chiropractic", 3
- <sup>34</sup> Chiropractic Practice Act, Minnesota Statutes, (Rev. November 2010) www.mn-chiroboard.state.mn.us/
- <sup>35</sup> Chiropractic Practice Act, Minnesota Statutes, (Rev. November 2010) www.mn-chiroboard.state.mn.us/
- $^{36}$  Options College of Animal Chiropractics, Options for Animals, Dennis Eschbach, DC, 2007,  $6/2/11, \underline{www.animalchiro.com}$
- <sup>37</sup> Options College of Animal Chiropractics
- <sup>38</sup> Options College of Animal Chiropractics
- <sup>39</sup> Options College of Animal Chiropractics
- $^{40}$  Tracy Hanes, "Dog days at the Clinic", the star.com, April 8. 2008, 6/10/11; http://.thestar.com/printaritle/411085.
- <sup>41</sup> Kamen, 117
- <sup>42</sup> Kamen 117, 118
- 43 Equine Chiropractic Technique 51,53,54
- $^{44}$  Daniel Redwood & Carl S. Cleveland the  $3^{\rm rd}$  "Fundamentals of Chiropractic" Mosby 2003 37,38
- <sup>45</sup> Kamen, "The Well Adjusted Dog: 142
- $^{46}$  Dr. Michael Gleason, "The Wonders of Animal Chiropractic", Dynamic Chiropractic,  $8/10/98,\,pg$  7,  $6/11/11,\,$
- <sup>47</sup> Daniel Kamen, DC, "Equine Chiropractic", Gaited Horses, 12/6/2010,6/10/2011, http:"<a href="https://www.gaitedhorses.net/Articles/Chiropratic/Kamen/shtml">https://www.gaitedhorses.net/Articles/Chiropratic/Kamen/shtml</a>
- <sup>48</sup> Kamen, DC, "Equine Chiropractic"
- <sup>49</sup> Kamen, Equine Chiropractic
- <sup>50</sup> Kamen, Equine Chiropractic
- <sup>51</sup> Kamen, 144
- <sup>52</sup> Kamen, 17