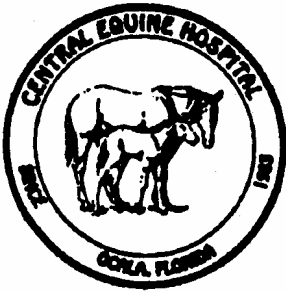


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Integrated Equine Therapy

M.D. Lokai, D.V.M



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*Veterinary Alternative Medicine by M.D. Lokai DVM
Certifies Veterinary Acupuncture & Animal Chiropractics*

Although conventional clinicians tend to dismiss the positive results of alternative medicine as simply being "A placebo effect". My observations verify that these modes of therapy do show positive clinical results, especially in the animal world, since they do not have the ability to think the treatment is working, but rather experience an improvement in well being revealed by their facial expression, posture, and changed behavior.

It need be stated from the start that alternative medicine is probably a unfortunate choice of words that might be better stated as "*complimentary medicine*" that goes along with conventional therapy already instituted. It is not the intent of alternative therapist to abandoned scientific approach and methods, but rather to enhance their benefits with alternative modes of therapy. In the veterinary profession we think of many alternative modes. The most common of which is acupuncture, animal chiropractics, massage therapy, and herbs, to mention a few. Future articles will deal specifically with acupuncture and animal chiropractics.

Too many clinicians today become so specialized they treat the body parts and forget they are treating a whole animal. Disease usually appears as a local symptom, but is always related to the entire system, so we have to treat the whole animal to cure the disease and not just the symptom.

Performance animal, like the human athlete, are pressured to achieve their maximum potential. They are trained, fed, and cared for so they can go faster, jump higher, and run longer.

Increasing numbers of owners and trainers, dissatisfied with conventional drugs and the "*Quick fix*", are turning to alternative therapies, specifically, to acupuncture, massage, herbology, chiropractic, and homeopathy. Each of these therapies alone or in combination, provides natural cures without the risk of abuse. These modes of therapy evolved for the most part from the ancient Asian healing traditions introduced more than 3,000 years ago to help the body use its inherent recuperative powers to achieve healing. These sciences have proved themselves effective over the centuries.

To be sure, these ancient arts alone are not the solution for every condition or for every animal. Once a diagnosis is confirmed, however, the alternative therapies may be applied as an adjunct to conventional treatment.

The general public is starting to recognize the effectiveness of alternative medicines approach to health which blends body and mind, science and experience, traditional and cross-cultural avenues of diagnosis and treatment.

*"The doctor of the future will give no medicine, but will interest his patients in the care of the human frame, in diet, and the cause and prevention of disease". ** Thomas Edison*

*"It matters not whether medicine is old or new, so long as it brings about a cure". "it matters not whether theories be eastern or western, so long as they prove to be true". **Jen Hsou Lin*

Part II will discuss veterinary acupuncture.



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Veterinary Acupuncture By M.D. Lokai DVM Certifies Veterinary Acupuncture & Animal Chiropractics

Veterinary acupuncture has been receiving greater acceptance in veterinary medical communities throughout the world. An increased awareness of acupuncture as a treatment option has resulted in increased research, as well as improved understanding of acupuncture applications and its mechanism of action.

Veterinary acupuncture has been used in practice for thousands of years in China. In the West it has been used in both large and small animal practices for decades. In 1989 the American Veterinary Medical Association recognized acupuncture as a "*Valid modality and an integral part of veterinary medicine*".

What is acupuncture?

Acupuncture is the insertion of fine needles into specific predetermined points on the surface of the body in order to regulate bodily functions. By stimulating specific acupuncture points or a combination of such points, one is able to adjust the energy level, reestablishing a homeostatic condition (Equilibrium), and allow healing to take place.

What are acupuncture points?

An acupuncture point is an area of the skin 1-5mm in size located over specific anatomic landmarks in small indentations or nodules on the body that are linked with visceral organs. The acupuncture point has a greater density of neuroreceptors than in adjacent tissue. There are three types of acupuncture points.

- Primary - found along the routes of large nerves in the skin and muscle.
- Secondary - found in smaller nerves.
- Third type - found in small nerve-muscle fibers.

There appear to be 361 traditional acupuncture points located on twelve paired and two unpaired meridians in the body. In addition extra points not over traditional meridians exist and are effective in treating certain diseases by combining these points, and an acupuncturist is able to formulate a prescription for treatment of any disease and lameness.

Points can be located by feeling with your fingers for small indentation or by using a "*Point Finder*". This instrument locates acupuncture points by indicating areas of lower electrical resistance and higher conductance on the skin.

Acupuncture Techniques:

Technique varies with condition and desired effect, ranging from dry needle, acupuncture, electrostimulation, moxibustion, laser, implantation, acupressure, pneumo acupuncture to hemo acupuncture. Selection of technique usually involves one or more techniques in combination as the situation indicates.

Therapeutic indications:

Disease processes involving the musculoskeletal, respiratory, reproductive, gastro intestinal neurological, behavioral and or immune system.

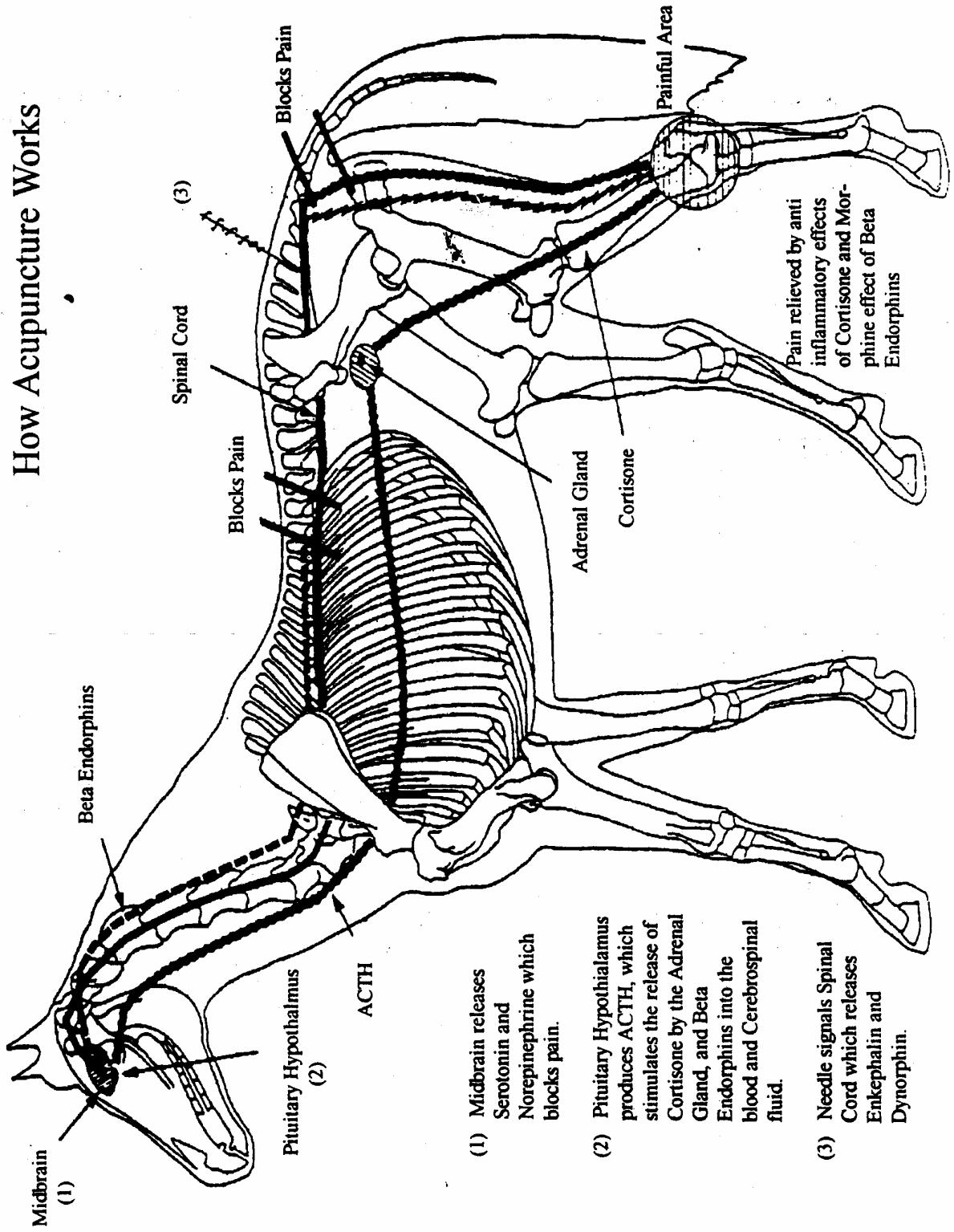
How often is acupuncture indicated?

Frequency and type of therapy is evaluated on an individual basis. Generally a series of three to six treatments are necessary to see a significant response. Usually therapy is instituted at weekly intervals at the onset and reduced over a period of time. Acupuncture is not a substitute for proper veterinary care!!! Acupuncture is complimentary to western medicine.

Who is qualified to do acupuncture?

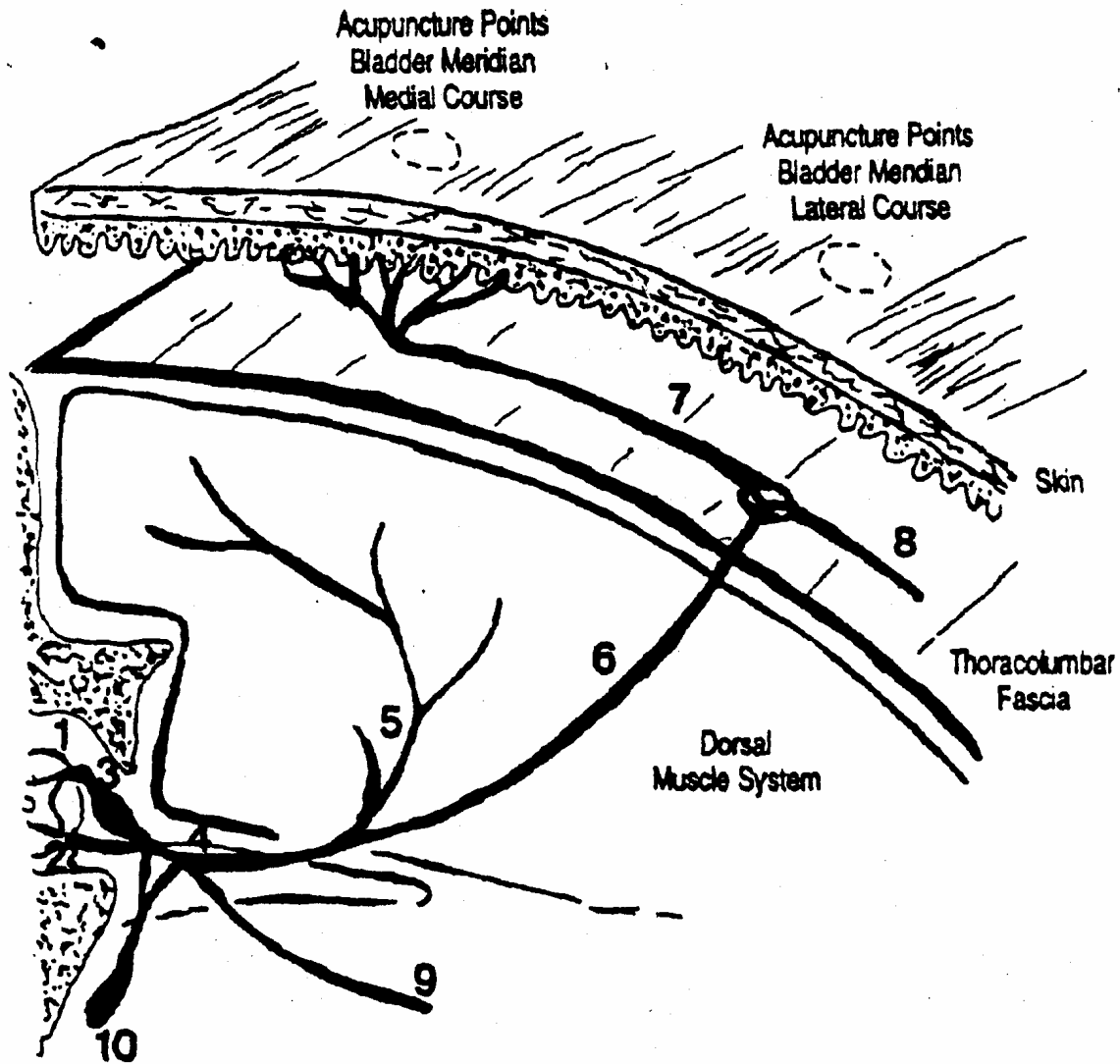
Only licensed veterinarians who have been trained in veterinary acupuncture and have met all the requirements for certification are able to practice acupuncture. A list of qualified veterinarians can be obtained from the International Veterinary Acupuncture Society, 268 W. 3rd Street, suite #2, PO Box 2074 Nederland, Co., 80466, USA. Tel. 303-258-3767 or fax 303-258-0767.

How Acupuncture Works



- (1) Midbrain releases Serotonin and Norepinephrine which blocks pain.
- (2) Pituitary Hypothalamus produces ACTH, which stimulates the release of Cortisone by the Adrenal Gland, and Beta Endorphins into the blood and Cerebrospinal fluid.
- (3) Needle signals Spinal Cord which releases Enkephalin and Dynorphin.

Figure 2. Schematic representation of the connections between the courses of the skin branches of a spinal nerve and the points of the Bladder meridian. 1. Radix dorsalis. 2. Radix ventralis. 3. Ganglion spinale. 4. Ramus dorsalis. 5. Ramus medialis. 6. Ramus lateralis of 4. 7. Ramus cutaneus medialis of 6. 8. Ramus cutaneus lateralis of 6. 9. Ramus ventralis. 10. Ganglion trunci sympathici.





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*Animal Chiropractics by M.D. Lokai DVM
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Chiropractic care is a holistic approach to many of the health and performance problems of the animal. Chiropractic's was founded by D.D. Palmer in 1895. In Davenport Iowa. Chiropractic's does not replace traditional veterinary medicine and surgery, but provides an alternative method of care. Chiropractic's focuses on the health and proper functioning of the spinal column.

What is the spinal column?

The spinal column of the animal is a complex structure made up of bones, ligaments, muscle and nerves. The functions of the spine are: Framework of support, muscle attachment, protection of the central nervous system, protection of internal organs.

Bones of the spinal column are called vertebra. Each vertebra contains a portion of the nervous system, the spinal cord, that passes through the center of each bond. Nerves branch off the spinal cord and exit between two vertebra to travel to all the muscles and organs of the body. Ligaments connect these vertebra together into a jointed column. There are approximately 200 joints in the spinal column of animals. Numerous muscles are attached to the vertebra enabling the spinal column to flex and bend.

Chiropractors use the term "*Subluxation*" to describe a specific problem or disease of the spinal column. In reality the subluxation is a vertebra that is "Stuck" or unable to move through its normal range of motion therefore the animal does not have total flexibility of the spine exhibited by stiffness, resistance or lack of ability to perform normal functions.

Subluxations are caused by trauma, accidents, conformation traits, confinement, poor fitting equipment, age, lack of proper foot care, and performance type (jumping, roping, obedience etc.).

How are subluxations corrected?

The area affected is located in the spine, a veterinary chiropractor will attempt a correction of the misalignment, this is called and "adjustment". An adjustment is a short, rapid thrust onto a vertebra in the direction that will replace it into a normal position.

Chiropractic is very specific and adjustments are made on vertebra directly. Jerking on legs or tails is not a chiropractic adjustment. An examination before the adjustment will identify all the subluxations of the spinal column. Veterinary chiropractors may also manipulate the joints of the legs as well as the jaw.

Chiropractic is a diverse field and there are many different types of techniques that are used. Most veterinary chiropractors will use only their hands to adjust the vertebra of animals. The adjustment releases the "stuck" vertebra and restores alignment thus eliminating nerve pressure. The Body can then repair tissues and restore function.

How many adjustments are needed?

The most common misunderstanding concerning chiropractic care is why several adjustments may be needed. The purpose of an adjustment is to realign the spine. The muscles and ligaments of the animal must be able to maintain the correct spinal alignment. Several adjustments may be needed until the body accepts and maintains the correct alignment. Most animals will show significant improvement in one to four adjustments. However chronic spinal problems take longer to respond.

Who can qualify to do animal chiropractic?

The American Veterinary Chiropractic Association trains and certifies chiropractors and veterinarians in the art and science of animal adjusting. Chiropractors with this advanced training are able to accept animal cases by referral of a veterinarian. Veterinarians with certification in animal chiropractic may be called to see your animal without a referral.

For more information on animal chiropractic and certified animal chiropractors contact the American Veterinary Chiropractic Assoc., P.O. Box 249 Port Byron, IL 61275. Tel. 309-523-3995 or Fax , 309-523-2926.



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About Performance Horses by M.D. Lokai, DVM *Certifies Veterinary Acupuncture & Animal Chiropractics*

Respiratory System:

1. Infections (*pharyngitis, upper respiratory infection, guttural pouch, bronchitis, pneumonia and pleuritis*).

- Usually secondary to viral exposure (*Flu and Rhino*).
- Area of involvement depends on amount of exposure, level of stress, and degree of previous protection (*vaccination*).
- Approximately 85% of respiratory infections can be prevented or greatly reduced in severity with quarterly vaccinations of performance horses. (*Flu, Rhino and strangles vaccines*).
- Early intervention with medications, vaccines and reduced training (*stress*) will improve recovery rate.

2. Bleeders (*EIPH*)

- 70% of race horses bleed after a fast work (*via scope*).
- First bleeding occurs from the right caudal lung lobe.
- Race horses exhale when they contact the ground, and inhale when the foot leaves the contact with the ground.
- On inhalation the caudal lung field and abdominal organs collide with each other with the diaphragm sandwiched between.
- Medication, especially lasix, is beneficial for bleeders.
- Nothing works all the time (*mechanical trauma to the lung*.)

3. Dysfunction's of all the throat area (*roarer, soft palate displacement, epiglottis entrapment, sub epiglottis cyst, etc.*)

- A success rate pending accurate assessment of condition and appropriate therapy. (Medical, surgical or alternative).
- Abnormally small airways cannot deliver adequate oxygen.
- Infection and neurological involvement (EPM) contribute to laryngeal dysfunction and need be addressed prior to surgical intervention.

Sore backs, hips and shoulders

- Most muscle soreness is secondary to foot or hock problems.
- Examination via acupuncture, under tack, x-rays or joint blocks can localize the area of concern.
- Long toe, low heel account for the majority of injuries. (*chip fracture, bowed tendons, bucked shins, osslets, etc.*)
- Stride length is determined by limb length and should angle.
- Hoof angle determines the arch of the limb flight, not the distance of stride.
- Any device on a shoe other than level grip shoes will cause damage to the horse's limb in due time.

(continued on back page)

(continued from front page)

Hoof Balance

- Rear hoof angle should always be higher than the front.
- Hoof angle in front should approximate the shoulder slope.
- The slope of the pastern and the front of the hoof wall should be parallel with one another.
- Steel shoes are healthier than aluminum, especially if hot shod application. Long term aluminum will rot the hoof.
- Ideal situation:
 - Hoof angle parallel to pastern.
 - Front edge of shoe is a straight line passing through the pastern, coronet and the front of the hoof wall.
 - Use only level grip shoes.
 - Back edge of the shoe within 3/4 to 1 inch from the apex of the trimmed frog.

Acid Therapy

Two classifications

1. Acid (*Hylartin, legend, hyvise*). All cousins.

- Peak effect 24-48 hours.
- Duration of effect 7-10 days
- Require repeated dosing for maintenance.
- Works better than oral equivalents.
- Route of administration (in joint or IV).

2. Gags: (*Adequan*)

- Peak effect 24-48 hours.
- Duration 7-10 days
- Becomes incorporated in cartilage of joint.
- Requires repeated medication for maintenance.
- Route of administration (*in joint or IV*)
- Feeding equivalents (*Cosequin, Equi flex, Nu Flex*) less effective than injection

My approach to joint therapy (commonly treated joints).

Two basic types of joints treated:

1. Hinge type (*coffin joint, fetlock, knee, stifle and upper hock*).

- Acid or "gags" therapy works best in the long run.
- Can cost upwards of \$200.00 monthly
- Cortisone usage in these areas on a repeated basis would likely damage the joint surface.

2. Gliding type joints (*lower hock joints*).

- 80% of rear leg lameness involves this area.
- Acid or gags of short term benefit (costly)
- Cortisone works best especially (*Depo-medrol*).
- *Depo-medrol*, cost effective and lasts for 6 weeks to 6 months.
- Repeated *Depo-medrol* injections has the potential to cause lower joint to fuse??? Questionable.



Central Equine Hospital

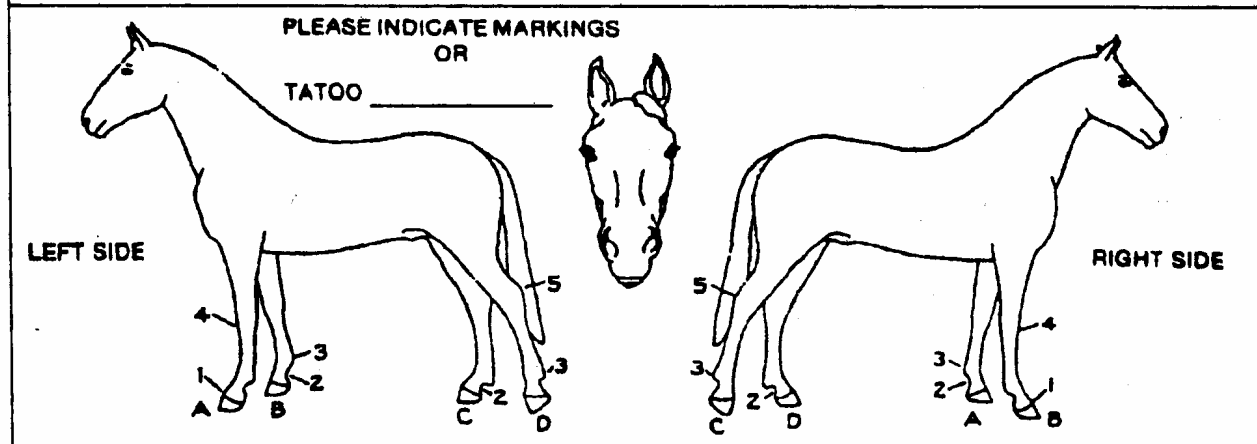
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 9529 R.R. 34th Place
 Ocala, Florida 34481
 (352) 237-6211 or (352) 237-6212

Horse _____ Age _____
 Breed _____ Color _____ Sex _____
 Sire _____ Dam _____
 Owner _____
 Address _____

VETERINARY CERTIFICATE FOR INSURANCE/PURCHASE EXAM

I, _____, do hereby certify that I am a graduate Veterinarian holding a current license as such to practice in the state of Florida and, furthermore, certify, except as noted below, to the best of my knowledge that the above horse is sound and in healthy condition.

1. Pulse and respiration normal? Yes <input type="checkbox"/> No <input type="checkbox"/>	2. Temperature normal? Yes <input type="checkbox"/> No <input type="checkbox"/>	8. Chronic colicker? Yes <input type="checkbox"/> No <input type="checkbox"/>
3. Eyes normal? Yes <input type="checkbox"/> No <input type="checkbox"/>	4. Heart auscultated? Yes <input type="checkbox"/> No <input type="checkbox"/>	9. Has horse been nerved? Yes <input type="checkbox"/> No <input type="checkbox"/>
5. Any lameness? Yes <input type="checkbox"/> No <input type="checkbox"/>	6. Faulty conformation? Yes <input type="checkbox"/> No <input type="checkbox"/>	10. Has horse been castrated? Yes <input type="checkbox"/> No <input type="checkbox"/>
7. Bleeder? Yes <input type="checkbox"/> No <input type="checkbox"/>		11. Has any surgery been performed on horse? Yes <input type="checkbox"/> No <input type="checkbox"/>
		12. Stabling adequate? Yes <input type="checkbox"/> No <input type="checkbox"/>
		13. Contagious/infections disease present? Yes <input type="checkbox"/> No <input type="checkbox"/>
14. The following was noted:		



Respectfully,
 M.D. Lokai, D.V.M. & Associates



Central Equine Hospital

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OCALA, FLORIDA 34481
(352) 237-8211

EQUINE LAMENESS/PERFORMANCE EVALUATION REPORT

OWNER _____ CITY _____ STATE _____

HORSE _____ AGE _____ BREED _____ COLOR _____ SEX _____

DATE _____ FIRST EXAM _____ RE EVALUATION _____ TIME _____ AM/PM

SUMMARY OF EVALUATION

1. _____ 2. _____
3. _____ 4. _____

DIAGNOSIS

1. _____ 2. _____
3. _____ 4. _____

TREATMENT/RECOMMENDATIONS

1. _____ 2. _____
3. _____ 4. _____
5. _____ 6. _____

FARRIER RECOMMENDATIONS

1. _____ 2. _____
3. _____ 4. _____

EXPLANATION OF EVALUATION GRADES/SCALE

LAMENESS SCALE (1-5)

1. Normal 2. Lamé under tack 3. Lamé at walk 4. Reluctant to move 5. Non weight bearing

SCALE FOR HOCKS (I-V) (Radiographic Evaluation)

I. Normal II. Narrowed joint space III. Spur formation IV. Partial fusion V. Fusion of joint space

SCALE FOR NAVICULAR (I-V) (Radiographic Evaluation)

I. Normal II. Increased vascular channels III. Flexor surface erosion IV. Spur formation or margins
V. Cystic degeneration

Please note that clinical and radiographic evaluations of the hock and navicular areas do not correlate well.

All questions regarding this case are welcome at your convenience.

Respectfully,

M.D. Lokai, DVM, CVA

Complementary and Alternative Veterinary Medicine

Principles and Practice

Edited by

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with 100 illustrations

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AVMA GUIDELINES FOR ALTERNATIVE AND COMPLEMENTARY MEDICINE

PREAMBLE

Veterinary medicine, like all professions, is rapidly changing. Additional modalities of diagnosis and therapy are emerging in veterinary and human medicine. These guidelines reflect the current status of the role of these emerging modalities within the parameters of veterinary medicine for use in providing a comprehensive approach to the health care of nonhuman animals.

Use of these modalities is considered to constitute the practice of veterinary medicine. Any exceptions will be indicated in the following guidelines. Such modalities should be offered in the context of a valid veterinarian/client/patient relationship. It is recommended that appropriate client consent be obtained. Educational programs are available for many of the modalities. It is incumbent upon veterinarians to pursue education in their proper use.

It should be borne in mind that because the emergence and development of these modalities is a dynamic process, as time passes, the following information may need to be modified.

VETERINARY ACUPUNCTURE AND ACUTHERAPY

Veterinary acupuncture and acutheraPy involve the examination and stimulation of specific points on the body of nonhuman animals by use of acupuncture needles, moxibustion, injections, low-level lasers, magnets, and a variety of other techniques for the diagnosis and treatment of numerous conditions in animals.

Veterinary acupuncture and acutheraPy are now considered an integral part of veterinary medicine. These techniques should be regarded as surgical and/or medical procedures under state veterinary practice acts. It is recommended that educational programs be undertaken by veterinarians before they are considered competent to practice veterinary acupuncture.

VETERINARY CHIROPRACTIC

Veterinary chiropractic is the examination, diagnosis, and treatment of nonhuman animals through manipulation and adjustments of specific joints and cranial sutures. The term *veterinary chiropractic* should not be interpreted to include dispensing medication, performing surgery, injecting medications, recommending supplements, or replacing traditional veterinary care.

Although sufficient research exists documenting efficacy of chiropractic in humans, research in veterinary chiropractic is limited. Sufficient clinical and anecdotal evidence exists to indicate that veterinary chiropractic can be beneficial. It is recommended that further research be conducted in veterinary chiropractic to evaluate efficacy, indications, and limitations. The assurance of education in veterinary chiropractic is central to the ability of the veterinary profession to provide this service.

Veterinary chiropractic should be performed by licensed veterinarians; however, at this time, some areas of the country do not have an adequate supply of veterinarians educated in veterinary chiropractic. Therefore it is recommended that, where the state's practice acts permit, licensed chiropractors educated in veterinary chiropractic be allowed to practice this modality under the supervision of, or referral by, a licensed veterinarian who is providing concurrent care.

VETERINARY PHYSICAL THERAPY

Veterinary physical therapy is the use of noninvasive techniques, excluding veterinary chiropractic, for the rehabilitation of injuries in nonhuman animals. Veterinary physical therapy performed by nonveterinarians should be limited to the use of stretching; massage therapy; stimulation by use of (a) low-level lasers, (b) electrical sources, (c) magnetic fields, and (d) ultrasound; rehabilitative exercises; hydrotherapy; and applications of heat and cold.

Veterinary physical therapy should be performed by a licensed veterinarian or, where in accordance with state practice acts, by (1) a licensed, certified, or registered veterinary or animal health technician educated in veterinary physical therapy or (2) a licensed physical therapist educated in nonhuman animal anatomy and physiology. Veterinary physical therapy performed

- Fundamentals

AVMA GUIDELINES FOR ALTERNATIVE AND COMPLEMENTARY MEDICINE—cont'd

by a nonveterinarian should be performed under the supervision of, or referral by, a licensed veterinarian who is providing concurrent care.

MASSAGE THERAPY

Massage therapy is a technique in which the person uses only the hands and body to massage soft tissues. Massage therapy on nonhuman animals should be performed by a licensed veterinarian with education in massage therapy or, where in accordance with state veterinary practice acts, by a graduate of an accredited massage school who has been educated in nonhuman animal massage therapy. When performed by a nonveterinarian, massage therapy should be performed under the supervision of, or referral by, a licensed veterinarian who is providing concurrent care.

VETERINARY HOMEOPATHY

Veterinary homeopathy is a medical discipline in which conditions in nonhuman animals are treated by administration of substances that are capable of producing clinical signs in healthy animals similar to those of the animal to be treated. These substances are used therapeutically in minute doses.

Research in veterinary homeopathy is limited. Clinical and anecdotal evidence exists to indicate that veterinary homeopathy may be beneficial. It is recommended that further research be conducted in veterinary homeopathy to evaluate efficacy, indications, and limitations.

Because some of these substances may be toxic when used at inappropriate doses, it is imperative that veterinary homeopathy be practiced only by licensed veterinarians who have been educated in veterinary homeopathy.

VETERINARY BOTANICAL MEDICINE

Veterinary botanical medicine is the use of plants and plant derivatives as therapeutic agents. It is recommended that continued research and education be conducted. Since some of these botanicals may be toxic when used at inappropriate doses, it is imperative that veterinary botanical medicine be practiced only by licensed veterinarians who have been educated in veterinary botanical medicine. Communication on the use of these compounds within the context of a valid veterinarian/client/patient relationship is important.

NUTRACEUTICAL MEDICINE

Nutraceutical medicine is the use of micronutrients, macronutrients, and other nutritional supplements as therapeutic agents.

Communication on the potential risks and benefits from the use of these compounds within the context of a valid veterinarian/client/patient relationship is important. Continued research and education on the use of nutraceuticals in veterinary medicine is advised.

HOLISTIC VETERINARY MEDICINE

Holistic veterinary medicine is a comprehensive approach to health care employing alternative and conventional diagnostic and therapeutic modalities.

In practice, holistic veterinary medicine incorporates, but is not limited to, the principles of acupuncture and acupunctum, botanical medicine, chiropractic, homeopathy, massage therapy, nutraceuticals, and physical therapy, as well as conventional medicine, surgery, and dentistry. It is recommended that holistic veterinary medicine be practiced only by licensed veterinarians educated in the modalities employed.

The modalities comprising holistic veterinary medicine should be practiced according to the licensure and referral requirements concerning each modality.

Veterinary Acupuncture

Ancient Art to Modern Medicine

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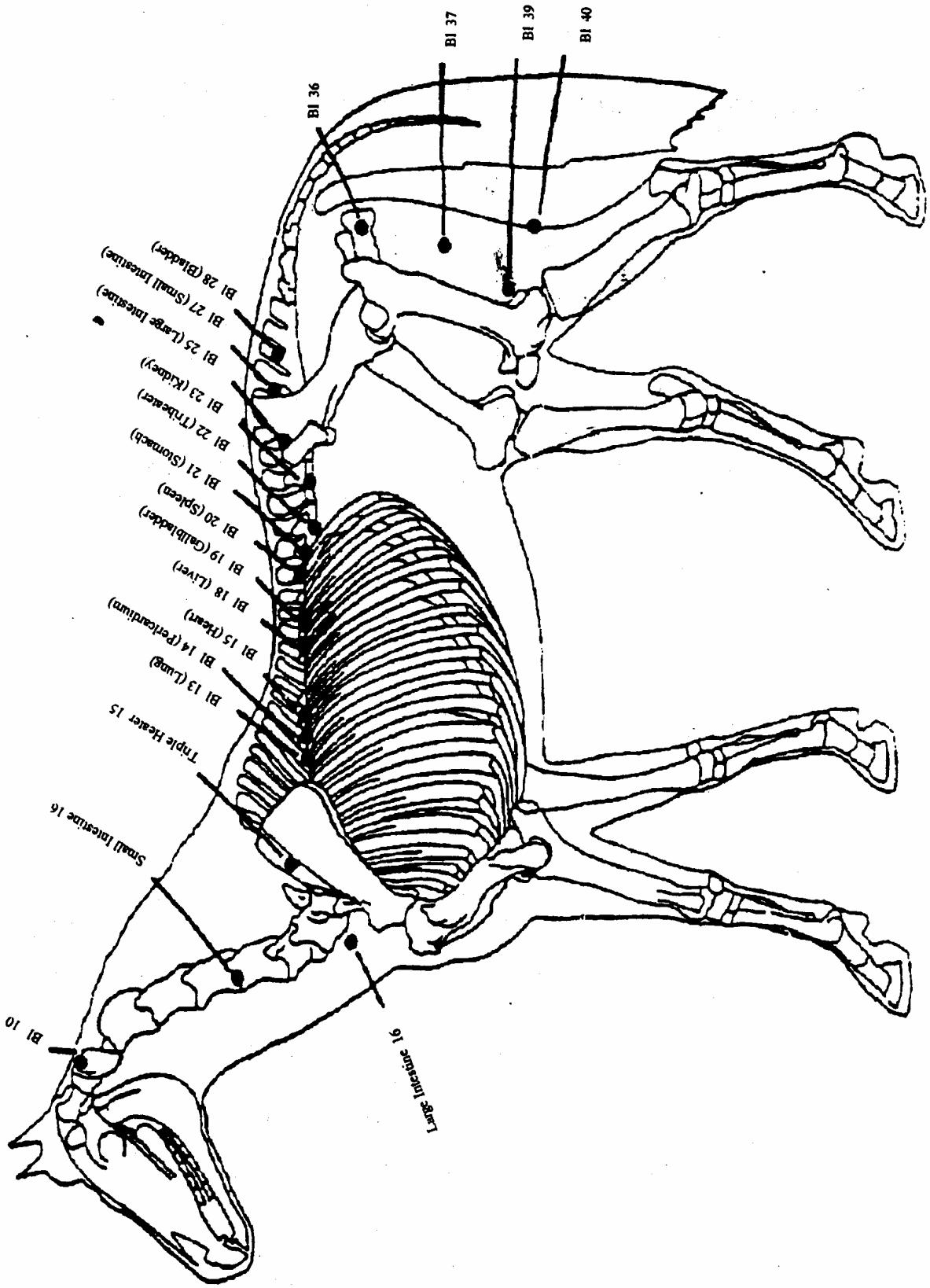


Figure 3. Acupoints of the horse, dorsal view in relation to muscles and skeletal structures. (Illustration by Dr. Peg Fleming, copyright 1994)

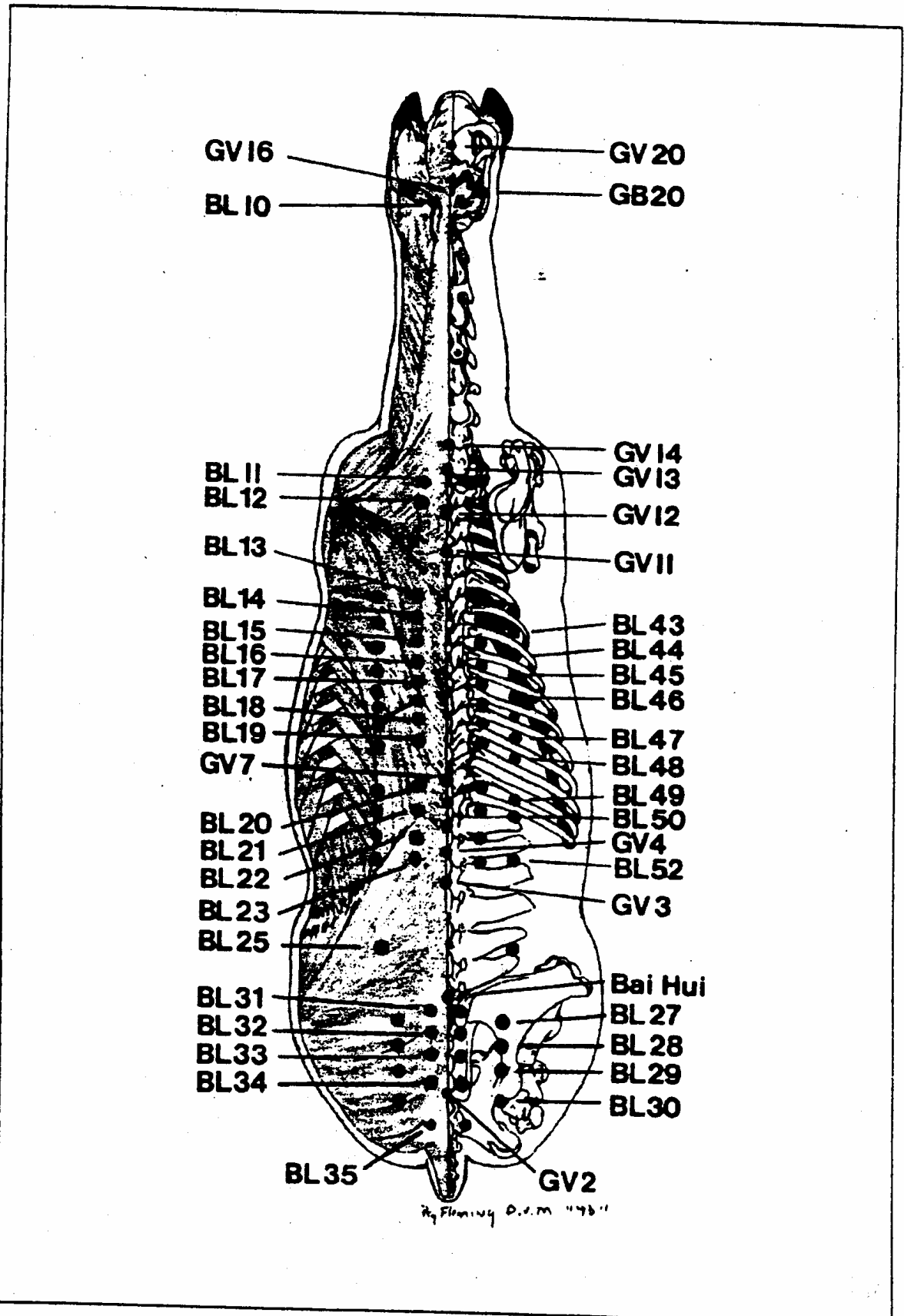


Figure 4. Acupoints of the horse, cranial view in relation to muscles and skeletal structures. (Illustration by Dr. Peg Fleming, copyright 1994)

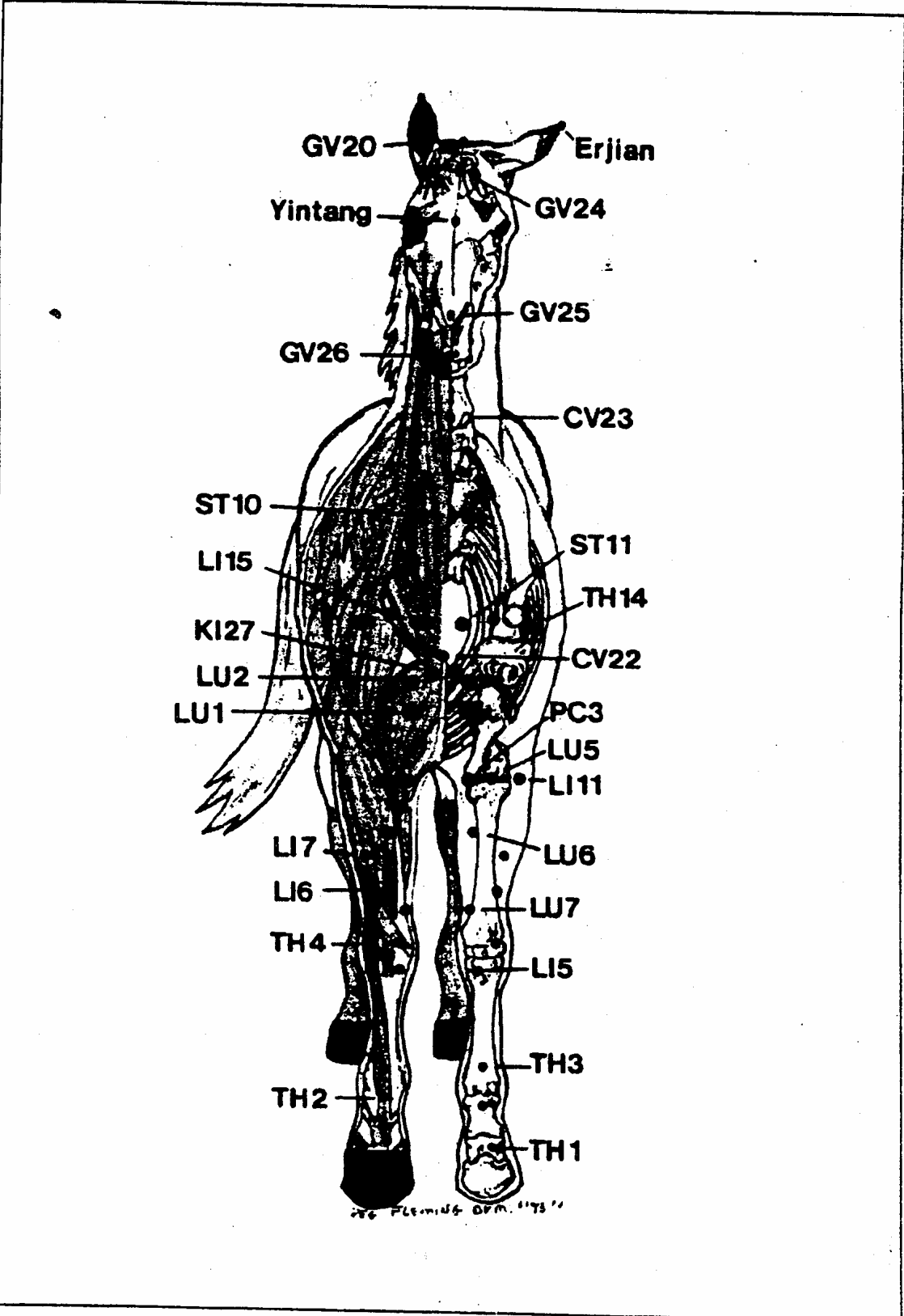
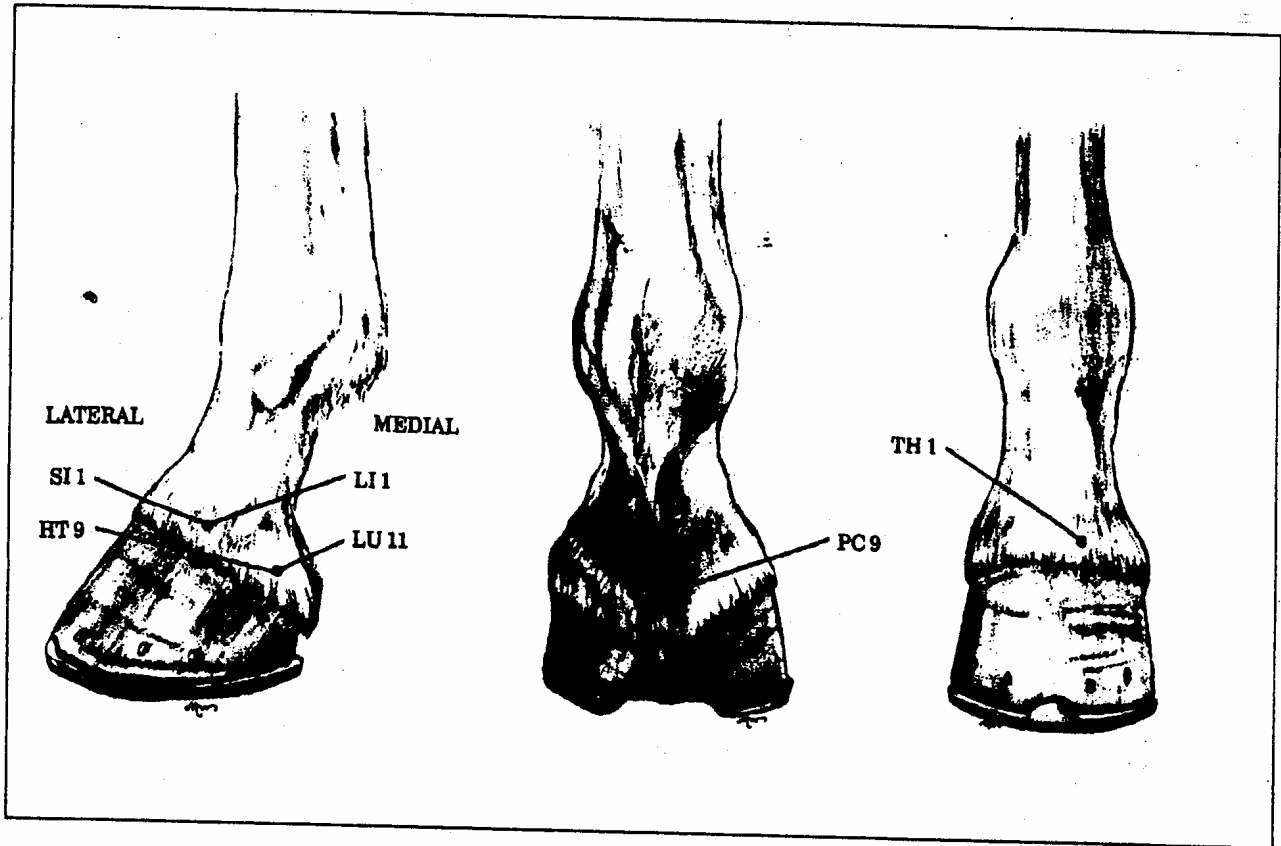
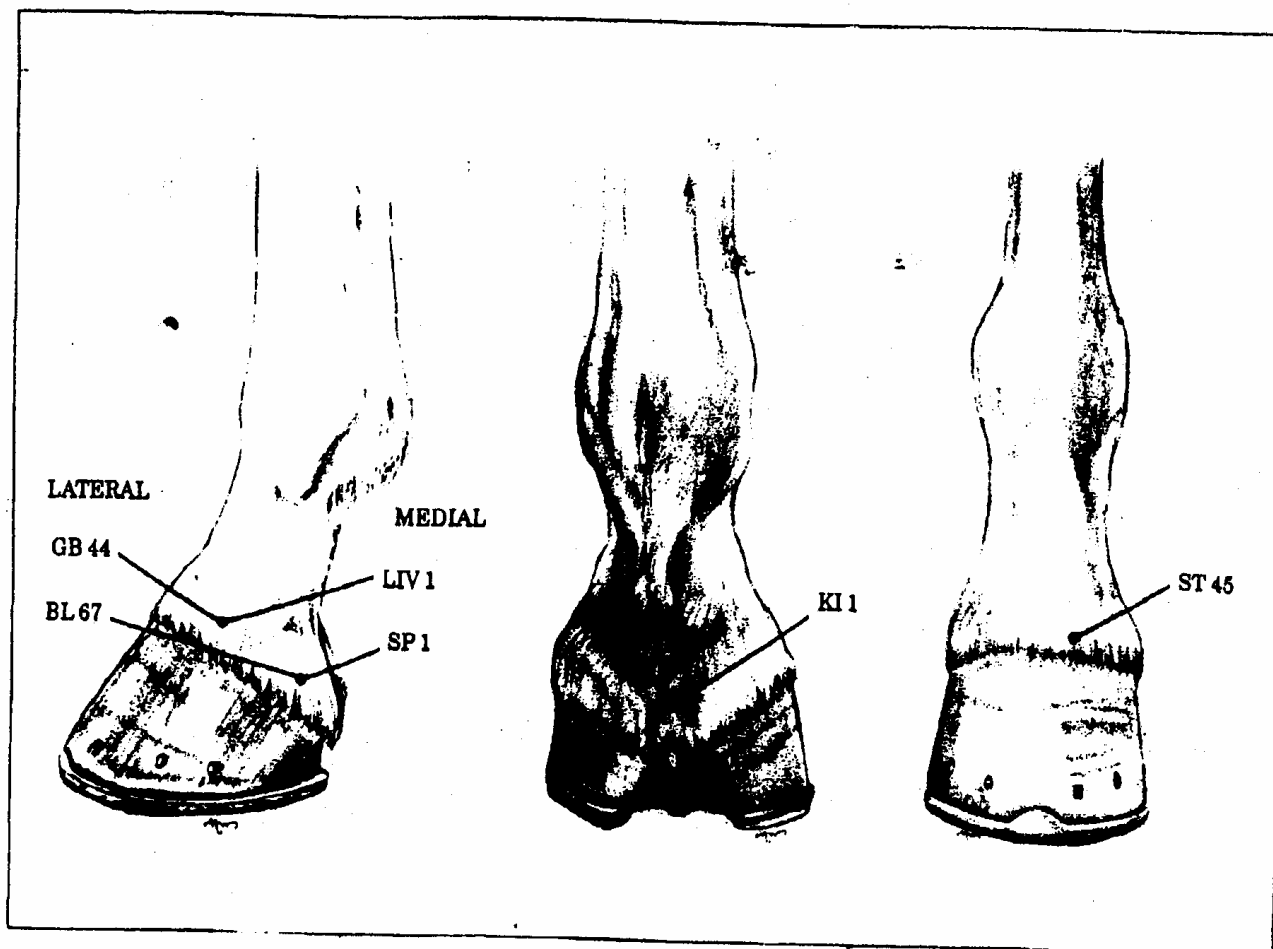


Figure 13. Ting points of the equine front foot. (In a lateral position, the points are SI-1 and HT-9; in a medial position, the points are LI-1 and LU-11.)



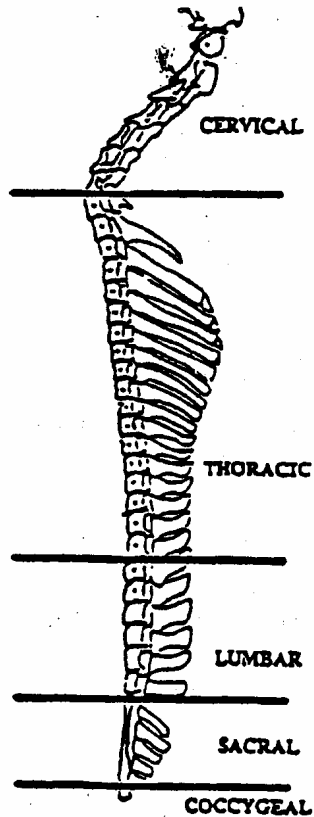
- TRIPLE HEATER:** HORMONAL IMBALANCE, HOOF AND ANKLE INFLAMMATION
- SMALL INTESTINE:** GLUTEAL AND SHOULDER PAIN
- LARGE INTESTINE:** NECK AND ANKLE PAIN, SINUSITIS
- HEART:** HEEL AND FROG INFLAMMATION, TENDONITIS, NERVOUSNESS
- PERICARDIUM:** NERVOUSNESS, HEEL INFLAMMATION, TENDONITIS
- LUNG:** BLEEDER (EIPH), PLEURITIS, INSIDE SPLINT

Figure 14. *Ting* points of the equine rear foot. (In a lateral position, the points are GB-44 and BL-67; in a medial position, the points are LIV-1 and SP-1.)



- STOMACH:** COLIC, STIFLE
GALL BLADDER: HOCK PAIN, UPPER NECK, HIP PAIN
LIVER: HOCK PAIN, MYOSITIS
BLADDER: SORE BACK, HOOF INFLAMMATION (REAR),
 SORE OVER BACK OF THIGH
KIDNEY: HOCK PAIN, REAR FLEXOR TENDONITIS, HOOF
 INFLAMMATION
SPLEEN: DIARRHEA, STIFLE PAIN BLEEDING

THORACOLUMBAR MODULE



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I. Basic Chiropractic Terminology

A. Chiropractic

1. That science and art which utilizes the inherent recuperative powers of the body and deals with the relationship between the nervous system and the spinal column, including its immediate articulations, and the role of this relationship in the restoration and maintenance of health (A. E. Homewood)

B. Subluxation

1. Traditional Veterinary Definition

- a. Incomplete or partial dislocation less than a luxation

2. Chiropractic Definition

- a. Disrelationship of a vertebral segment in association with the contiguous vertebra resulting in a disturbance of normal function (Homewood)
- b. Alteration of the normal dynamics, anatomical or physiological relationships of contiguous articular surfaces (Leach)
- c. **Vertebral Subluxation Complex:** Term used to encompass all the manifestation of the biomechanical and neurological components of the subluxation

C. Adjustment

1. Short-lever, specific , high velocity, controlled thrusts by hand or instrument which are directed at specific articulations (Leach)

2. Adjustment Specific

- a. Terms used to emphasize the specificity of the adjustment

3. Manipulation

- a. Forceful passive movements of a joint beyond its active range of motion using of a joint beyond its active limit of motion using long levers and slow passive articular movements (Leach)
- b. Manipulation and adjustment are not the same procedure

D. Innate Intelligence

1. Segment of God or nature that controls or regulates the universe found in the body that controls and integrates the function of the body as a unit

II. Physical Therapy

A. Exercise

- 1. Controlled exercises causes the healing ligaments and tendons to be stronger and have better gliding ability than if they were not stressed during the healing process**
- 2. Benefits of Exercise**
 - a. Increased arterial, venous, and lymphatic flow
 - b. Increased sensory awareness
 - c. Increased muscle stamina, endurance and coordination
 - d. Decreased joint stiffness
 - e. Improves nerve impulse transmission
 - f. Decreased osteoporosis
 - g. Stronger ligaments and tendons
- 3. Passive Exercise**
 - a. Puts limbs through full range of motion
 - b. Technique
 - i. Vary movements
 - ii. Slow to brisk
 - iii. 5-10 minutes twice a day
- 4. Benefits of passive exercise for paresis/paralysis**
 - a. Proprioceptive reflexes stimulate muscle contraction
 - b. Movement of limbs prevents contracture of limbs secondary to disuse
 - c. Stimulates reflex nerve transmission

B. Massage

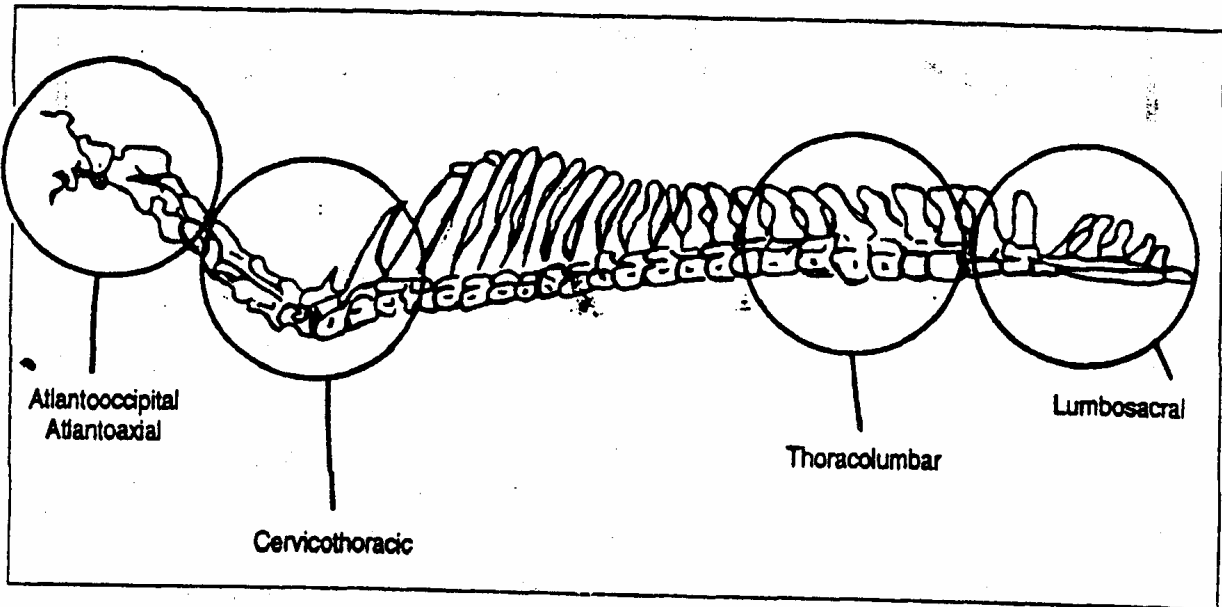
1. Benefits of Massage

- a. Increased nutrients to area
- b. Increased removal of wastes
- c. Increased diapedesis of leukocytes to area of injury
- d. Increased blood flow to area
- e. Increased lymphocytic flow by 25 times
- f. Relax skeletal muscles
- g. Decrease adhesions
- h. Increased removal of adhesions
- i. Release fascial attachments to muscle

2. Uses of Massage

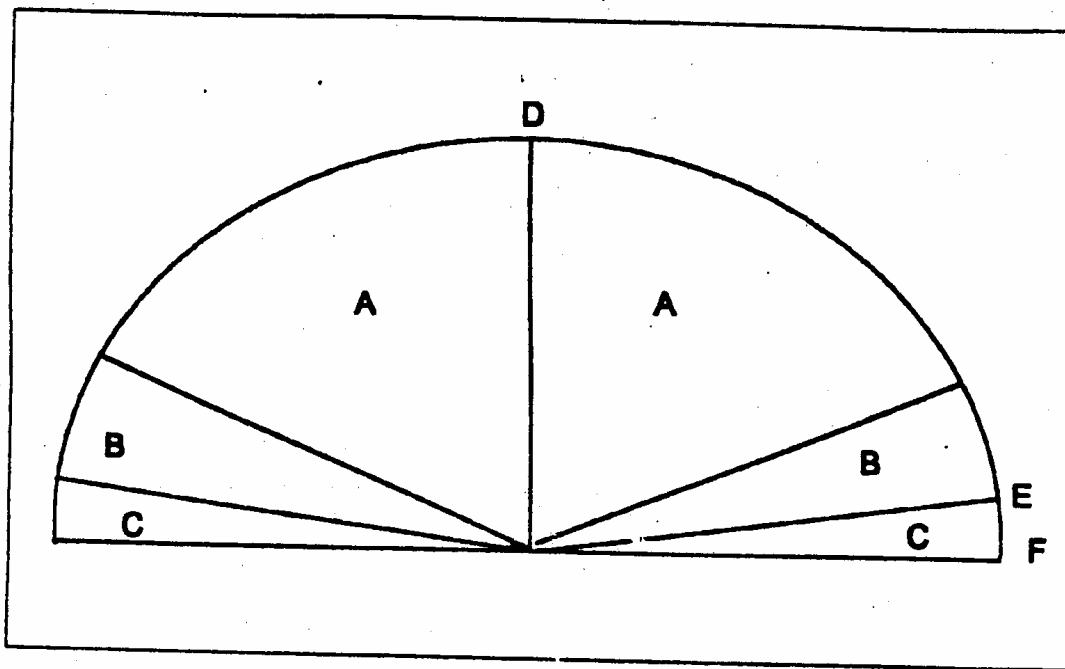
- a. Flaccid paralysis
- b. Soft tissue injury
- c. Edema

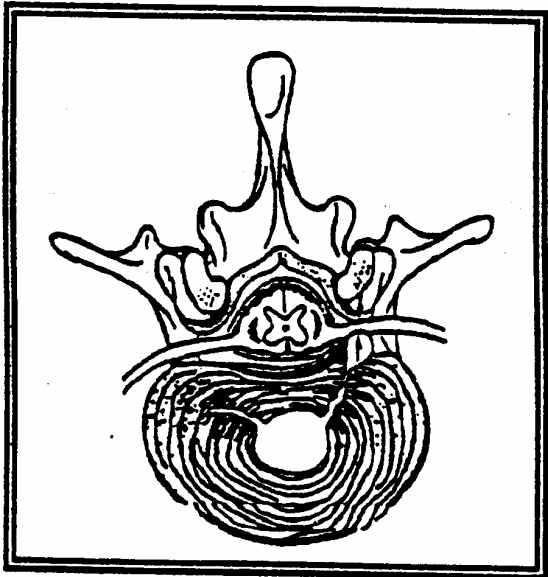
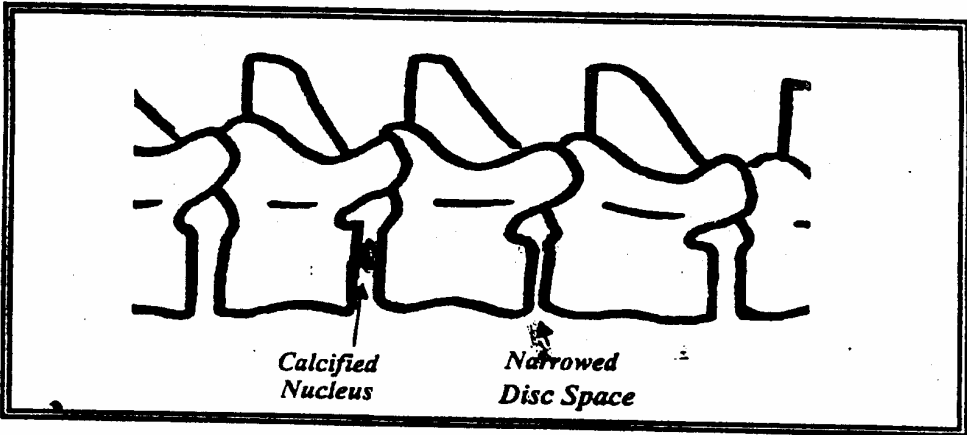
Figure 2. Vertebral transition regions.



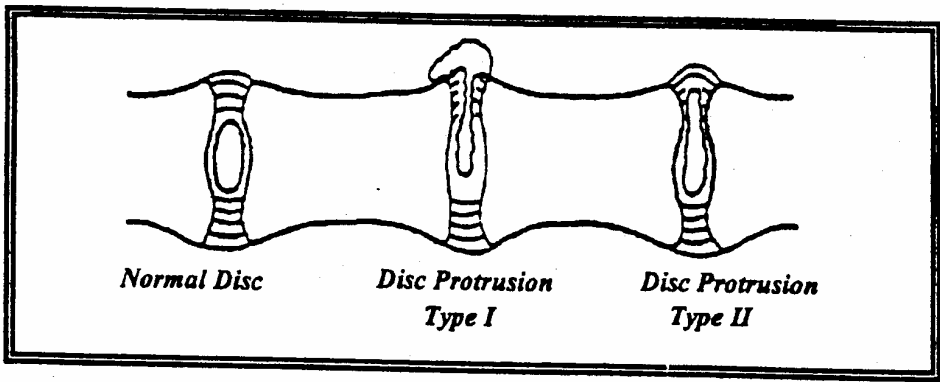
Veterinary Chiropractic Care

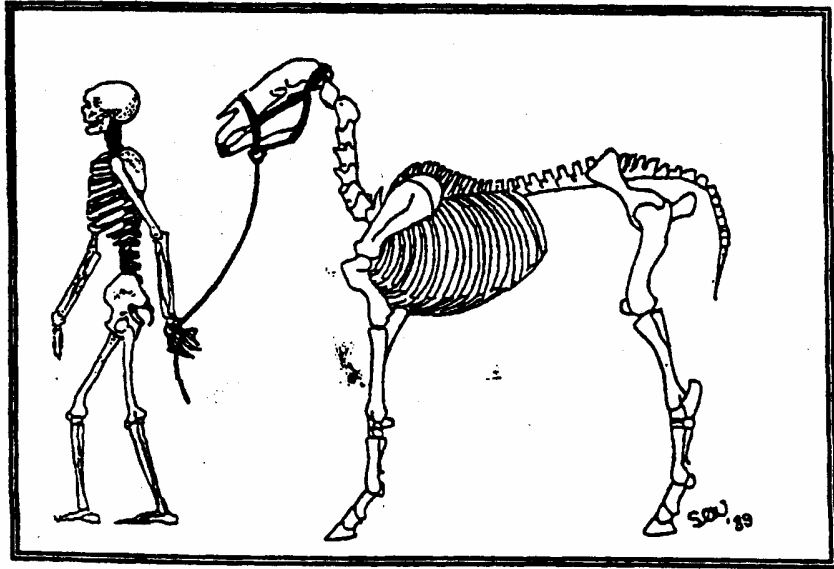
Figure 3. Joint biomechanics. A. active range of motion. B. passive range of motion. C. para-physiologic space. D. neutral. E. elastic barrier. F. anatomic barrier.





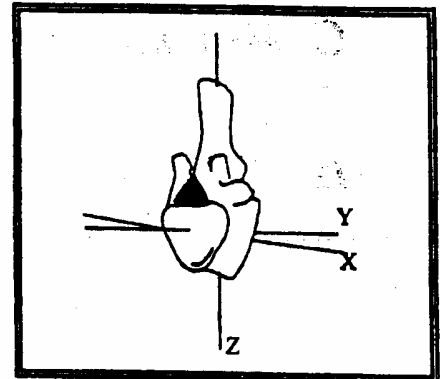
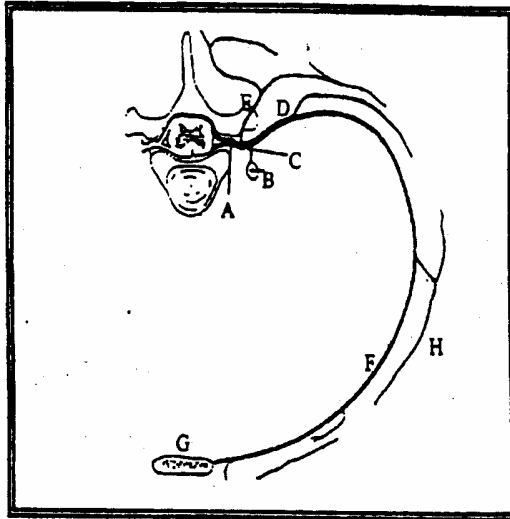
Lateral Disc Protrusion



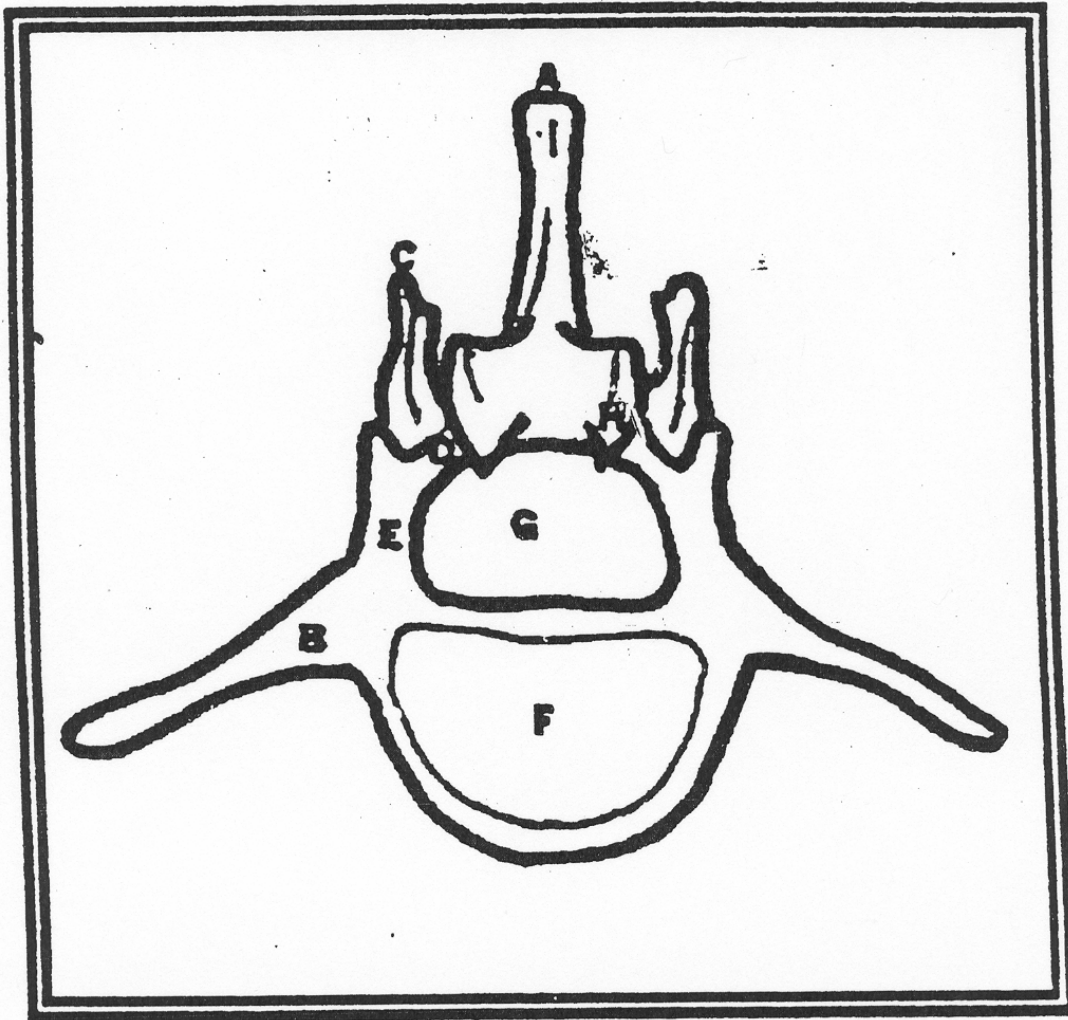


Typical Spinal Nerve

- A. Spinal Nerve
- B. Paravertebral Ganglion
- C. Ramus Communicans
- d. Ventral Branch
- E. Dorsal Branch
- F. Intercostal Nerve
- G. Sternum
- H. Cutaneous Branches

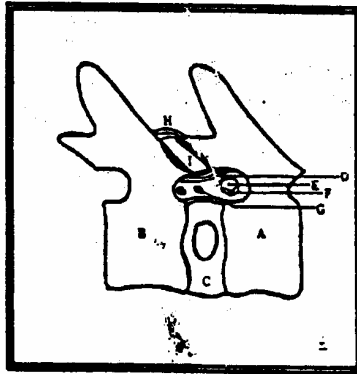


Axis of Vertebral Movements



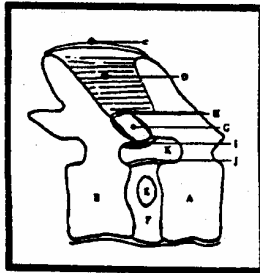
Typical Vertebra

-
- A. Spinous process, B. Transverse process
C. Mammillary process, D. Lamina
E. Pedicle, F. Body, G. Vertebral Canal
H. Articular facet*
-



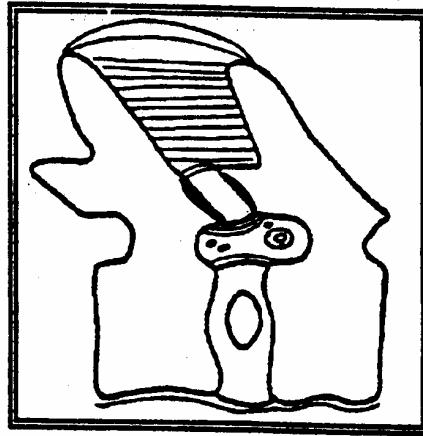
Intervertebral Foramen

- A. Cranial vertebra. B. Caudal vertebra
 C. Intervertebral disc. D. Recurrent
 Meningeal Nerve. E. Radicular Nerve.
 F. Spinal artery. G. Vertebral Veins
 H. Joint capsule. I. Zygapophyseal joint

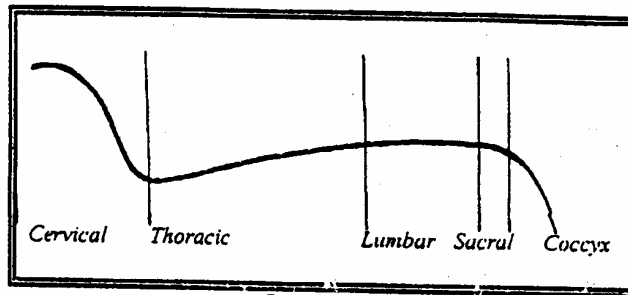


Common Spinal Ligaments

- A. Cranial Vertebra B. Caudal Vertebra
 C. Supraspinous Lig. D. Interspinous Lig.
 E. Nucleus Pulposus F. Annulus Fibrosus
 G. Zygapophyseal Joint H. Joint Capsule
 I. Ligamentum Flavum
 J. Dorsal Longitudinal Ligament
 K. Intervertebral Disc
 L. Ventral Longitudinal Ligament

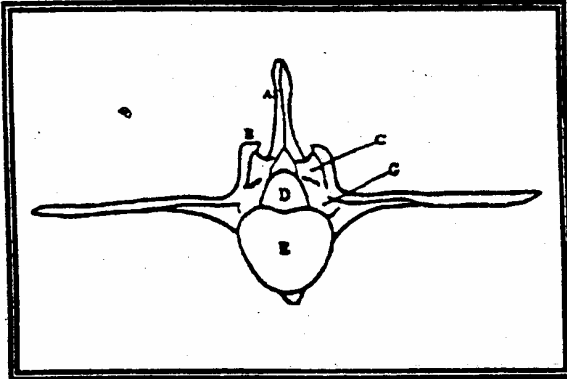


Motor Unit

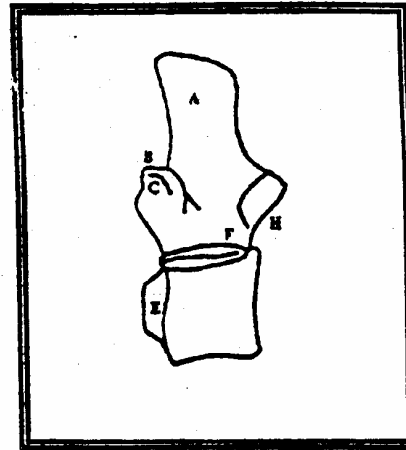


Spinal Curves

Typical Equine Lumbar

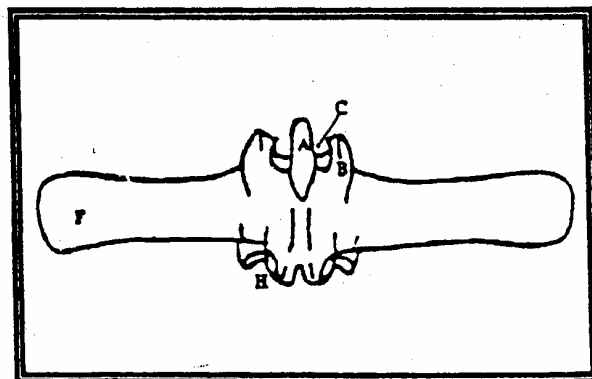


Cranial View

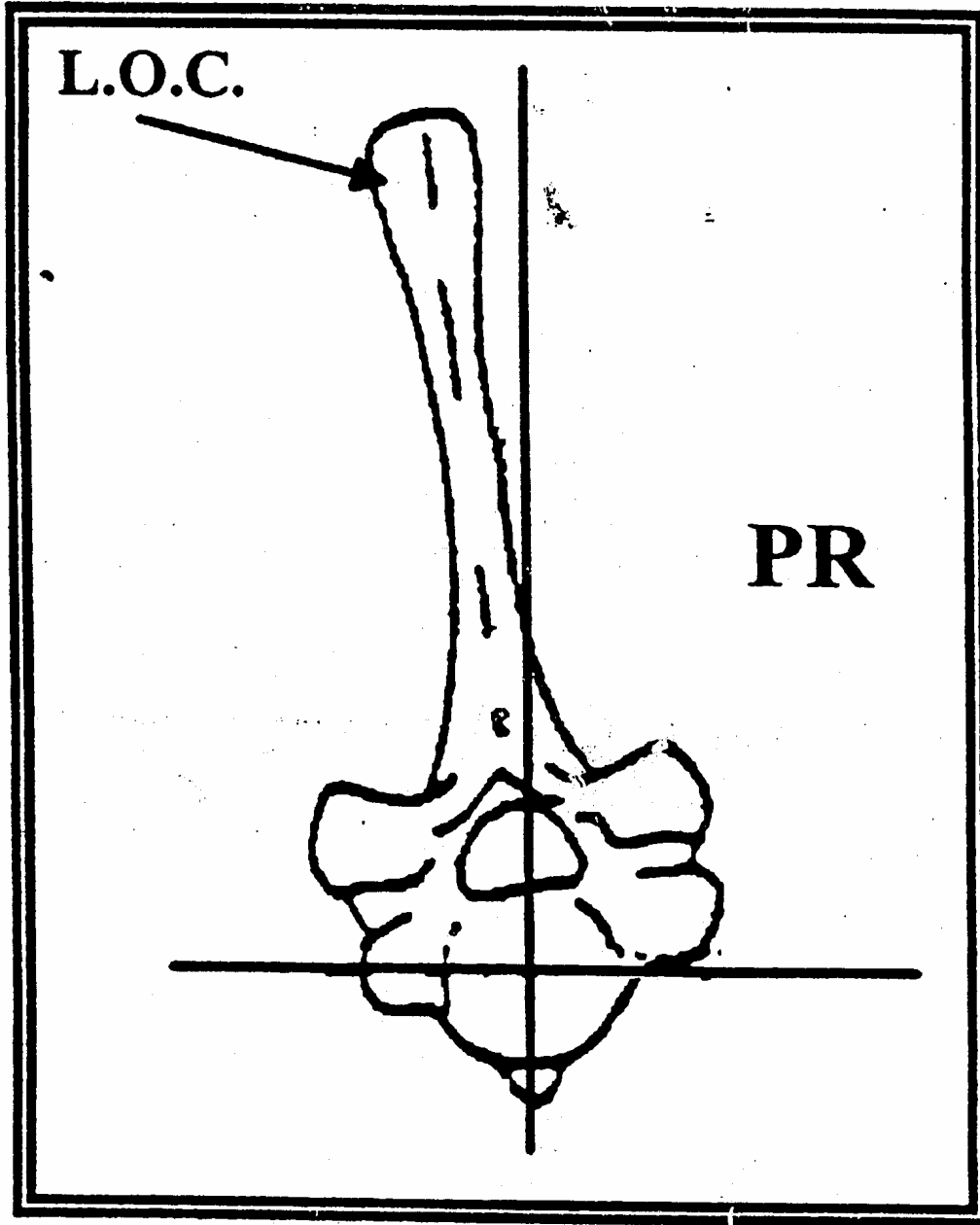


Lateral View

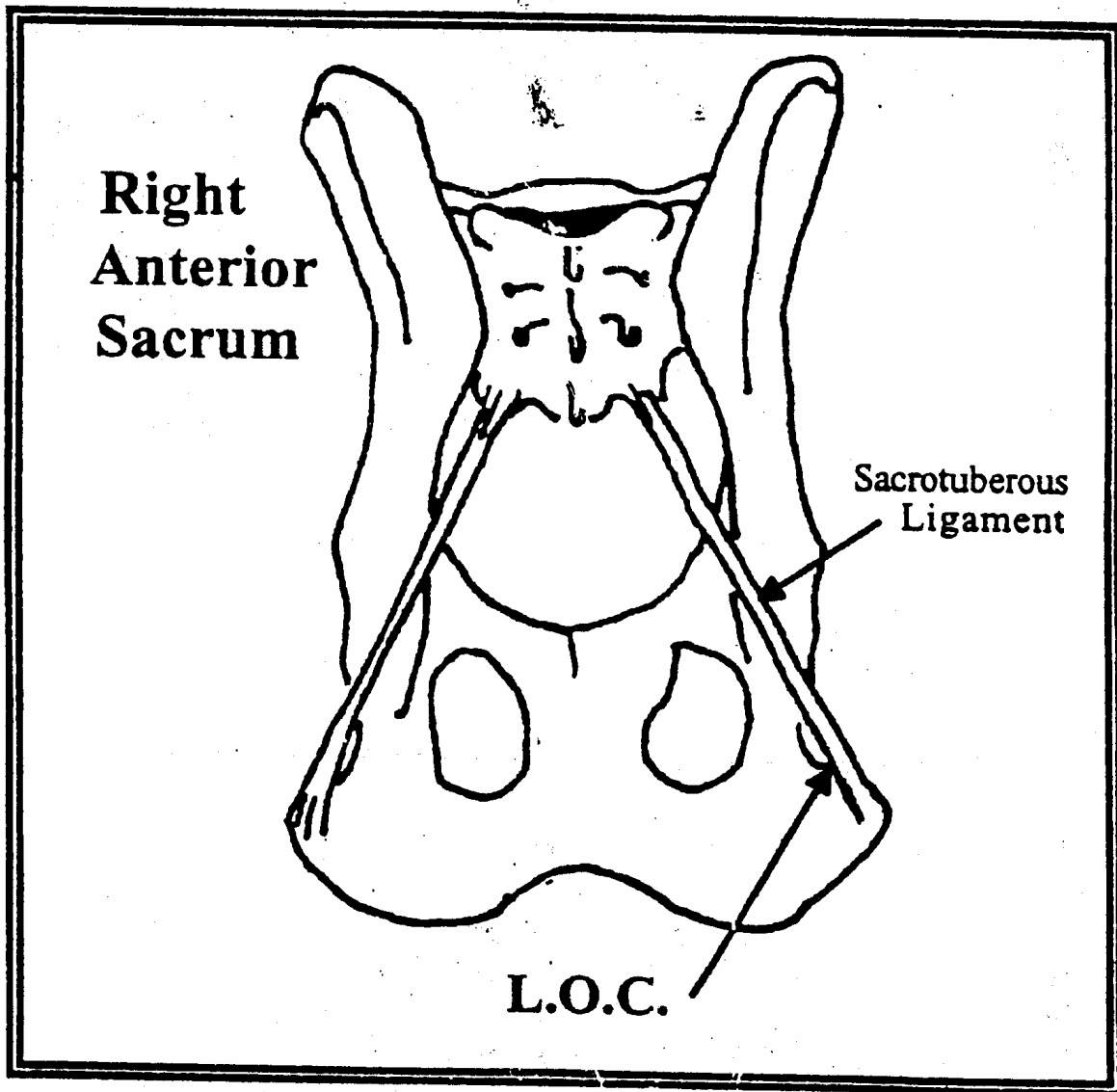
-
- A. Spinous Process
 - B. Mammillary Process
 - C. Cranial Articular Facet
 - D. Vertebral Canal
 - E. Cranial Vertebral Body
 - F. Transverse Process
 - G. Pedicle
 - H. Caudal Articular Facet
-



Dorsal View

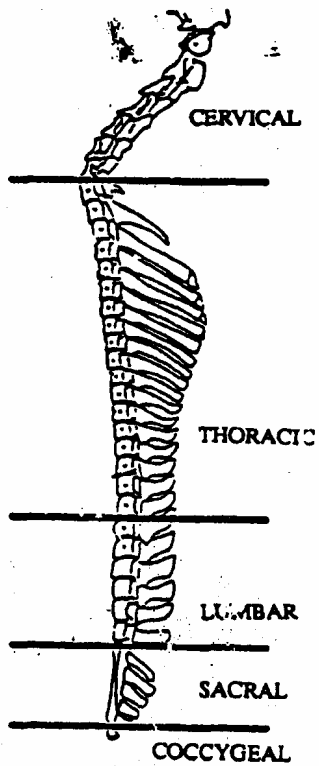


Upper Thoracic Rotation



Logan Basic Contact

SACROPELVIC MODULE



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I. Basic Chiropractic Terminology

A. Chiropractic

1. That science and art which utilizes the inherent recuperative powers of the body and deals with the relationship between the nervous system and the spinal column, including its immediate articulations, and the role of this relationship in the restoration and maintenance of health (A. E. Homewood)

B. Subluxation

1. Traditional veterinary definition
 - a. Incomplete or partial dislocation less than a luxation
2. Chiropractic Definition
 - a. Disrelationship of a vertebral segment in association with the contiguous vertebra resulting in a disturbance of normal function (Homewood)
 - b. Alteration of the normal dynamics, anatomical or physiological relationships of contiguous articular surfaces (Leach)
 - c. **Vertebral Subluxation Complex:** Term used to encompass all the manifestation of the biomechanical and neurological components of the subluxation

C. Adjustment

1. Short-lever, specific, high velocity, controlled thrusts by hand or instrument which are directed at specific articulations (Leach)
2. **Adjustment Specific**
 - a. Terms used to emphasize the specificity of the adjustment
3. **Manipulation**
 - a. Forceful passive movements of a joint beyond its active range of motion using of a joint beyond its active limit of motion using long levers and slow passive articular movements (Leach)
 - b. Manipulation and adjustment are not the same procedure

D. Innate Intelligence

1. Segment of God or nature that controls or regulates the universe found in the body that controls and integrates the function of the body as a unit

II. Safety for the Adjustor

A. Line of Correction

1. The angle of the thrust is critical to insure effective adjustments as well as decreasing trauma to vertebral joints
2. If an improper line of correction is used the thrust will be made on joints in a close-packed position
 - a. Potential harm to vertebral joints
 - b. Ineffective adjustment
 - c. Joints do not absorb force, resulting in force transmitted back into the doctor's body
 - d. This reflected force will seek out the doctor's weak link resulting in aggravation in low back pain, joint pain, or other pain

B. Wrists

1. Contact hand wrist must be straight or near straight.
2. Wrist lines up forearm with the correct joint angle so the thrust goes where it should
3. Hyperextension can cause wrist problems
4. Carpal tunnel may result from improper use of wrists

C. Elbows

1. Repeated triceps extension adjustments can cause lateral epicondylitis
2. At the end of the thrust, train yourself to keep a few degrees of flexion in the elbows
3. Prevents the elbow joint from being damaged in the closed-pack position

D. Upper Arms

1. At end of thrust, the shoulder should be directly behind your upper arms
2. During body-drop maneuvers, keep the elbow close into the ribs
 - a. This keeps the humerus from jamming into the glenohumeral joint
 - b. Directs the thrust through the contact hand

E. Back

1. Lower back lordosis must be kept intact during adjustments
2. Do not adjust with rotation, lateral or forward flexion of your back
 - a. Compromises the discs
 - b. Repetition of these stresses can cause a disc could to herniate
3. Your pelvis should not be torqued since the greatest chance of disc herniation in man is at L5-S1 disc
4. Tighten abdominal muscles to increase low back support

F. Head and Neck

1. the head and neck should line up with the trunk or be in a neutral position
2. The eyes may not be directly at the patient
3. Rotation or flexion of the neck may cause a flexion-extension (whiplash) injury

G. Legs

1. Keep the legs slightly flexed at the knees
 - a. Helps with relaxation
 - b. Allows body to absorb and transfer stress
 - c. Use a fencer's stance when possible to maintain lordosis
2. By coordinating the thrust with a forward extension of the body, the joint slack is easier to remove
 - a. This also allows for increased proprioception of the doctor during the thrust

H. Breathing

1. Thrusting on exhalation will allow you to relax and therefore increase the speed of the adjustment
2. If possible synchronize the adjustment with the patient's exhalation

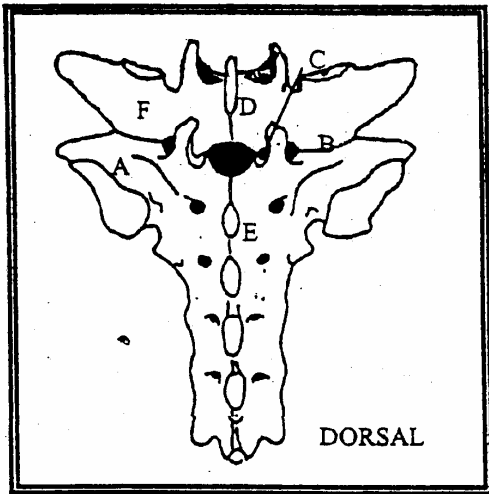
I. Body Drops

1. The sternum should be directly over the contact hand
2. The safest drop is accomplished by collapsing the legs
3. Make sure to maintain lumbar lordosis

Comparative Vertebral Distribution

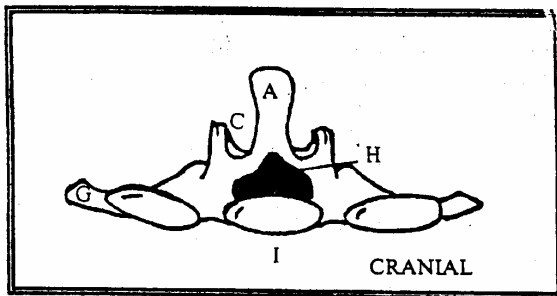
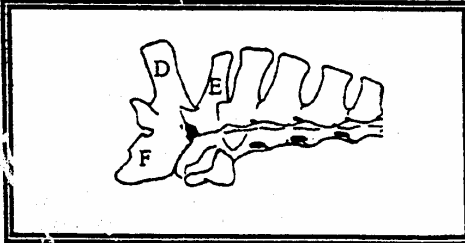
The spinal column of vertebrate animals consists of a variable number of unpaired, irregular bones, the vertebra. These bones are grouped into five classifications: cervical, thoracic, lumbar, sacral, and coccygeal. The following chart illustrates the distribution in these groups. Except for the cervical region, all numbers can vary among individuals of that species.

SPECIES	CERVICAL	THORACIC	LUMBAR	SACRAL	TAIL
Man	7	12	5	5	4
Equine	7	18	6	5	15
Bovine	7	13	6	5	18
Canine	7	13	7	3	20
Feline	7	13	7	3	18
Ovine	7	13	7	4	16
Porcine	7	14	7	4	20
Rabbit	7	12	7	4	16
Whale	7	11	6	0	24



Equine Lumbosacral Region

- A. Sacral Wing
- B. Intertransverse Joint
- C. Zygapophyseal Joint
- D. Spinous Process of L6
- E. First Sacral Tubercle
- F. Transverse Process of L6



Equine Sacrum

- A. First Sacral Tubercle
- B. 2-5 Sacral Tubercle
- C. Cranial Articular Process
- D. Sacral Wing
- E. Auricular Surface
- F. Dorsal Foramina
- G. Ventral Foramina
- H. Vertebral Canal
- I. Base
- J. Apex

