



# VIRGINIA VETERINARY NOTES

VIRGINIA-MARYLAND REGIONAL COLLEGE OF VETERINARY MEDICINE

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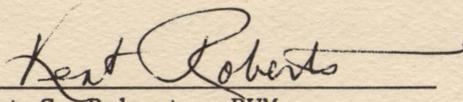
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JAN 6 1989

BLACKSBURG, VA

  
 Kent C. Roberts, DVM  
 Extension Veterinarian

## SUPERACTIVATED CHARCOAL VITAL FOR TREATING POISONINGS

For several years we at the Illinois Center have been investigating the efficacy of various activated charcoals and clays in treating animals for poisoning and chemical contamination. Animals affected by natural toxins (e.g., mycotoxins and toxic plants) and by various pesticides have been treated with these adsorbents and their comparative efficacy has been documented. Based on the results of our research and experience, we offer the following suggestions:

- The rationale for using activated charcoal is based on its vast surface area and capacity to adsorb most organic xenobiotics and even certain inorganic compounds, e.g., cyanide. Thus, given orally, activated charcoal may adsorb the offending compound, facilitating its excretion via the feces. It is important that the activated charcoal keep the adsorbed toxin sequestered until it is excreted, and not release it into the intestine where it can be absorbed into the systemic circulation.

- SuperChar Vet® is the only available superactivated charcoal, thus named because it has nearly three times the surface area (i.e., 3,000 m<sup>2</sup>/gm vs. 1,000 m<sup>2</sup>/gm) of other activated charcoals. It is, therefore, two to three times more effective in adsorbing most organic chemicals, drugs and toxins than other charcoals. Clinical experience has proven that this product is very effective in preventing poisoning and alleviating signs of toxicosis under various circumstances.

- It is important to begin activated charcoal therapy soon after exposure and to repeat its administration every 8 to 12 hours, often continuing until the animal no longer has clinical signs of poisoning. The regimen is critical if one is dealing with a drug or toxicant that is excreted and/or recirculated through the gastrointestinal tract. The purpose of the repeated oral dosing is to adsorb the xenobiotic, its metabolites or any conjugated products that are excreted into the gut to prevent additional toxic effects from reactivation by gut microflora and subsequent reabsorption. In addition, any condition that causes stasis of the GI tract may result in the death of certain species of the microflora and a release of endotoxin, which may be adsorbed by the superactivated charcoal.

- Superactivated charcoal is formulated for use in small animals as a 2:1 mixture with sorbitol (SuperChar Vet®) by Gulf Biosystems, Inc., 5310 Harvest Hill Road, Dallas, TX 75230. It is available through national distributors of veterinary products, as well as from selected local dealers. Alternatively, it can be obtained by contacting the manufacturer directly at (214) 386-0442. SuperChar Vet® non-fluff powder is available for large animals. --William B. Buck, DVM, Illinois Animal Poison Information Center as reported in the National Animal Poison Information Network Newsletter Vol. 1, No. 4, September 15, 1988 as reported in Animal Health Beat, University of Nevada-Reno, Vol. 4, No. 11, November 1988.

### THOUGHT FOR THE MONTH

How you handle life's problems and frustrations determines to a great extent your success as a person and a professional.

### **EQUINE FUNGAL KERATITIS**

Keratomycosis (fungal infection of the cornea) is not uncommonly seen by equine practitioners in the Southeast, Midsouth, and Midwestern portions of the United States. Most often seen in the late summer and early fall, climatic conditions such as a hot dry summer followed by cooler fall rains, as have occurred this year, may enhance growth of the organisms in the environment, resulting in a higher incidence of clinical cases. At the Virginia-Maryland Regional College of Veterinary Medicine, Veterinary Teaching Hospital, a significant increase in cases of fungal keratitis in horses has been seen during the months of September and October this year.

Historically, most cases exhibit ulcerative or non-ulcerative keratitis that have been treated with a variety of topical antibiotics, antibiotic-steroids, and/or cycloplegics as well as systemic anti-inflammatory drugs. Clinically, cases have ranged from subepithelial "fluffy" stromal infiltrates, to recurrent corneal ulcerations, to necrotic white plaques and neovascularization of the corneal surface, to stromal abscesses and descemetocelles. Diagnosis has been via cytological evaluation of stromal scrapings (in some cases following the removal of intact overlying epithelium), fungal culture, and/or histology of superficial keratectomy specimens.

The key to diagnosis is to have a strong suspicion of fungal involvement in cases of recurrent ulceration or infiltrative keratitis that have had a protracted course with intermittent or no improvement when treated with antibiotics and/or corticosteroids. Since fungal keratitis can lead to loss of vision and even loss of the eye, aggressive medical and supportive surgical therapy should be initiated early, even prior to confirmation by fungal culture. Antifungal agents (miconazole, pimaricin, or amphotericin B) should be used often, either topically via a subpalpebral or nasolacrimal infusion device, or subconjunctivally. Additional supportive therapy in the form of chemical cautery and sterilization with tamed iodines, debridement of necrotic corneal tissue, removal of intact corneal epithelium to enhance drug penetration, superficial keratectomies, use of serum or plasma for anticollagenase and angiogenic factors, as well as cycloplegic and nonsteroidal anti-inflammatory drug usage are indicated for the treatment of these difficult cases. Topical and/or systemic corticosteroid therapy is almost always contraindicated. Treatment time from beginning to resolution can be as short as 3-4 weeks for mild, early diagnosed cases to as long as 2-4 months with more involved cases. --J. Phillip Pickett, DVM, Kay Schwink, DVM, Virginia-Maryland Regional College of Veterinary Medicine, Blacksburg, VA.

### **HOW OLD IS OLD IN PETS**

According to Dr. Jacob Mosier of Kansas State University, if we take account of perinatal deaths, deaths from kitten and puppy diseases, and fatal road accidents early in life, the average life expectancy is 9.5 years for dogs and 7.8 years for cats. Dogs and cats that reach one year of age can be expected to live much longer, however; dogs for 12 years and cats for 14 years. He says that, because of the interaction between aging and death, diagnosis and treatment can be an exciting challenge.

Diseases in old age fit within three broad categories: 1) disease proper to old age that are rarely seen in the young; 2) disease persisting into old age; and 3) disease with changing incidence in old age. True aging changes are progressive and irreversible. Age associated pathological changes and their physiological sequelae can be slowed or prevented as can many of the inciting diseases which cause degradation of tissues and organ systems.

Relative to the kidney, Dr. Ed Breitschwerdt of North Carolina State University, using experimental data, suggested that compared to a dietary level of 42 percent protein, whether of egg or mixed source, protein fed at 18 percent of the diet resulted in a decrease in azotemia, polyuria, and hypermagnesemia. At his referral hospital, the most common renal problems in dogs and cats were chronic renal failure, pyelonephritis, and acute renal failure in that order. Early detection and management has become increasingly important to increasing the life expectancy of pets.

Older pets can be healthier and better companions as similar measures of early diagnosis and management are applied to other systems and diseases as pets age. From *The Veterinary Record*, August 6, 1988, p. 142-143 as reported in *Iowa State Univ. Veterinary Extension Newsletter*, #340-V687, October 1988.

#### **CATS, CORONAVIRUSES AND FELINE INFECTIOUS PERITONITIS (FIP)**

Most cats with FIP have moderate to high titers of coronavirus antibody. The detection of antibody in any cat, healthy or diseased, is indicative only of exposure to a coronavirus in the FIP virus antigenic group. A coronavirus antibody titer can not differentiate a cat that is actively diseased from an inapparent carrier of FIP virus or from a previously exposed cat that has eliminated the virus. Thus, A TITER IS NOT DIAGNOSTIC OF FIP. Neither does a titer indicate that a cat is protected against FIP, because most cats with FIP are seropositive for coronavirus.

Determination of a coronavirus antibody titer in a diseased cat should be used as an aid, and nothing more, in diagnosis. In cats with prolonged illness, a four-fold or greater increase in titer over a period of four to six weeks is highly suggestive of active FIP virus infection.

It remains unclear whether most healthy seropositive (with antibodies) cats have been exposed to Feline Enteritis Coronavirus (FECV), FIP or coronaviruses of other species like Transmissible Gastroenteritis Virus (TGEV) and Canine Coronavirus (CCV).

No curative treatment for FIP exists, and the disease is virtually always fatal after clinical signs of effusion or severe organ dysfunction have appeared. A safe and effective feline coronavirus vaccine is not available, although recently a modified live virus vaccine made from an attenuated strain of FIP virus has been described (F.W. Scott, Proc. 4th An. Kal Kan Sem., 1988, 3-8).

Until a vaccine or a diagnostic test is available, control of coronavirus infections must be based on accurate identification and isolation of diseased cats and on maintenance of coronavirus antibody negative catteries and house holds, when possible. Research to obtain a highly potent vaccine must be supported and encouraged. Summarized from J.F. Barlough and C.A. Stoddart, *Veterinary Medicine Today*. JAVMA, V. 193(7) 188:796-800, by Luis V. Melendez, Professor of Virology, VA-MD Regional College of Veterinary Medicine, Blacksburg, VA.

## CATS CAN TRANSMIT PLAGUE TO HUMANS, RESEARCHERS WARN

Research at Colorado State University has confirmed a theory long believed by medical authorities: cats can become infected by bubonic plague and transmit the deadly disease to humans.

This discovery brings up a concern for veterinarians who often incorrectly diagnose the disease because symptoms are similar to abscesses that can result from cat-fight injuries. The disease also resembles symptoms of feline pneumonia: high fever, abscesses and depression.

"Most veterinarians would not consider plague when examining a cat with those symptoms," said Dr. Peter Gasper, a pathology researcher. "We're trying to warn veterinarians that the plague is one of the ailments that they should consider when examining any sick cat."

Gasper and Dr. Allen Barnes, chief of the Federal Centers for Disease Control's plague laboratory located at Colorado State, conducted the research with the goal of developing a vaccine for cats. Work is still underway on the vaccine.

The plague, responsible for killing a high percentage of Europe's population during the Dark Ages, has been on the increase nationwide, particularly in the Southwest.

In 1983, more cases, 40, were reported than since the early 1920's. In 1984, 31 cases occurred. Of the annual cases, about half typically occur in New Mexico where large populations of such flea-carrying rodents as prairie dogs exist.

Cats become infected by plague bacteria by eating an infected rodent or from a flea bite. Unlike cats, dogs and other carnivores develop an immune response and do not pose a transmission threat to humans.

To compound the plague problem, cats have a natural ability to heal quickly and often get over symptoms before owners notice problems.

Nonetheless, the plague-infected feline still can infect humans who come into contact with feline body fluids or excretions. "Pet owners have to keep a sharp eye on their cats," Gasper cautioned. "Cats are proud, dignified creatures that hide the fact that they are sick. By the time that they show they are sick, they are really sick."

Veterinarians are also vulnerable. This was pointed out in a 1985 survey by the New Mexico Department of Health and Environment and collaborating veterinarians that identified 28 cat patients with plague. "This illustrates the risk to veterinarians and to cat owners," Barnes said.

Symptoms for humans include high fever, severe headache, muscle aches, nausea, vomiting and lymph node swelling. The disease can be treated with antibiotics. **Insight - Colorado State University, Winter 1988 as reported in Notes from the Extension Veterinarians, Kansas State Univ. Nov. 1988.**

### EARLY NEUTERING OF PETS?

One of the best arguments for prepubertal ovariohysterectomy is the reduced incidence of mammary neoplasia. Relative risks of mammary cancer for bitches spayed prepubertally, after one estrus and after two or more estrous periods is 0.5 percent, 8 percent and 26 percent respectively. However, neutering male and female dogs or cats at an age as young as two months as some have advocated, is probably not warranted.

Three clinical problems directly influenced by early neutering can be cited. Perivulvar dermatitis is a direct consequence of retarded development of the external genitalia coupled with obesity. Both problems are associated with early neutering. The management of this condition is topical medication and weight reduction, hence prevention is better than cure since the clinical treatment course is long and sometimes unproductive. Ovarian imbalance type 2 alopecia is associated primarily with bitches spayed early in life. It responds to exogenous estrogens but use of these compounds are not without their undesirable side effects.

The role of neutering in the etiopathogenesis of feline urological syndrome (FUS) is confusing. A 7.5 times greater risk among castrates versus noncastrates has been cited. The increased periurethral fibrous tissue present in castrates does not account for this difference as much as the secondary behavioral effects resulting in greater urinary retention. It is clear that castration and FUS are related though not necessarily causally. Since this syndrome is of multifactorial etiology, dietary management is more important than the noncastration of toms for its prevention.

One of the most common owner complaints is obesity in spayed bitches. Two studies support the evidence of greater obesity in spayed bitches. However, there is some evidence that suggests prepubertal ovariohysterectomy reduces the degree of obesity, though it does not eliminate it.

The assertion that "persistent juvenile behavior" produced by early neutering is desirable is dubious. For obvious reasons, juvenile animals are highly dependent on their care-givers. In the case of dogs, this can lead to attendant behavioral problems -- destruction, anxious urination and defecation, barking and howling when separated from the owner. Such activity may weaken human-animal bonding. The general playfulness, distractibility and short attention span of juvenile dogs would also tend to make them less trainable. Castration may reduce the incidence of certain aggressive behaviors in male dogs, although evidence is far from conclusive. Conversely, according to one study, the occurrence of aggression in bitches may actually be increased by spaying. It is no doubt true that some owners prefer the companionship of persistently juvenile pets, but it would be a mistake to assume that all or even the majority, share this preference. J. A. Jagoe, et al., *Vet Record* 1988, as printed in the July 1988 issue of the Pennsylvania University's Veterinary News.

### MILK PRODUCTION UP

Cows in 21 major dairy states produced 9.88 billion pounds of milk in September, up 2% from September 1987. But the number of cows was less than a year ago. --UPI.

## DOGS, A POSSIBLE EHRLICHIA RISTICII RESERVOIR?

The winter 1986-87 VQR (Vol. 2, No. 4) featured an article, Potomac Horse Fever (PHF) in Texas, stating the significantly higher PHF incidence when horses and dogs were in association. Also stated was the theorized tick-transmission of *Ehrlichia risticii* since PHF has a warm weather seasonal incidence (May-October). Further evidence for tick-transmission is suggested by PHF occurrence in 24 of 25 states with geographical areas of habitation by the American Dog Tick (suspected to be the primary vector).

A recent study has demonstrated *Ehrlichia risticii*, the causative PHF agent, can experimentally infect dogs. Although clinical disease was not observed, the organisms were reisolated in 3 of 5 dogs and all 5 dogs seroconverted. Four of 5 dogs were seronegative by post infection day (PID) 187 (one dog was euthanized at PID 119 with low titer).

*Ehrlichia risticii* isolated from one of these dogs was inoculated into a PHF-susceptible pony. Fever, depression, anorexia and diarrhea developed (classic for PHF) and *E. risticii* was cultured from the pony's blood.

This same *E. risticii* pony isolate was then inoculated into a susceptible dog. Again no clinical disease signs were produced but seroconversion occurred and *E. risticii* was isolated several times PID 6-17.

This research demonstrated the susceptibility of dogs to *E. risticii* infection. Although ticks are theorized to be necessary for natural *E. risticii* transmission (as with other *Ehrlichia spp*), dogs and other animal species such as coyotes, foxes, cats, etc., may possibly be *E. risticii* reservoirs.

From this data it seems that any PHF control effort might include *E. risticii*-testing of dogs and other small mammals kept around stables. --From M.R. Ristic, DVM, PhD, J. Dawson, B.S., C.J. Holland, PhD, et al., "Susceptibility of Dogs to Infection with *Ehrlichia risticii*, Causing Agent of Equine Monocytic Ehrlichiosis (Potomac Horse Fever)", AJVR, Vol. 49, No. 9, September 1988.

## BEEF TOPS LIST AS MEAT MOST RESIDUE FREE

Of 151 drug residue violations reviewed, the lion's share occurred in cull dairy cows, followed by bob veal calves, and hogs, according to FDA's Tissue Residue Branch at the Center of Veterinary Medicine.

The data, pulled from an in-depth review of problem residues for the fiscal year 1985, shows the three most common causes of residues:

1. Failure to observe withdrawal time - 51%
2. Use of an unapproved drug - 17%
3. Lack of or poor medication records - 12%

Sulfamethazine accounted for 90% of all residues in market hogs. --KSU Notes from the Extension Veterinarians, July 1988.

### CLINICAL RESEARCH PROJECTS

The small animal faculty of the Virginia-Maryland Regional College of Veterinary Medicine is currently involved in several clinical research projects. Funds for these projects were made available from several sources, including the Virginia Veterinary Medical Association's Pet Memorial Fund. The research projects described below involve the study of spontaneously occurring renal and gastrointestinal diseases in cats and dogs. The faculty is actively soliciting referrals of patients which would fit into these studies. In all cases, funding is available to completely or partially offset client costs.

Drs. Remillard, Davenport, Monroe and Thatcher have received a grant for the study of chronic renal disease in cats. They are specifically interested in the urinary excretion of potassium in cats with renal insufficiency. Cats with chronic renal disease of any etiology are acceptable for this study. The project involves sampling blood and urine from affected cats. Client costs, including diagnosis and treatment, are covered by the study.

Drs. Leib, Davenport and Monroe are continuing their study of canine inflammatory colitis. Once the definitive diagnosis of inflammatory colitis is made, the study will cover costs for therapy and endoscopic re-evaluation.

Drs. Davenport, Leib and Monroe have just received funding for an evaluation of cats with inflammatory bowel disease. They are interested in determining the role of dietary in management of this condition and the potential for progression of inflammatory bowel disease to alimentary lymphosarcoma. This study covers all patient costs.

Veterinarians interested in referring a patient for inclusion in one of these projects should please call the appropriate clinician for more detailed information. --Deborah Davenport, DVM, Virginia-Maryland Regional College of Veterinary Medicine, Blacksburg, VA.

### VETERINARY COLLEGE NEWS

The following clinicians have recently joined the College faculty and the staff of the Veterinary Teaching Hospital in Blacksburg.

**Mark Smith, VMD, Diplomate ACVS.** Mark is a native of New Jersey and a graduate of Purdue and the University of Pennsylvania. He interned in a Los Angeles practice, completed a surgery residency at Cal-Davis and then practiced at the Connecticut Veterinary Center in West Hartford before joining the College faculty this summer as a staff surgeon and an assistant professor.

**Don Waldron, DVM, Diplomate ACVS, ABVP.** Don comes from Florida and attended the University of Missouri for his BS and DVM degrees. He interned at Angell Memorial and practiced in Florida before completing a surgical residency at Gainesville and returning to practice there. He joined the faculty at LSU as a surgical clinician in 1982 and moved to Blacksburg as an associate professor of surgery and member of the VTH surgical staff in August this year.

**Melissa Holland, DVM, Diplomate ACVA.** Melissa attended the University of Tennessee, earning degrees in zoology and veterinary medicine. She interned at Texas A&M before her residency in anesthesiology at the University of California-Davis. She was on the faculty at Tufts University prior to arriving in Blacksburg in November as an assistant professor of anesthesiology and VTH staff member.

VIRGINIA-MARYLAND REGIONAL COLLEGE OF VETERINARY MEDICINE  
VETERINARY TEACHING HOSPITAL FACULTY

**SMALL ANIMAL MEDICINE**

Michael Leib, DVM, MS, Diplomate ACVIM	<b>Section Chief</b>
Ellen Codner, DVM, MS, Diplomate ACVIM	Internal Medicine, Gastroenterology
Deborah Davenport, DVM, MS, Diplomate ACVIM	Internal Medicine, Dermatology
Edward Monroe, DVM, MS, Diplomate ACVIM	Internal Medicine, Oncology
Phillip Pickett, DVM, Diplomate ACVO	Internal Medicine, Endocrinology
Kay Schwink, DVM	Ophthalmology
Linda Shell, DVM, Diplomate ACVIM	Ophthalmology
Greg Troy, DVM, MS, Diplomate ACVIM	Neurology
Jerry Woodfield, DVM, Diplomate, ACVIM	Internal Medicine
Michael Matz, DVM	Cardiology
Mary Ann Mann, DVM	Resident-Internal Medicine
	Resident-Internal Medicine

**SMALL ANIMAL SURGERY**

Peter Shires, BVSc, MS, Diplomate ACVS	<b>Section Chief, Orthopedics</b>
Mark Dallman, MS, DVM, PhD	General Surgery
Robert Martin, DVM, Diplomate ACVS, ABVP	General Surgery
Mark Smith, VMD, Diplomate ACVS	General Surgery
Donald Waldron, DVM, Diplomate ACVS, ABVP	Soft Tissue Surgery
Terry Dew, DVM	Resident-Surgery
John Payne, DVM	Resident-Surgery

**SMALL AND LARGE ANIMAL INTERNS**

Heather Hall, DVM	Small Animal Intern
Steffanie Garlock, DVM	Small Animal Intern
Mike Talley, DVM	Large Animal Intern
Eric Dubbin, DVM	Large Animal Intern
Lisa Metcalf, DVM	Ambulatory Intern
Germaine Connolly, DVM	Ambulatory Intern

**LARGE ANIMAL MEDICINE**

Kent Scarratt, DVM, Diplomate ACVIM	<b>Section Chief, Internal Medicine</b>
Karen Baum, DVM	Internal Medicine
Beverly Purswell, DVM, MS, PhD, Diplomate ACT	Theriogenology
Jim Bowen, BVetMed, FRCVS, Diplomate ACT	Theriogenology

**LARGE ANIMAL SURGERY**

Frank Welker, DVM, MS	<b>Section Chief, General Surgery</b>
Paula Modransky, DVM, MS	General Surgery

**ANESTHESIOLOGY**

Charles McGrath, DVM, Diplomate ACVA	<b>Section Chief</b>
Eddie Clutton, BVSc, MRCVS	
Melissa Holland, DVM, Diplomate ACVA	

**RADIOLOGY**

Martha Moon, DVM, MS, Diplomate ACVR	<b>Section Chief</b>
Don Barber, DVM, MS, Diplomate ACVR	
Colin Carrig, BVSc, PhD, Diplomate ACVR	

**AMBULATORY HEALTH SERVICES**

Mark Crisman, BS, DVM, MS	<b>Section Chief, Internal Medicine</b>
David Brown, DVM	Bovine Medicine
Gareth Moore, DVM	General Medicine

**PRODUCTION MANAGEMENT MEDICINE**

William Ley, DVM, MS, Diplomate ACT	<b>Section Chief, Theriogenology</b>
Calvin Larsen, DVM, MPH, PhD	Avian Medicine
Kevin Pelzer, DVM, MPVM, Diplomate ACVPM	
David Sprecher, DVM, MS, Diplomate ACT	Theriogenology
Craig Thatcher, DVM, MS, PhD	Clinical Nutrition
Dee Whittier, DVM, MS	Bovine Medicine
Rebecca Remillard, DVM, PhD	Post-Doctoral Clinical Nutrition
Terry Swecker, DVM	Graduate Student - Clinical Nutrition
William Burkholder, DVM	Graduate Student - Clinical Nutrition
Carrie Niederman, VMD	Graduate Student - Clinical Nutrition
Neal Bataller, DVM	Graduate Student - Clinical Nutrition

**LABORATORY SERVICES**

Clinical Pathology

William Chickering, DVM, PhD, Diplomate ACVP	<b>Laboratory Director</b>
Holly Bender, BS, DVM, PhD	

Parasitology

Jorgen Hansen, DVM, PhD	<b>Laboratory Director</b>
Anne Zajac, DVM, PhD	

Anatomical Pathology

Geoffrey Saunders, DVM, MS, Diplomate ACVP	<b>Laboratory Director</b>
Donald Cordes, BVSc, MS, MACVSc, Dipl. ACVP	
Bernard Jortner, VMD, MS, Diplomate ACVP	
Lois Roth, DVM, PhD, Diplomate ACVP	
Philip Sponenberg, DVM, PhD	
Hugo Veit, DVM, PhD	

Clinical Microbiology

Thomas Inzana, MS, PhD	<b>Laboratory Director</b>
Nammalwar Sriranganathan, BVSc, MVSc, PhD, Diplomate ACVM	

Clinical Immunology

Ota Barta, MVDr, PhD, Diplomate ACVM	<b>Laboratory Director</b>
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Toxicology

Dennis Blodgett, DVM, PhD, Diplomate ABVT	<b>Laboratory Director</b>
Blair Meldrum, DVM, PhD	
Marion Ehrich, BS, MS, PhD	

VIRGINIA-MARYLAND REGIONAL COLLEGE OF VETERINARY MEDICINE  
VIRGINIA TECH - BLACKSBURG, VA  
CONTINUING EDUCATION OPPORTUNITIES - Spring 1989

<u>Date</u>	<u>Program</u>	<u>Location</u>	<u>Contact Hours</u>
*Jan 20-21	Food Animal Computer Workshop	Blacksburg	6-9
*March 17-18	Fracture Repair: Pins & Wire	Blacksburg	10
March 23	Small Animal Medicine Update	Charlottesville	4
April 1	Llama Workshop	Blacksburg	6
April 2	Small Animal Medicine Update	Charleston, WV	4
*April 21-22	Cardiodiagnostics	Blacksburg	10
*April 28-29	Small Animal Endoscopy	Blacksburg	8
May 6	Food Animal Practitioners Seminar	Waynesboro	6
*May 12-13	Critical Care Nutrition	Blacksburg	10
*Limited Enrollment Course			

Note: Program brochures are mailed approximately six weeks prior to the course date. For CE information or assistance, please contact:

Kent Roberts, DVM  
VMRCVM - Virginia Tech  
Blacksburg, VA 24061  
(703) 231-7666

**SUCCESS IS NO ACCIDENT**

The level of customer or client dissatisfaction in our consumer oriented society is high and getting higher. An increasing number of liability claims against veterinarians is only the most obvious indication of the dissatisfaction as it affects the veterinary profession. This closely follows the well publicized trend which has hounded the human medical profession since the early 70's.

Continuing advances in medical and veterinary care have caused patients and animal owners to expect treatment results that are not only close to perfection, but often unrealistic, based on the uncertainties of organic disease. Defensive medicine has become an important factor in the rising costs of medical care as physicians, and even veterinarians, try to protect against exposure to malpractice claims.

Individual practitioners and the veterinary profession should view the trend as a challenge that should stimulate an increase in the level of competency in our practice of veterinary medicine. Client dissatisfaction is best prevented by the liberal use of the "Four C's" - communication, compassion, competency and client education. These are areas of practice that need continuing thought and effort as we strive to improve the delivery of veterinary service.

Face the challenge of client satisfaction head on. Improve your communication skills, upgrade your competency, exhibit true compassion and invest in effective client education. --Kent Roberts DVM, VA-MD Regional College of Veterinary Medicine, Blacksburg, VA.

Virginia-Maryland Regional College of Veterinary Medicine Extension Staff:

Dr. J.M. Bowen - Extension Specialist - Equine  
Dr. C.T. Larsen - Extension Specialist - Avians  
Dr. K.C. Roberts - Extension Specialist - Companion Animals  
Dr. W. Dee Whittier - Extension Specialist - Cattle

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