

# ANIMAL CAVALCADE

SEPT/OCT 1975

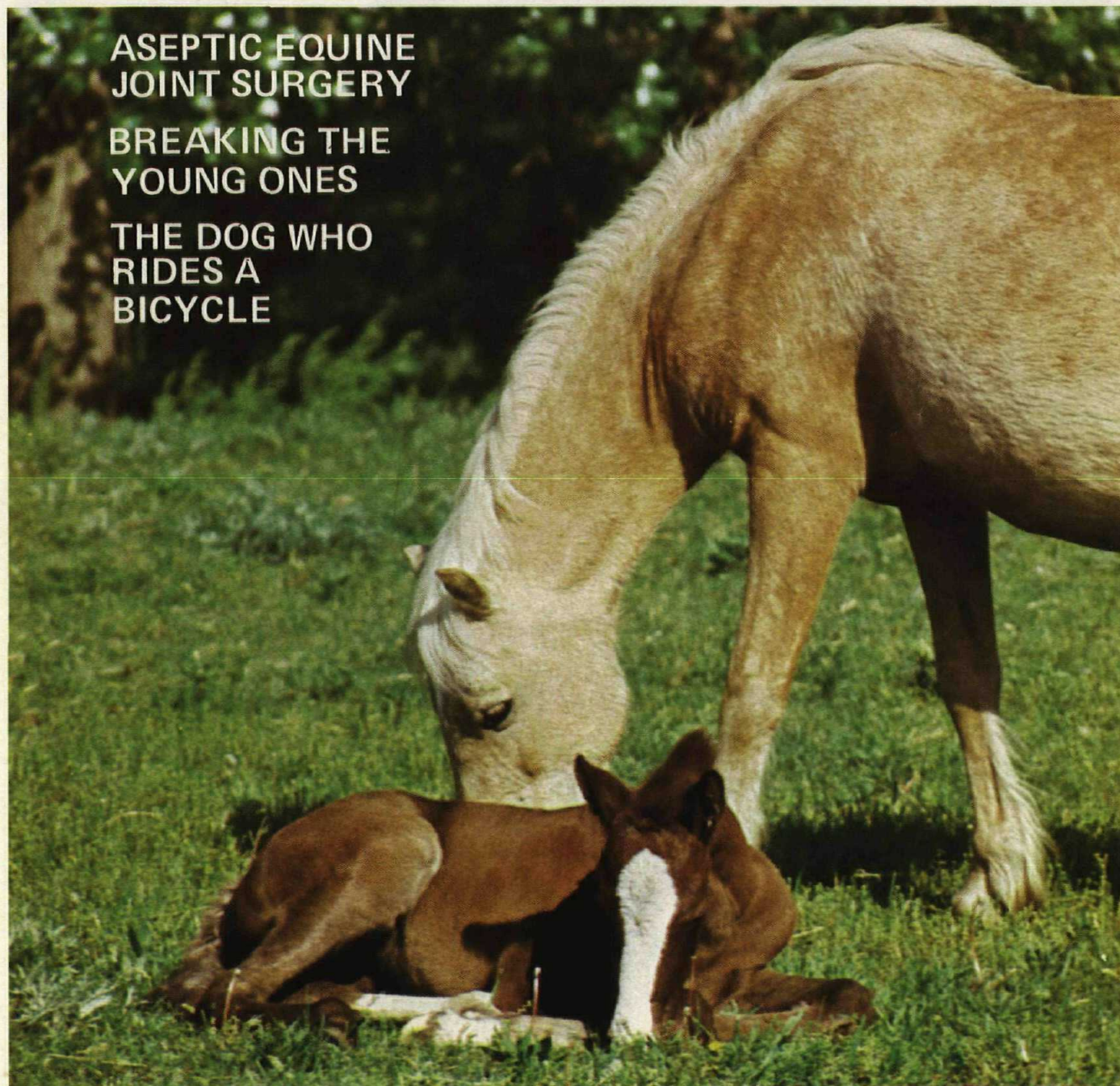
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THE ANIMAL HEALTH MAGAZINE

ASEPTIC EQUINE  
JOINT SURGERY

BREAKING THE  
YOUNG ONES

THE DOG WHO  
RIDES A  
BICYCLE



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**TODAY'S HORSE HEALTH**

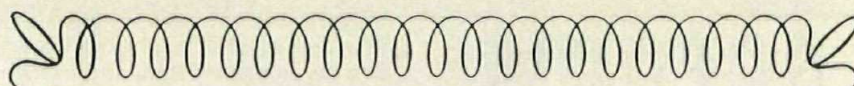
The Animal Health Foundation which publishes this magazine, being entirely non-profit, is deeply interested in maintaining good health in horses. Sometimes it is easy to become impressed with activities in one field of animal health and overlook other phases of equal importance. A look at the contributors to the Foundation from equine veterinarians, as well as other veterinary practitioners, individuals and organizations will reveal the noted people who are devoted to the equine industry.

Also, I want to express the gratitude of the recipients of our research grants that all the veterinarians on the staff of *The Animal Health Foundation* and *Animal Cavalcade* serve without remuneration because of their dedication to the health of animals.

The health of our horses today is of vital personal as well as economic concern. I would venture to guess that there is a horse population in the United States that would allow one for every 5 families; but even though this is true, there is a shortage of horses! Add to this that the quality of horses has improved tremendously; therefore, their value has soared. (The average family horse is now probably about \$500.00). Yet, most of the present day horses are kept for family pleasure. This picture could even be narrowed down to show that most of the family horses are fed, groomed and cared for by youngsters 8 - 16 years old, and most of these young people are girls. The socio-economic impact of young people owning and caring for horses will prove to be tremendous.

Seldom do you hear of an equine veterinarian referred to nowadays as a "horse doctor." There was nothing wrong with being called "horse doctor" in our early history because he was depended upon by settlers to care for their most prized possessions. Not only that, he was often (unofficially) the local pharmacist, family doctor, mortician and sheriff!

*continued on page 29*



# ANIMAL CAVALCADE

Official Journal of the Animal Health Foundation on animal care and health.

SEPT/OCT 1975

Volume 6 Number 5

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# DOCTOR'S ADVICE

Readers with health and other pet problems are invited to send in their questions to ANIMAL CAVALCADE. Those with the greatest reader interest will be handled on this page by Dr. J.F. Smithcors, D.V.M., Ph.D., who is technical editor of American Veterinary Publications, Inc.

**Q. Is there any vaccination to prevent "cough" in horses? This is a common problem at the track.**

A. The usual cause of "cough" at tracks is influenza, for which effective vaccines are available. Other respiratory conditions such as heaves, bronchitis, allergy and lungworms may also cause coughing and require individual treatment.

**Q. Why is it so difficult to repair broken bones in horses?**

A. Some horses are naturally so restless (Ruffian being a recent example) that they will not tolerate a cast on a limb, whereas many lower limb fractures in other horses can be repaired with good success. With an upper limb fracture, however, the muscles are so powerful that their pull may prevent good alignment being maintained after the horse comes out of anesthesia.

**Q. I had a horse with impacted colon. The eyes were jaundiced. Can you explain this?**

A. Jaundice is an accumulation of bile pigments in the blood, which becomes visible in the eye. An impacted colon may obstruct the bile duct by the pressure it produces, and the bile retained in the liver (instead of flowing into the small intestine) is absorbed into the blood. Impaction may also cause toxic substances to accumulate in the blood, which may damage liver function as they pass through the liver substance.

**Q. Do you advise strangles vaccination for horses used for pleasure?**

A. The danger of strangles is greatest where a new horse is mixed with others, as in a herd or riding stable, and isolation is the best preventive measure. A good vaccine is avail-

able, but whether one or two horses in a private stable should be vaccinated is probably best left up to the judgment of your veterinarian. In any event, only horses known to be healthy (not coming down with strangles) should be vaccinated.

**Q. I find two kinds of hamster food on the market. One is 25% protein and the other is only 12%. Should I be feeding the 25%?**

A. Hamsters require a minimum of 9% protein for maintenance (adults) and 20% for growth or reproduction, so if you are raising young the higher protein should be fed during pregnancy and lactation, and during early growth.

**Q. Is it necessary to breed mares in February and March?**

A. No, the season for most breeds extends from about mid-February to mid-June. Since mares average about 340 days of gestation, and the birthdate for Thoroughbred foals is arbitrarily put at January 1, many breeders prefer Feb-March breeding so foals will be born early in the year.

**Q. Why do veterinarians want to examine the afterbirth of mares?**

A. If a piece of afterbirth no larger than a hand is torn loose and remains in the uterus it can cause acute laminitis ("foal founder") and some mares may die. Thus it is important to spread the membranes out carefully to be certain they are complete; if not, the veterinarian will take steps to remove any remnants.

**Q. Why do horses need to be wormed so often? I understand they should be wormed every 60-90 days.**

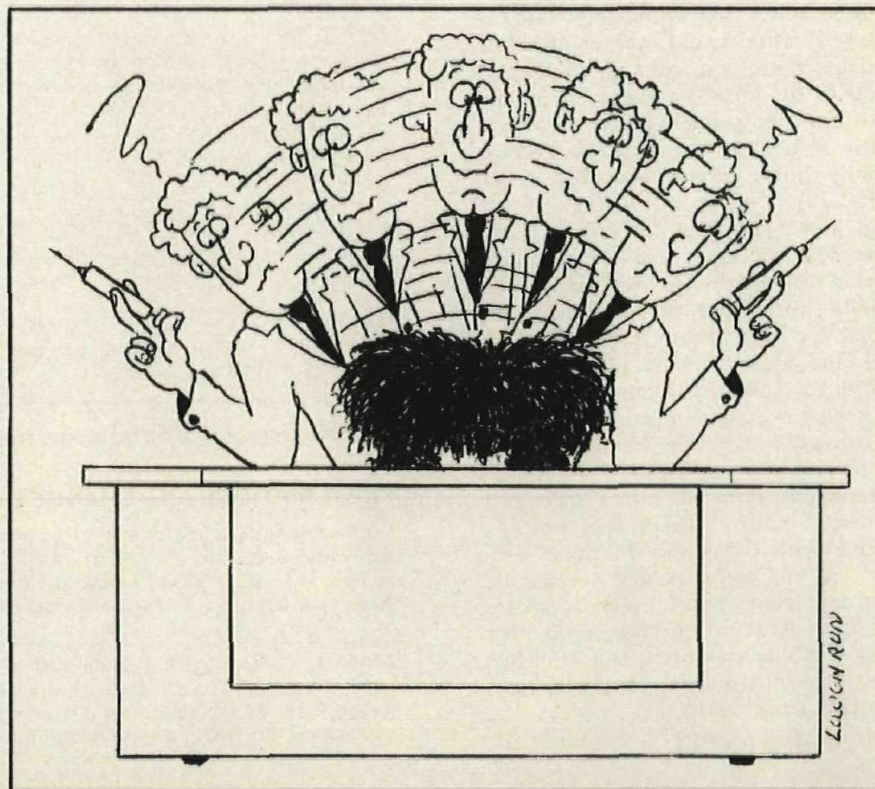
A. The interval between wormings is related to the life cycle of the parasites. Even highly efficient anthelmintics may not remove 100% of the worms, and the few that are left can in time produce a large population. Also, pastures used by horses regularly become contaminated with worm larvae, ingestion of which can produce more or less continuous infection. In heavily contaminated areas the veterinarian may advise worming every 4 to 6 weeks for a few times.

**Q. Do cattle need to be wormed?**

A. Yes, cattle in most areas are likely to be parasitized to some extent, often enough to cause unthriftiness or decreased milk production, and under these conditions regular worming should be beneficial. Usually a veterinarian should be consulted, so the exact problem can be diagnosed.

**Q. Should I have my goats inoculated or tested?**

A. Goats are susceptible to the same diseases as sheep, in which the chief disease inoculated against is enterotoxemia (clostridial infection). In areas where other diseases are common, e.g. anthrax, vaccination for these may be advisable. All milk goats should be tested for brucellosis, and vaccination may be advisable. Your county agent, extension service or veterinarian can give you details appropriate for a specific situation.



# CAVALCADE NEWS

## CENTER FOR CONTINUING EDUCATION IN SOUTHERN CALIFORNIA

Perhaps the most far-reaching step taken by ALPO in continuing veterinary education is the recent grant to the University of California at Irvine for the planning and development of the nation's first full-time Center for Continuing Veterinary Education and Clinical Facilities.

In the past year, the Irvine group under Dr. William J. Winchester, Coordinator of the Office of Continuing Veterinary Medical Education, has provided more than 13,000 hours of continuing education for more than 550 veterinarians living and practicing in the populous Southern California area.

The proposed Irvine facility would be adjoined to the campus' new College of Medicine's Medical Science Building and would become an integral part of the health science complex. It would be administered by both Dr. Winchester's office and the University of California-Irvine, College of Medicine.

## SHOCK IN HORSES

Shock is a serious condition which occurs in horses, as in man, from many causes. Because relatively little research has been done on certain aspects of blood circulation in the lungs of horses in shock, proper treatment is not always possible.

Too often, horses die from shock. *Scientists at The Ohio State University are studying the causes, symptoms and possible preventions and treatments for shock in horses so the problem does not have to be such a threat.*

Robert L. Hamlin, D.V.M., Ph.D.; Frank S. Pipers, D.V.M., MSc, and Charles R. Smith, D.V.M., Ph.D., professors in the College of Veterinary Medicine, Ohio State University, Columbus, are conducting the study.

"A growing interest in the pleasure horse, horse racing and showing has led to an increase in concern of horse owners in the health of these now companion animals," Dr. Hamlin said.

The scientists pointed out that no extensive research has been done into lung circulation in horses following intestinal twisting or blocking (colic), a condition which can be fatal. They and members of their team plan to study the role of lung circulation, the force of the heart's contraction and blood vessel resistance in shock.

A horse can also go into shock after loss of blood, dehydration, burns and other events which cause a decrease of blood volume.

Like many other equine diseases, shock is complex, and little is known

about it. Therefore, much work is required before it can be eliminated as a threat to horses.

## DEVELOP AMNIOTIC TEST FOR CATTLE

*Reprinted courtesy DVM, Aug/Sept '74*

Veterinarians may soon be able to detect cytogenetic defects of cattle fetuses as well as their sex by testing amniotic fluid, a development with important implications for cattle breeders.

The technique is in some ways similar to the method now used to determine the sex and presence of chromosomal defects in human fetuses, but the method was not available for veterinary purposes until now. It involves drawing amniotic fluid from around the developing fetus and then processing it to separate cells which are placed in a growth medium to incubate at 37°C for a week. The researchers are now working to cut this waiting period to only three or four days, Dr. Bongso reported. Veterinarians drawing samples of amniotic fluid will have to send these to a cytogeneticist for examination.

Professor Basrur's team has already completed a film to demonstrate their system to both DVM students and practising veterinarians.

## IN THE INTEREST OF WILDLIFE

A wildlife drinking hole fed constantly by fresh water has been established in the interest of wildlife preservation in the rugged Santa Monica Mountain range, Los Angeles, California.

The pilot project was implemented by the Los Angeles City Department of Animal Regulation and the Department of Water and Power in conjunction with Lila H. Brooks, a local humane leader and president of California Wildlife Defenders. The need for animal watering projects in Southern California hillside areas initially was proposed by Miss Brooks.

City Councilman Marvin Braude, in whose Eleventh District the new water hole is located, said the installation is a welcome adjunct to the mountainous environment.

"Our wildlife sanctuaries are in jeopardy," he said. "Any moves we can make to preserve our wilderness and the wildlife involved are welcomed."

The watering station guzzler has been constructed at the East Ridge water tank site in the Santa Monica Mountains west of the San Diego Freeway. Water, necessary to wildlife survival, and sometimes nonexistent in  
*Continued on page 25*



Chancellor Dan Aldrich, University of California, Irvine, right, discusses recent ALPO grant to the university for planning and development of the nation's first full time clinical facility for continued veterinary education, with, from left to right: Dr. A. William Schramm, Southern California Veterinary Medical Association liaison to UCI; Vice Chancellor L. E. Cox, UCI; H. Don Mahan, Executive Director, Southern California Veterinary Medical Association; and Thomas M. Durkin, ALPO Vice President-Communications.

# BREAKING THE YOUNG ONES!



Young trainer with her three-month old Morgan filly. Photo—Robert Hightower

by Tom C. Curlin

Learning to train a young colt is a great thing to know.

You start working with him when he is about *two days old*. The first thing you do is approach him slowly and when you are able to touch him, you stroke his whole body with your hands. You should rub his ears and forehead so that he will not be headshy when he gets older. This will make it easier to put his bridle on. Thereafter, you should pole and bag the colt. To pole the young one, you take a broom stick and stroke his whole body gently. To bag him, you take a cloth bag and rub it over the colt's body, slapping him softly with it as you pass it over him. Poling and bagging the horse should be done as often as possible while the colt is young.

When he is about *three months old*, it is time to teach him how to stand tied. The equipment needed is an automobile innertube. You first put a halter on the colt and ask an assistant to hold him. Then halter and tie the mother of the young one so that she will not interfere with the training. You tie the innertube to a post and then tie the colt to the innertube so that he cannot get his feet hung up in

it. The colt will fight for a while and then will stand still, knowing that there is nothing he can do. This training should be continued until there is no trouble at all.

When the colt is *six months old*, he is ready to wean. You should then start feeding the colt more hay and grain so that he will attain his full growth.

His next lesson is to learn to lead and to have his feet picked up. This is to prepare the young one to meet the farrier who will be caring for his feet and replacing his shoes. In teaching the lead, first halter the colt and take a lariat and place a loop over the colt's rump. Say to him, "Come here." Tug gently on the lariat and pull on the halter rope. He will move a few steps. Pet the colt and continue the same procedure until he responds upon command. To pick up the colt's feet, first rub his legs gently and gradually lift each foot, speaking softly to the colt. When a foot can be lifted, tap it gently on the sole with a rock to teach the colt to be shod.

When the colt is about *13 months old*, you can start the driving lessons which lead to the colt's work as a saddle horse or as a carriage horse. You will need a bridle with a soft rubber bit, a surcingle, and a 20 foot rope. The rubber bit is to keep the colt

from becoming hard-mouthed. When you put the surcingle on, never put it on tight at first, for the colt must get used to it gradually. Then, put the bridle on and take the rope and run it from the bridle rings through the surcingle rings as reins. Then, stand about five feet behind the colt's rump with the reins in hand. You make a clicking sound, wait three seconds and tap the colt lightly with a buggy whip. He will move. Praise him and repeat until he moves out at a walk. While driving the colt, always plow-rein him until he has completely learned his lesson. You must then teach him to stop on command. Place the colt in a walk and give him a strong command, "Whoa." Pull sharply in a see-saw motion on the reins, making him stop. Then, praise him and repeat until he will stop on command without any pressure on the reins. The colt is taught to trot and canter by voice and leg signals. The colt should be ridden gently until he is three years old.

In working with the colt as has been outlined, when the young one is three years old, he will be docile and will not have to be broken in spirit. He will be an animal which will serve through love, not fear. He will keep his great spirit and will not bite, kick or pitch through hatred of the one he serves.

## HORSES PERFORM MANY ROLES

By R. Scott Jackson, D.V.M.,  
Equine Vice President

Horses are becoming increasingly popular with more and more people. They perform many roles, from companion animals for riding to lucrative business ventures. And, whether they are used for pleasure, competition or breeding, good health is of the utmost importance.

In most cases, federal, state and local governments do not recognize the size and scope of the horse industry today. Therefore, they do not devote revenues to research to help these animals. We, of course, are well aware of the health problems that can injure and kill our horses.

Horses can contract many of the same diseases as other animals and man, including heart and lung problems, nutritional deficiencies, respiratory and eye diseases. But they also have several unique ills, including colic, parasites, founder and some viral infections.

Because of these unique qualities, research must be conducted to benefit horses — not to benefit livestock or man, but for the sake of the horse himself.



R. Scott Jackson, D.V.M., is manager and resident veterinarian of the J. K. Houssels Thoroughbred Farm in Chino, Calif. A past president of the Amer. Assoc. of Equine Practitioners, Dr. Jackson has long been active in horses, working with universities, the government and breeding farms.

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## HELP YOUR PET LIVE LONGER

by R. E. Lopez

You can help your pet live years longer if you treat him right, says a specialist in animal care.

"Most dogs and cats could live 25 percent longer and remain healthy and active with proper care," said Dr. Joseph Galloway, assistant professor of physiology and biophysics at Georgetown University in Washington, D.C.

Dr. Galloway, who has spent 20 years in animal research, offers this advice on pet care.

Never feed pets table food. "This can result in obesity, indigestion, intestinal stress — and premature death. Table scraps upset a commercially prepared, well-balanced diet and normally contain a surplus of spices that lowers natural resistance to many diseases."

Don't leave house pets outdoors in bad weather. "The average pet needs a warm place to sleep and protection against dampness and cold. Pets can develop arthritis, rheumatism and related diseases that shorten life."

Give special care to pets confined in apartments. "Loneliness brings on psychological stress and lack of daily exercise is a physical hazard. Animals, like humans, need regular attention, affection and chance for exercise."

Protect pets from small children. "The pet fearing his owner's displeasure, will often let a child pull his ears or poke his eyes, but it suffers enormous psychological stress in the process. This plays havoc with the pet's bodily functions and eventually kills him at an early age."

Give pets more than the legally required inoculations. Pets need to be inoculated against diseases of many species. "Many diseases develop to untreatable stages because owners neglect available preventive measures."

Don't expose pets to noxious fumes. "Pets can develop respiratory or digestive upsets from chemicals, odors, gases and exhaust fumes. The stress on their systems will definitely weaken resistance to serious ailments."

## TREATING AN AFTER-HOURS EMERGENCY

Written for Animal Cavalcade by  
Gregory J. Peterson, D.V.M., White Bear Lake, Minn.

As in any emergency, the first thing to remember is to keep calm and the first thing to apply is common sense.

1. Keep an emergency number next to your phone.
2. If your pet is badly hurt, when you call the DVM or clinic be sure to *identify* yourself as a client of Dr. So & So and describe the nature of the emergency. Give your phone number and don't hang up prematurely. The DVM may have helpful information he can give you before bundling the animal into the car. It may not even be necessary to bring your pet in.
3. After you call the DVM, *stay off the phone*. He may need to reach you with additional instructions. This particularly applies if you haven't reached him yet and have left your number with an answering service.
4. *Treating a minor cut yourself*. It's a good idea to keep gauze and tape around the house. These two things plus maintaining even pressure all around the cut will usually stop all but direct arterial bleeding. This doesn't mean the cut can be left untreated, as it still may need sutures and antibiotic therapy, but it does mean you can wait till the next morning and have the benefit of a fully staffed and wide-awake hospital. You can also avoid an emergency fee and an extra day's hospitalization

# The Dog Who Rides A Bicycle



*Safety Stan, Officer Bassett and children of Deterding School, Carmichael, Calif.*

by Shirley Ewen

Sacramento, California's latest effort to curb the rise in bicycle deaths and injuries is by the use of an old English sheep dog who answers to the name of Safety Stan, and who serves as a mascot for the Safety Stan Bicycle Safety Foundation. This Foundation was formed by Lori and Mike O'Connor of Orangevale, California after a tragic bicycle accident in their family.

Safety Stan's main purpose at the present time is to visit every elementary school in Sacramento and surrounding areas at which time a bicycle safety program is presented.

The program consists of having the children meet, and pet Safety Stan. Then, each child is presented with a bicycle safety book entitled "Safety Stan Bicycle Safety" which is done in cartoons showing Safety Stan doing the right as well as the wrong things while riding a bicycle. The California Highway Patrol said it is one of the finest bicycle safety books around as it is simple enough for even the nursery school age child to understand.

Joe Hayes, Principal of the Orangevale Elementary School in Orangevale, California said, "We have had parents call us and ask us to hold a bicycle safety program. The Safety Stan program is one of the best bicycle safety



*Mike O'Connor, Safety Stan - Roseville School children - Roseville, Calif.*

programs around, and having a big lovable dog such as Safety Stan is an added bonus for the children. Safety Stan is a dog the kids will long remember."

In California, during the first six months of this year, 62 people were killed, and over 4500 injured while riding their bicycles. Frank M. Bassett, a Highway Patrol Public Affairs Officer said, "Many of these bicycle accidents could have been prevented had the individual involved been more concerned about bicycle safety. Better bicycle safety is one of our greatest problems today, and one of the most neglected. Today, there are over 53 million bicycles in use as compared to 3/7 million in 1960. Really good bicycle safety programs should have been sweeping the country years ago. Now, it's hard to catch up."

Sacramento is very fortunate to have the Safety Stan program, and it is becoming a much sought after safety program by the schools in the area. Who knows, Safety Stan could someday be to bicycle safety what Smokey the Bear has been to fire safety!



## PET'S HEALTH

by Glenn P. Anderson, D.V.M.

*Reprinted courtesy National Humane Jr. News*

The rubber band is an extremely helpful office tool and one that we use in a variety of ways in our everyday life. Did you realize that it can become a serious health threat to your pet if unwisely used?

The veterinarian in private practice sees many unusual and often tragic accidents happen involving rubber bands. Small children frequently, as they play with their pet, put a rubber band over its tail or perhaps a leg. The gentle but steady pressure of the band will gradually cut off the animal's circulation and the tissue around the area will begin to necrose (a medical term that means the tissue is dying). When the rubber band is placed around a dog's neck and the dog is wearing a collar, the owner often brings the dog in and says that he can't understand what happened, but that the collar must be too tight as it has cut the dog's neck. On close examination the veterinarian usually finds a rubber band deeply embedded in the tissue of the dog's neck. This is only an example of the type of injury that can occur from this type of rubber band usage. There can be many other things happening, both less severe and much worse, all the way from just a little swelling to the complete amputation of a tail. So great care must be taken to check your pet for this kind of problem if you suspect a child might have been playing with rubber bands around him.

In addition to the danger of a rubber band being put around some part of your pet's body, they can also cause problems when eaten by animals. Cats in particular are often fascinated with them. When cats develop a fondness for the bands and eat them in quantity the result may be a blockage of the intestinal tract. Occasionally the bands pass naturally, but all too often the only method of removal is surgery. Usually the first sign of obstruction in a cat or any pet who has eaten rubber bands or other harmful material is that they will not eat, have a general look about them that says they do not feel well and they generally will begin to vomit.

*Another household item that can be very dangerous to cats is ordinary string or thread. Everyone knows how cats love to chase a piece of string or yarn. Unfortunately many of them begin to eat it or bite at it. Since a cat's tongue is rough and they move their tongue in swallowing, it tends to push more of the string down their throat. Often the thread may lodge around the base of their tongue and is not visible, except on careful examination. The thread or string then may be swallowed and cause an obstruction or even worse, might be rough enough to cut a small hole in the intestinal wall.*

There are many other items in everyday use in the home which might be a threat to your pet's health, so you must be very careful not to leave things which are small enough to be eaten on the floor or in any other area accessible to either your pets or small children.

### WOULD YOU BUY THIS HORSE??????

*Reprinted Courtesy "The California Veterinarian," Nov. '74*

Would you believe that reports coming to the U.S. Department of Agriculture (USDA) tell of individuals who have bought horses branded with an "A?" This identifies them as reactors to the Coggins test for *equine infectious anemia* (EIA or swamp fever). But, some buyers thought they were getting certified, guaranteed "Grade A" horses — and at bargain prices.

In many states reactor animals must be sent directly to slaughter, research or quarantine. Regulations of USDA's Animal and Plant Health Inspection Service (APHIS) prohibit movement under permit for certain purposes. The "A" in a brand or lip tattoo stands for anemia.

Swamp fever is a virus disease transmitted by biting insects or contaminated instruments. There is no vaccine to prevent infection and no cure.

Animals that apparently "recover" from the disease remain carriers for life. Therefore, the only way to stop spread of the disease is by testing horses and other equidae and removing carriers to keep from exposing healthy animals.

The USDA-approved Coggins test will detect infected animals. So insist on a health certificate when you buy—and buy only horses tested negative for EIA.

The letter symbol "A" is used by certain breed registries (Arabian and half-Arabian). This should not be confused with "A" in combination with numerals such as 18A044.



# ASEPTIC EQUINE JOINT SURGERY

by Robert W. Copelan, D.V.M.

Reprinted courtesy Pitman-Moore, Inc. "The Practicing Veterinarian"

The following two part article "Aseptic Joint Surgery," has been abstracted from a 16mm color motion picture just completed by the American Association of Equine Practitioners.

Because infection of a bone or joint capsule is an unthinkable calamity, a series of logical steps has been developed to assure aseptic technique in bone and joint surgery.

When the procedure is to be performed on the rear leg, the tail is wrapped with a 4" KLING\* bandage. The animal is then thoroughly vacuumed to remove all the dust particles and dandruff that might filter into the surgical site during preparation. All food particles are removed from the mouth by water under pressure so as not to be inadvertently pushed into the trachea by the passage of the endotracheal catheter. All four feet are thoroughly cleaned and then scrubbed with hot water and a sponge. The leg has been previously clipped and now the immediate surgical site is shaved with a razor. Using absorbent sterile cotton soaked with ether, vigorously scrub the area on and around the surgical site to remove all of the fat particles from the skin; they then can be scrubbed away with a bactericidal soap (fig. 1). Prepare sterile cotton and stainless steel bucket of water and a povidone-iodine solution. Use povidone-iodine soap to scrub the leg from the hock area down to the surgical site and beyond. This procedure takes approximately 10 minutes and assures the sterility of the area in which the incision will be made. Rinse the area again with Betadine\*\* solution; then spray povidone-iodine aerosol on the entire surgical area on all sides of the limb.

A prepared and autoclaved twelve-inch combine roll is handed to the surgeon. He checks the conditions of the temperature control tube in the center of the pack to assure that it is indeed sterile. He then applies it to the leg fully so that his hand does not touch any of the prepared skin (fig. 2). The pack is then thoroughly secured by wrapping KLING gauze very tightly around the sterile pack. Plastic boots are put on all four of the horse's feet to further assure cleanliness on the



Fig. 1



Fig. 2



Fig. 3



Fig. 4

\*Trademark of Johnson & Johnson

\*\*Trademark of Purdue Frederick

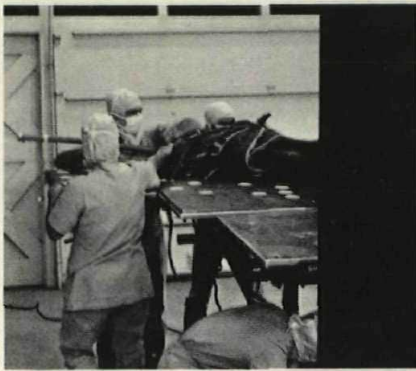


Fig. 5

operating table (fig. 3). Foam rubber shipping bandages are placed on all of the legs except the one with the sterile pack.

About 10 minutes before being scrubbed, the horse is premedicated intravenously with 6cc of Acepromazine.\*\*\* With the girth and flank bands loosely in place, the animal is given 3 grams of Surital\*\*\*\* intravenously over a period of eight seconds (fig. 4). From the time that the needle is withdrawn from the vein until the animal loses consciousness, the men at the crank ends of the table will alternately take up one or two notches on the ratchet at command to tighten the girth and belly band evenly without putting any pressure on the horse. If the animal feels encumbered in any way, he will struggle. We try to tighten the bands evenly so that when the animal loses consciousness he will be secured in a standing position. As the table moves over to a horizontal position, the foot board is removed; at the same time the surgeon passes the endotracheal catheter (fig. 5). This is a 30mm catheter and is easily passed through the oral cavity without a speculum.

The wheels are then put on to the operating table, the doors of the operating room are opened, and the animal is wheeled into the surgical suite. A tourniquet must be applied to the limb on which the surgery is to be performed; in this case, to the gaskin area (fig. 6). An elastic bandage with adhesive backing forms a base on the skin. The tourniquet cuff is placed in the center of the base and is secured by a velcro fastener which prevents rolling when inflated (fig. 7). With an assistant holding the leg as high as possible, more elastic bandage with adhesive backing is applied over the tourniquet cuff to keep it in the proper position. A six-inch latex bandage (ESMARCH) is placed from the animal's hof up to and over the sterile pack, compressing all of the vessels as it goes. The bandage is rolled up to the tourniquet

\*\*\*Trademark of Ayerst Labs

\*\*\*\*Trademark of Parke-Davis

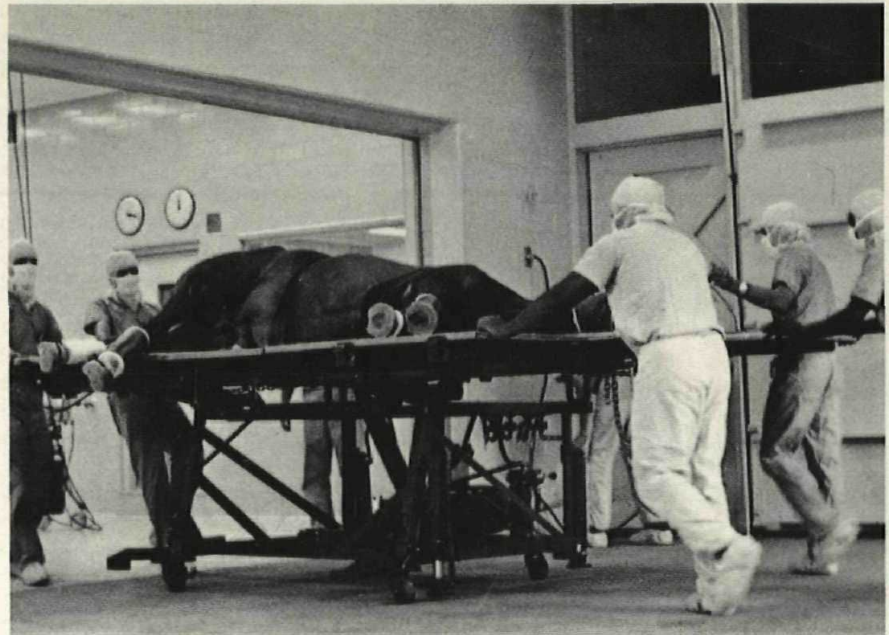


Fig. 6

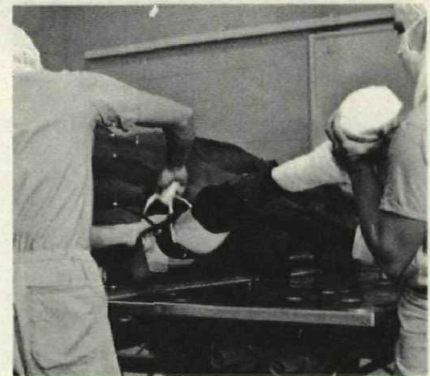


Fig. 7

Fig. 8





Fig. 9

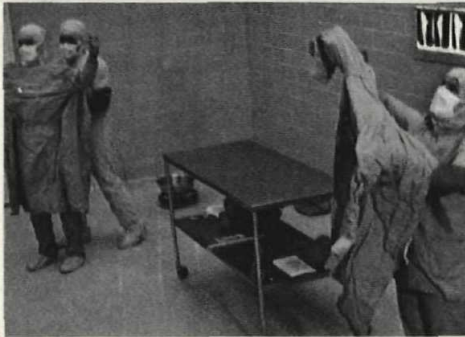


Fig. 10

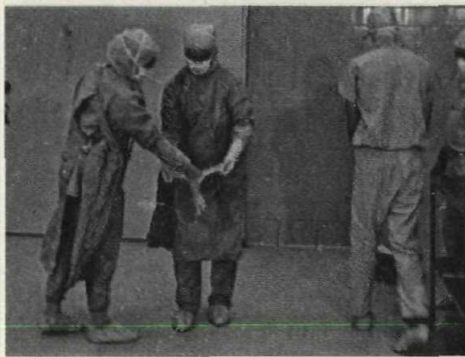


Fig. 11

cuff, which is then inflated, and the stop clock begins to register the length of inflation time. A stethoscope is placed onto the rib cage.

Then the surgeon and his assistants scrub with povidone-iodine solution for approximately 10 minutes; the first four minutes is done with just hands over the areas between the finger tips and the elbows. Then each area is scrubbed twenty times on the surfaces of the fingers and arms with a sterile brush (fig. 8). With alternate rinsing completed, the surgeon and his assistants enter the operation room for gowning. Assistants open the sterile gowns, checking the temperature tubes to assure sterility of the pack and a sterile towel is used to dry the hands in a specific manner. The sterile towel is used to dry both hands, wrists, arms to elbows and then discarded. The gown is now picked up by the neck ties and shaken out so it can be entered from the back through the sleeves (fig. 9). Because fingers must not touch the sterile gown, the sleeves

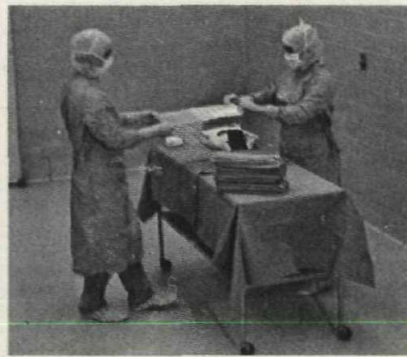


Fig. 12

must be shrugged up one upon the other by placing one sleeve over the other until the hands are free of the wristlets (fig. 10). An assistant ties the neck and waist ties. Pre-powdered, sterile gloves are handed to the surgeon and the sterile envelope which he takes from the inside of the glassine case is handed back to the assistant. Gloves are put on in such a way that none of the fingers touch any part of the sterile gown. Two pairs of gloves are worn because sometimes during the draping procedure one will accidentally touch a portion of the table or other nonsterile equipment, and the surgeon must stop, remove his gloves, and put on another pair (fig. 11). This way, he need only shed the outside contaminated glove. The assistant is gloved by the surgeon to assure that no contamination takes place during this part of the procedure. The assistant ties the sterile flap which prevents contamination if one should back into the instrument table. The assistant's flap is tied in a similar manner.

The assistant offers the surgeon sterile packs so he can drape the table. First, he checks the temperature control tube to make sure that the white pill turns red and fuses. One end of the table is draped, and the drapes being removed from the wraps are placed on that end of the table. After all the drapes have been taken out, the other end of the table is draped for the instruments.

The small incise drape is placed over the skin in the incision area. It is transparent with an adhesive backing and is pulled off the cardboard covering and placed on the leg (fig. 12). The adhesive is usually strong enough to adhere rather intimately to the wound edges after the incision is made. Sterile drapes are then put on four sides of the incision area. For this particular surgery, the drapes for soft draping around the incision area were selected for their color, which is easy on the eyes, and their size — 52 inches square.

Draping is a rather routine procedure, not requiring a great deal of thought; so this time can be well spent discussing the patient's condition with the anesthetist. A disposable drape, 140 x 120 inches, is handed to two assistants who unfurl and place it over the entire horse and table (fig. 13). A fenestration is necessary to gain access to the surgical site. During the fenestration the assistant brings the suction and cautery device to the table and places it in a position for use. The light handles (similar to handles on fencing foils) are placed in the center of each light so the surgeon can manipulate it. The shield protects the surgeon's gloves from contamination by the light.



Fig. 13

# Navicular Disease in Horses

Robert C. McClure, Gerald R. Kirk, and Phillip D. Garrett, Department of Veterinary Anatomy, School of Veterinary Medicine

Reprinted courtesy University of Missouri, June '72

Navicular disease begins as an inflammation of the bursa between the deep digital flexor tendon and the navicular bone of the foot. Figure 1.

While the joint surfaces of the phalanges may not be affected, the tendon adjacent to the bursa may be progressively destroyed with eventual rupture. This tendon is very important since it flexes the foot; that is, turns the toe down and back. Horses with faulty conformation of the forelimb are more likely to develop navicular disease. Racing, cutting and roping horses have a higher incidence of navicular disease than pleasure horses. It is one of the most common causes of lameness in horses and usually affects both fore feet. However, one foot may have more extensive damage than the other.

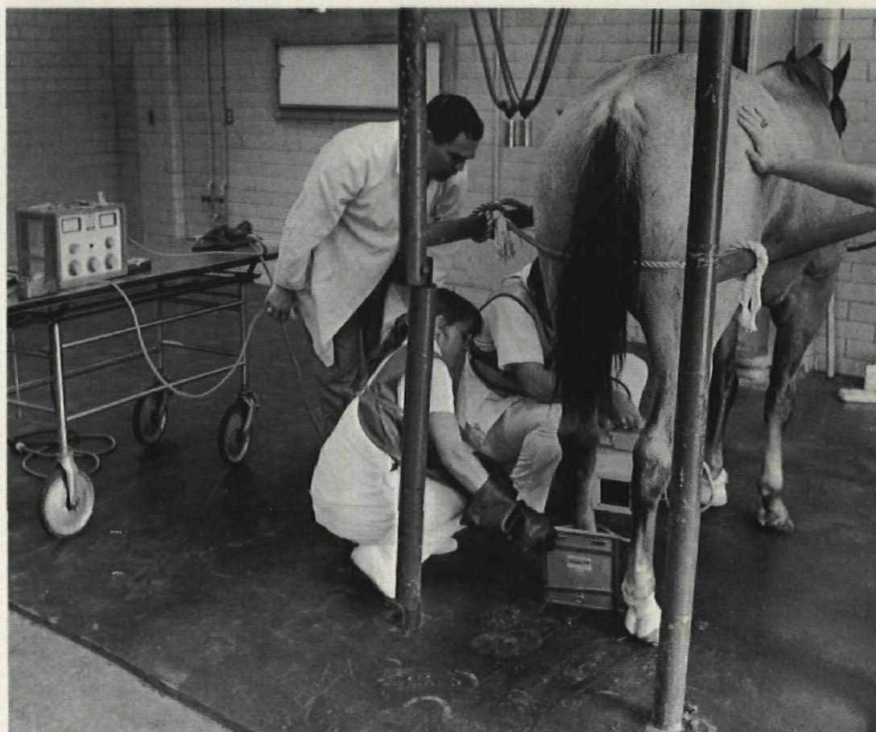
When the foot is placed upon the ground the weight forces the navicular bone back against the tendon. Horses with small feet have less area over which to distribute concussion and weight, therefore, more pressure is placed upon the navicular bone.

## Signs of Navicular Disease

While walking, the horse tends to place his weight on the toe to avoid placing weight on the heel area which contains the inflamed navicular bone and bursa. Since the horse doesn't place weight on the heel, it takes him longer to stop his stride. While standing, he tends to shift his weight continuously. In this way he can relieve pressure, thus pain, on the heel areas. Since he tends to place his weight on the toes during movement, the gait is very rough and it sometimes appears as if he is lame in the shoulder. The horse is often lame after work, but the lameness may disappear with rest. Because there may be comparably poor circulation in the foot, the heels and adjacent hoof may become smaller and contract. Figure 2.

## Diagnosis

A veterinarian should be contacted when signs of lameness are noticed.



Courtesy Eastman Kodak. A portable x-ray machine of the type that these future veterinarians will use in stables, horse tracks, and out on call is positioned for a "shot" of the horse's fetlock, or ankle, under the guidance of Dr. Earl Morris (left), of Texas A&M University.

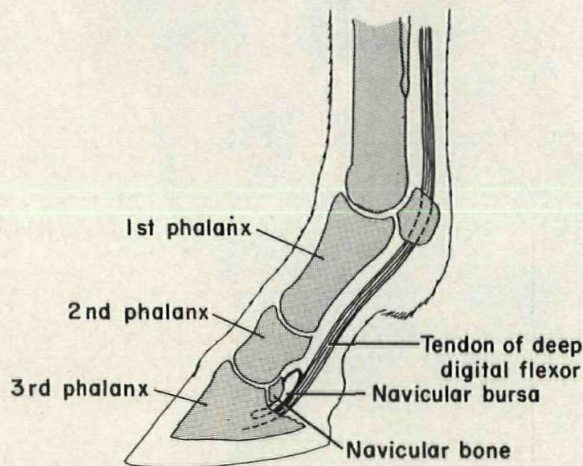


Figure 1

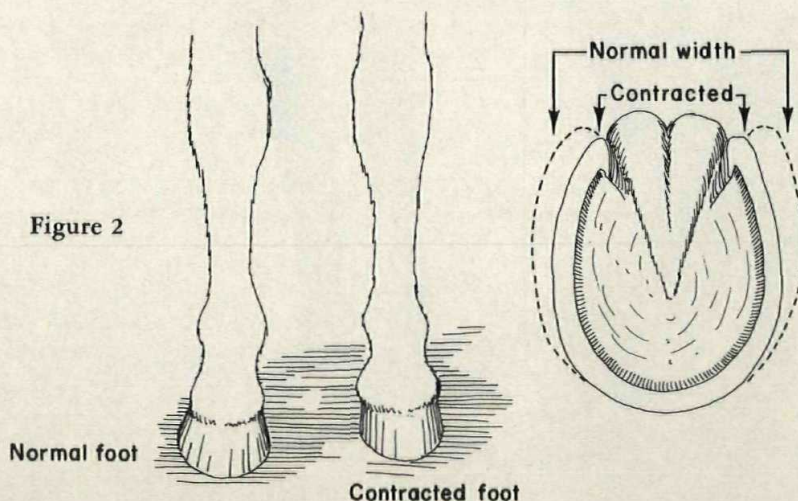


Figure 2

# 18 . . . . going on 3

*Tips on Caring for the Older Horse*

by Jean Molander



Apache, my wonderful Pinto gelding, is "eighteen, going on three" so say all of the youngsters at Meadowlark Boarding Stable in Huntington Beach where I have kept him for the past five years. As the fifty-six year old owner of this amazing pet, I often say that he isn't aging as fast as I, especially when I slip down to the beach for a gallop along the water's edge and find that it is almost impossible to slow him down. He especially enjoys splashing in the waves and, in fact, I discovered that he also enjoys a good swim as well as a roll in the sand. Last summer we were wading along the edge of the channel near Huntington Harbor when he suddenly plunged into the water and I foolishly dove out of the saddle thinking he might drown and I had to save him. He just calmly swam across the channel while I thrashed my way across complete with boots, jeans, sweater and wristwatch. Fortunately, he decided to wait for me!!

Not only does Apache enjoy his trail rides, but he performs enthusiastically with the Meadowlark Drill Team always trying to be the first one over the jumps, has the reputation of being the fastest trotter in the stable and is criticized for being too animated in the English pleasure classes.

I have reached the conclusion after personal observation, a great deal of reading and a "Horse Care" class, that with a combination of good nutrition, regular exercise and careful grooming, your horse can be enjoyed for many, many years. Not enough horse owners realize how important feed is in the environment of the horse nor do humans realize the importance of good nutrition to maintain their own good health. Each horse is different and owners must realize that they have to work out a balanced diet for their horse. So much depends on the size of the horse, the age of the horse, the amount of exercise the horse is getting and its location. For example, if a horse has access to green grass or green hay, this is a source of vitamin A which promotes growth, stimulates appetite, assists in reproduction and lactation, keeps the mucous membranes of respiratory and other tracts in healthy condition and helps prevent night blindness.

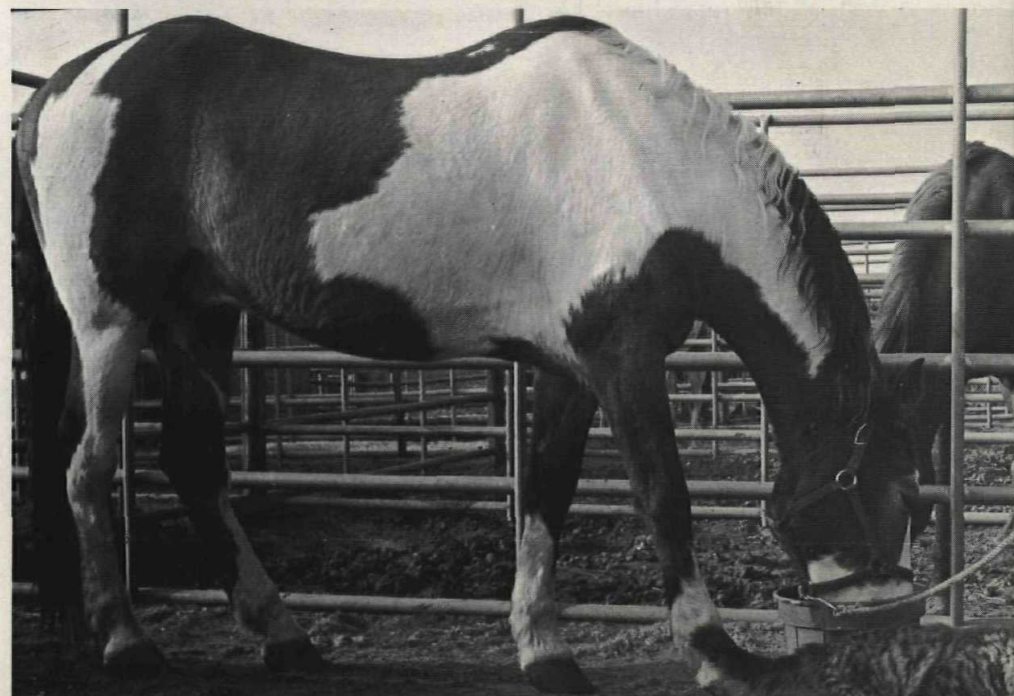
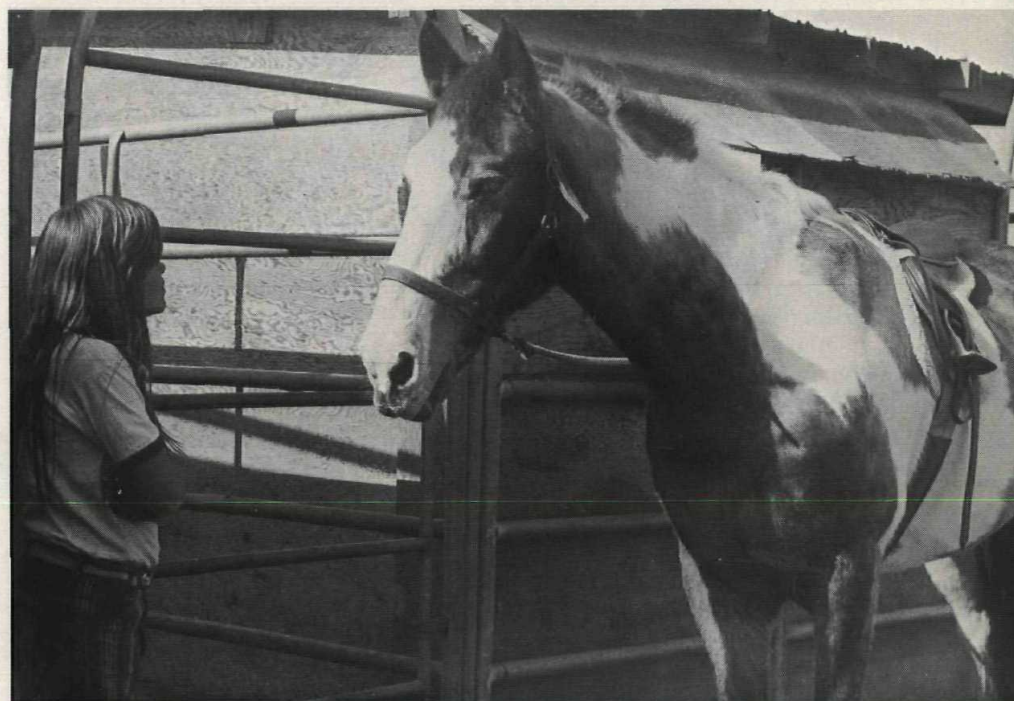
Most boarding stables do little more than toss in a flake of hay twice a day. In my opinion, this just isn't enough nutrition and I supplement this with a good quality mixed feed containing oats, corn, molasses and other nutrients as well as mineral salt, vitamins, wheat germ and always those special treats of carrots and apples. In addition to this, I try to let Apache graze for about 15 minutes each day.

Along with a careful feeding schedule, it is extremely important to see that your horse has some kind of exercise each day if he is kept in a small pen. If I find I cannot be there every day, I arrange to have someone take care of him so that he doesn't stand idle or miss his routine feeding. While on the subject of exercise, especially for the older horse, care should be taken to start out at a walk and gradually work up to the trot and canter and then at the end of the ride, be sure that you have walked and cooled your horse down before he is put away.

Careful grooming pays dividends, too, in keeping your horse healthy. Feet are especially important and should be checked and cleaned before and after riding. Old towels are useful for a good rubdown after a ride and a small piece of damp toweling is handy to wipe around the eyes and to remove dust from the nostrils. Grooming time, I find, is very rewarding — that is when I talk to my horse, pet him and feel that he is responding and showing his affection in many ways. I strongly disagree with those who say horses are stupid and only act on instinct. Apache has proven differently to me. He has learned many tricks such as stretching for me to get on him, shaking hands and counting. He has even developed a sense of humor and will pull me around by the belt when I bend over to clean his hoof, refusing to move his leg until I go pick up a little twig telling him I'm going for a stick. As I come toward him, he watches with his beautiful amber-flecked eyes and just as I reach him the hoof is handed to me. I never strike him, and he knows this is a game. It will be a sad day when we part, but it is my hope that with the program I have set up for his care and well-being, he will be "going on three" for a long time to come.

1 *Horses and Horsemanship* by Ensminger, page 390.

1. Apache and owner, Jean Molander, participating in the hunter hack class.
2. Apache making friends with a young horse lover.
3. Apache and his animal friends.



# Acupuncture . . . PART 3

## THIS IS JUST THE BEGINNING.

*Is there a way for medicine to actually bypass the spinal cord? What are some of the broad physiological effects that acupuncture may have - in the nervous system, for pulmonary disease, for the disc syndrome? These questions and others are discussed in this last in a series of three articles on acupuncture. Find out why this ancient Chinese practice, different from Western medicine in almost every way, has become such an important tool to D.V.M.'s in this country.*

*This issue is a continuation of the July/August interview with Richard Glassberg, D.V.M., Horace Warner, D.V.M., Mayo Steigler, M.D., Acupuncturists John Ottaviano and Ellie Stonequist by Barbara Sweeney, Animal Cavalcade Staff. The discussion centers around the work done by all these people at the National Association of Veterinary Acupuncture in Anaheim, California (NAVA).*

### EDITOR'S NOTE::

Our thanks to Dr. Shin, Dr. Glassberg, Dr. Warner, Dr. Steigler, John Ottaviano, and Ellie Stonequist for their parts in the pioneering of veterinary acupuncture. And, for the contribution of their valuable time that made this interview possible.

**BS** Do you write down your observations after you treat an animal?

**JO** No, there really isn't any room to write down that kind of information. We'll probably be making up a form just for the acupuncturists to write down their observations.

**BS** So all you really have to go on are the observations of the owner?

**DG** No. We try to do two examinations before the animal is treated. The veterinarian does a standard Western diagnostic workup. In other words, if it's a neurological case, we do a neurological exam and evaluate all the reflexes. The acupuncturist also examines the animal. We try and have a place for him to record his comments and also another place where he records his rationale for treatment. We try to look at it from both an Eastern and Western point of view. We also question the owner about

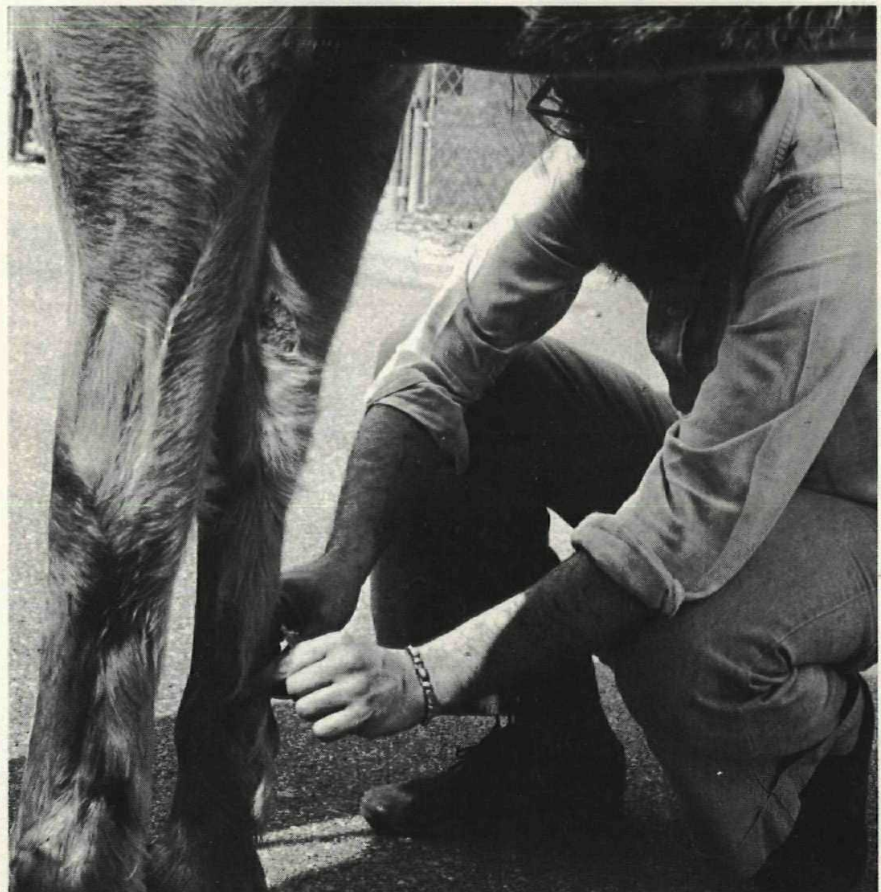
how they feel about what's going on. Many times I've done a neurological exam on an animal and felt that it wasn't better at all. I've actually written on the chart: No improvement. And then I've had the owner say, "Doc, you're all wrong. This animal is at least 50% better." I think that probably this is why this field has proved to be so ripe for charlatans in human medicine. You're dealing with people who are looking so hard for improvement - either in themselves or in their animals. Often they'll see improvement that's not there. Would you agree with that John?

**JO** I would agree with you that it's almost impossible to go on the observations of the pet owners. They have a really close affinity with their animals so sometimes what they say is really coming from left field. It's way off the beam so I've learned that I can't always rely on their observations.

**DG** I think what you're saying is that they're so close to their pets that they can't really be objective.

**JO** They are often completely subjective. But even if they weren't, they would still be looking at their animal from a Western point of view. The acupuncturist looks at the animal in a completely different way. *For example, when I see a dog, I watch his functions - the function of breathing; I look into his eyes, etc. I've been trained in such a way as to see how life is in that dog right now. Where does his life force stand? Not where does his gall bladder stand. Or how is his stomach doing right now. I need to consider all the other aspects of his body. Where does this dog stand in relationship to his life? When I work with a veterinarian we approach the problem from two different points of view. He understands the animal and how to treat it with Western medicine. I understand acupuncture.*

**MS** Something that interests me are the broad physiological effects that acupuncture may have. Take the horse with emphysema, for example. There has to be some kind of unknown physiological response that may be ex-



Dick Glassberg, D.V.M. treats a horse for lameness at N.A.V.A.

plainable in Oriental medicine that is not explainable in Western medicine. The fact that there was a dramatic relief leads one to the question of all pulmonary disease — asthma — that sort of thing.

**HW** The thing that brings to my mind — and I don't know how physiological it is — is the problem we see of the disc syndrome in the dog. We know from Western medicine that the nerve impulses have been abolished in some way. We're not getting any nerve impulse to the hind legs and sometimes there's a total loss of bladder and bowel function. But by doing acupuncture for some reason, either we establish those pathways or tie into some other energy source where they bypass — where the dog does begin to walk. We had two cases come in last week and we checked their reflexes and found them totally deficient. Now both dogs are walking, in a wobbly sort of way. But we checked their reflexes after the acupuncture and their reflexes were noticeably better than they were before they started walking. Which was really a revelation to me. To say, here, look, the reflexes aren't working right, but for some reason the dog is

able to stand up on his back legs. Somehow we tapped into something in a physiological way which has changed that dog.

**DG** That brings us to the possibility of an 'automatic walking' kind of thing. Dr. Benjamin Hart at U.C. Davis did research on automatic walking with dogs in which he severed the spinal cord. But he gave them strychnine and got them to where they could walk. Of course, he was poisoning them with the strychnine and I don't think that's the way to do it. Acupuncture may be the way. For example, we had a dog in here with a broken back and there was an overlap or displacement of at least two vertebrae. I can't picture that cord being intact and it had all the neurological signs of a severed cord when it came in. While the dog never walked well, it did get to where it could stand up on its own and take a few wobbly steps before it fell over. That dog had been down for 6 years. When you see things like that it's obvious to me that there's a lot we don't know about the nervous system. Maybe there's some way to bypass the spinal cord. It doesn't seem possible to me with what I've learned — and it's hard for me to

accept that this could be possible, yet I see evidence that it may happen.

As far as diagnosis goes, since we've started this project there have been cases that we've worked up with Western techniques. But there have been a number of cases where, with all our sophisticated Western techniques, we've missed the diagnosis and the acupuncturist has caught it for us.

**BS:** What kind of research is being done on acupuncture?

**DG** Besides the clinical type of studies we're doing at our acupuncture clinic in Anaheim, we are trying to do controlled studies. One project is being conducted by Dr. Sam Jacobs at U.C. Santa Barbara. This is very scientific work and involves tremendous controls. His research is probably some of the best veterinary work being done as far as controlled studies are concerned.

*We hope to study the results of acupuncture treatment in a disease model. The first such project, providing we receive funds for it, will be the study of experimentally induced myositis in the horse. This condition can be induced by injecting certain drugs into the muscles of the back. The experimentally induced disease mimics the disease we see clinically almost identically. It will be a controlled experiment, i.e., there will be animals that are treated with acupuncture therapy, animals that are treated with conventional drug therapy, and animals that are not treated at all. The nice thing about this type of experiment is that it doesn't do any permanent damage to the horses and none of the horses have to be sacrificed. All of us doing this work down here in Southern California are sometimes criticized for our lack of scientific controls. But we're really clinicians and we like to see the animals get better.*

**BS** What is the procedure when you take a new patient at NAVA?

**DG** In our project all new patients have to be referred by their own veterinarians. In other words, we will not take someone because they heard about us from reading ANIMAL CAVALCADE. Or seeing us on Ralph Story or  
*Continued on page 27*



*At the N.A.V.A. Clinic almost 95% of cases are of Dachshunds with hip dysplasia.*



# A HISTORY LESSON ...you won't forget !!

*All About the U.S. Camel Corps*

by Russ K. Perron

Politics in the 1850's really wasn't much different from the political scene of today. In Washington the Senators greeted a proposal by one of their fellow members with derisive laughter. Jefferson Davis in 1851 was chairman of the Senate Committee on Military Affairs. He proposed the War Department's budget include an appropriation to import thirty camels, and twenty dromedaries of various breeds plus ten Arabs familiar with their habits. He wanted to test them on the deserts of the great American Southwest.

However, the question of transportation in the West was no laughing matter. We had acquired lands in the Mexican War, including California, Nevada, Utah, and Arizona plus the western parts of New Mexico and Colorado.

Gold had been discovered in northern California in 1848. Wherever people went, the Army went. They were called out to rescue lost and starving emigrants, set up military posts, keep roads open and fight off Indians. Mail had to be carried cross country.

Congress began to worry about getting to the West, both safely and inexpensively. Four years after Davis had been laughed off the Senate floor, Congress passed the long delayed amendment to the Army bill.

On May 10, 1855, Jefferson Davis, now Secretary of War, assigned Army Major Henry Constantine Wayne and Navy Lieu-

tenant David Dixon Porter to "special duty in connexion with the appropriation for importing camels for Army transportation and for other military purposes."

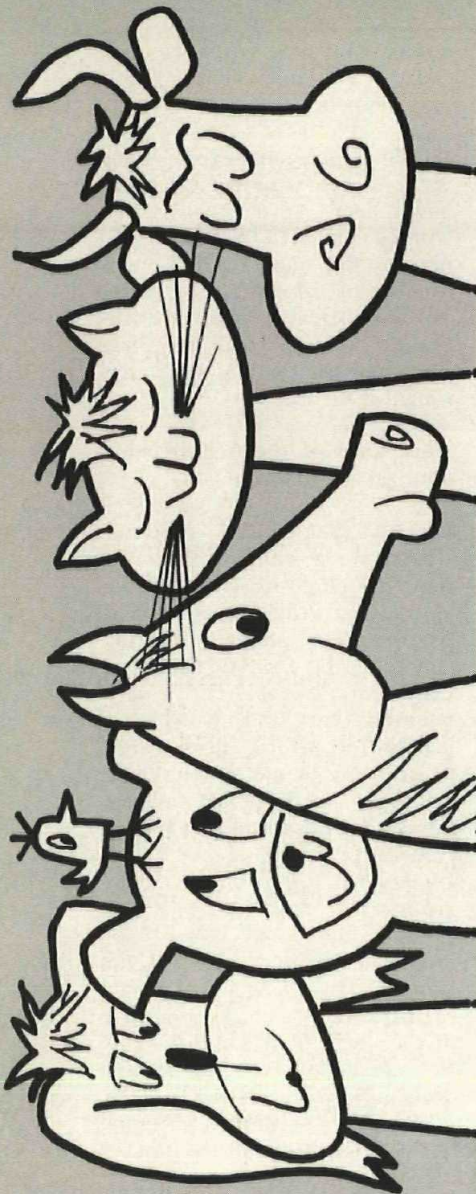
For their unusual voyage to obtain these beasts of burden the U.S.S. SUPPLY, former storeship of Commodore Perry's famous Japanese expedition, was specially rigged with a 'camel deck' to assure safe passage.

In their search they went to Tunisia, Malta, Smyrna, and on to Salonica. Finally after going to Constantinople and Alexandria they obtained thirty-three camels.

February 15, 1856, the U.S.S. SUPPLY set sail for Texas. May 1, the vessel arrived in Matagorda Bay off the coast of Texas. Rough seas delayed landing at Powder Horn until May 13, 1856.

*On shipboard the camels had been quite docile. Once they felt solid earth beneath them they became extremely excited. They reared, kicked, cried out, broke halters and tore up pickets to celebrate setting foot on ground again.*

The camels were brought to newly constructed quarters in Indianola, three miles from where they had landed. Materials for a corral fence were scarce but with typical Texas ingenuity prickly pear cactus was used. For horses or mules this is sufficient. But to the camels, the fence proved to be a very delectable meal.



CHILDRENS page...

August 27, 1856, the camels were taken to the newly established military post Camp Verde, sixty-five miles northwest of San Antonio. Here the camels carried supplies and equipment between Army posts. They completed short scouting trips and became accustomed to the climate. Even the Army officers and men finally learned to pack and manage the animals with assistance of the native camel drivers.

*But the real test of man and beast was yet to come! Could both survive the rigors of the unknown territory between Texas and the Pacific?*

The new Secretary of War, John B. Floyd, planned to find out. The first real challenge was to survey a wagon road from Fort Defiance, New Mexico to the Colorado River, along the thirty-fifth parallel.

Edward Fitzgerald Beale, a former Navy Lieutenant, was chosen to head the survey party. Adventure was not uncommon in Beale's life. In 1848 he brought the first gold across Mexico from California to the Eastern seaboard.

When the expedition was being organized Beale visited his old home in Chester, Pennsylvania. It was the big topic in town since Lieutenant David Porter was also from Chester. Four local youths, in their teens, May Humphreys Stacey, Joseph Bell, Hampden Porter, and Porter Heap volunteered to go along as assistants.

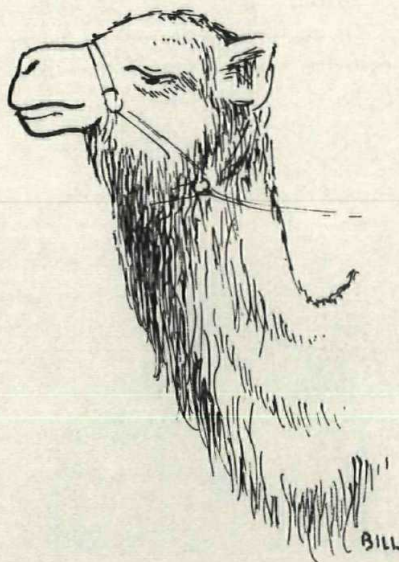
*Beale warned them the route was unknown and dangerous. Indian massacres and raids occurred frequently. There was that danger of becoming lost and running low on food and water.*

These dire warnings only made the boys more anxious to go. Nineteen year old May Stacey kept a journal for most of the journey.

The first task was to get supply wagons, mules, and horses to Major Howard's Ranch near San Antonio. On June 16, 1857, they reached their destination. Finally

June 21 Beale returned from Camp Verde with Joe Bell and Hampden Porter accompanied by the long-awaited camels.

On June 25 the expedition headed for Fort Defiance, starting point of the project. They went through El Paso, north to Las Cruces along the Rio Grande, and then courageously faced an extremely hazardous arid wasteland, the dreaded Jornada del Muerte (Journey of Death). The weary wagon train finally reached Albuquerque where they celebrated a bit too exuberantly. Beale had a problem or two but managed in a rough-handed manner to straighten things out.



After extensive preparations, they left Fort Defiance near the end of August. At Zuni, an old Indian pueblo, they were met by two thousand hospitable Indians. August 31 they left Zuni and several days later they forded the Rio Colorado Chiquito (Little Colorado). September 5 they camped at the ruins of an ancient Indian pueblo.

Beale had maps and notes made by two previous surveying parties. In spite of these aids, a guide led them into an impassable canyon. It lacked water and grass. What should they do now? The wagon train could not survive without these basic necessities.

Scouting parties, on dromedaries, were organized to find a trail out. Their efforts caused Stacey to change his mind about the camels. *For the first time he wrote kindly about them, "It is a remarkable thing how they stood it so well as they did, traveling under the hot sun all day and packing two hundred pounds apiece."*

After a long tiresome search a way out was finally found. The survey party continued on toward the Colorado River.

October 17 their objective was in sight. One final obstacle stood between them and the river — Indians! Much to their surprise, the Mohave Indians greeted them as friends. The weary travelers bought fresh fruits and vegetables from the hospitable desert dwellers.

The river crossing was dreaded by Beale. He had been informed that camels could not swim and would not enter deep water. He ordered the largest and finest animal brought to the river. *To his surprise, the camel swam boldly across.*

The remaining camels were tied, each one to the saddle of another. Without the slightest difficulty they swam to the opposite shore in groups of five. Not a camel was lost. But two horses and ten mules failed to reach the other side.

And so, on October 20, 1857, the wagon road expedition along the thirty-fifth parallel from Fort Defiance to the Colorado River was ended. *The one hundred twenty animals (camels, horses, mules, and dogs), a dozen wagons, and forty-four weary, trail worn men had traveled 1,200 miles from San Antonio in four months.*

*Thus the first mission of "The U.S. Camel Corps" was a success, thanks to the combined efforts of an Army Major, a Navy Lieutenant, and a tough, hard-driving civilian wagon master aided by four youths in the adventure of a lifetime.*

# ZOOBILEE ...

## 1975!

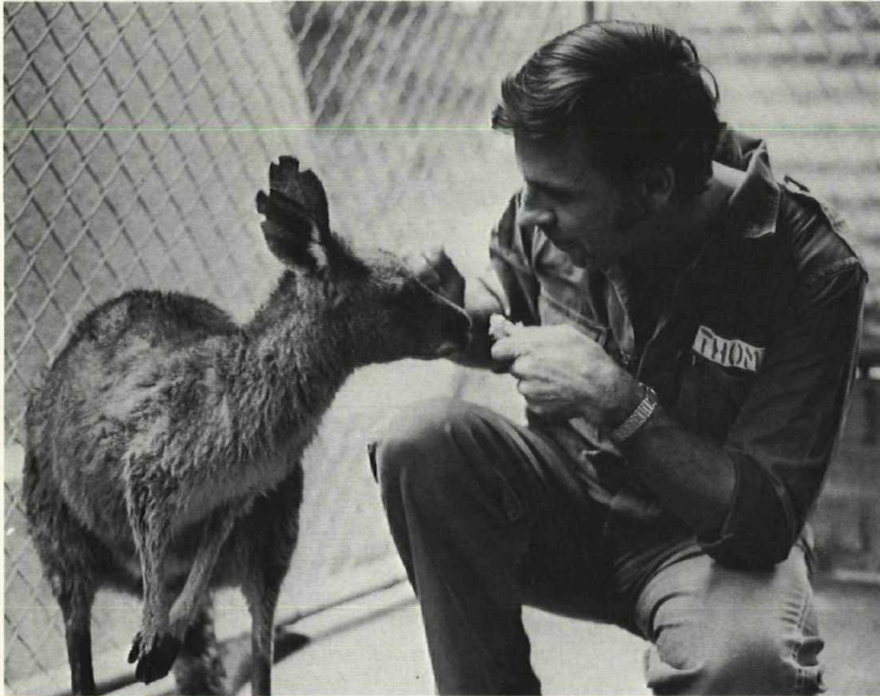
The ninth annual THANK YOU to the members of the Los Angeles Zoo was hosted by GLAZA, the Greater Los Angeles Zoo Association, the fund-raising arm of the Zoo.

This year's Zoobilee was a "howling" success as over 4,000 members in family groups, singles and twosomes enjoyed the behind the scenes walking tours, or spent sometime in the Children's Zoo, or found their way to the Theme Building which was done up in a carnival motif. Here young and old enjoyed the exciting sideshows and stalls where they could participate in the dart throwing and ball rolling contests for twenty-five cents, the quarters rolling merrily into the

GLAZA coffers for future ZOO projects. Members could then rest quietly and observe the thought-provoking slides of the Zoo taken by Harold Collier over a period of years. In another part of the building bird lovers enjoyed the fantastic Mini Bird Show donated by Busch Gardens.

The Andrew Norman Education Center furnished a Reptile Show and an all new Speaker's Bureau Program which was both humorous, knowledgeable and ably presented by GLAZA Docents.

*Incidentally, you may schedule a GLAZA speaker for FREE for your group by calling 661-2184, Ext. 273.*



*Dr. Warren D. Thomas, Los Angeles Zoo Director, shown with one of the two (female) GREAT GRAY KANGAROOS (*MACROPUS giganteus*). The kangaroos were received June 10th from the Melbourne Zoo in Australia, and after a short sojourn at the Zoo's health center will be on public view in the Australian section of the Zoo.*

*Dr. Thomas is celebrating his first year as Director of the Los Angeles Zoo where he has accomplished fantastic improvements, i.e., the gorillas and orangutans have been moved from a cramped-cage situation to exhibits where they have room to stretch and gambol. Various other exhibits have been enlarged, and in most cases under Dr. Thomas' able direction, the animal's wild habitat has been simulated. GLAZA members at Zoobilee were astounded at the Zoo's progress in the last year.*



*Mrs. Frederic E. Giersch, Jr., President of GLAZA, admiring one of the Dall sheep ewes (*OVIS dalli*) purchased by the Greater Los Angeles Zoo Association.*



*Mrs. F. M. Greenhalgh (Jane), GLAZA docent, entertaining the children of members and their guests at Zoobilee in the "touching" area.*

a natural state in the precipitous mountainous areas, will now be available for animals and birds in their natural habitat rather than in the adjacent urban communities.

The artificial water hole has been developed by piping the water runoff from the storage tanks to a guzzler dispenser at the guzzler pump. The fresh flow at the water station is controlled by a small concrete dike which assures a constant and adequate water level for such animals as fox, raccoon, opossum, deer, coyotes and various types of wild birds.

A similar facility for bird life is in operation in the Mount Washington area at another Department of Water and Power tank site in Los Angeles. Additional wildlife watering stations may be contemplated if the Santa Monica Mountains installation proves meaningful.

The wildlife watering activity becomes part of the wildlife conservation program conducted by the City Department of Animal Regulation. Since 1969, the Department has conducted its Animal Airlift service wherein small wild animals, humanely trapped in the City, are flown by helicopter to Angeles National Forest and relocated. More than 2,250 small wild creatures have been afforded a second chance for survival in this unique airlift.

### SKUNK ODOR STUDIED

*Reprinted courtesy Dog Progress Digest*

A sulfur chemist and a graduate student at the University of New Hampshire decided to check the work of the scientist who in 1897 suggested that n-butyl mercaptan is the odor-producing substance of the American striped skunk. They discovered the skunk doesn't even have n-butyl mercaptan but obtains its defense system from crotyl mercaptan. *Science* points out this is not "a major change in the order of things" but - now that the chemical constituents of skunk odor have been properly identified, it may be possible to develop a chemically sound method of de-scent skunk-soused dogs. The days of the tomato juice bath may be nearing an end.

### VETERINARY FOLDERS NOW AVAILABLE IN SPANISH

The California Veterinary Medical Association, in cooperation with local veterinarians throughout the state, has produced several Spanish language folders on veterinary subjects. They are now available from local associations and individual practitioners or from the C.V.M.A. Publications De-

## PUZZLE

### AMERICA'S ANIMAL WORLD

Answers to the following word game are names of animals familiar to most Americans. The answers are also, believe it or not, names of cities and towns in the United States. With the letters and clues provided, test not only your knowledge of animals, but U. S. geography as well. Answers to the puzzle, and the states in which the cities and towns are located, are on page 26.

ANIMAL	CLUE
1. P _ _ _ _ P _ _ _	His only weapon is needles
2. B _ _ _ _ _ t	Type of hound
3. _ _ _ f	Member of the dog family
4. G _ _ _ _ l _ _	Speedy, deer-like animal
5. E _ m _ _ _	Their fur provides an expensive coat
6. _ _ _ r	Bruin
7. P _ _ _ t _ _	Breed of hunting dog
8. M _ s _ _ _ _	An untamed horse
9. C _ _ g _ _	Member of the cat family
10. S _ _ _ t B _ _ _ _ _	If lost, this dog would be a welcome sight
11. _ _ e _	Venison source
12. L _ _ _ s	Jungle cat (Pl.)
13. C _ _ _ c _ _ _ _	Another fur source
14. M _ _ _ _	Largest of the deer family
15. B _ _ _ _	Akin to the buffalo
16. _ o _	Wiley animal
17. S _ _ _ r _ _ _	"Nutty" animal
18. C _ _ o _ _	Lonesome sounding canine
19. G _ _ z _ _ _	Breed of #6, above
20. W _ _ _ c _ _	Undomesticated feline
21. H _ _ p _	Short name for a big animal
22. P _ _ t _ _ _	Another feline
23. _ l _	A large deer
24. _ _ _ x	Related to #20, above
25. _ _ g _ _	Striped jungle cat

partment in Moraga, California 94566, (Box 438).

Titled "SPAY ME, SPAY ME NOT" - ("ME OPERARE NO ME OPERARE"); "DO YOU KNOW YOUR DVM?" - ("CONOGE USTED A SU DVM?"); and "INFECTIOUS DISEASES IN DOGS AND CATS" - (ENFERMEDADES INFECCIOSAS PREVENIBLES DE PERROS Y GATOS"), they fold to pocket size and can be easily mailed.

Originally the suggestion of a veterinarian from Ventura, Dr. Michael Kelley, the project was partially funded with an educational grant from the Santa Barbara-Ventura Veterinary Medical Association.

This is the first in a series of Spanish language services to be offered by the veterinary profession to clients and Latin communities in California. It is hoped that individuals and public organizations will suggest other mater-

ials they wish translated and made available to the public.

Ideas and suggestions should be directed to local veterinary medical associations (there are 27 in California with an additional 16 chapters) or direct to the state office in Moraga, California.

### COLIC IS TARGET DISEASE

Colic is a disease which has many causes. Its severity can range from mild to extreme, and it is often fatal. Because of the many facets of the disease, veterinary science does not have enough information to be able to prevent and cure it in all cases.

In cooperation with the American Association of Equine Practitioners, Morris Animal Foundation is collecting case studies of colic from veterinary practitioners and clinics around the country. Information from these cases will be compiled in hopes of learning more about the disease.

At Ohio State University, with funding from the Foundation, scientists are studying shock in horses with colic, a condition which can cause death. With funding from Arabian

horse clubs, the investigators are looking into the causes, symptoms and possible preventions and treatments of shock.

### GAINES SPORTSMANSHIP MEDAL AWARDED BY 75 DOG CLUBS

The Gaines Medal for Good Sportsmanship continues to be one of the most popular awards presented by dog clubs in the United States, declares the Gaines Dog Research Center.

During the first six months of 1975, there were 75 medals presented by dog clubs from Maine to Hawaii. Of these, 42 medals were awarded to women, 26 to men and seven to couples.

Medal winners are selected by a club committee for their good sportsmanship and overall contributions to the dog fancy. Letters to Gaines requesting the medal often include such phrases as "he is a tireless worker," or "she is a good winner and a good loser," or "her attitude and dedication have been an example to us all," or "when they win they are humble and proud — when they lose they are the

first to give their congratulations."

The handsome three-inch bronze disc is presented to those who make outstanding contributions to the sport whether or not they win in the ring. Each club is limited to one medal per year and the award usually is presented at a club event such as an annual meeting or awards banquet.

Club officials can obtain a medal by writing on club stationery to the Gaines Dog Research Center, 250 North Street, White Plains, NY 10625. The name of the recipient and the planned date of presentation must be received by the Center before a medal will be sent by return mail. Clubs planning to have the medal engraved by a local jeweler should mail the request well in advance.

### ANSWERS TO PUZZLE

from page 25

1. Porcupine, North Dakota
2. Bassett, Arkansas
3. Wolf, Wyoming
4. Gazelle, California
5. Ermine, Kentucky
6. Bear, Delaware
7. Pointer, Kentucky
8. Mustang, Oklahoma
9. Cougar, West Virginia
10. Saint Bernard, Alabama
11. Deer, Arkansas
12. Lions, Louisiana
13. Chinchilla, Pennsylvania
14. Moose, Wyoming
15. Bison, Kansas
16. Fox, Arkansas
17. Squirrel, Idaho
18. Coyote, California
19. Grizzly, Oregon
20. Wildcat, Oklahoma
21. Hippo, Kentucky
22. Panther, West Virginia
23. Elk, New Mexico
24. Lynx, Ohio
25. Tiger, Georgia



### MEMPHIS VETERINARIAN WINS PHOTOGRAPHY AWARD

Reprinted courtesy JAVMA, May 15, 1975

Dr. L. M. Snow, small animal practitioner in Memphis, TN, snapped this photograph and entered it in the summer photography contest of the "Memphis Commercial Appeal." It represented the newspaper in the 1974 Kodak International Snapshot Awards, where it won a Certificate of Merit. A picture-taker for 15 years, Dr. Snow has his own darkroom and has won previous KINSA awards for his photography of animals.

### A HORSE OF A DIFFERENT COLOR

by Roy E. Smith

DEBUTANTE:	Clothes Horse
CARPENTER:	Saw Horse
POLITICIAN:	Dark Horse
DADS:	Work Horse
ALCOHOLIC:	Rocking Horse
LUNATIC:	Crazy Horse
ATHLETE:	Charley Horse

Continued from page 21

Johnny Carson. The case is referred by the animal's own veterinarian and we have his diagnosis, his radiographs, his history and the results of his physical examination. The animal is then examined by the veterinarian volunteering to work in the NAVA project and then by acupuncturist John Ottaviano or Dr. Shin. The treatment is then prescribed and performed.

**JO** This is rather bold of me, but we primarily get cases that cannot be fixed by any other means.

**BS** Why?

**DG** I think the reason for that is that those are the cases that have been traditionally referred to us. These are cases that are non-responsive to Western therapy. We would like to take other cases and we are beginning to get referrals of more acute conditions.

**JO** 40% of the cases we treat are dachshunds that are paralyzed. These are *not* the cases that have just gone down and might recover spontaneously.

**HW** I think that's really true John. The thing I hope is that as we go on that we get more veterinarians, particularly in the immediate area, to see that acupuncture is a new approach. Then we should start getting more of the cases we don't have now.

**BS** What kind of records do you keep on the animals that you have?

**HW** We have quite a series of forms. Of course, every time an animal comes in we have a whole series of forms that must be completed — the neurological exam, history, release, etc. There are two evaluations — one from the D.V.M. and one from the acupuncturist. We try to make notes on any improvements or lack of improvement we see. We record that on a treatment form. After we've had 4-6 treatments, we send an evaluation sheet to the referring veterinarian and we keep a copy of it. When we feel that we've gotten to the point where we can terminate a case, a termination form is sent to the referring veterinarian. This one has a whole section asking him to evaluate the case and let us know how he feels about what we've done. I don't think any of



*John Ottaviano applies the heated herd-moxa to the acupuncture point on the animal. Often, extreme heat is used in the place of the needles. Sometimes they are used together.*

us are totally satisfied with the records we're keeping. We tried to set them up as well as we could, but they're improving all the time. We need to keep records that will be of value to us in the future.

We really want to keep in contact with the referring veterinarian. We consider him a part of our team. We're all trying to find out what's best for the animal and we want to help it in any way we can. If the acupuncture is not getting results, or if the animal relapses, we request the people take the animal to their doctor immediately for further conventional therapy. We really try to carry on our work in an ethical and honest manner.

**BS** How did NAVA get started?

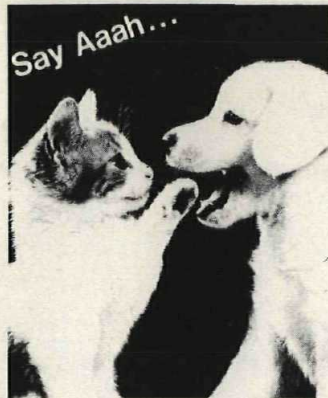
**HW** It's really been quite a process. A few of us were doing acupuncture in various veterinary hospitals and clinics. Then we began to get into problems with the State Board. They really thought veterinarians were getting wealthy on it and it took quite a lot of convincing to get them to believe that veterinarians weren't being paid at all. But with their prodding, it became obvious that we were going to have to do something to keep ourselves in the real limelight of the veter-

inary profession. We wanted a non-profit organization that would set up a program which would attack acupuncture in a way that the veterinary profession would accept. We were trying to do something constructive and come up with a technique that sometime in the future would really add something to veterinary medicine. We felt we had to do it in a very ethical way. So we set up a non-profit organization, had incorporators, came up with a Board of Directors and got approved by the state and federal agencies. It really was quite a process.

**BS** Can you talk a little about the people who work at NAVA?

**HW** The real driving force behind NAVA has been Dick Glassberg. Dick has spent hundreds of hours. The time he's put in is quite amazing. Then our acupuncturist, John Ottaviano. John has spent a year and a half to two years with what we could consider *no* pay doing the work of learning and helping the veterinarians. Dr. Alice DeGroot volunteers her time. I've come in and had my part. I really feel privileged that I could do it for a year and a half. Ben Trogden has been a tremendous help to us. Ellie Stonequist is another one who has really helped us. Ellie

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has been studying acupuncture and she is really quite good. So the time spent by all these people is really quite phenomenal. It's a really interesting organization.

JO As far as veterinary acupuncture in the U.S. is concerned, Dr. Shin deserves notable recognition. He has a very acute understanding of veterinary acupuncture and he approached it only with his knowledge of human acupuncture – without knowing a lot about animals. The veterinarians have helped me a lot – and they've also become pretty good at acupuncture.

BS **Do you want to talk about your funding?**

DG Our funding has been solely from donations from persons whose animals are treated – and from veterinarians and acupuncturists in the project who've donated money and time. Unfortunately, we have not obtained any grant money. Hopefully, we'll be able to obtain some in the future.

BS **What is your relationship to the Animal Health Foundation?**

DG We have no formal ties with the Animal Health Foundation. However, before we were incorporated as a non-profit organization, we asked that donations be made to the Animal Health Foundation and earmarked for acupuncture research. When we incorporated, the Foundation gave us a generous grant which was made up of these monies earmarked for acupuncture research. It enabled us to get our clinic underway. We've had a very close – but not formal – relationship with them. There's a certain overlapping directorate. Today we work in friendly cooperation with them.

BS **Would you be willing to give information over the phone or through the mail to people who read this article?**

DG Gladly, more than gladly.

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When horses declined in popularity and value with the advent of automobiles and tractors, the equine veterinarian was also on the decline; thus the old name "horse doctor" did not hold much prestige.

As interest in pleasure horses and race horses has grown, so also has grown the need for stepped-up equine health research. Also equine veterinarians have greatly increased their individual knowledge by forming associations dedicated to sharing health information. Up until a couple of decades ago, each practitioner liked to confine his knowledge and "secret" medications and procedures to himself. As the quest for more knowledge increased, so did the desire to share and teach. Now, we have reached the point of almost unlimited ways by which to share the latest techniques — such as through symposiums, meetings, literature and post-graduate courses. Continuing education programs offer to (and may be required of) all veterinarians the opportunity to learn and practice in the best manner possible.

Equine veterinarians have associations especially built for exchanging the latest information pertaining to horse health. No longer do they try to hold "secrets" to themselves. Their dedication to the animals they love urges them to share and learn. Lectures and symposiums are often presented by equine veterinarians to the public on important horse health topics. Often, too, this is a means of informing the public on the progress of research projects they have helped to fund, such as those carried on by The Animal Health Foundation.

One of the veterinary profession's most effective means of informing the public about important health topics is through Animal Cavalcade. Membership in The Animal Health Foundation entitles you to free subscriptions to Animal Cavalcade. It is open to all who are interested in animals and animal health.

*C. M. Baxter, D.V.M.  
Editorial Director*

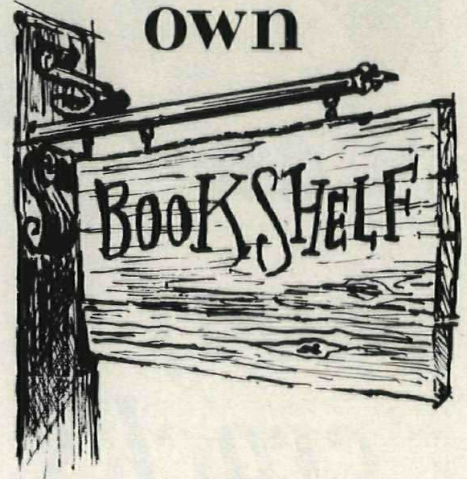
*Animal Cavalcade's Editorial Director, Dr. C. M. Baxter, with Pamela Grant and her horse Stoney.*



Veterinarians performing acupuncture in other parts of the U.S.

- Dr. Leonard Gideon, Michigan State University
- Dr. Allen Clyde, Pennsylvania
- Dr. David Johnson, Pennsylvania
- Dr. Marvin Caine, Cincinnati, Ohio
- Dr. Grady Young, Thomasville, Georgia
- Dr. Jane Thiebe, Florida

# your pet's OWN



## MEET ME IN THE DOG HOUSE

by Bruce David Colen

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This mad dash through a family of Great Danes, a series of cats, a raccoon, a myna bird, a squadron of chickens and ducks, and a sleepless Steve McQueen — makes good reading for a rainy afternoon. The author and his animal-loving, flower-loving, Hungarian wife "re-do" an old California house complete with flower gardens, vegetable gardens and this unbelievable collection of animals. The meanderings of the author plod a little here and there, but they are mostly funny and always warm.

## RAISING SMALL ANIMALS FOR FUN AND PROFIT

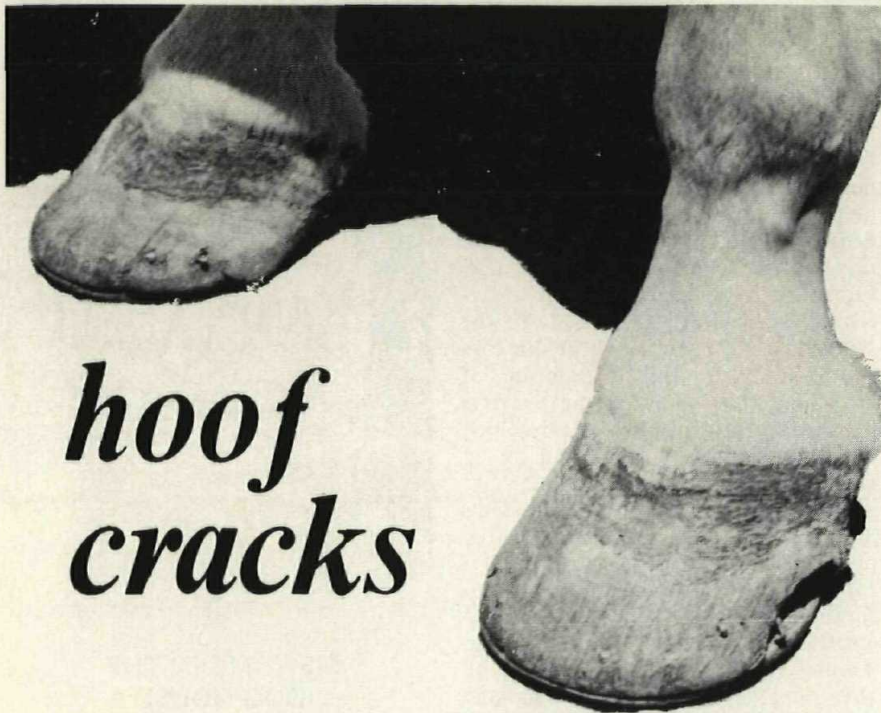
by Paul Villiard

Winchester Press

\$6.95

This is a how-to book for anyone interested in "Raising Small Animals for Fun and Profit." It is complete with photographs (supplied by Mr. Villiard) and directions for finding, purchasing, feeding, setting up tanks, etc. for animals ranging from those we can see only through a microscope to insects, fish, small mammals and birds. The appendix contains the addresses of the main government agencies in each state concerned with animals and wildlife. This book is for the person who wants to raise these kinds of animals for a hobby, or, someone who already knows what kind of profit there is to be made, and is ready to set up shop.





# hoof cracks

by James R. Rooney, D.V.M.

*Reprinted Courtesy, The Western Horseman, April, '73*

This month we shall discuss a very common problem: cracks in the wall of the horse's hoof. Such cracks in the wall may be classified in a number of ways. If on the sides of the hoof, they are known as quarter cracks and, if toward the front of the hoof, as toe cracks.

The crack may begin at the coronet or at the bearing edge of the hoof wall. The latter are the more common and particularly so at the quarters. Of course, if not properly cared for, such a crack at the lower edge of the wall can extend all the way up to the coronet.

First, let us consider some of the causes of quarter cracks. One of the essential requirements of the hoof wall is that it be elastic, able to bend and regain its original shape again as the load is applied and then taken off the hoof. If this essential elasticity is lost, the hoof wall will tend to crack or split. Such splits will naturally tend to follow the preexisting anatomical structure — the vertically oriented

horn tubules that comprise the largest part of the hoof wall.

The elasticity of the hoof wall is dependent upon a number of factors, only a few of which are understood in any detail at the present time. One important and fairly well understood factor, however, is moisture. The hoof wall must be moist in order to be properly elastic.

We may use a sponge as an analogy. When moist, saturated with water, the sponge readily bends or compresses when squeezed and pops quickly back to its original shape when released. If allowed to dry out, on the other hand, the sponge will break or crumble when force is applied. Another analogy, perhaps closer, is the age-old carpenter's or shipwright's technique for bending beams of wood into curved shapes. The beam is subjected to steam (water vapor) until thoroughly soaked, and then is bent, and held in the bent position with clamps. When the beam has dried thoroughly, the clamps are removed, and it stays in the curved position. The shipwright makes the beam elastic — or bendable — by soaking it with water. When the beam loses the water, it loses its elasticity; and it stays in the bent position.

To labor the point a bit further, a narrow stick can be bent without breaking (up to a point) when soaked with water, but will snap very quickly if dry.

As is well recognized, then, the hoof must be elastic, and it must be moist in order to be elastic. How do we keep the hoof moist? Well, we should do it in the most natural possible way — the way nature intended — and that we rarely do.

In the normal hoof there is a thick layer of verticle horn tubules, which provide the strength and elasticity of the hoof wall. There is, in addition, a thin layer of very dense, shiny plates of horn which covers the outside of this thick, tubular layer. This outer layer is called the periople. It grows downward continuously from the coronary band along with the horn tubules. Its major function is undoubtedly to provide a seal in order to keep moisture in the horn tubule layer.

Many of you may, by now, have recognized a very serious flaw in the work of the average or poor horse-shoer. Having trimmed the hoof, nailed, and clinched the shoe, the broad rasp goes on, removing all the shiny perioplic layer. The wall is left somewhat grayish and fuzzy. In order to smooth up and "neat up" the job, the shoer now paints the wall with some form of hoof dressing or other which makes the wall dark and shiny.

The beauty, however, is only skin deep, indeed. The protective periople has been removed, the hoof dressing is no replacement, and water will be surely and steadily lost from the horn tubules. Elasticity will inevitably decrease and wall cracks eventually occur.

Why has this habit of rasping away periople developed? Simply, I think, because it is rough, often uneven and, when left alone, the hoof does not appear as neat and orderly as man thinks it should be. But, leave it alone! Better a somewhat less than machine-made look than a crack.

That is the major point I want to make, and it is major! Horsemen, watch your shoer; do not permit him to rasp away the wall to any extent whatever. Good shoers do not do it; ask yours not to do it if he starts to.

## Animal Health Foundation

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*Lorne Greene*

